



**ADVANCES IN STUDIES
ON ASIAN CERAMBYCIDS**
(COLEOPTERA: CERAMBYCIDAE)

Papers by **Alexandr I. MIROSHNIKOV**,
dedicated to the memory of
Dr. Judson Linsley GRESSITT

Edited by **Alexandr S. KONSTANTINOV**,
S. Adam ŚLIPIŃSKI & Alexey Yu. SOLODOVNIKOV

KMK Scientific Press Ltd.



Clytellus laosicus
Gressitt et Rondon, 1970

Russian Entomological Society
Sochi National Park

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*To the memory of
Dr. Judson Linsley Gressitt
(1914–1982),
to the day of his
forthcoming centenary,
this work
is being dedicated.*

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FROM THE EDITORS

A study of planetary biodiversity is one of the most important objectives of fundamental science. However, since the distribution of various groups of organisms over the globe is uneven, the level of their knowledge varies very significantly from one region to another. For example, Asia as a vast and geographically very complex region of the world supports an extremely rich, but poorly-known fauna of beetles (Coleoptera). This fauna is currently the subject of very active research by an international community of scientists.

Among Coleoptera, the longicorn beetles, or the family Cerambycidae, comprise many large and spectacular species representing a very popular target for entomological studies. Therefore, one would expect cerambycids to be known better than many other beetle families, this holding true for Asia as well. Looking closer, however, shows the situation to actually be the opposite. Firstly, longicorn beetle species, especially tropical and subtropical, are often difficult to find in nature so that many of them are known from singletons only. Secondly, because of their appealing looks, longicorn beetles are highly popular as objects of study and collection by amateurs. Some of the latter sometimes tend to describe species without proper consideration of variability and/or erect various higher-level taxa without rigorous search for monophyletic groups. As a result, the systematics of longicorn beetles is rather complicated and often confusing. The taxonomic literature on Cerambycidae is full of controversies while pertinent type material is often scattered among hard-to-access private collections. Under such circumstances, revisionary work on cerambycids of Asia becomes a challenging task that can only be managed by experienced and very diligent researchers who necessarily work in touch or close cooperation with the world community of colleagues.

Dr. Alexandr Miroshnikov, the author of this miscellany, is one of such entomologists capable of meeting the above task. He has prepared several papers on various groups of Asian Cerambycidae that eventually form this sizeable volume. Although papers of this volume differ in taxonomic scope and research goals, all of them have much in common. They are united not only by the shared taxonomic (Cerambycidae) or geographic (Asia) foci, but also by the author's approach characterized by a broad coverage of material, due attention to detail, as well as the excellent and abundant illustrations based on front-end digital photography. Naturally, not all standing problems have become solved by this volume. For example, a need for a broad phylogenetic analysis of any tribe or even subfamily covered in the miscellany is still obvious. But even though phylogeny has not been the author's objective, in fact his papers published in this volume form an important step towards such an analysis, let alone their taxonomic and faunistic significance.

It is noteworthy that the present collection of papers is dedicated to the 100th birthday of the late Dr. J.L. Gressitt, an outstanding coleopterist of the past century and one of the most notable explorers of beetles in South-East Asia. In this regard we are pleased to note such a continuity of scientific tradition among generations of taxonomists. We would also like to emphasize the enormous amount of work that has been and still is to be accomplished by systematic coleopterology, our favourite science. We hope that these papers by Dr. Alexandr Miroshnikov will inspire many researchers and help them in their systematic work on Cerambycidae the same way as do various publications of Dr. J.L. Gressitt which continue to be stimulating and useful, also for the author and the editors of this volume.

Alexandr Konstantinov

Adam Ślipiński

Alexey Solodovnikov

Washington – Canberra – Copenhagen,
December 2013

FROM THE AUTHOR

Over the past few years, I have been privileged to study or revise a rich and highly interesting material of several little-known groups of longicorn beetles from eastern and southeastern Asia. Some of the results have recently been published elsewhere (e.g. Miroshnikov, 2012, 2013; Miroshnikov & Lin, 2012; Miroshnikov et al., 2013). However, it was decided to publish several papers in a single volume. These papers treat different taxonomic groups, but they are united by the region and approach. In particular, all papers are illustrated with a large number of colour pictures, deemed to be especially useful in complementing the information contained in the text. In addition, a good number of new taxa, mostly of the species rank, are described, and several new keys presented.

It was with great pleasure that recently I accepted the offer of “KMK Scientific Press Ltd.”, a well-known academic publisher in Moscow, Russia, to publish these of my papers in the form of a miscellany, “Advances in studies on Asian cerambycids (Coleoptera, Cerambycidae)”.

An active and successful research in the taxonomy of the beetle family Cerambycidae, both in some larger regions of, and generally in, Asia, has become greatly advanced due to the works of Dr. Judson Linsley Gressitt (1914–1982), an outstanding specialist whose centenary soon will be celebrated. Therefore, I feel very fortunate to dedicate the entire present miscellany, as well as several new species, to the memory of that prominent scientist.

To be able to finalize this work I owe a great deal to many colleagues and friends who have contributed by their responsiveness and supported my ongoing research. Their extremely comprehensive assistance is impossible to overestimate.

In addition, when preparing the manuscripts for publication, I received valuable comments by editors.

In conclusion, I would like to specially acknowledge the significant financial support of the Administration of the Sochi National Park, through which it was possible to complete the present work.

I express my deepest gratitude to all persons who in this or that way have contributed to the implementation of this research and its publication.

Alexandr Miroshnikov
Krasnodar,
December 2013

**New genera and species of the tribe Apatophyseini
Lacordaire, 1869 from continental Asia,
with notes on some little-known taxa
(Coleoptera: Cerambycidae)**

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With 127 figures

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Abstract. All genera of the tribe Apatophyseini Lacordaire, 1869 occurring in continental Asia are reviewed. A new genus is described: *Mimapatophysis* gen. n., with *M. gressitti* sp. n. as the type species (from Laos), also containing *M. solodovnikovi* sp. n. (from Thailand). *Apatophysis tonkinea* Pic, 1912 (northern Vietnam), *Apatophysis* (s. str.) *laosensis* Gressitt et Rondon, 1970 (southern Laos) and *Toxotus griseopubens* Pic, 1957 (Yunnan, southern China) have become the type species of *Analogisticus* gen. n., *Strophophysis* gen. n. and *Agastophysis* gen. n., respectively. The former in the trio shows surprisingly strong similarities to certain species of the Malagasy genus *Logisticus* Waterhouse, 1878, this being of great interest. *Agastophysis* gen. n. also contains *A. meiyingae* sp. n., from Tibet, China. The following new combinations are proposed: *Analogisticus tonkineus* (Pic, 1912), comb. n., *Strophophysis laosensis* (Gressitt et Rondon, 1970), comb. n., and *Agastophysis griseopubens* (Pic, 1957), comb. n. The genus *Epitophysis* Gressitt et Rondon, 1970, originally established as a subgenus of the genus *Apatophysis* Chevrolat, 1860, is shown to be very similar to the genus *Protaxis* Gahan, 1906 (Protaxini), morphologically both these genera probably meriting union in a separate group, the systematic position of which requires clarification. *Apatophysis* (s. str.) *afghanica* sp. n. is described from eastern Afghanistan, with some relevant questions of intrageneric classification being discussed. Appropriate diagnoses are given for all new taxa, as well as for several little-known genera originally established as subgenera of the genus *Apatophysis*. Danilevsky (2008) is shown to have mistakenly synonymized *Apatophysis plavilstshikovi* Miroshnikov, 1992, sp. revalid., with *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936. All genera, including four new ones, of the Apatophyseini known from continental Asia are keyed. Numerous colour pictures are presented.

Key words. Coleoptera, Cerambycidae, Apatophyseini, continental Asia, review, new genera, new species, new combinations, taxonomy, wrong synonymy, key, distribution, bibliography.

INTRODUCTION

In continental Asia, the tribe Apatophyseini Lacordaire, 1869 has hitherto comprised five genera, namely, *Apatophysis*

Chevrolat, 1860, *Protapatophysis* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, *Epitophysis* Gressitt et Rondon, 1970, *Paratophysis* Gressitt et Rondon, 1970, and *Formosotoxotus* Hayashi, 1960. Represent-

tatives of the latter genus occur not only in the mainland of Asia, but are also known from Borneo and Taiwan. The assignment of the Oriental genus *Capnolymma* Pascoe, 1858 to Apatophyseini by some researchers (e.g. Özdikmen, 2008) seems to be ill-grounded. Most likely, together with *Acapnolymma* Gressitt et Rondon, 1970, it represents a separate new tribe within the subfamily Lepturinae (see also Miroshnikov, 2013). The Oriental genus *Trypogeus* Lacordaire, 1869 seems to warrant a tribe of its own as well (Vives in Villiers et al., 2011; E. Vives, personal communication). At the same time, the small, also Oriental genus *Protaxis* Gahan, 1906, which is very similar to *Epitophysis*, but which currently composes the monogeneric tribe Protaxini within the subfamily Cerambycinae (Gahan, 1906; Aurivillius, 1912; Heller, 1926; Plavilstshikov, 1931; Bousquet et al., 2009; Bouchard et al., 2011 etc.), actually seems to be a member of the Apatophyseini.

In general, the systematics of the tribe Apatophyseini still remains highly controversial, definitely requiring a detailed revision and an assessment of the possible relationships with other groups. It is thereby noteworthy that the problem of delimiting the very subfamily Apatophyseinae versus the Dorcasominae Lacordaire, 1868 also remains unresolved. However, discussions of these problems lie well beyond the scope of the present publication.

The present paper puts on record four new genera of the tribe Apatophyseini from Indochina and southern China, including one from northern Vietnam, one from southern Laos, both established for species previously described in the genus *Apatophysis* Chevrolat, 1860. These cases thus represent new combinations. One of the new genera includes two species, of which one from Yunnan was previously described in the genus *Toxotus* Dejean, 1821 (syn. pro *Stenocorus* Geoffroy, 1762), also represen-

ting a new combination, whereas the other one, from Tibet, is new. Still another new genus also consists of two new species from Laos and Thailand. Various little-known taxa are considered and a number of new records listed. Several older genera are rediagnosed. In relation to a new species of *Apatophysis* described from Afghanistan, some issues of intrageneric classification are discussed. The species *Apatophysis plavilstshikovi* Miroshnikov, 1992, erroneously synonymized by Danilevsky (2008) with *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, is revalidated. A key is given to all genera of the tribe Apatophyseini currently known from continental Asia. The genus *Protaxis* is also incorporated as a presumed constituent member of this tribe.

MATERIAL AND METHODS

The material this paper is based upon comes from the following institutional and private collections:

- BM – Bishop Museum, Honolulu, U.S.A.
- BMNH – Natural History Museum, London (formerly British Museum, Natural History), United Kingdom
- IZAS – Institute of Zoology, Chinese Academy of Sciences, Beijing, China
- NHMB – Naturhistorisches Museum Basel, Switzerland
- MNHN – Muséum national d'Histoire naturelle, Paris, France
- MTD – Staatliches Museum für Tierkunde, Dresden, Germany
- NHMD – Natural History Museum of Denmark, University of Copenhagen, Denmark
- ZISP – Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia
- ZFMK – Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany

ZMUM – Zoological Museum of the Moscow State University, Moscow, Russia

cAM – coll. Alexandr Miroshnikov (Krasnodar, Russia)

cMD – coll. Mikhail Danilevsky (Moscow, Russia)

cSM – coll. Sergey Murzin (Moscow, Russia)

Some morphological features of representatives of the tribe Apatophyseini are not discussed here, since they require special complex studies which must consider many genera. For example, the structure of the mesoscutum must be taken into account, because, according to some researchers, it is important taxonomically in the suprageneric classification. It is noteworthy that the mesoscutum is indeed somewhat variable in genera treated in this paper and in most cases differs from that in *Apatophysis*.

The type specimens of *Protaxis fulvescens* Gahan, 1906 (BMNH), *P. bicoloripes* Pic, 1923 and *P. incisipennis* Pic, 1939 (MNHN), as well as *P. fulviventris* Heller, 1926 (MTD) have been examined using photographs alone, these having been received from Mr. Luboš Dembický (Brno, Czech Republic), Dr. Gérard Tavakilian (MNHN) and Dr. Olaf Jaeger (MTD), respectively.

Body size measurements were rounded to two decimal places up or down, to 0.00 or 0.05 mm, respectively.

In the “Material” sections, type specimens studied from photographs alone are listed only following any other pertinent material when such was present.

RESULTS AND DISCUSSION

Tribe Apatophyseini Lacordaire, 1869

Apatophysides Lacordaire, 1869: 234.

Apatophysini, Heyne & Taschenberg, 1907: 240; 1908: 240; Danilevsky, 1979: 827; Özdikmen, 2008: 713 (syn. pro Dorcasomini Lacordaire; wrong synonymy!).

Apatophyseini, Lobanov et al., 1981: 794; Özdikmen & Turgut, 2006: 202; Löbl & Smetana, 2010: 142; Villiers et al., 2011: 34.

Genus *Apatophysis* Chevrolat, 1860

Apatophysis Chevrolat, 1860: 304. J. Thomson, 1860: 368; Marseul, 1863: 260; J. Thomson, 1864: 147, 409; Marseul, 1867: 119; Lacordaire, 1869: 234; Gemminger in Gemminger & Harolg, 1872: 2987; Heyden, 1881: 192; Ganglbauer, 1882: 686; Heyden et al., 1883: 183; Ganglbauer in Marseul, 1889: 466; Heyden et al., 1891: 338; Heyden, 1893: 179; Pic, 1900: 12; Heyden et al., 1906: 502; Gahan, 1906: 69; Aurivillius, 1912: 160; Winkler, 1929: 1146; Plavilstshikov, 1932: 188; Semenov-Tian-Shanskij & Stshegoleva-Barovskaja, 1936: 60 (Revision) Plavilstshikov, 1936: 109, 494 (Review of the former USSR fauna); Villiers, 1946: 38; Plavilstshikov, 1948: 26; Gressitt, 1951: 48 (*Centrodera* subgen.); Gressitt & Rondon, 1970: 26 (partim); Kostin, 1973: 130; Lobanov et al., 1981: 794; Danilevsky & Miroshnikov, 1985: 99; Chiang et al., 1985: 27; Danilevsky, 1988: 125 (larvae); 2006: 1 (Review of fauna of Iran); 2008: 8 (Review of the fauna of Russia & adjacent regions); Löbl & Smetana, 2010: 142.

Type species: *Apatophysis toxotoides* Chevrolat, 1860, by monotypy.

NB: = *Polyarthron barbarum* P.H. Lucas, 1858.

Composition. The genus consists of two subgenera: the nominotypical one and *Angustephysis* Pic, 1956 (the type species: *Apatophysis richteri* Pic, 1956, by original designation). *Apatophysis* s. str. encompasses no less than 18 species, including the new ones described below (see also Remarks), as opposed to *Angustephysis* which embodies five species.

Distribution. This genus shows a vast distribution, the largest among all genera in the tribe. Species of *Apatophysis* inhabit North Africa (Algeria, Tunisia), the Levant (at least Jordan), Asia Minor, the Caucasus, Iran, Central (Middle) Asia, Kazakhstan, Afghanistan, Pakistan, China and Mongolia.

Remarks. Neither of the older overviews, published still in the 1930's, including the

section devoted to this genus contained in the monograph on the fauna of the former USSR (Semenov-Tian-Shanskij & Stshegoleva-Barovskaja, 1936; Plavilstshikov, 1936), has lost its relevance. Danilevsky's (2007) modern review of the vast majority of congeners, coupled with other papers, including descriptions of new species (Plavilstshikov, 1954; Pic, 1956; Miroshnikov, 1992; Sama et al., 2005; Danilevsky, 2006; Rapuzzi & Sama, 2013), generally improve significantly our knowledge of this group. Thus, at the present *Apatophysis* is one of the best-studied genera of the tribe Apatophyseini in the fauna of continental Asia. I have been able to examine almost all of the species of this genus. In addition, I have recently received a series of photographs of Apatophyseini from the southern parts of China from Dr. Meiying Lin (IZAS). Some of them belong to the genus *Apatophysis* and are most likely to represent yet undescribed species, in particular those from Guangdong Province. It is noteworthy that the records in that province are currently the southernmost for the genus, since the species from Vietnam or Laos earlier described in or assigned to *Apatophysis* (Pic, 1912; Gressitt & Rondon, 1970) actually belong to other, new genera established in this paper (see below).

Apatophysis* (s. str.) *afghanica

Miroshnikov, **sp. n.**

(Figs 1, 2, 5, 6, 9)

Material. Holotype ♂ (ZISP), “Afghan. Paktya, Spera, 2000 m, 15.VII.1973, O.K[abakov]. [leg.]”; paratype ♂ (cAM), “Afghan. 30 km N Ghazni, 2500 m, 9.IX.1972 [O. Kabakov leg.]”.

Comparative material. *A. pavlovskii*: Lectotype ♂ (ZMUM), “Gissar Ridge, Kondara Canyon [1100 m], 9.VIII.1953, A. Tsvetaev leg.” [in Russian], “Type”, “*Apatophysis pavlovskii* m. N. Plavilstshikov det. 1953”, “Lectotypus *Apatophysis pavlovskii* Plavilstshikov, 1954, M. Danilevsky des., 2008”; 2 paralectotypes ♂♂ (ZMUM), same labels as lectotype, but “Cotypus”, “Paralectotypus *Apatophysis pavlovskii* Plavilstshikov, 1954, M. Danilevsky des.,

2008”; 1 ♂ (ZISP), same label as lectotype, but with “1100 m” and “Cotypus” (syntype; without Danilevsky's designation as a paralectotype); 1 ♂ (ZISP), 13 ♂ (ZMUM), same geographical label as lectotype, but taken on 5, 6 and 12.VIII.1953, from 1100 to 1500 m; 2 ♂ (ZMUM), same label, but with 1100 m, 5.VIII.1955 and 1500 m, 6.VIII.1955, respectively; 1 ♂ (ZISP), “Gissar Ridge, Takob Canyon, 2100 m, 10.VIII.1953, A. Tsvetaev leg.” [in Russian], “Cotypus”, “*Apatophysis pavlovskii* m. N. Plavilstshikov det. 1954” (syntype; without Danilevsky's designation as a paralectotype); 1 ♂ (ZISP), “Tadzh[ikistan]., Kondara Canyon, Varzob Valley, 1100 m, 25.VIII.[19]37, Gussakovsky leg.” [in Russian], “*Apatophysis gussakovskiana* [sp.n./m.] P. Okunev d[et]. 1941”; 1 ♂ (ZISP), same geographical label; 1 ♂ (ZISP), same label, but taken on 30.VIII.[19]37; 1 ♂ (ZISP), “Tadzh[ikistan]., Kondara Canyon, Varzob Valley, 1100 m, 20.VIII.[19]38, Gussakovsky leg.” [in Russian], “*Apatophysis gussakovskiana* m. 1941 [P. Okunev det.]”; 1 ♂ (ZISP), “Tadzh[ikistan]., Kondara Canyon, Varzob Valley, 1100 m, 5.VIII.1940, Gussakovsky leg.” [in Russian], “*Apatophysis gussakovskiana* sp. n. P. Okunev d[et]. 1941”, “*Apatophysis pavlovskii* Plav. O. Kryzhanovskij det. 1956”; 1 ♂ (ZISP), same geographical label; 1 ♂ (ZISP), “Gissar Ridge [Kondara], Kvak, 12.VIII.[19]53” [in Russian], “*Apatophysis pavlovskii* Plav. W. Shawrow det.”; 1 ♂ (ZISP), “Tadjikistan, distr. Warzob, fl. Kondara, 1100 m, 17.VIII.1955, A. Bundel [leg.]”, “*Apatophysis pavlovskii* [pavlovskiyi, sic!] Plav. W. Shawrow det.”; 1 ♂ (ZISP), “[Gissar Ridge] Kondara, 9.VIII.[19]56, P. Kulakin leg.” [in Russian], “*Apatophysis pavlovskii* [pavlovskiyi, sic!] Plav. O. Kryzhanovskij det. 1956” [not in O. Kryzhanovskij's handwriting!]; 1 ♂ (ZMUM), Gissar Ridge, Varzob River, Gushary, 19.VIII.1958, A. Mikhajlov leg. [in Russian]; 1 ♂ (ZISP), Tadjikistan, Kondara Canyon, 15.VIII.1970, V. Yanushev leg. [in Russian]; 1 ♂ (ZISP), Tadjikistan, Ramit, 1500 m, 12.VIII.1980, M. Danilevsky leg. [in Russian]; 9 ♂ (cMD), same label, but taken from 8.VIII. to 19.VIII.1980; 3 ♂ (cAM), same label, but taken on 14.VIII.1980; 3 ♂ (cMD), Tadjikistan, Karategin Ridge, Sangikar Valley, 1700 m, 2.–10.VIII.1993, Yu. Shchetkin leg. [in Russian].

A. serricornis (including *A. mongolica* Semenov, 1901, syn. pro *A. serricornis*): Kazakhstan: 1 ♂ (cSM), Dzsharkent, 14.VIII.[19]36 [in Russian]; 1 ♂ (cSM), “40 km S Panfilov [now Dzsharkent], Ili River, 21.VI.1988, V. Tuzov leg.”; 2 ♂ (cAM), Almaty Prov., 22 km N Masak, 43°46'N, 78°27'E, 560 m, 16.VIII.1995, G. Fábíán leg. Mongolia: 1 ♂ (ZISP), “Gobi, between Niursu and Dzhandzhikho, 10.VIII.[18]98, Klements leg.” [in Russian], “Coll. Semenov-Tian-Shansky”, silver circle (syntype);

1 ♂ (ZMUM), “Central Gobi, 1956”; 1 ♂, 1 ♀ (cAM), Khailastyn-Khuduk, Zagan oi, 19.–20.VI.1971, B. Namkhaidorz leg. [in Russian]; 1 ♂ (cSM), Kobdosskij Aimak, Elkhon, 20 km SE Altai, 1200 m, 31.VII.[19]76, L. Medvedev leg.; 1 ♂ (ZISP), Southern Gobi Aimak, Dzemgin-Gobi, 25 km SSW Khaialastyn-Khuduk, 20.VI.1991, Kerzhner leg. [in Russian]. China: 1 ♂ (ZISP), “Ka-tu-hu [=Ka-tu-ku] [southern Alashan], 9.VII.[19]08, Kozlov’s ex[pedition].” [in Russian], “Coll. Semenov-Tian-Shansky”; 1 ♂ (cSM), Inner Mongolia Prov., E Bayan Hot, 1780 m, 29.VI.2011, S. Murzin leg.; 1 ♀ (cSM), Inner Mongolia Prov., 5 km S Bayan Hot, 30.VI.2011, S. Murzin leg.

Diagnosis. The new species is very similar to *A. (A.) pavlovskii* Plavilstshikov, 1954 (Figs 3, 4, 7, 8, 10, 43, 47, 99), but differs clearly in a sharper and coarser puncturation of the elytra, their strongly noticeable shine, a predominantly recumbent, thin, light pubescence on the ventral side of the head between the eyes (Figs 9, 10), and in the relatively sharper lateral tubercles at the apex of the pronotum. In both available type specimens of *A. afghanica* sp. n., the brush in the apical part of the penultimate (visible) sternite is well-expressed, not sharply differing from that on the other sternites, whereas in *A. pavlovskii* it is often very weakly developed or evidently less noticeable than on the previous sternites. The apical external angle at least in antennomeres 6–9 in *A. pavlovskii* is usually less strongly developed than in the new species, only rarely similar in both species. *Apatophysis afghanica* sp. n. also reminds of *A. (A.) serricornis* (Gebler, 1843) (Fig. 11), but differs clearly by a more elongated antennomere 3 (which in the male of *A. serricornis* is 1.4–1.7 times as long as wide, sometimes even subequal in length and width), by the evidently less dense and more uniform setae on the ventral side of the head between the eyes (Figs 9, 11), the generally less strongly developed pubescence (at least so in the male), a much sharper longitudinal impression on the dorsal side of the head between the eyes (in *A. serricornis* usually poorly developed to absent), and some other

characters. In addition, the distribution area of *A. afghanica* sp. n. is quite remote from those of *A. pavlovskii* and *A. serricornis*, especially from the latter.

Description. Male. Body length 13.8–16.9 mm, humeral width 4.25–5.60 mm. Reddish-brown; elytra lighter, shiny; eyes silver-grey or black.

Head at eye level evidently narrower than pronotum at level of lateral tubercles; with well-developed antennal tubercles, a sharp median groove and a strong impression on dorsal side between eyes; with a clear, dense, somewhat heterogeneous puncturation; eyes large, shallowly emarginate, with large ocelli; genae short; antennae much longer than body, reaching beyond apex of elytra by a significant part of antennomere 9, strongly serrate from antennomere 5 until antennomere 10; antennomere 1, 1.09–1.29 times as long as 3rd, but slightly or evidently shorter than 4th; antennomere 2 strongly transverse; 3rd, 1.85–1.91 times as long as wide; antennomere 4, 1.26–1.36 times as long as 3rd; antennomere 5 subequal to or slightly longer than 3rd and 4th combined.

Pronotum evidently transverse, broadest at level of lateral tubercles where it is 1.35–1.42 times as wide as long and 1.07–1.13 times as wide as base; the latter 1.23–1.37 times as wide as apex; lateral tubercles large, apex sharpened; disk with five clearly noticeable tubercles, but these more clearly expressed at base on either side of midline, median tubercle thereby at base as well-developed as or noticeably less strongly developed than tubercles in the middle; with a clear, dense, heterogeneous, in places sparser puncturation smallest on surface of tubercles on disk, with individual large, but not too deep punctures.

Scutellum sharply narrowed towards apex, triangular.

Elytra moderately narrowed towards apex; 2.31–2.40 times as long as width at base; each widely rounded at apex, can

strongly diverge along suture before apex; with gentle longitudinal ribs; with a very sharp, irregular, partly condensed, in places confluent puncturation.

Pro- and metasterna in apical part with a rugose sculpture; prosternal process more or less narrow between coxae; mesosternal process moderately wide; metepisterna strongly narrowed towards apex; metasternum and sternites with a small, dense puncturation.

Visible sternites, except last one, in apical part with a well-developed brush of dense, mostly erect or suberect, light setae; brush on first (visible) sternite can be best developed; last (visible) sternite at apex widely truncate, but can be with a noticeable impression.

Legs slender, long; metatibia at apex not emarginate; lobes of tarsomere 3 sharp at apex; pads of tarsi developed about as well as in other species of *Apatophysis*; metatarsomere 1 subequal to 2nd and 3rd of the same tarsus combined.

Setation moderately dense, at least insignificantly hiding the sculpture of elytra, most dense predominantly on dorsal side of head and, partly, on pronotum; thin setae on ventral side of head between eyes mostly recumbent while erect setae located there mainly located along inner margin of eyes.

Distribution. Eastern Afghanistan.

Remarks. *Apatophysis afghanica* sp. n. belongs to the group of species characterized by the presence in the male (as shown above) of a peculiar brush located mostly in the apical half of each of the visible sternites (except the last one) and consisting of very dense, recumbent or mostly apically erect/suberect, bright, light setae. Danilevsky (2008) was the first to draw attention to this character. The structure of the brush is about the same in almost all species. Only in certain species the brush is weakly developed. This group of species, in my opinion, generally requires a more profound study and perhaps deserves the separation as a new subgenus.

A distinct and coherent distribution pattern of these species also supports their isolated status.

Apatophysis afghanica sp. n. is the first species of the genus to be recorded in Afghanistan. Until now, only one species of the genus *Protapatophysis*, the latter originally established as a subgenus of *Apatophysis*, is known there.

Apatophysis (Angustephis) plavilstshikovi
Miroshnikov, 1992, **sp. revalid.**
(Figs 16, 24, 30, 34)

Apatophysis plavilstshikovi Miroshnikov, 1992: 392. **Type locality:** Turkmenistan, sands Chilmamedkum, Kyzyl-Takyr env. (according to the original description and the label of the holotype). Danilevsky, 2008: 37, 38 (syn. pro *A. margiana*) (wrong synonymy!).

Material. Holotype ♂ (ZISP), “Turkmenistan, Krasnovodsk reg., Chilmamedkum sands, 2 km from Kyzyl-Takyr, 22.V.1984, E. Khachikov leg.” [in Russian], “Holotypus ♂ *Apatophysis plavilstshikovi* sp. n. det. A. Miroshnikov XI.1991”.

Comparative material. *A. margiana*: Lectotypus ♂ (ZISP), “Imam-Baba, Transcasp. reg., 4.V.[19]12 (according to the original publication, 17.V.1912), V. Kozhanchikov leg.” [in Russian], “*Apatophysis margiana* m., type, ♂, A. Semenov-Tian-Shansky det., [19]35”, “Coll. Semenov-Tian-Shansky”, “Zoological Institute RAN, St.Petersburg”, “Lectotypus *Apatophysis margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, M. Danilevsky des., 2008” (Fig. 13); 2 paralectotypes ♂♂ (ZISP), same labels as lectotype, but “Paralectotypus *Apatophysis margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, M. Danilevsky des., 2008”; paralectotype ♂ (ZISP), “Transcaspian, K. Aris leg.”, “Zoological Institute RAN, St.Petersburg”, “Paralectotypus *Apatophysis margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, M. Danilevsky des., 2008”; paralectotype ♂ (ZISP), “Afganist. Kuschke”, “Coll. Semenov-Tian-Shansky”, “Zoological Institute RAN, St.Petersburg”, “Paralectotypus *Apatophysis margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, M. Danilevsky des., 2008”; 1 ♂ (ZISP), same labels as lectotype, but without any designations; 1 ♂ (ZISP), “Kushkinsk. Imam-Baba, 6.V.1912, Kozhanch[ikov]. leg.”, “*Apatophysis caspica* Sem. W. Shawrow det.”; 1 ♂ (ZISP), “Transcaspian, Sumbar, 1894, Herz”, “Coll. G. Sievers”

[in Russian]; 2 ♂ (ZISP), Turkmenistan, Badkhyz, Akarcheshme, 5.VII.1991, Krivokhatsky leg.; 1 ♂ (ZISP), Turkmenistan, western Kopet-Dag, Iol-Dere, 20.VIII.1952, V. Kuznetsov leg.; 2 ♂ (cAM), same, but taken on 30.VII.1983, A. Zvantsov leg.; 1 ♂ (ZISP), Uzbekistan, Karakalpakia, western coast of Aral Sea, 10.VIII.1970, Pirnazarov leg.

Remarks. This species is still known from the holotype (male) alone. Danilevsky's (2008) decision to consider it as a junior synonym of *A. (An.) margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936, seems too farfetched and ill-grounded, because it takes no account of several diagnostically important differences between these species. Danilevsky (2008) points out that "The whole series of *A. margiana* is so variable that the distinguishing characters of *A. plavilstshikovi* Miroshnikov, 1992 (Fig. 16d) listed in the original description must be regarded now as individual characters of the holotype specimen. So *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936 = *A. plavilstshikovi* Miroshnikov, 1992, syn. n.". That is, to synonymize these species, Danilevsky referred only to the characters provided in the original description of *A. plavilstshikovi*, although he had the holotype of that species available for restudy. On the contrary, my present detailed revision of all available material of *A. margiana* (Figs 12, 14, 15, 17–23, 25–29, 31–33, 41, 44, 45, 100) from various localities (see Comparative material) and a comparison of the types of both taxa show significant differences between these two species.

The antennae in *A. plavilstshikovi* are only slightly longer than the body, the apex of antennomere 9 evidently failing to reaching the apex of the elytra; in comparison with *A. margiana*, antennomeres 5–11 are distinctly less elongated, the length to width ratio of these antennomeres being 3.23, 3.03, 3.50, 3.17, 3.85, 3.82 and 5.63, respectively; the apices of antennomeres 6–10 are clearly subrectangular to lateral, external

side. In contrast, the antennae in *A. margiana* are usually much longer than the body, often extending beyond the apex of the elytra by most to a significant part of antennomere 9, but whatever their length, they reach or only barely fail to reach the apex of the elytra by the apex of their antennomere 9; antennomeres 5–11 distinctly more elongated, the length to width ratio of these antennomeres being 3.68–3.95, 3.47–4.00, 3.89–4.50, 3.34–4.43, 3.91–4.94, 4.60–5.41 and 6.42–8.43, respectively; the apices of antennomeres 6–10 are noticeably acutangular to lateral, external side.

The lateral tubercles of the pronotum in *A. plavilstshikovi* are more strongly developed as compared to *A. margiana*, also being better drawn laterad so that each tubercle along its upper margin is long, and regularly and slightly curved, but thereby less clearly sloping down towards its apex. The lateral tubercles of the pronotum in *A. margiana*, however variable in shape, are less strongly developed as compared to *A. plavilstshikovi*, also being less strongly drawn laterad so that each tubercle along its upper margin, even if as long, and regularly and slightly curved as in *A. plavilstshikovi*, is thereby more clearly sloping down towards its apex. That is why the tubercles look less strongly drawn towards the sides. The tubercle along its upper margin in *A. margiana* can also be clearly curved angularly, with its better extended, apical part thereby being rather short, albeit sloping down at about the same angle as in *A. plavilstshikovi*, but then the tubercles look the least strong compared to *A. plavilstshikovi*.

The elytra in *A. plavilstshikovi* are moderately narrowed towards the apex, being 2.28 times as long as the width at the base; a more or less evident puncturation is present only in the basal one-quarter, being much weaker towards the middle of the elytra. The elytra in *A. margiana* are to a varying degree strongly narrowed towards

the apex, sometimes only moderately so, as in *A. plavilstshikovi*, usually being 2.07–2.12 times, sometimes 2.16–2.18 times, exceptionally 2.21 times, but not more, as long as the width at the base; however variable, the puncturation of the elytra is always distinct, at least so towards the middle of the elytra, in comparison with *A. plavilstshikovi* being evidently or much sharper at the base.

In addition, both species differ clearly by the shape of the apical parts of tergite and sternite 8. In *A. plavilstshikovi*, tergite 8 is truncate at the apex, with rounded, but clearly expressed angles on both sides, as in Fig. 34, whereas sternite 8 is strongly emarginate at the apex. The apex of tergite 8 in *A. margiana* is widely rounded (not truncate), without evidently expressed angles on both sides, as in Figs 31–33, whereas sternite 8 clearly, but less deeply emarginate at the apex than in *A. plavilstshikovi*. It is also noteworthy that the body in *A. plavilstshikovi* is 11.0 mm long, i.e. although lying within the variation range of *A. margiana* (according to Danilevsky, 10.5–15.0 mm, versus at least 11.0 mm in the material I have studied), it is close to the lowest limit. Perhaps one may agree with Danilevsky (2008) that the metatarsomeres, as well as the pro- and mesotarsomeres in the holotype of *A. plavilstshikovi* are abnormally small. However, none of the other of its structural details quoted above as showing clear differences between *A. plavilstshikovi* and *A. margiana* has any signs of an abnormal development. It seems important to note that the *A. margiana* beetles with the smallest bodies (i.e., similar in size to *A. plavilstshikovi*) demonstrate neither a trend to decreasing the length of the antennae nor reduced length to width ratios of the antennomeres, nor changes in the shape of the apical external angle of antennomeres 6–10, nor a weakened elytral puncturation, etc. To summarize, *Apatophysis* (*Angustephysis*) *plavilstshikovi* Miroshnikov, 1992, **sp. revalid.**, non syn. pro *A. (An.) margiana*

na Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936.

Concerning the type locality of *A. plavilstshikovi*, it lies in a relatively close proximity to the westernmost locality of the distribution area of *A. margiana*, as indicated by Danilevsky (2008). So presumably the ranges of these two species do not overlap. In fact, the distributions of some other *Apatophysis* species very similar to each other are not necessarily separated by large gaps. For example, the distribution areas of *A. farsicola* Sama, Fallahzadeh et Rapuzzi, 2005 and its closest ally, *A. danczenkoi* Danilevsky, 2006, are unlikely to be strongly disjunct, both of them also belonging to the subgenus *Angustephysis* and stemming from southern Iran. Similarly, still vague are the western and eastern distribution limits in Transcaucasia of *A. (A.) caspica* Semenov, 1901 and *A. (A.) vedica* Danilevsky, 2008, respectively. Geographically, these two presumably especially close species, if *A. vedica* is indeed a “good” species, are currently separated but by a rather small gap in eastern Armenia. A list of similar examples could easily be extended. In relation to the type locality of *A. plavilstshikovi*, it also can hardly be unambiguously considered as favouring the erroneous synonymy discussed above.

Genus *Protapatophysis*

Semenov-Tian-Shanskij et
Stshegoleva-Barovskaja, 1936

Protapatophysis (*Apatophysis* subgen.) Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936: 66. Löbl & Smetana, 2010: 142.

Protapatophysis: Danilevsky, 2011: 94 (Review).

Type species: *Apatophysis kashmiriana* Semenov, 1901, by original designation.

Composition. The genus includes four species (see Remarks).

Distribution. Northeastern Afghanistan, northern Pakistan and northern India.

Remarks. A review of this genus has recently been published (Danilevsky, 2011). I have been able to examine all of the constituent species. Only material of *P. kashmiriana* (Semenov, 1901) (Figs 35–38) deserves a special mention (see below).

The species attribution of one male that I got from the northernmost parts of Pakistan (Hindukush, Chitral Valley, 2900–3200 m, collected relatively recently) is still unclear. Since this specimen differs clearly from both geographically closest *P. vartianae* (Heyrovský, 1971) and *P. kabakovi* Danilevsky, 2011, it seems very likely to belong to a yet undescribed species.

Genus *Mimapatophysis*
Miroshnikov, **gen. n.**

Type species: *Mimapatophysis gressitti* Miroshnikov **sp. n.**, by present designation.

Diagnosis. Habitually, *Mimapatophysis* gen. n. does resemble *Apatophysis* more than any other genus of the tribe, but differs clearly by a very deeply split tarsomere 3 (without sharpened lobes at its apex), well-developed pads on the tarsi (without dividing them by a wide shiny strip into two narrow fragments), their metatarsomere 2 being either much more strongly broadened apicad and only slightly elongated or not at all longitudinal (at least so in the male), the last tarsomere much more strongly broadened behind a peculiarly-shaped base, a sharply expressed appendage in the last antennomere, a somewhat different shape of the apex of antennomeres 6–10, less strongly flattened antennomeres 3–11, a deeper and stably sharper elytral puncturation well-expressed at least until the apical one-quarter. From the genus *Protapatophysis* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936 (with the type species *A. kashmiriana* Semenov, 1901) it differs clearly also in structure of the 3rd and last tarsomeres, of male metatarsomere 2, of

antennomeres and by more robust legs, on the average also by a smaller body to a varying degree narrowed towards the apex of the elytra in the male (at least so in comparison with almost all representatives of *Protapatophysis*).

Etymology. In Greek, *mimos* (απομίμηση) means “imitating, similar”, derived directly from *Apatophysis* Chevrolat, 1860, to emphasize the resemblance and to mean “imitating *Apatophysis*”.

Description. Based on male characters alone. Body robust, length 13.8–16.8 mm.

Head at eye level evidently narrower than pronotum at level of lateral tubercles; dorsally with a rough, dense, in places confluent puncturation; antennal tubercles not too large; median longitudinal groove clear; eyes large, moderately convex, shallowly emarginate, with large ocelli; genae not more than 1.5 times as long as antennomere 2; maxillary palpi much shorter than antennomere 1; antennae noticeably longer than body, very strongly serrate from antennomere 5 until 10th; antennomeres 5–11 moderately flattened; antennomere 1 noticeably curved in apical one-third, almost 1.3 times as long as 3rd, more than 1.3 times as long as 4th, but much shorter than 5th or 6th; antennomere 2 barely transverse; last antennomere with a very evident appendage.

Pronotum clearly transverse, broadest at level of lateral tubercles where it can be more than 1.2 times as long or as wide at base; apex clearly narrower than base; lateral tubercles more or less well-developed; on disk, tubercles at base slightly or clearly more strongly developed than tubercles in the middle.

Elytra to a varying degree narrowed towards apex; rather short, can be only slightly more than 2 times as long as width at base; each apex widely or narrowly rounded at apex; very sharply, deeply and roughly punctured, more weakly so only before apex.

Pro- and mesosterna without coarse sculpture; prosternal process very narrow

between coxae; mesosternal process moderately wide; metasternum with a strong median suture; abdomen of normal structure; last (visible) sternite subtruncate at apex.

Legs robust, moderately long; metatibia with two spurs, not emarginate at apex; metatarsomere 1 evidently shorter than next two metatarsomeres combined; protarsomere 2 subequal in length and width or barely transverse; metatarsomere 2 slightly longitudinal or subequal in length and width; tarsomere 3 split up to more than two-thirds of its length; last tarsomere behind base sharply broadened towards apex; tarsi from below without median, longitudinal, shiny strip.

Recumbent light setation of elytra can only slightly hide their puncturation.

Composition. The genus includes two species.

Distribution. Laos and Thailand.

Mimapatophysis gressitti

Miroshnikov, **sp. n.**

(Figs 49–52, 57, 59, 78, 103)

Apatophysis (s. str.) *kashmiriana*, Gressitt & Rondon, 1970: 23 (Fig. 5, i), 26 (partim, Laos) (non Semenov, 1901).

Apatophysis kashmiriana, Hua, 1984: 8 (Laos) (non Semenov, 1901).

Material. Holotype ♂ (BM), “Laos, Borikhane Prov., Pakkading, 6.IV.1963”, “J.A. Rondon Collection Bishop Mus.”, “*Apatophysis kashmiriana* Sem. J.L. Gressitt det. [misidentification!]” (Fig. 50); paratype ♂ (BM), same labels, but “6.IV.1965”, “*Apatophysis kashmiriana* Sem. J.L. Gressitt det. [misidentification!]” (Fig. 52); paratype ♂ (cAM), “Laos, Vientiane Prov., Ban Van Eue, 30.IV.1965”, “J.A. Rondon Collection Bishop Mus.” (see Remarks).

Comparative material. *Protapatophysis kashmiriana* (Semenov, 1901) (Figs 35–38): Lectotype ♂ (ZISP), “Sind River Valley (Kashmir), 7100–7600’, 9.–10.VI.[18]98, Novitzky” [in Russian], “*Apatophys[is] kashmiriana* m. ♂ Typ. II.[19]01. A. Semenow det.”, golden circle, “Zoological Institute RAN, St.Petersburg”, “Lectotypus *Apatophysis kashmiriana* Semenov, 1901, M. Danilevsky des., 2010” (Fig. 36); paralectotype ♀ (ZISP), same labels, but “*Apatophys[is]. kashmiriana* m. ♀ Typ. II.[19]01. A. Seme-

now det.”, “Paralectotypus *Apatophysis kashmiriana* Semenov, 1901, M. Danilevsky des., 2010” (Fig. 38).

Diagnosis. *Mimapatophysis gressitti* sp. n. is similar to the only congener, *M. solodovnikovi* sp. n., but differs well in the characters listed in the latter’s diagnosis (see below).

Description. Male. Body length 13.8–15.2 mm, humeral width 4.45–4.85 mm. Reddish-brown; elytra paler; apex of mandibles black; eyes silver-grey.

Head with well-expressed antennal tubercles very evidently elevated on inner side and therefore sharply sloping downwards there; gula with weakly expressed transverse wrinkles; antennae extending beyond apex of elytra by their penultimate antennomere; last antennomere with a well-expressed appendage; apical external angle of antennomeres 5–10 very strongly expanded laterad forming a more or less noticeable, obtuse, rounded angle along external margins of these antennomeres before their apices.

Pronotum at level of lateral tubercles 1.27–1.28 or 1.19–1.23 times as wide as both width at base and length, respectively; base 1.15–1.16 times as wide as apex; lateral tubercles well-developed; on disk, tubercles at base slightly more strongly developed than tubercles in the middle.

Elytra moderately narrowed towards apex; 2.10–2.13 times as long as width at base; each broadly rounded at apex; very sharply, deeply and roughly punctured, punctures being weaker only before apex, but not arranged in confused longitudinal rows.

Mesosternum without longitudinal keel-shaped elevation; its process with a clear impression; metasternum and sternites with a dense heterogeneous puncturation, as well as with larger sparse punctures.

Protarsomere 2 subequal in length and width; metatarsomere 2 slightly longitudinal.

Body, antennae and legs clothed with a more or less uniform light setation, this only partly being clearly variegated on pronotum.

Distribution. Laos.

Etymology. The new species is named in the memory of Dr. Judson Linsley Gressitt, on the eve of his 100th birthday.

Remarks. Gressitt and Rondon (1970) referred to a total of five specimens, but only three of them I have been lucky to revise are housed in the BM. The repository or repositories of the remaining two specimens are still unknown.

Mimapatophysis solodovnikovi

Miroshnikov, **sp. n.**

(Figs 53–56, 58, 104)

Material. Holotype ♂ (NHMD), “Siam, [J.] Skovgaard” (upperside) + “27.I.[19]13” (underside), “Zoological Museum DK – Copenhagen” (Fig. 54).

Diagnosis. *Mimapatophysis solodovnikovi* sp. n. is similar to *M. gressitti* sp. n., but differs clearly by the larger robust body, the elytra being more strongly narrowed towards the apex, by certain features of their puncturation, the less strongly developed lateral tubercles of the pronotum, but the more strongly developed tubercles on its disk at the base, the more sharply expressed appendage of the last antennomere, the less elongated and apicad broader tarsomeres, the presence of distinct grooves on the gula, the antennal tubercles evidently less expressed on the inner side.

Description. Male. Body length 16.8 mm, humeral width 5.8 mm. Reddish-brown; elytra paler; apex of mandibles black; eyes silver-grey.

Head with moderately developed antennal tubercles gradually sloping downwards on inner side; with a weakly expressed impression between them; gula with individual, rough, transverse, short grooves; antennae extending beyond apex of elytra by penultimate antennomere; last antennomere with a very strongly developed appendage; apical external angle of antennomeres 5–10 very strongly expanded laterad, thus forming

a more or less noticeable, obtuse, roundish angle along external margins of these antennomeres before their apices.

Pronotum at level of lateral tubercles 1.11 or 1.18 times as wide as both width at base and length, respectively; base 1.18 times as wide as apex; lateral tubercles moderately developed; on disk, tubercles at base evidently more strongly developed than tubercles in the middle.

Elytra rather strongly narrowed towards apex; 2.04 times as long as width at base; each rounded at apex; very sharply, deeply and roughly punctured, weaker so in apical one-quarter and forming more or less distinct, partly confused, longitudinal rows.

Mesosternum all along with a clear keel-shaped elevation in the middle; metasternum and sternites with a dense heterogeneous puncturation, as well as with larger sparse punctures.

Protarsomere 2 barely transverse; metatarsomere 2 subequal in length and width.

Body, antennae and legs clothed with a more or less uniform light setation only partly clearly variegated on pronotum.

Distribution. Thailand.

Etymology. The new species honours my friend and colleague, Dr. Alexey Yu. Solodovnikov (NHMD), who helped me to obtain some valuable material used in the present work.

Genus *Analogisticus* Miroshnikov, **gen. n.**

Type species: *Apatophysis tonkinea* Pic, 1912, by present designation.

Diagnosis. By its habitus, large body size, relatively long genae, long maxillary palpi, the shape of antennomeres, the strongly obliterated sculpture of the elytra, the structure of the last tarsomere of all male tarsi, and by certain features of setation, the new genus is very similar to some representatives of the Malagasy genus *Logisticus* Waterhouse,

1878, especially to *L. simplex* Waterhouse, 1880 (Figs 66–70, 106). However, *Analogisticus* gen. n. differs clearly in structure of the apex of the metatibia (Figs 105, 106), the more strongly expressed and clearly separated tubercles on the disk of the pronotum, by certain structural features of the metasternum, including by the presence of a keel-shaped elevation, at least so in the male (Figs 64, 66), and a number of other characters. Due to the presence of lateral tooth-shaped protrusions on the last tarsomere of all male tarsi, combined with long maxillary palpi, a large body size, structural features of the pronotum, metasternum and metatibia, it is clearly distinguished from all genera of the tribe Apatophyseini from continental Asia. In comparison with *Apatophysis* and *Protapatophysis*, *Analogisticus* gen. n. is additionally easily diagnosed through a more deeply split tarsomere 3 and a strongly obliterated sculpture of the elytra while, compared to the former genus, also by well-developed pads on the tarsi.

Etymology. In Greek, *Analogisticus* means “a highly capable *Logisticus*”, derived directly from *Logisticus* Waterhouse, 1878 (“capable”).

Description. Based on a single male. Body slender, elongate, with a length of 20.0 mm.

Head with well-developed antennal tubercles and a sharp, but moderately deep, longitudinal groove between them, this being strongly weakened before level of posterior margin of eyes; behind eyes on sides with an abundant rough puncturation; eyes large, strongly convex, shallowly emarginate, with large ocelli; genae well-developed, barely longer than isthmus between inner margins of upper lobes of eyes, but visibly shorter than protarsomere 2; maxillary palpi noticeably longer than antennomere 1, but slightly shorter than 5th; antennae slightly serrate, much longer than body, reaching beyond apex of elytra by antennomere 9, apex of 4th freely reaching the base of pronotum; anten-

nomere 1 from below noticeably curved in apical one-third, but without sharp broadening before apex; antennomere 3 clearly shorter than 1st; antennomere 4 more than 1.5 times as long as 3rd; antennomeres 5–10 very slightly broadened towards apex, their apical external angle barely drawn laterad; last antennomere without evident appendage.

Pronotum subequal in length to width at base; at level of lateral tubercles barely broader than at base where almost 1.4 times as wide as apex; lateral tubercles large, obtusely-conical, not sharpened apically; tubercles on disk very well-developed, sharply expressed, upper tubercles separated from lower ones by a strong deepening; base on sides between margin and lateral tubercle coarsely punctured; remaining surface, except for individual coarse punctures at the very base at midline, with a very small, but clear, dense puncturation.

Elytra moderately narrowed towards apex; 2.5 times as long as width at base; apices of both together rounded; smooth, devoid of a clear puncturation.

Pro- and mesosterna without coarse sculpture; prosternal process very narrow between coxae; mesosternal process moderately wide; metasternum at base with a sharp, longitudinal, but not too long, keel-shaped elevation forming a right angle; upper level of metacoxae much lower than level of metasternum, especially at its base in middle part (versus upper level of metacoxae insignificantly lower than level of metasternum in *Logisticus*); abdomen of normal structure; last (visible) sternite shallowly and relatively narrowly emarginate at apex.

Legs slender, moderately long; metatibia with one short spur, apex inside with a well-developed emargination forming a long tooth (versus apex of metatibia in *Logisticus* and other Malagasy genera which are similar, but without emargination, with two spurs, one of which much longer than the other); pro- and mesotibiae with two spurs;

tarsi long; tarsomere 1 much longer than tarsomere 2; tarsomere 3 split over more than two-thirds of its length; last tarsomere of all tarsi with lateral, symmetrically disposed, tooth-shaped protrusions before apex, best developed in protarsi; tarsi from below without median, longitudinal, shiny strip.

Recumbent, gentle, light setae uniformly scattered over elytra, not hiding their sculpture.

Composition. The genus includes a single species.

Distribution. Northern Vietnam.

Remarks. The new genus is of great interest, being the first and so far single genus of the tribe Apatophyseini in the Oriental realm which shows unquestionably very evident similarities to some genera of this tribe endemic to Madagascar. The structure of the last tarsomere in all male tarsi carrying teeth like those observed in *Logisticus* and *Analogisticus* gen. n. is characteristic of a whole number of Malagasy genera, including *Mastodera* J. Thomson, 1857, *Artelida* J. Thomson, 1864, *Toxitiades* Fairmaire, 1893, *Phitryonus* Fairmaire, 1903, *Tsivoka* Villiers, 1982 and others. The taxonomic significance of this character is yet uncertain. But it is noteworthy that, to a varying degree, some others groups also show a similar structure of the last tarsomere. Among them is, e.g., the Oriental genus *Capnolymma* Pascoe, 1858 with a still unclear systematic position. Males of some species of this genus typically show sharp teeth located symmetrically on the sides of the last tarsomere of the protarsi and a similar tooth found only on the lateral side of the last tarsomere in the mesotarsi, the last tarsomere of the metatarsi being devoid of any teeth. In the recently established subgenus *Neoxymirus* Miroshnikov, 2013 of the Palearctic genus *Oxymirus* Mulsant, 1863, tooth-shaped protrusions on the last male tarsomere are also observed, but only one each on the inner side of the last protarsomere and on the lateral side of the

last mesotarsomere, like in certain *Capnolymma* (Miroshnikov, 2013).

The isolation of the new genus from the obviously most similar *Logisticus* at the moment raises no questions not only from a geographical viewpoint. *Analogisticus* gen. n. shows several substantial morphological differences from *Logisticus* which in general are very important for diagnosing Apatophyseini representatives. One of these characters is the above structure of the apex of the metatibiae.

Analogisticus tonkineus

(Pic, 1912), **comb. n.**

(Figs 60–65, 105)

Apatophysis tonkinea Pic, 1912: 18 (“Tonkin, environs de Lang-Son”). **Type locality:** Northern Vietnam, neighborhood of the city Lang Son (according to the original description and the label of the holotype). Pic, 1956: 2.

Apatophysis (?*Protapatophysis*) *tonkinea*: Semenov-Tian-Shanskij & Stshegoleva-Barovskaja, 1936: 86, 88.

Material. Holotype ♂, by monotypy (MNHN), “entre Hanoi et Lang Son”, “*Apatophysis tonkinea* Pic”, “type”, “Holotype”, “Muséum Paris” (Fig. 61).

Genus ***Strophophysis*** Miroshnikov, **gen. n.**

Type species: *Apatophysis* (s. str.) *laosensis* Gressitt et Rondon, 1970, by present designation.

Diagnosis. The new genus differs from all genera of the tribe Apatophyseini from continental Asia by the presence of a deeply emarginate penultimate (visible) sternite and a well-developed, wide, but not too deeply emarginate last (visible) sternite in the male (Fig. 75), as well as by longitudinal strips of dense light setae on the elytra (Fig. 71), combined with weakly developed lateral tubercles of the pronotum, certain structural features of the antennae, a deeply emarginate apex of the metatibiae (Fig. 107) and some other characters.

Etymology. In Greek, “strophos” (μάντα) means “stripy”, derived from *Apatophysis* Chevrolat, 1860, which in Greek means “a natural liar”.

Description. Based on a single male (see also Remarks below). Body robust, with a length of 13.2 mm.

Head large, facies massive, at eye level even slightly broader than pronotum at level of lateral tubercles; dorsally with a sharp, heterogeneous, partly rough puncturation; antennal tubercles weakly developed; longitudinal groove between them unclear; eyes very large, strongly convex, shallowly emarginate, with large ocelli; genae short, subequal in length to antennomere 2; maxillary palpi much shorter than antennomere 1; antennae noticeably longer than body, from antennomere 7 until 10th barely serrate; antennomeres 5–11 moderately flattened; antennomere 1 normal in structure, without sharp broadening before apex, almost 1.6 times as long as 3rd, slightly longer than antennomere 4, but clearly shorter than antennomere 5 or 6; antennomere 2 barely longitudinal; last antennomere without evident appendage.

Pronotum subequal in length to width at base; broadest at level of lateral tubercles, but only slightly wider there than at base or than length, respectively; apex slightly narrower than base; lateral tubercles clearly expressed, moderately large; disk with rather sharp tubercles at base and clearly flatter and larger tubercles near middle; disk there also with a clear, very dense, mostly confluent puncturation generally forming an irregular, mostly tangled network.

Elytra strongly narrowed towards apex; 2.24 times as long as width at base; apex of each elytron somewhat angular; densely punctured.

Pro- and mesosterna without coarse sculpture; prosternal process very narrow between coxae; mesosternal process moderately wide; metasternum with a sharp median suture; penultimate (visible) sternite with an acutangular emargination in apical

part up to about one-third of its extent; last (visible) sternite with a very wide, obtusangular, moderately deep, but well-expressed emargination at apex.

Legs robust; femora thick; metatibia with two spurs, apex deeply emarginate; metatarsomere 1 slightly shorter than next two metatarsomeres combined; mesotarsomeres 1 and 2, as well as metatarsomeres 1 and 2 slightly elongated; tarsomere 3 split over more than two-thirds of its extent; last tarsomere strongly broadened from base towards apex; tarsi from below without median, longitudinal, shiny strip.

Recumbent light setation on most of body very dense, on dorsum, sternites and, partly, remaining surface of venter strongly, mostly completely hiding the sculpture; on elytra, almost all along, forming wide strips; setation peculiar in coloration, namely, on head consisting only of yellow setae, on both pronotum and elytra of white and yellow setae, generally creating a variegated background of dorsum.

Composition. The genus includes a single species.

Distribution. Southern Laos.

Strophophysis laosensis

(Gressitt et Rondon, 1970), **comb. n.**

(Figs 71, 72, 75, 76, 80, 81, 107)

Apatophysis (s. str.) *laosensis* Gressitt et Rondon, 1970: 26, 27, 31, fig. 7, a. **Type locality:** Southern Laos, Sithandone Province (now within Champasak Province), Ile de Khong (according to the original description and the label of the holotype).

Apatophysis laosensis: Hua, 1984: 8.

Material. Holotype ♂ (see Remarks) (BM), “Laos, Khong, 22.III.1965”, “J.A. Rondon Collection Bishop Mus.”, “Holotype *Apatophysis laosensis* J.L. Gressitt et Rondon” (Fig. 72).

Remarks. This species was described from a single specimen claimed to be female (Gressitt & Rondon, 1970). The study of the holotype has shown that actually it is a male.

Genus *Agastophysis* Miroshnikov, **gen. n.**

Type species: *Toxotus griseopubens* Pic, 1957, by present designation.

Diagnosis. The new genus differs from all conribal genera from continental Asia by the combination of characters which includes entirely non-serrate antennae, antennomere 1 being strongly or clearly broadened at the apex in the male and female, respectively, the well-developed lateral and discal tubercles of the pronotum, a deep emargination at the apex of the metatibiae, the slender legs, a deeply split tarsomere 3, a relatively large body size, as well as the male body shape, the setation features of the elytra, capable of forming clear longitudinal stripes resembling those in *Strophophysis* gen. n.

Etymology. From “agastos” (Greek), meaning “amazing”, the whole name meaning “amazing in nature”.

Description. Body in male slender, elongated, in female more robust, length 17.2–22.5 mm.

Head at eye level barely narrower than pronotum at level of lateral tubercles; sharply punctured; antennal tubercles moderately developed; median longitudinal groove clearly visible; eyes large, moderately convex, shallowly emarginate, with large ocelli; genae 1.6–2.0 times as long as antennomere 2; right mandible at inner margin in middle part with a roundish emargination, this being more strongly developed in male; maxillary palpi much shorter than antennomere 1 and subequal in length to 3rd; antennae noticeably or barely longer than body in male and female, respectively, non-serrate; antennomeres 5–11 moderately flattened; antennomere 1 in male from below strongly broadened before apex, forming an obtuse tooth-shaped protrusion, in female less strongly broadened; this antennomere almost 1.4 times as long as 3rd; antennomere

2 subequal in length and width; last antennomere without evident appendage.

Pronotum clearly transverse, broadest level to lateral tubercles where almost 1.2 times as wide as long and slightly wider than at base; apex noticeably narrower than base; lateral tubercles well-developed; on disk with rather sharp tubercles at base and near middle on either side of midline and with a small, flat, median tubercle at base; middle of disk with a rough, dense, in places confluent puncturation (as on dorsal side of head), tubercles in the middle mostly with a small dense puncturation, partly a similar puncturation on tubercles at base.

Elytra in male elongated, moderately or clearly narrowed towards apex, in female behind base noticeably broadened towards apical one-third; at apex each elytron narrowly rounded; with a moderately dense, partly unclear, rugose puncturation.

Pro- and mesosterna without coarse sculpture; prosternal process very narrow between coxae; mesosternal process moderately wide; metasternum with a well-expressed median suture; abdomen of normal structure (at least so in male, see Remarks to the type species of the genus); apex of last (visible) sternite very broadly truncate, either without or with a broad, very weak emargination.

Legs slender, moderately long; metatibia with two spurs, deeply emarginate at apex; metatarsomere 1 slightly shorter than next two metatarsomeres combined; mesotarsomeres 1 and 2 clearly or strongly elongated; tarsomere 3 split to about two-thirds of its length; last tarsomere gradually broadened from base towards apex; tarsi from below without median, longitudinal, shiny strip.

Light recumbent setation almost all over elytra can form well-expressed longitudinal strips.

Composition. The genus includes two species.

Distribution. Southern China: Yunnan and Xizang (Tibet) provinces.

Agastophysis griseopubens(Pic, 1957), **comb. n.**

(Figs 83–90, 93–97, 108)

“*Toxotus griseopilosus* Pic n.sp. A-tun-tze, Yunnan”: Breuning, 1956: 230 (nom. nudum).

Toxotus griseopubens Pic, 1957: 75 (“Nord Yunnan: A-tun-tse, 4000 m”). **Type locality:** China, Yunnan Province, A-tun-tze [now Deqin County] (according to the original description and the label of the holotype). Hua, 1982: 22; Ulmen et al., 2010: 12.

Stenocorus griseopubens: Löbl & Smetana, 2010: 134.

Material. 1 ♂ (ZMUM), “A-tun-tse (Nord Yunnan), Mittlere Höhe (ca. 4000 m), 11.VIII.1936, H. Höne” (Fig. 84) (see Remarks); 1 ♀ [IZAS, IOZ(E)1905117], Yunnan Prov., Degin County, Meilixueshan, 2200 m, 31.VII.1982, Huai-Cheng Chai leg.; holotype ♂ (ZFMK) (photograph), “A-tun-tse (Nord Yunnan), Mittlere Höhe (ca. 4000 m), 17.VIII.1936, H. Höne”, “*Toxotus griseopilosus* n. sp. [Pic]” (in M. Pic’s handwriting!), “*Toxotus griseopilosus* Pic n. sp. Typ[e]” (not in M. Pic’s handwriting!), “Holotypus *Toxotus griseopilosus* Pic”, “Dr. St. Breuning determ. 1954” (Fig. 87); paratype ♂ (ZFMK) (photograph), “A-tun-tse (Nord Yunnan), Mittlere Höhe (ca. 4000 m), 17.VIII.1936, H. Höne”, “Paratypoid *Toxotus griseopilosus* Pic”; paratype ♂ (NHMB) (photograph), same labels (Fig. 90).

Diagnosis. This species is similar to the only congener, *A. meiyingae* sp. n., but differs well in the characters listed in the diagnosis for the latter (see below).

Notes. For comparative purposes, it seems appropriate to quote here the original description (Pic, 1957: 75): “*Toxotus griseopubens* n. sp. Allongé, atténué postérieurement, opaque, noir, orné d’une pubescence dense grise, les érytres ayant de petites costules pubescentes qui tranchent un peu sur le reste de la pubescence. Tête un peu creusée entre les yeux et sur le vertex. Thorax court, impressionné transversalement et diversement au milieu, à faible tubercule latéral. Elytres bien plus larges que le thorax à la base, progressivement atténués en arrière, brièvement déhiscent au sommet. Long. 18 mm. Holotype: Nord Yunnan: A-tun-tse,

4000 m, 17-VIII-1936, H. Höne. – Trois Paratypes.”.

Description. Male. Body length 16.0–18.0 mm, humeral width 4.5–5.0 mm (see Remarks). Reddish- or red-brown; head dorsally, antennae and legs partly darker tones; eyes and mandibles black; abdomen partly blackish.

Head with a dense, in places confluent, partly rugose, predominantly rough puncturation; antennae extending beyond apex of elytra by 9th antennomere, reaching base of elytra by about apical one-third of 4th; antennomere 1, 1.39, 0.95, 0.81 or 0.85 times as long as 3rd, 4th, 5th and 6th, respectively; antennomeres 7–10 slightly differing in length; last antennomere noticeably longer than penultimate one.

Pronotum at level of lateral tubercles 1.10 or 1.19 times as wide as both width at base and length, respectively; base 1.13 times as wide as apex; apex with a sharp constriction; lateral tubercles at apex moderately acuminate; on disk, both upper and lower pairs of tubercles strongly separated from each other by a strongly developed impression; middle part of disk with a rough, dense, in places confluent puncturation (like on head), tubercles near middle mostly with a small dense puncturation, a similar puncturation partly on tubercles at base.

Scutellum subequal in length and width, slightly narrowed towards apex, at the very apex broadly rounded.

Elytra moderately narrowed towards apex; 2.53 times as long as width at base; with noticeable costae expressed more clearly due to setae condensed upon them in the form of longitudinal stripes; with a noticeably less distinct puncturation than both head and disk of pronotum.

Pro- and mesosterna in apical part with clear transverse folds; metasternum and sternites densely, but not too strongly punctured; apex of last (visible) sternite very broadly truncate, without emargination.

Recumbent setation grey, well-developed,

partly significantly or strongly hiding background sculpture; antennae, venter and legs with a more uniform setation than dorsum, elytra forming well-expressed strips.

Female. Body length 17.2 mm, humeral width 5.0 mm. Reddish-brown, but body generally darker than in male; on the contrary, antennae brownish-red, antennomeres 3–10 infusate at apex.

Antennae barely longer than body; antennomere 1 at apex from below clearly broadened, but without tooth-shaped protrusion as in male; this antennomere 1.38, 0.98, 0.88 or 0.94 times as long as 3rd, 4th, 5th and 6th, respectively.

Lateral and discal tubercles of pronotum developed about as well as in male; with a clear puncturation, partly similar to male, with naked shiny fragments on disk in area of inner margin at border between pairs of upper and lower tubercles.

Elytra behind base noticeably broadened towards apical one-third, then roundish narrowed towards apex; 2.44 times as long as width at base; sculpture as in male.

Recumbent setation about same as in male, elytra with distinct narrow strips.

Distribution. China: Yunnan Province.

Remarks. As noted in Pic's (1957) text quoted above, in addition to the holotype the type series contained three paratypes, albeit without any comment. The collecting date of the paratypes can be elucidated, based on two of them I have been lucky to relocate (one in ZFMK, the other in NHMB), both designated by Breuning. Because the third paratype and its repository remain blank, I am inclined to consider the male from ZMUM which bears the same label, but dated 11.VIII.1936, to represent that cryptic third paratype. Accordingly, I have designated it as a paratype of *Toxotus griseopubens* Pic, pinned on a red label, yet added a question mark.

The smallest male is kept in NHMB (Dr. Eva Sprecher's personal communication). In the studied female, the entire abdomen is lost.

Agastophysis meiyingae Miroshnikov, **sp. n.**
(Figs 91, 92, 98)

Diagnosis. The new species is similar to *A. griseopubens*, but differs clearly by the elytra more elongated and more strongly narrowed towards the apex in the male, by certain features of the setation of the elytra which generally fails to form clear-cut longitudinal strips, by the more strongly developed pair of discal tubercles at the base of the pronotum in relation to the pair of tubercles before the middle, by an oblong scutellum, a somewhat different length ratio of antennomeres 1 and 4–6, and a larger body.

Description. Male. Body length 22.5 mm, humeral width 6.5 mm. Reddish- and red-brown; eyes, as well as mandibles at inner margin and apically black.

Head with a dense, in places confluent, partly rugose, predominantly rough puncturation; antennae extending beyond apex of elytra by 9th antennomere, reaching base of elytra by about basal one-third of 4th; antennomere 1, 1.38, 0.91, 0.90 or 0.89 times as long as 3rd, 4th, 5th and 6th, respectively; antennomeres 7–10 slightly differing in length.

Pronotum at level of lateral tubercles 1.10 or 1.23 times as wide as both width at base and length, respectively; base 1.26 times as wide as apex; apex with a sharp constriction; lateral tubercles at apex moderately acuminate; on disk, both upper and lower pairs of tubercles very clearly separated from each other by a strongly developed impression; lower pair of tubercles more strongly developed than upper pair; middle part of disk with a rough, dense, in places confluent puncturation (like on head), tubercles with a smaller dense puncturation.

Scutellum oblong, evidently narrowed towards apex, rounded at the very apex.

Elytra clearly narrowed towards apex; 2.6 times as long as width at base; with clear costae and an evidently less distinct puncturation than both head and disk of pronotum.

Pro- and mesosterna in apical part with

clear transverse folds; metasternum with dense, small, rougher puncturation partly wrinkled in sutural area; sternites densely and finely punctured; apex of last (visible) sternite with a broad, very weak emargination.

Recumbent setation grey, well-developed, partly significantly or strongly hiding background sculpture; antennae, venter and legs with a more uniform setation than dorsum; longitudinal stripes of elytra generally almost not expressed, partly more or less visible only in apical half.

Female unknown.

Distribution. China: Xizang (Tibet) Province.

Etymology. The new species honours my colleague, Dr. Meiyang Lin (IZAS), who provided some valuable material and very important data used in the present work.

Genus *Paratophysis* Gressitt et Rondon, 1970

Paratophysis (*Apatophysis* subgen.) Gressitt et Rondon, 1970: 27.

Paratophysis: Vives & Heffern, 2006: 2, 4, 6; Ohbayashi, 2007: 196, 197; Vives, 2007: 57.

Type species: *Apatophysis* (*Paratophysis*) *sericea* Gressitt et Rondon, 1970, by original designation.

Diagnosis. This genus is characterized by widely rounded lateral protrusions of the pronotum (without conical tubercles), weak tubercles on its disk, barely serrate antennae, a subapically clearly broadened antennomere 1, a deeply emarginate apex of the metatibia, a deeply split tarsomere 3, a uniformly dense light setation of the elytra which partly hides their sculpture, as well as the average body size (14.9 mm). By the combination of these characters, *Paratophysis* differs clearly from all genera of the tribe Apatophyseini known from continental Asia.

Composition. The genus includes a single species.

Distribution. Northern Laos.

Paratophysis sericea
(Gressitt et Rondon, 1970)
(Figs 73, 74, 77, 82, 109)

Apatophysis (*Paratophysis*) *sericea* Gressitt et Rondon, 1970: 28 (Fig. 6, a), 29, fig. 7, b. **Type locality:** Laos, Vientiane Distr., Phou Khao Khouay (= “Phou Khao Khoay”; = “Phou Kou Khouei”) (according to the original description and the label of the holotype).

Apatophysis sericea: Hua, 1984: 8.

Paratophysis sericea: Vives & Heffern, 2006: 2.

Material. Holotype ♀ (BM), “Laos, Vientiane Prov., Phou Kou Khouei, 17.III.1964”, “J.A. Rondon Collection Bishop Mus.”, “Holotype ? *Apatophysis sericea* J.L. Gressitt et J. Rondon” (Fig. 74).

Genus *Formosotoxotus* Hayashi, 1960

Formosotoxotus Hayashi, 1960: 1. Ohbayashi, 2007: 197 (Revision); Löbl & Smetana, 2010: 142.

Type species: *Artelida asiatica* Matsushita, 1933, by original designation.

NB: = *Toxotinus auripilosus* Kano, 1933.

Composition. The genus includes eight species (see Remarks).

Distribution. Eastern Nepal, northeastern India (Sikkim), China, including Taiwan, Laos, Vietnam, western Malaysia and Indonesia (Borneo).

Remarks. A review of this genus has recently been published (Ohbayashi, 2007). I have only examined a few species, including *F. malayanus* Hayashi, 1977 (Figs 102, 117–122), *F. nobuoi* Vives et Niisato, 2006 (holotype male and paratype female), *F. masatakai* N. Ohbayashi, 2007 (holotype male) and some others for comparative purposes alone.

I have recently received from Dr. Meiyang Lin (IZAS) a specimen of *Formosotoxotus* sp., collected in eastern Tibet and certainly belonging to a new species similar to *F. masatakai*. Its description is planned to follow elsewhere. In addition, I also have got a picture of a specimen of *Formosotoxotus* sp., again received

from Dr. Lin and again stemming from Tibet, which seems to represent still another new species, this time somewhat resembling *F. uenoi* N. Ohbayashi, 1995, from Borneo.

Genus *Epitophysis* Gressitt et Rondon, 1970

Epitophysis (*Apatophysis* subgen.) Gressitt et Rondon, 1970: 29.

Epitophysis: Vives & Heffern, 2006: 2, 4, 6; Ohbayashi, 2007: 196, 197; Vives, 2007: 57.

Type species: *Apatophysis* (*Epitophysis*) *substriata* Gressitt et Rondon, 1970, by original designation.

Diagnosis. This genus differs from all conribal genera from continental Asia by the combination of characters which includes deeply emarginate eyes (about half of the transverse, smallest diameter) with moderately large ocelli, fronto-apically strongly broadened and flattened metatibiae which look partly bent laterad and upturned, a nearly uniformly dense recumbent setation on and a similar sculpture of the entire dorsum, an apicoventrally strongly broadened antennomere 1 forming an obtuse tooth-shaped protrusion (similar only to *Agastophysis* gen. n.), as well as an almost completely dark coloration and a small size of the body (10.1 mm), the peculiar habitus as in Fig. 112, the large distance between the inner margins of the eyes on the vertex, the structure of the pronotum (with poorly developed lateral tubercles and lack of tubercles on the disk), the longitudinal ribs on the elytra, and a deeply split tarsomere 3.

In general, *Epitophysis* is clearly similar to the genus *Protaxis* (as noted in Introduction). However, it dispalys perhaps the greatest similarity only to two of the *Protaxis* species, i.e. *P. bicoloripes* Pic, 1923 (Figs 126, 127) and *P. fulviventris* Heller, 1926 (Fig. 125), while it differs well from the type species *P. fulvescens* Gahan, 1906 (Fig. 123), as well as from *P. incisipennis*

Pic, 1939 (Fig. 124), not only in the dark coloration of the dorsum (through which it strongly differs from *P. bicoloripes* and *P. fulviventris* as well), but also in structure and shape of the pronotum, in long antennae and a few other characters.

Composition. The genus includes a single species.

Distribution. Northern Laos.

Remarks. Taking into account the still unsatisfactorily developed systematics of *Protaxis*, at the present the taxonomic status of *Epitophysis* is difficult to clarify. At the same time, it is quite obvious that both genera form a morphologically peculiar group, the systematic position of which requires further research. In this regard, the *Protaxini* Gahan, 1906 is thereby to be considered only as a possible junior synonym of the Apatophyseini, while the genus *Epitophysis*, like *Protaxis*, is yet to be included in the latter tribe but conditionally. These two genera perhaps serve as the clearest example of the evident controversies still existing in the systematics of the tribe Apatophyseini that generally needs a detailed revision.

Epitophysis substriata

(Gressitt et Rondon, 1970)

(Figs 110–116)

Apatophysis (*Epitophysis*) *substriata* Gressitt et Rondon, 1970: 28 (Fig. 6, b), 29, fig. 7, c. **Type locality:** Laos, Sayaboury (= Xiagnaboury) Province, Sayaboury (according to the original description and the label of the holotype).

Apatophysis substriata: Hua, 1984: 8.

Epitophysis substriata: Vives & Heffern, 2006: 2.

Material. Holotype ♂ (BM), “Laos, Sayaboury Prov., Sayaboury, 8.XI.1964”, “J.A. Rondon Collection Bishop Mus.”, “Holotype ? *Apatophysis substriata* J.L. Gressitt et J. Rondon” (Fig. 113).

Genus *Protaxis* Gahan, 1906

Gahan, 1906: 93. Aurivillius, 1912: 13; Plavilstshikov, 1931: 15; Bousquet et al., 2009: 53; Bouchard et al., 2011: 479.

Type species: *Protaxis fulvescens* Gahan, 1906, by original designation.

Notes. The systematic position of the genus and its evident similarity to *Epitophysis* have been discussed above.

Composition. The genus includes four species (see Remarks).

Distribution. The extreme Northeast of India (Manipur), northern Vietnam.

Remarks. The use of the name *bicoloripes* Pic, 1923 as an aberration of *P. fulvescens* Gahan, 1906 (Plavilstshikov, 1931) is certainly wrong.

Key to genera of *Apatophyseini* in continental Asia

1. Pads of tarsi very well-developed, not divided into narrow fragments, devoid of a sharply expressed wide strip of shiny surface of integument; tarsomere 3 more deeply split (at least evidently more than, very rarely about, halfway), its lobes at apex not sharpened (Figs 42, 46, 58, 59, 65, 81, 82, 96, 116–118); antennae either non-serrate or from antennomere 5 (or 6) until antennomere 10 clearly or strongly serrate; metatibiae at apex with (Figs 105, 107–111) or without deep emargination 2
 - Pads of tarsi formed only by narrow fragments along margins of tarsomeres, most of tarsomeres thereby with a rather lax, recumbent, light pubescence not or only poorly hiding a shiny (often very shiny) surface of integument contrasting as a wide strip; tarsomere 3 less deeply (not more than halfway) split, its lobes at apex usually sharpened (Figs 43–45); antennae from antennomere 5 or 6 until antennomere 10 clearly to strongly serrate; metatibiae at apex not emarginate (Figs 99, 100) *Apatophysis* Chevrolat
2. Maxillary palpi clearly or much shorter, not exceeding antennomere 1 in length; metatibia with two spurs (e.g. Figs 101–104), one of them thereby often very long; elytra at least with a more or less clear puncturation; base of metasternum without keel-shaped longitudinal elevation; last tarsomere without tooth-shaped lateral protrusions before apex (Figs 42, 46, 58, 59, 81, 82, 96, 116–118) 3
 - Maxillary palpi clearly or much longer, exceeding antennomere 1 in length; metatibia with one short spur (Fig. 105); elytra with a highly obliterated sculpture, without clear puncturation; base of metasternum with a sharp, keel-shaped, longitudinal elevation (possibly present only in male) (Fig. 64); last tarsomere of all tarsi in male with symmetrical, lateral, tooth-shaped protrusions before apex (Figs 60, 65) *Analogisticus* gen. n.
3. Eyes with a deep (about half the transverse, smallest diameter) emargination and clearly smaller ocelli, as in Fig. 112; metatibia with a deep emargination at apex, in front it can be strongly broadened, noticeably flattened and elevated upwards (Figs 110, 111); antennomere 1, especially in male, strongly broadened at apex in the form of an obtuse tooth-shaped protrusion (Figs 114, 123–127) 4
 - Eyes with a well-developed, but not too deep (evidently less than half of transverse, smallest diameter) emargination and clearly larger ocelli, as, e.g., in Figs 97, 98; metatibia at apex with or without deep emargination, even if broadened there to a varying degree, in front neither flattened nor elevated upwards; antennomere 1 not strongly broadened at apex (Figs 48, 55, 76, 120), it can only be either moderately (Figs 77, 94) or strongly broadened in the form of an obtuse tooth-shaped protrusion (Figs 92, 93) 5

4. Body almost entirely dark tones (Fig. 112); antennae in male evidently longer than body; pronotum only slightly transverse, with a small, but clear lateral tubercle, as in Fig. 112..... *Epitophysis* Gressitt et Rondon
- Dorsum light, fulvous tones (Figs 123–127); antennae in male either clearly shorter than elytra or distinctly longer than body; pronotum clearly or strongly transverse, rounded on sides, either without or with a small, but distinct lateral tubercle, as in Figs 123–127 *Protaxis* Gahan
5. Metatibiae with a deep emargination at apex (Figs 107–109); antennae not or barely serrate; upper lobe of eyes at least in male noticeably extending beyond level of antennal cavities, inner margins of eyes on dorsal side thereby more or less close together; dense setation of light recumbent setae on elytra (almost throughout their length) can form well-expressed longitudinal strips 6
- Metatibiae without deep emargination at apex (Figs 101–104); antennae from antennomere 5 or 6 until 10th from clearly to strongly serrate, if non-serrate, then upper lobe of eyes in both sexes usually not or only weakly extending beyond level of antennal cavities, inner margins of eyes on dorsal side thereby widely spaced (Figs 119, 122); dense setation of light recumbent setae on elytra not forming well-expressed longitudinal strips 8
6. Light recumbent setation of dorsum evidently monochrome (Fig. 91), if forming longitudinal strips on elytra, then noticeably less strong, as in Figs 83, 85, 86, 88, 89; legs slenderer, with thinner femora and tibiae; last tarsomere gradually broadened from base towards apex, normal in structure, as in Fig. 96; penultimate (visible) sternite (in male) not emarginate in apical part 7
- Light recumbent setation of dorsum clearly at least bicolour, forming strong longitudinal strips at apex, as in Fig. 71; legs more robust, with thicker femora and tibiae; last tarsomere strongly broadened from base towards apex, peculiar in shape, as in Fig. 81; penultimate (visible) sternite (in male) with a deeply emarginate apical part, as in Fig. 75 *Strophophysis* gen. n.
7. Pronotum with well-developed lateral and discal tubercles; body larger, 16.0–22.5 mm long; elytra in female behind base noticeably broadened towards apical one-third, then roundish narrowed towards apex, as in Fig. 85; light recumbent setation on elytra can form well-expressed longitudinal strips, as in Figs 83, 85, 86, 88, 89 *Agastophysis* gen. n.
- Pronotum widely and roundly protruding on sides, without conical tubercles, with poorly developed discal tubercles; body smaller, 14.9 mm long; elytra in female noticeably narrowed towards apex, as in Fig. 73; light recumbent setation on elytra forming no longitudinal strips *Paratophysis* Gressitt et Rondon
8. Antennae from antennomere 5 or 6 until 10th from clearly (Figs 35, 37) to strongly serrate (Figs 49, 51, 53); antennomere 2 clearly transverse; pronotum even if with large lateral tubercles, then with a narrower cone and much less strongly developed tubercles on disk; elytra with shorter, recumbent, light setae only in places and only partly hiding their puncturation; upper lobe of eyes at least in male noticeably extending beyond level of antennal cavities, inner margins of eyes on dorsal side thereby more or less close together (Figs 35, 49, 51, 53) 9
- Antennae non-serrate (Figs 119, 122); antennomere 2 subequal in length and width or clearly longitudinal; pronotum

with strong, wide, conical, lateral tubercles and very strong tubercles on disk; elytra clothed with longer, recumbent, light setae, at least in places completely hiding their puncturation; upper lobe of eyes in both sexes not or only barely extending beyond level of antennal cavities, inner margins of eyes on dorsal side thereby widely spaced (Figs 119, 122)

..... *Formosotoxotus* Hayashi

9. Antennae from antennomere 6 until 10th strongly serrate (Figs 49, 51, 53); last antennomere with a well-developed appendage (Figs 56, 57); legs more robust, femora and tibiae thicker; basal tarsomeres less elongated, tarsomere 3 more deeply split, last tarsomere strongly broadened behind base, the latter peculiar in shape (Figs 58, 59); body on average clearly smaller, in male 13.8–16.8 mm long, female unknown; elytra (in male) always at least clearly narrowed towards apex, starting from base; metatarsomere 3 (in male) less elongated (Fig. 58) or subequal in length and width

..... *Mimapatophysis* gen. n.

- Antennae from antennomere 5 or 6 until 10th moderately serrate (Figs 35, 37); last antennomere with a barely noticeable or absolutely inconspicuous appendage (Figs 35, 39); legs slenderer, femora and tibiae thinner; basal tarsomeres clearly more elongated, tarsomere 3 less deeply split, last tarsomere normal in shape, gradually broadened from base towards apex; body on average evidently larger, 16.0–24.7 or 26.5–27.0 mm long in male and female, respectively; elytra in male in the vast majority of cases about parallel-sided for nearly two-thirds of their extent, starting from base; metatarsomere 3 clearly more elongated in male (Figs 35, 42) *Protapatophysis* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja

Remarks. Shortly before submitting the manuscript for publication, I have received from Dr. Meiying Lin (IZAS) two very similar, apparently conspecific males of *Apatophysini* from Shaanxi Province, China. In addition, Dr. Nobuo Ohbayashi (Kamimiyada, Miura City, Japan) has sent me some pictures of a male and a female from Myanmar. Each of these two taxa undoubtedly belongs to a new genus and species, both resembling *Apatophysis*, but differing clearly by a combination of several important characters.

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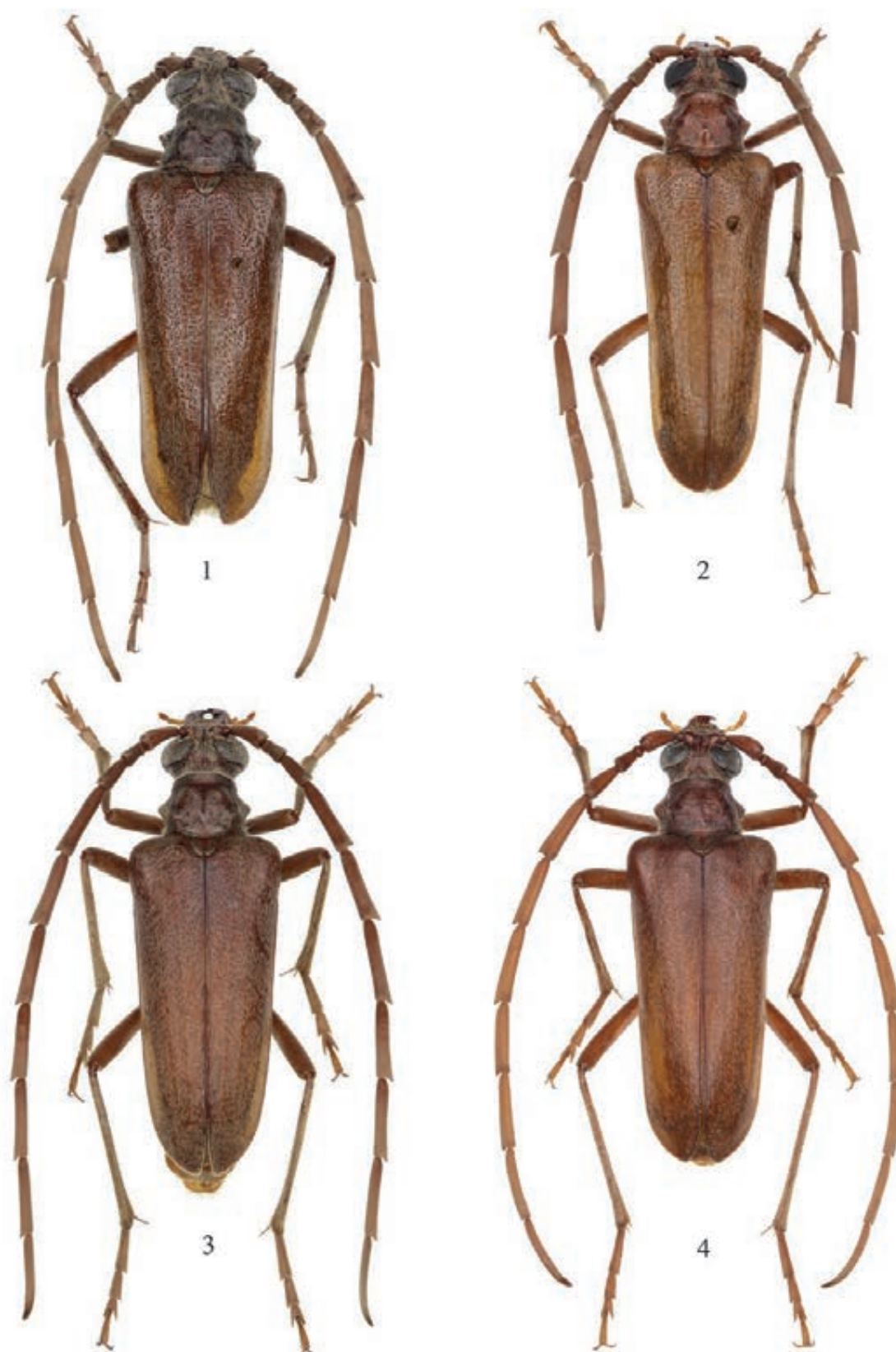
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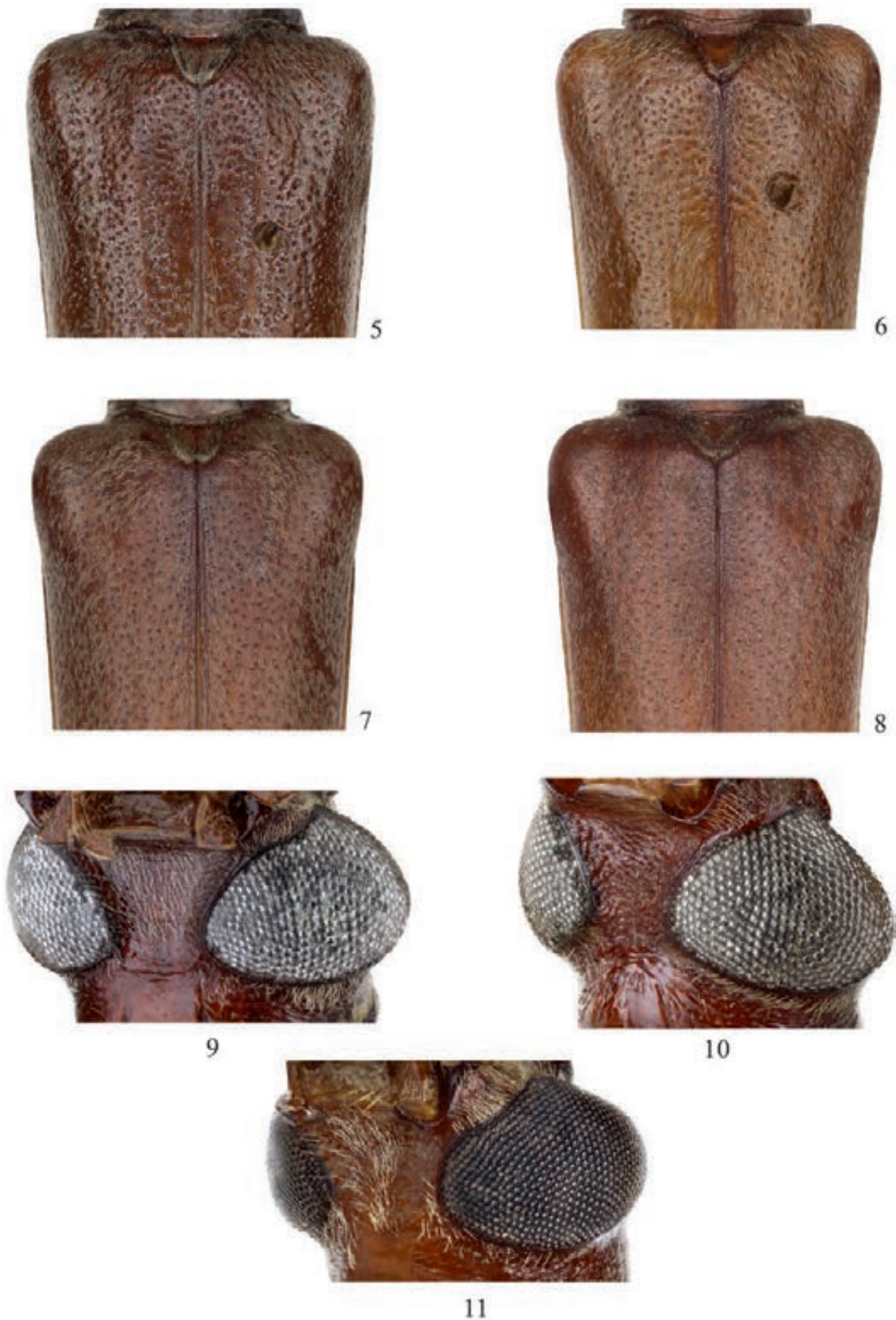
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РЕЗЮМЕ

Представлен обзор родов трибы Apatophyseini Lacordaire, 1869 континентальной Азии. Описаны как новые *Mimapatophysis* gen. n., *M. gressitti* sp. n. (типовой вид рода; Лаос) и *M. solodovnikovi* sp. n. (Таиланд). Для *Apatophysis tonkinea* Pic, 1912 (северный Вьетнам), *Apatophysis* (s. str.) *laosensis* Gressitt et Rondon, 1970 (южный Лаос) и *Toxotus griseopubens* Pic, 1957 (южный Китай, Юньнань) установлены как новые *Analogisticus* gen. n., *Strophophysis* gen. n. и *Agastophysis* gen. n., соответственно. Для первого из них показано, что он весьма сходен с некоторыми представителями эндемичного мадагаскарского рода *Logisticus* Waterhouse, 1878, что вызывает большой научный интерес. В роде *Agastophysis* gen. n. также описан новый вид *A. meiyingae* sp. n. из Тибета (Китай). Предложены новые комбинации: *Analogisticus tonkineus* (Pic, 1912), comb. n., *Strophophysis laosensis* (Gressitt et Rondon, 1970), comb. n. и *Agastophysis griseopubens* (Pic, 1957), comb. n. Показано, что род *Epitophysis* Gressitt et Rondon, 1970, первоначально установленный как подрод рода *Apatophysis* Chevrolat, 1860, очень сходен с родом *Protaxis* Gahan, 1906 (Cerambycinae, Protaxini). Отмечено, что оба рода образуют морфологически своеобразную группу, систематическое положение которой требует уточнения. Описан как новый *Apatophysis* (s. str.) *afghanica* sp. n. из восточного Афганистана, при этом обсуждаются некоторые вопросы внутривидовой систематики рода. Для всех новых таксонов, как и для некоторых малоизвестных родов (первоначально установленных в качестве подродов рода *Apatophysis*) даны соответствующие диагнозы. Показано, что *Apatophysis plavilstshikovi* Miroshnikov, 1992 ошибочно синонимизирован Данилевским (2008) с *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, 1936. Предложена определительная таблица для всех родов (включая четыре новых) трибы Apatophyseini, известных из континентальной Азии. Представлено большое количество цветных иллюстраций.

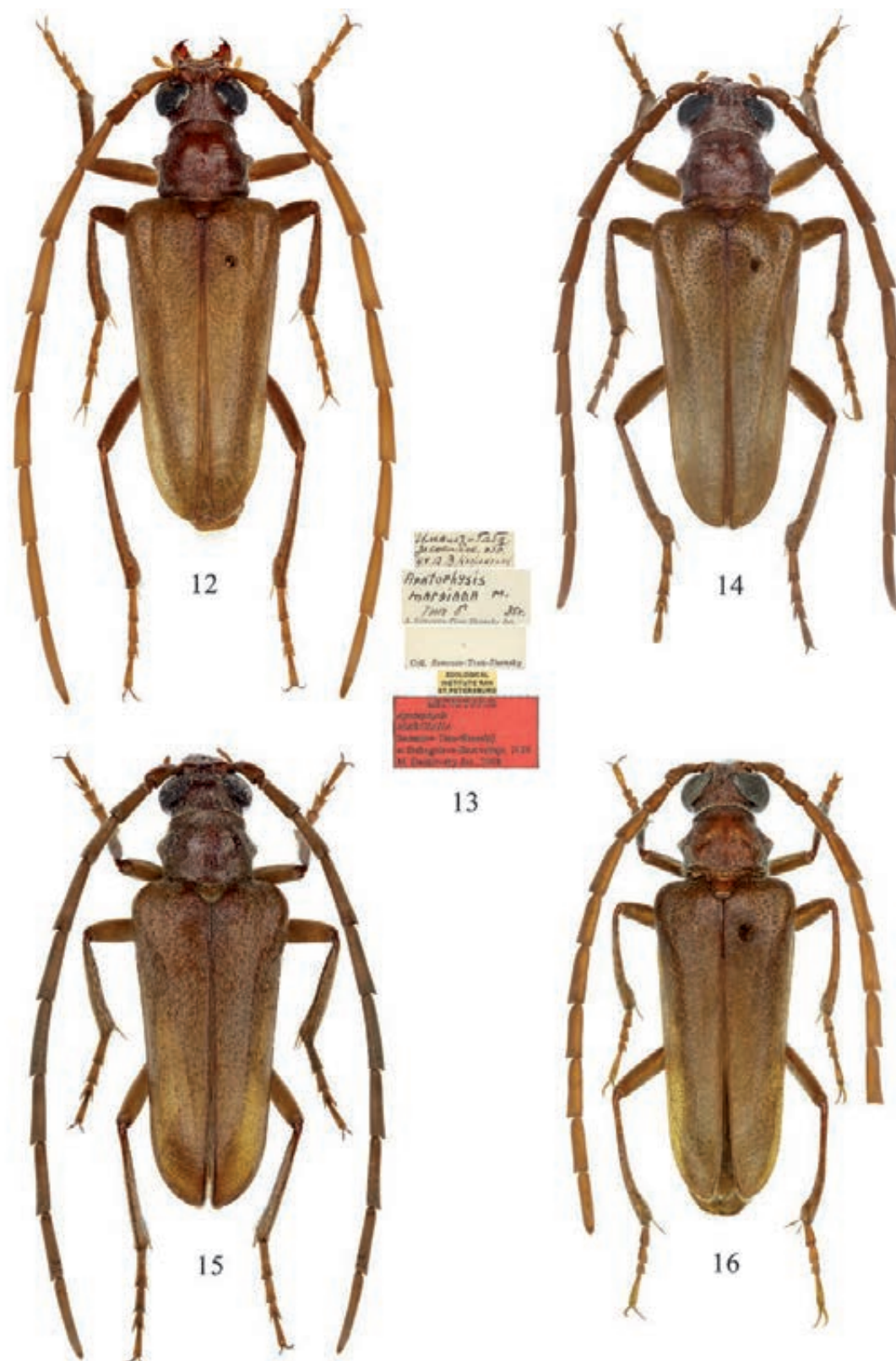


Figs 1–4. *Apatophysis* Chevrolat, habitus.
1, 2 – *A. afghanica* sp. n., male (1 – holotype; 2 – paratype); 3, 4 – *A. pavlovskii* Plavilstshikov, male (Gissar Mt. Ridge, Kondara Canyon).



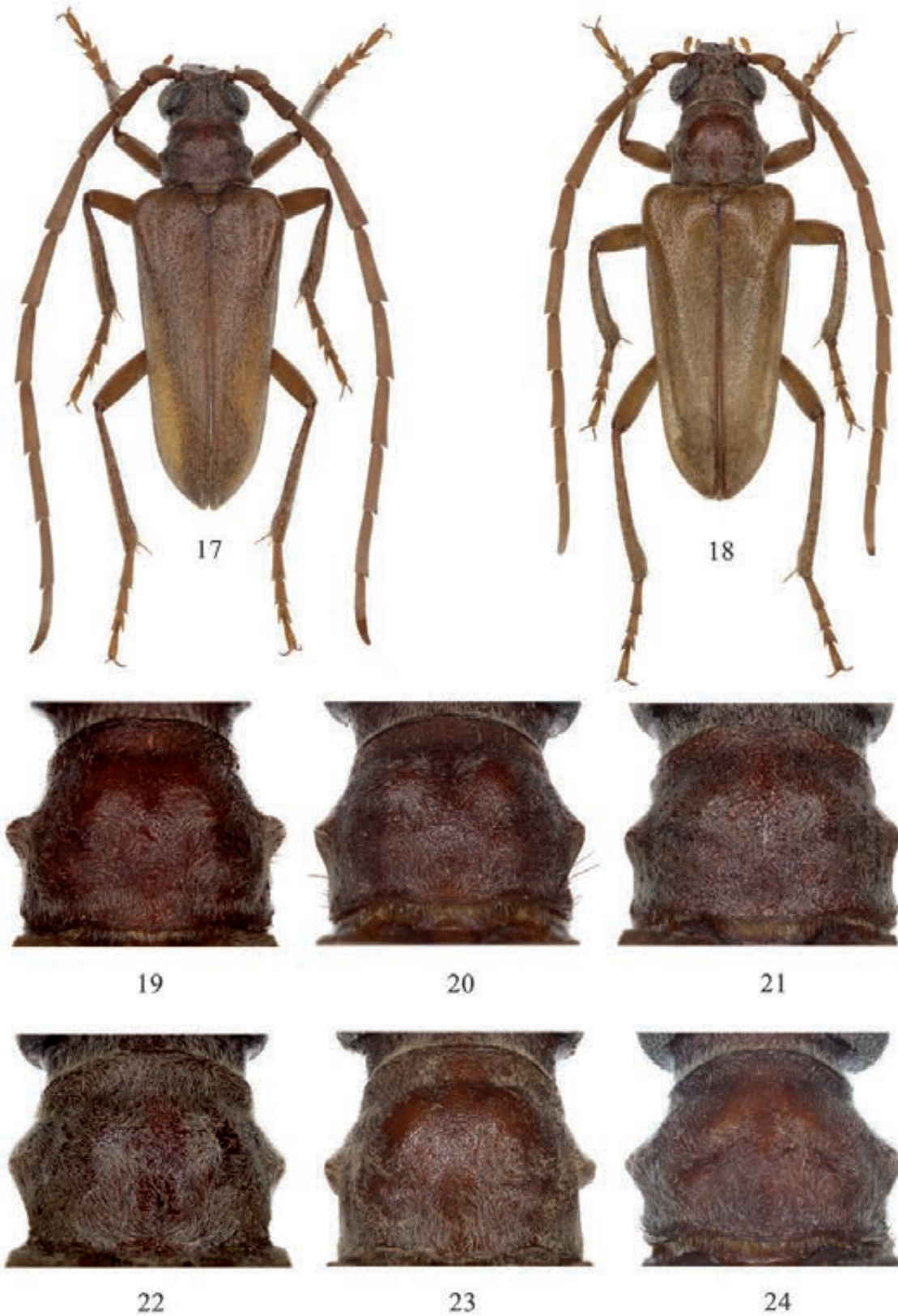
Figs 5–11. *Apatophysis* Chevrolat, details.

5, 6, 9 – *A. afghanica* sp. n., male (5, 9 – holotype; 6 – paratype); 7, 8, 10 – *A. pavlovskii* Plavilstshikov, male (Gissar Mt. Ridge, Kondara Canyon); 11 – *A. serricornis* (Gebler), male (Kazakhstan, Dzsharkent); 5–8 – basal part of elytra; 9–11 – head, ventral view.



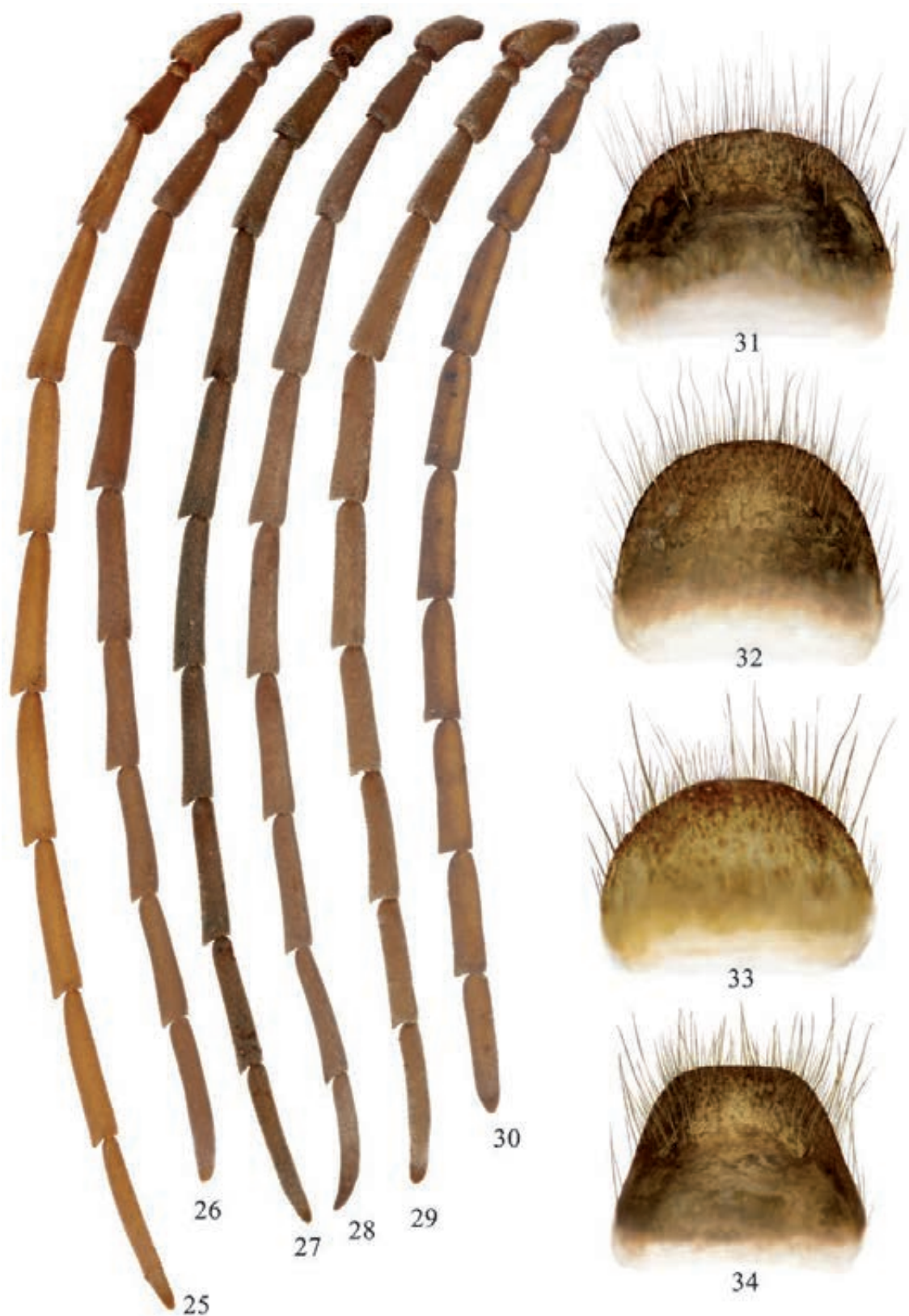
Figs 12–16. *Apatophysis* Chevrolat.

12, 14, 15 – *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, male (12 – lectotype; 14 – paralectotype; 15 – Kopet-Dag, Iol-Dere); 13 – labels of the lectotype; 16 – *A. plavilstshikovi* Miroshnikov, sp. revalid., holotype male; 12, 14–16 – habitus.



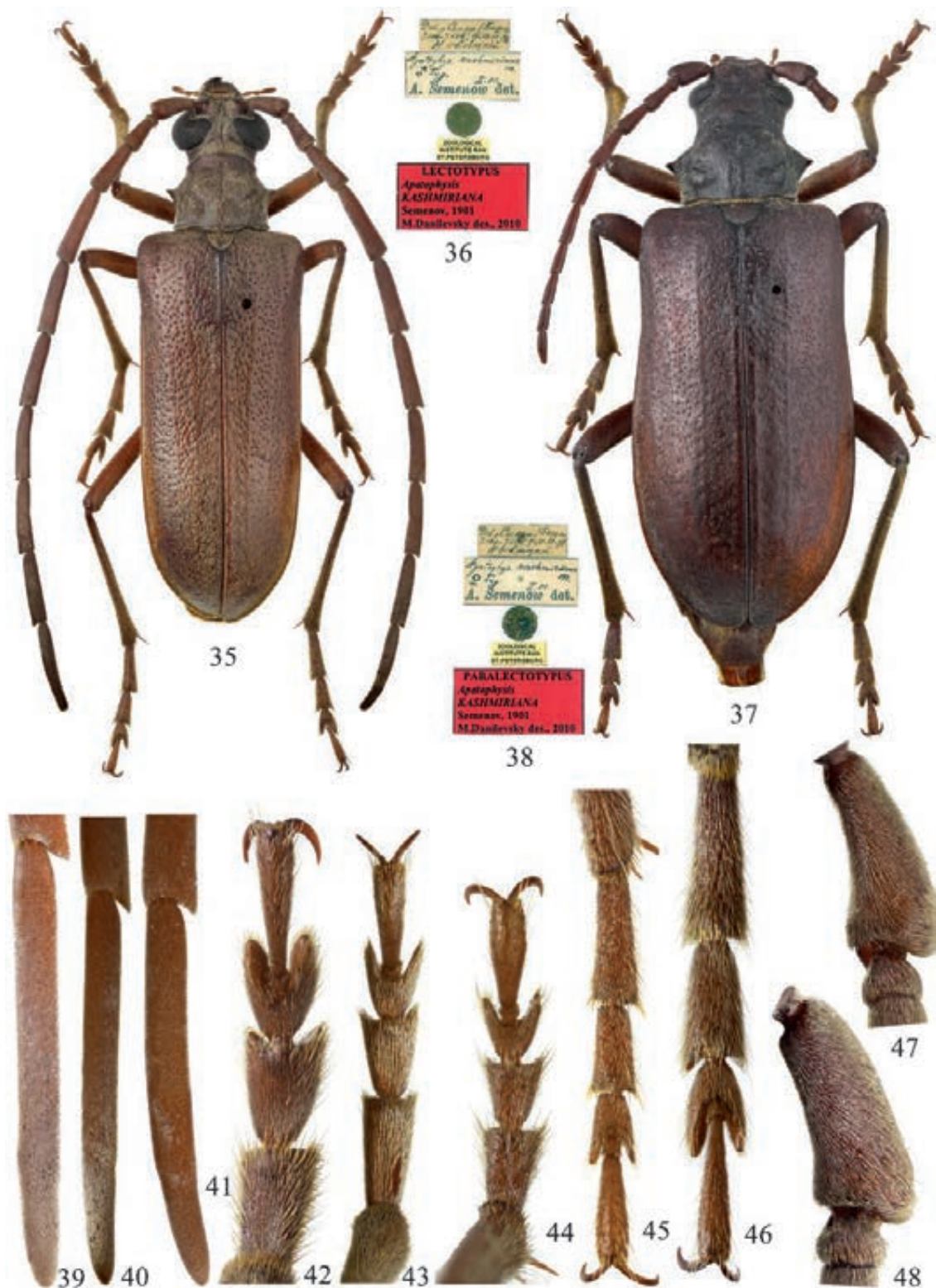
Figs 17–24. *Apatophysis* Chevrolat.

17–23 – *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, male (17, 21, 22 – Kopet-Dag, Iol-Dere; 18, 23 – Badkhyz, Akarcheshme; 19 – lectotype; 20 – paralectotype); 24 – *A. plavilstshikovi* Miroshnikov, sp. revalid., holotype male; 17, 18 – habitus; 19–24 – pronotum.



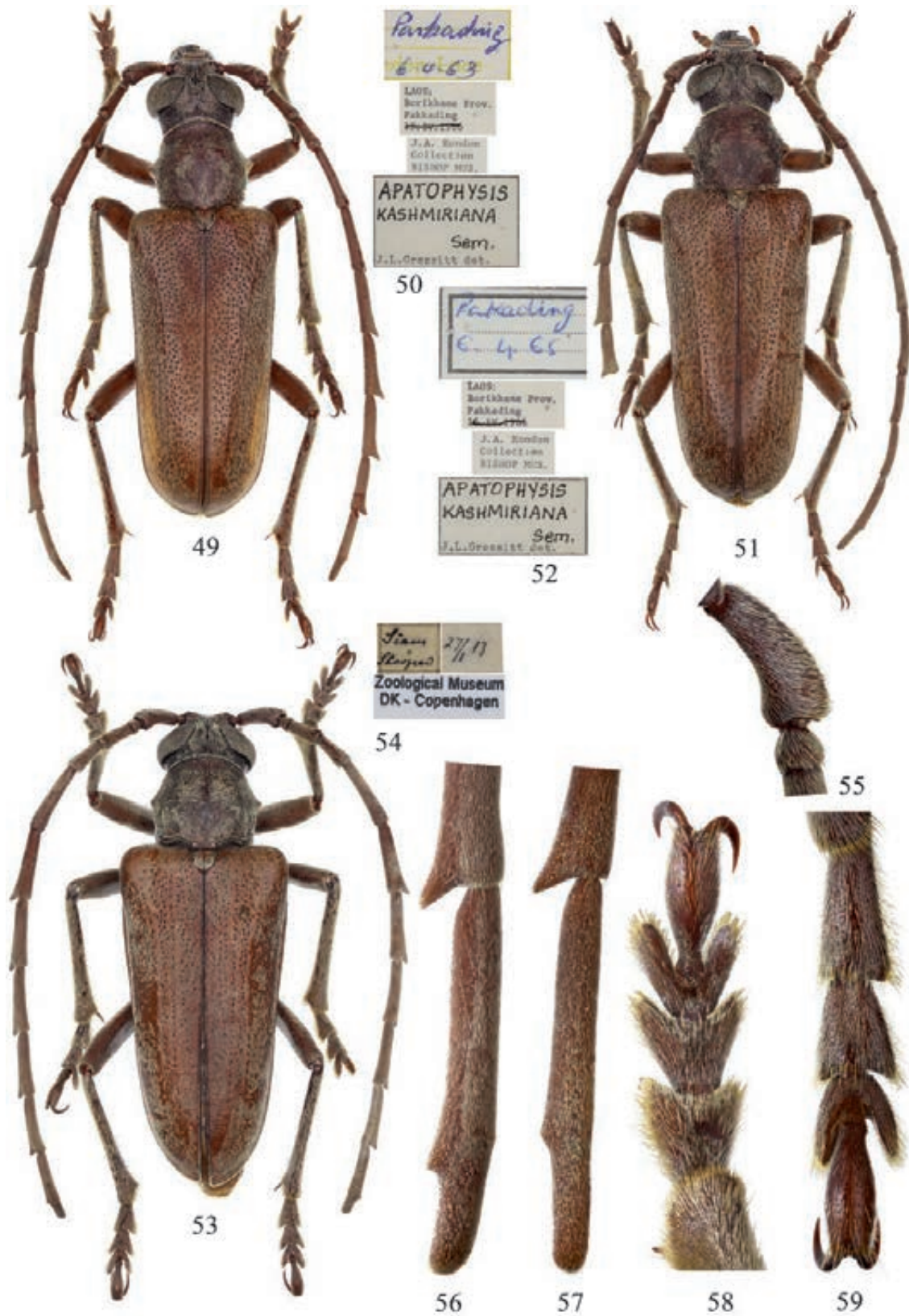
Figs 25–34. *Apatophysis* Chevrolat, details.

25–29, 31–33 – *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, male (25 – lectotype; 26 – paralectotype; 27, 28, 32 – Kopet-Dag, Iol-Dere; 29, 33 – Badkhyz, Akarcheshme; 31 – Imam-Baba); 30, 34 – *A. plavilstshikovi* Miroshnikov, sp. revalid., holotype male; 25–30 – left antenna; 31–34 – tergite 8, dorsal view.



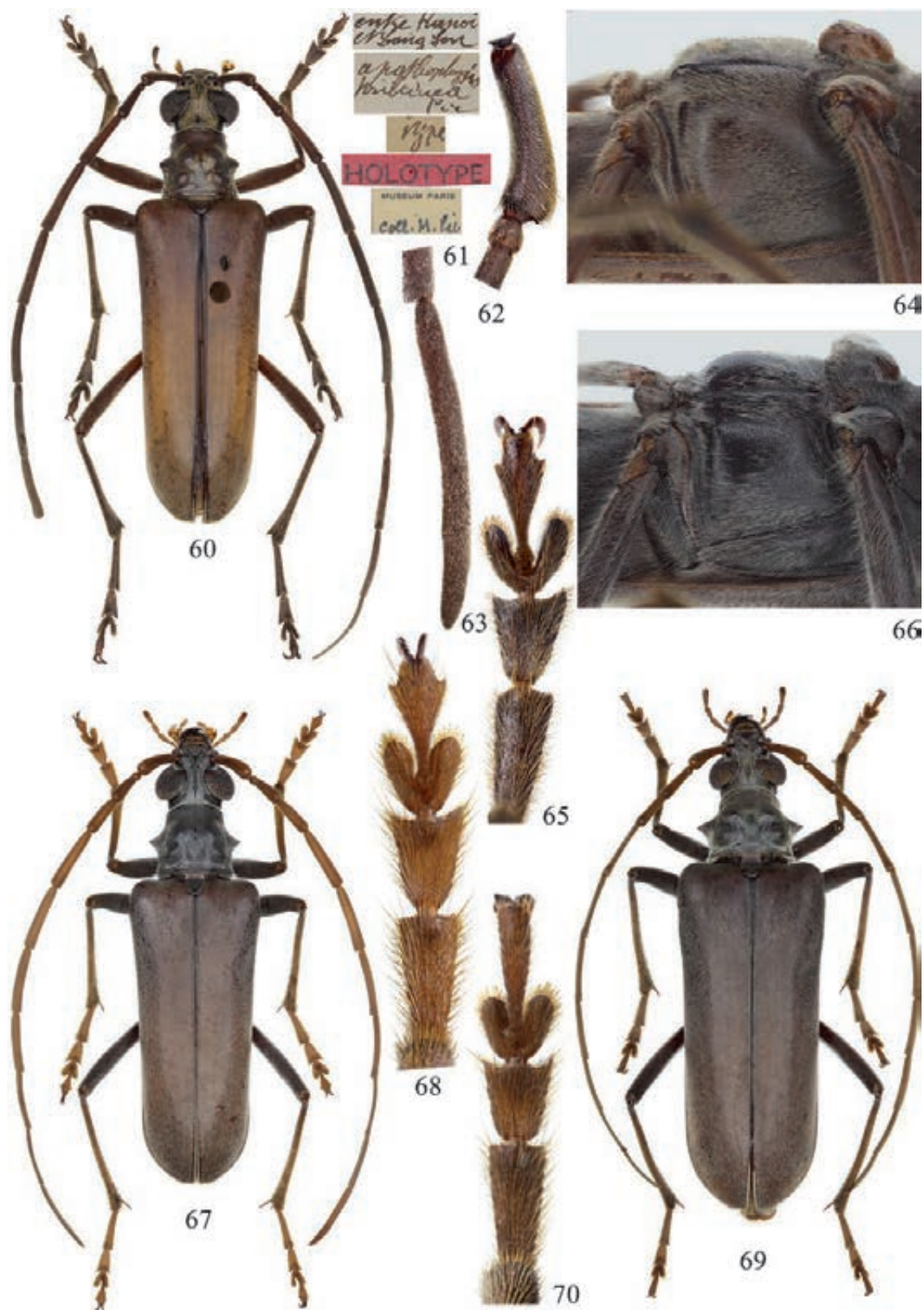
Figs 35–48. Apatophyseini Lacordaire.

35, 37 – *Protapatophysis kashmiriana* (Semenov), lectotype male and paralectotype female, respectively; 36, 38 – labels of the lectotype and paralectotype, respectively; 39, 42, 46, 48 – *P. vartiana* (Heyrovský), male; 40, 43, 47 – *Apatophysis pavlovskii* Plavilstshikov, male; 41, 44, 45 – *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja, male; 35, 37 – habitus; 39–41 – last right antennomere; 42–44 – left protarsus; 45, 46 – left metatarsus; right antennomeres 1–2, lateral view.



Figs 49–59. *Mimapatophysis* gen. n.

49, 51, 57, 59 – *M. gressitti* sp. n., male (49, 51, 59 – holotype; 51 – paratype); 50, 52 – labels of the holotype and paratype, respectively; 53, 55, 56, 58 – *M. solodovnikovi* sp. n., holotype male; 54 – labels of the holotype; 49, 51, 53 – habitus; 55 – right antennomeres 1–2, lateral view; 56, 57 – last left antennomere; 58 – right protarsus; 59 – left metatarsus.



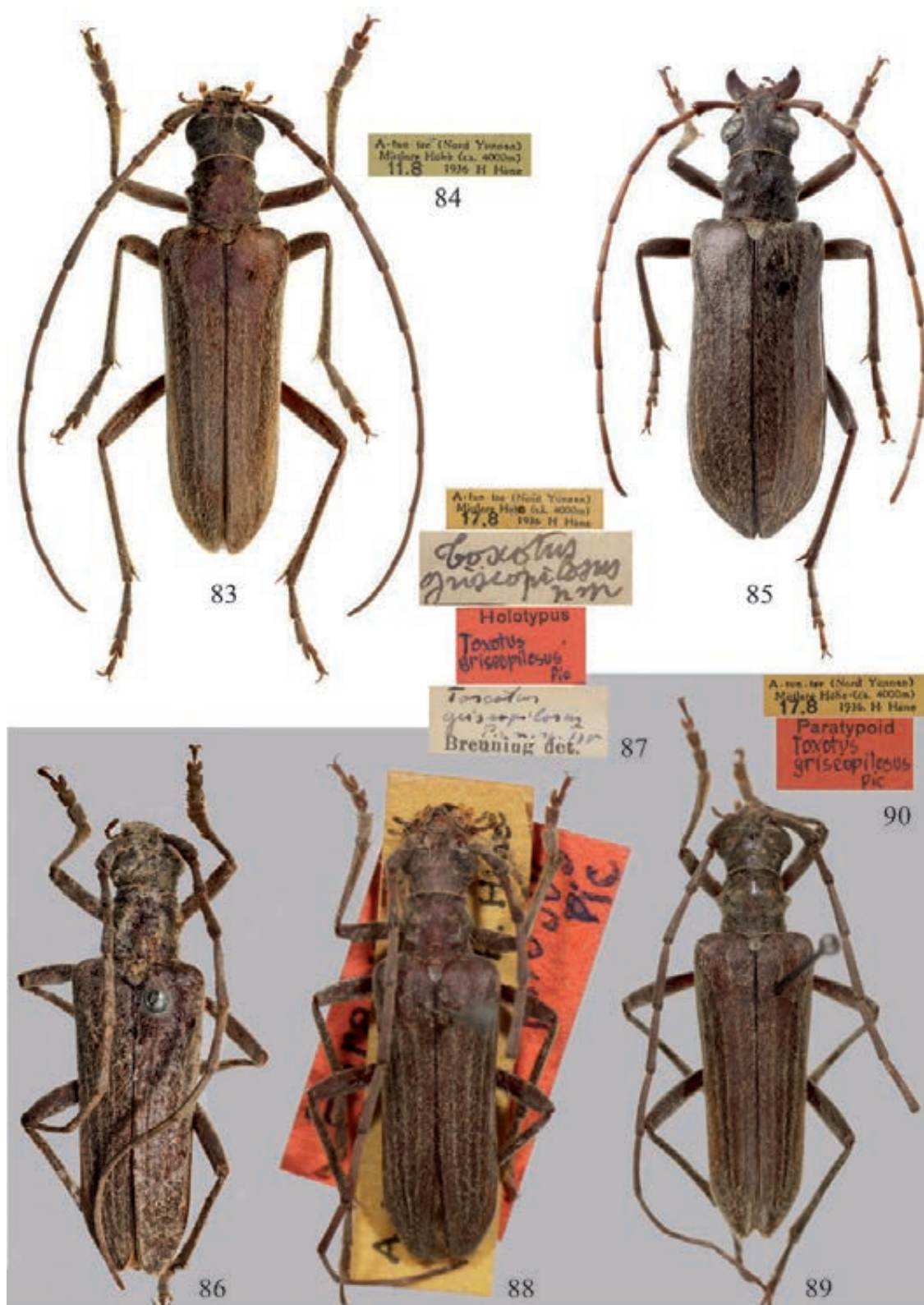
Figs 60–70. Apatophyseini Lacordaire.

60, 62–65 – *Analogisticus* (gen. n.) *tonkineus* (Pic), comb. n., holotype male; 61 – labels of the holotype; 66–70 – *Logisticus simplex* Waterhouse (from Madagascar) (66–68 – male; 69, 70 – female); 60, 67, 69 – habitus; 62 – right antennomeres 1–2, lateral view; 63 – last right antennomere; 64, 66 – metasternum, lateral view; 65, 68, 70 – left protarsus.



Figs 71–82. Apatophyseini Lacordaire.

71, 75, 76, 80, 81 – *Strophophysis* (gen. n.) *laosensis* (Gressitt et Rondon), comb. n., holotype male; 72 – labels of the holotype; 73, 77, 82 – *Paratophysis sericea* (Gressitt et Rondon), holotype female; 74 – labels of the holotype; 78 – *Mimpatophysis gressitti* gen. et sp. n., holotype male; 79 – *Epitophysis substriata* (Gressitt et Rondon), holotype male; 71, 73 – habitus; 75, 78, 79 – visible sternites 3–5; 76, 77 – right antennomeres 1–2, lateral view; 80 – last left antennomere; 81, 82 – right metatarsus.



Figs 83–90. *Agastophysis* (gen. n.) *griseopubens* (Pic), comb. n.

83 – male (ZMMU), 84 – labels of this specimen; 84 – female (IZAS); 86 – holotype male (ZFMK); 87 – labels of the holotype; 88 – paratype male with the labels (ZFMK); 89 – paratype male (NHMB); 90 – labels of this paratype (86–90 – photographs by Junsuke Yamasako & Nobuo Ohbayashi) (NB: the geographical labels of all males are actually the same in size, but in Figs 84, 87 and 90 they are reduced compared to Fig. 88; the same applies to the red labels of the type specimens, Figs 87, 90 and Fig. 88, respectively).



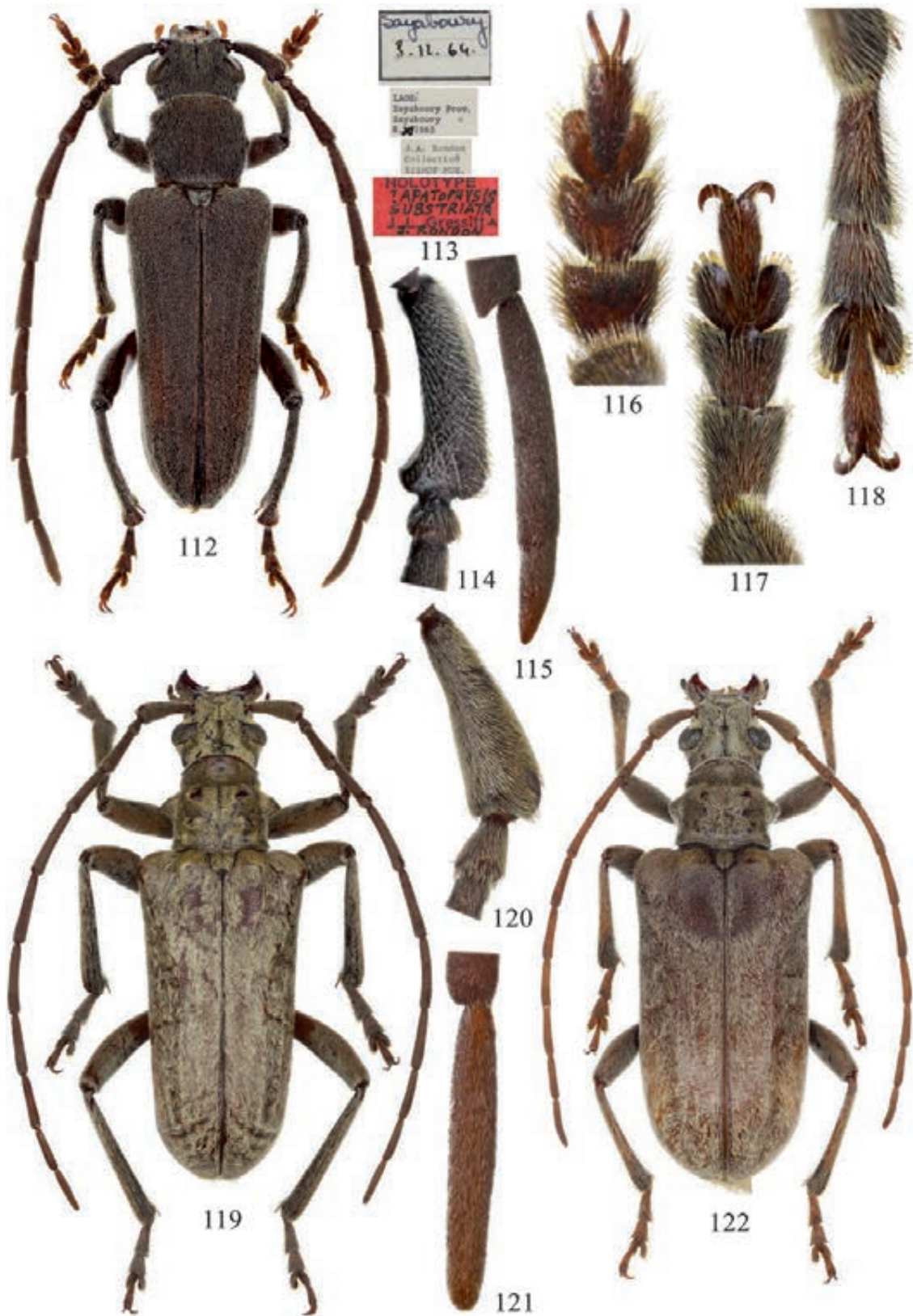
Figs 91–98. *Agastophysis* gen. n.

91, 92, 98 – *A. meiyingae* sp. n., holotype male; 93–97 – *A. griseopubens* (Pic), comb. n. (93, 95, 96 – male; 94, 97 – female); 91 – habitus; 92–94 – right antennomere 1, lateral view; 95 – last left antennomere; 96 – right metatarsus; 97, 98 – head.

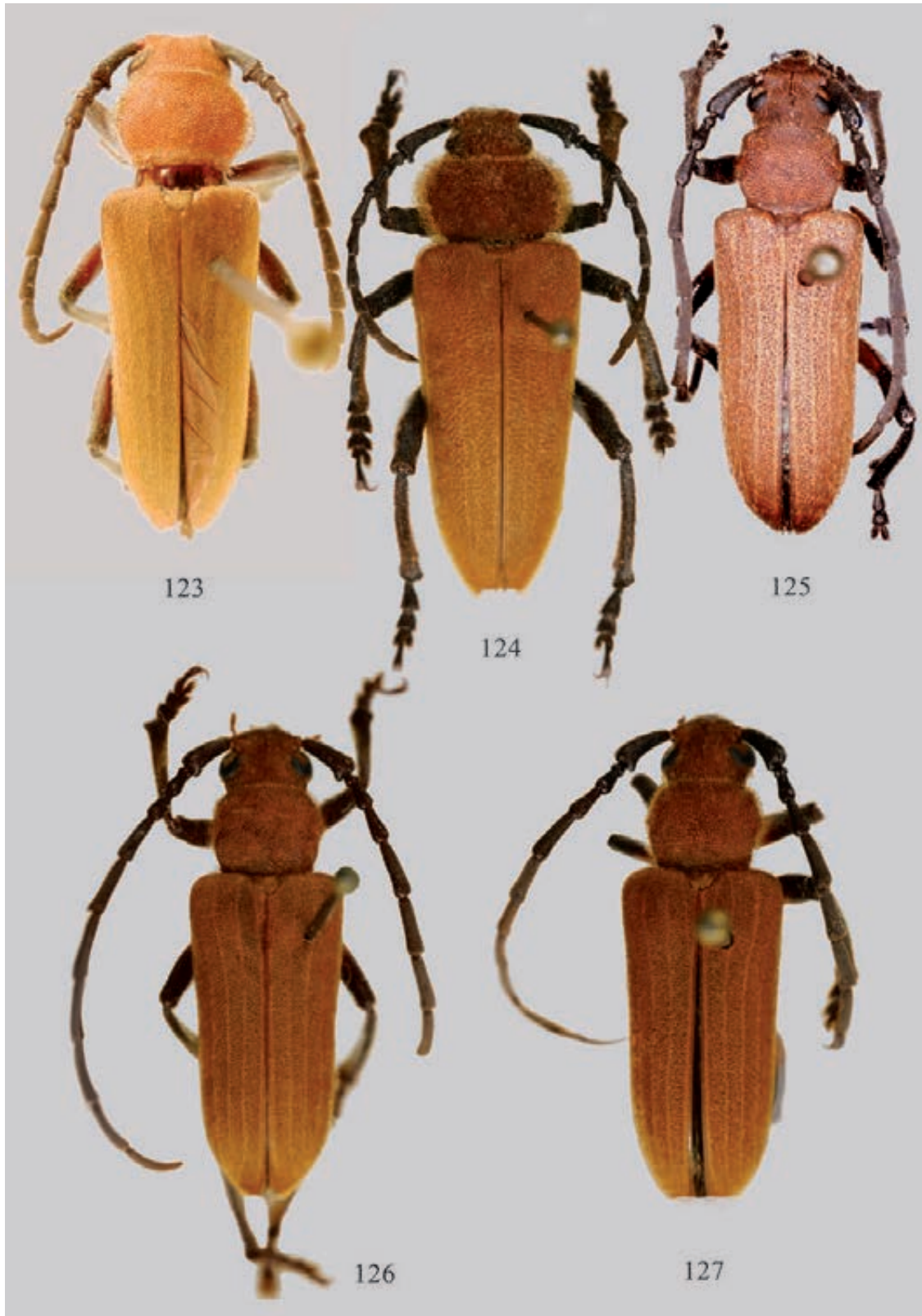


Figs 99–111. Apatophyseini Lacordaire, apical part of right metatibia.

99 – *Apatophysis pavlovskii* Plavilstshikov; 100 – *A. margiana* Semenov-Tian-Shanskij et Stshegoleva-Barovskaja; 101 – *Protapatophysis vartianae* (Heyrovský); 102 – *Formosotoxotus malayanus* Hayashi; 103 – *Mimapatophysis gressitti* gen. et sp. n., holotype; 104 – *M. solodovnikovi* sp. n., holotype; 105 – *Analogisticus* (gen. n.) *tonkineus* (Pic), comb. n., holotype; 106 – *Logisticus simplex* Waterhouse (from Madagascar); 107 – *Strophophysis* (gen. n.) *laosensis* (Gressitt et Rondon), comb. n., holotype; 108 – *Agastophysis* (gen. n.) *griseo-pubens* (Pic), comb. n.; 109 – *Paratophysis sericea* (Gressitt et Rondon), holotype; 110, 111 – *Epitophysis substriata* (Gressitt et Rondon), holotype; 99–108, 110, 111 – male; 109 – female.



Figs 112–122. Apatophyseini Lacordaire.
 112, 114–116 – *Epitophysis substriata* (Gressitt et Rondon), holotype male; 113 – labels of the holotype; 117–122 – *Formosotoxotus malayanus* Hayashi (117–121 – male; 122 – female); 112, 119, 122 – habitus; 114, 120 – right antennomeres 1–2, lateral view; 115, 121 – last left antennomere; 116, 117 – right protarsus; 118 – left metatarsus.



Figs 123–127. *Protaxis* Gahan, habitus.

123 – *P. fulvescens* Gahan, holotype male (photograph by Luboš Dembický); 124 – *P. incisipennis* Pic, holotype male (photograph by Gérard Tavakilian); 125 – *P. fulviventris* Heller, holotype male (photograph by Olaf Jaeger); 126, 127 – *P. bicoloripes* Pic, syntype males (photographs by Gérard Tavakilian).

**The genus *Trypogeus* Lacordaire, 1869:
an annotated check list and descriptions
of new species from Cambodia and Laos
(Coleoptera: Cerambycidae)**

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With 38 figures

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Abstract. An annotated check list of all 12 species of the Oriental genus *Trypogeus* Lacordaire, 1869 is presented. Two new species are described and thoroughly diagnosed: *T. gressitti* sp. n., from northern Laos, and *T. murzini* sp. n., from southern Cambodia. The holotype of *T. sericeus* (Gressitt, 1951) is most likely to have been lost. A description of the previously unknown female of *T. coarctatus* Holzschuh, 2006 (Indonesia, Sumatra) is given, albeit its reference to that species is only provisional. Sexual dimorphism in representatives of the genus is revealed. A key to all continental species from Indochina and southern China is compiled. A thorough bibliography list is given, with a large number of colour illustrations being presented.

Key words. Coleoptera, Cerambycidae, *Trypogeus*, annotated check list, new species, taxonomy, sexual dimorphism, key, distribution, bibliography.

INTRODUCTION

Species of the genus *Trypogeus* Lacordaire, 1869 inhabit the eastern part of the Oriental realm, ranging from southern China (Yunnan, Fujian) in the North to Sumatra and Java in the South, and the Philippines in the East. The systematic position of this genus is still ambiguous. Originally, Lacordaire (1869) placed it together with the genera *Apatophysis* Chevrolat, 1860 and *Pachyticon* J. Thomson, 1857 within the tribe “Apatophysides” of the subfamily “Cerambycides”, considering it, together with the monotypical tribe Vesperides, as “Cohorte Cérambycides vrais souterrains”. Aurivillius (1912) included the genus *Trypogeus* as a close neigh-

bour of *Apatophysis* in the tribe Lepturini of the subfamily Cerambycinae, whereas Boppe (1921) reassigned it, like *Apatophysis*, to the tribe Toxotini in the subfamily Lepturinae. Subsequently, Gressitt (1951, as *Paranthophylax* Gressitt, 1951), Gressitt & Rondon (1970, also as *Paranthophylax* Gressitt, 1951) and Hayashi & Villiers (1985) considered *Trypogeus* within the tribe Xylosteini of the subfamily Lepturinae. Neither the latest catalogue by Löbl & Smetana (2010) nor any other modern paper (e.g., Maki-hara, 1999; Chiang & Chen, 2001; Maki-hara et al., 2002; Heffern, 2005 etc.) revises the systematic position of *Trypogeus*. At the same time, Vives (2007) pointed out some inconsistencies in the present allocation and

proposed to transfer the genus to the subfamily Apatophyseinae. Moreover, according to Villiers et al. (2011) and E. Vives (personal communication), this genus deserves the rank of a separate tribe.

The genus *Trypogeus* is far from being well explored. Most of its species remain known only from the type specimens while information concerning larval stages seems to be absent altogether.

The present paper provides an annotated check list of all known species of *Trypogeus*, descriptions of two new species from Cambodia and Laos, and new records of several little-known taxa. In addition, some of the morphological features of the species under consideration are clarified. Finally, to incorporate the new congeners, a key to the species inhabiting the continental part of the distribution area of the genus is compiled, including those from southern China and Indochina.

MATERIAL AND METHODS

The material this paper is based upon comes from the following institutional and private collections:

- BM – Bishop Museum, Honolulu, U.S.A.
 BMNH – Natural History Museum, London (formerly British Museum, Natural History), United Kingdom
 MNHN – Muséum national d'Histoire naturelle, Paris, France
 cAM – coll. Alexandr Miroshnikov (Krasnodar, Russia)
 cCH – coll. Carolus Holzschuh Villach, Austria)
 cSM – coll. Sergey Murzin (Moscow, Russia)

The genus *Trypogeus* is generally characterized by very evident sexual dimorphism which can greatly complicate an accurate identification of the same species based on specimens of different sex. This will be exemplified using some material discussed in this paper.

The male and female differ significantly from each other by their habitus, in structure of the pronotum, elytra, abdomen, in the length of the antennae, as well as by the coloration of various parts of the body. In this connection, any key to the species inhabiting the mainland part of the generic range must take these features into account.

With regard to coloration, it is noteworthy that, in the male at least, the venter and legs are coloured by a combination of light and dark tones, whereas in the female the legs are always completely light while the venter is usually entirely or almost entirely light. In addition, the first and two or three last antennomeres seem to always be completely light in the female.

Taking into account the newly described continental species, some brief morphological, mostly morphometric characteristics of previously known representatives of the mainland fauna are given for comparative purposes as well. This is of special importance also because the relevant characteristics are being derived exclusively from the holotypes while new material of these species either has not yet been found or counts few specimens only.

Body size measurements were rounded to two decimal places up or down, to 0.00 or 0.05 mm, respectively.

RESULTS AND DISCUSSION

Genus *Trypogeus* Lacordaire, 1869

Trypogeus Lacordaire, 1869: 236. Pascoe, 1869: 660; Brauer, 1870: 138; Gemminger in Gemminger & Harold, 1872: 2987; Lameere, 1901: 320; Aurivillius, 1912: 159; Boppe, 1921: 44; Hayashi & Villiers, 1985: 4, 27; Chiang & Chen, 2001: 37; Heffern, 2005: 12; Vives, 2007: 54; Löbl & Smetana, 2010: 136.

Paranthophylax Gressitt, 1951: 50. Type species: *Paranthophylax sericeus* Gressitt, 1951, by original designation. Hayashi, 1960: 3; Gressitt & Rondon, 1970: 34; Chiang et al., 1985: 28; Hayashi & Villiers, 1985: 27 (syn pro *Trypogeus* Lacordaire).

Type species: *Trypogeus albicornis* Lacordaire, 1869, by monotypy.

1. *Trypogeus albicornis* Lacordaire, 1869
(Figs 37, 38)

Trypogeus albicornis Lacordaire, 1869: 236 (“Malaisie”). **Type locality:** Malaysia (according to the original description and the label of the holotype), but according to the authors of some catalogues (see further below), more accurately Penang. Pascoe, 1869: 660; Brauer, 1870: 138; Gemminger in Gemminger & Harold, 1872: 2987 (Penang); Aurivillius, 1912: 159 (Penang); Boppe, 1921: 44 (Penang); Hayashi & Villiers, 1985: 29, 30; Vives, 2007: 54.

Material. Holotype ♀, by monotypy (MNHN), “Malais”, “*Trypogeus albicornis* Lac[ordaire]”, “Type”, “Ex-Musæo Mniszech”, “Museum Paris, Coll. J. Thomson 1952”, “Holotype” (Fig. 38).

Morphological notes. Female holotype. Body length 15.0 mm, humeral width 5.0 mm.

Pronotum at level of lateral tubercles 1.20 or 1.16 times as wide as both width at base and length, respectively; base 1.10 times as wide as apex; elytra 1.96 times as long as width at base.

Distribution. Western Malaysia. The type locality is possibly Penang Island (Gemminger in Gemminger & Harold, 1872; Aurivillius, 1912; Boppe, 1921). No other data seem to be available.

Remarks. The right antenna of the holotype lacks antennomere 1 while the antenna is glued to its base by antennomere 2.

2. *Trypogeus sericeus* (Gressitt, 1951)

Paranthophylax sericeus Gressitt, 1951: 50, pl. 2, fig. 1. **Type locality:** China, Fukien (now Fujian) Province, Shaowu, Tachulan (now Dazhulan), 1000 m (according to the original description). Hua, 1982: 17; Chiang et al., 1985: 29, pl. 2, fig. 20.

Trypogeus sericeus: Hayashi & Villiers, 1985: 5, 29, 30; Chiang & Chen, 2001: 37, 270 (pl. 1, fig. 2); Hua, 2002: 235; Vives, 2007: 54; Hua et al., 2009: 21 (pl. 21, fig. 232), 148; Wang & Hua, 2009: 189; Löbl & Smetana, 2010: 136.

Morphological notes. Male holotype. Body length 14.0 mm, humeral width 4.5 mm. (according to the original description).

Distribution. China: Fujian Province.

Remarks. Regrettably, my repeated attempts to relocate the holotype of this species have failed. The original description (Gressitt, 1951) indicates the the type to be stored in the Fukien Christian University (now Fujian Agriculture and Forestry University). Upon my request, Mr. Jianhua Huang (College of Life Science, Guangxi Normal University, Guilin, China) personally visited this institution and, together with some local staff, looked thoroughly through the collection, but to no avail.

Hua et al. (2009), who presented pictures of many of Gressitt’s holotypes kept in different museums, including Chinese ones, had obviously failed to locate the type. Those authors simply reproduced an earlier line drawing of *T. sericeus* taken from Chiang et al. (1985). In addition, the paper by Hua et al. (2009) did contain information about the type specimens of the Chinese species of longicorn beetles housed in five largest U.S. museums, including the Bishop Museum, but no *T. sericeus* holotype was mentioned.

According to some researchers (<http://lully.snv.jussieu.fr/titan/>), the holotype of *T. sericeus* is kept in the “Academy of Guangxi, Nanning”. However, Dr. Meiying Lin (Institute of Zoology, Chinese Academy of Sciences, Beijing, China, abbreviated as IZAS further below) specially checked this information upon my request, but did not relocate the specimen.

Based on all this, I conclude that the holotype of *T. sericeus* seems to have been lost.

It is noteworthy that the IZAS collection contains three specimens of a *Trypogeus* species obviously related if not identical to *T. sericeus*. They also stem from a locality in Fujian Province which lies close enough to its *locus typicus* (Dr. Lin, perso-

nal communication). Right now this material is kept on loan by Dr. Eduard Vives (Museu de Ciències Naturals de Barcelona, Spain) (his personal communication, as well as a personal communication of Dr. Lin). Based on these near-topotypes, Dr. Vives plans to publish some new data on what seems to be new samples of *T. sericeus*, including additional morphological features of this species.

3. *Trypogeus aureopubens* (Pic, 1903) (Figs 1–3, 25)

Toxotus aureopubens Pic, 1903a: 121 (“Yun Nam”). **Type locality:** China, Yunnan (according to the original description and the label of the holotype) (see Remarks). Pic, 1903b: 18, 19; Hua, 1982: 22.

Stenocorus aureopubens: Aurivillius, 1912: 181; Wu, 1937: 685; Wang & Hua, 2009: 187.

Toxotus (Toxotus) aureopubens: Gressitt, 1951: 56, 57.

Trypogeus aureopubens: Hayashi & Villiers, 1985: 4, 29, 30, pl. 4, fig. 10; Hua, 2002: 235; Vives, 2007: 54; Wang & Hua, 2009: 189 (“*aureopubens* Pic, 1912”, sic!); Löbl & Smetana, 2010: 136.

Material. Holotype ♂, by monotypy (MNHN), “*Toxotus aureopubens* Pic n.sp. 1902, Yunnan Sen”, “Museum Paris, P. Guerry 1924”, “Holotype” (Fig. 3).

Morphological notes. Male holotype. Body length 13.6 mm, humeral width 3.8 mm. Pronotum at level of lateral tubercles 1.44 or 1.38 times as wide as both width at base (as well as at apex) and length, respectively; elytra 2.09 times as long as width at base.

Distribution. China: Yunnan Province.

Remarks. Immediately following the original description of *T. aureopubens*, Pic (1903b: 18) wrote as regards the type localities of this and some other species: “Ces divers insectes proviennent des régions du district de Mongtze ou Yun-Nan-Señ: Tchoug-King, Sze-Tchuan.” I have discussed this statement and the locality names with Dr. Meiyang Lin (IZAS), Dr. Igor Belousov (All-Russian Institute of Plant Protection, St. Petersburg, Russia) and Dr. Sergey Murzin (Moscow, Russia). As a result, I have come

to the conclusion that, taking into account the label “Yunnan Sen”, the holotype of *T. aureopubens* most likely stemmed from Mongtze (now Mengzi, 23°24'N, 103°22'E), a place indeed lying in Yunnan Province. The name “Tchoug-King”, as assumed by Dr. Lin, may correspond to the modern name of Chongqing, which is not in Yunnan.

In my key, *T. aureopubens* keys out together with *T. sericeus* on account of several similar or identical characters they share. One of these characters is the presence of five tubercles on the disk of the pronotum, instead of four observed in the species they are most readily to be compared with. In *T. aureopubens*, the median tubercle at the base of the pronotum is longitudinal and noticeably more strongly obliterated than the transverse, larger tubercles on the sides, yet being very well-expressed. The sculpture of the disk of the pronotum in *T. sericeus*, and the entirely dark scutellum so far are only known from the original description of this species.

I am not quite sure if the male originating from nearly the extreme South of Yunnan Province (Naban River, Watershed National Nature Reserve) and recently published by Weigel et al. (2013) is actually conspecific with *T. aureopubens*. In my opinion, this material requires revision.

4. *Trypogeus superbus* (Pic, 1922) (Figs 6–10, 18, 22, 23, 26, 30)

Toxotus superbus Pic, 1922: 22 (“Tonkin”). **Type locality:** Tonkin (now part of northern Vietnam), Ha Giang (= “Ha-Djiang”) (according to the original description and the label of the holotype).

Toxotus superbus var. *innotatus* Pic, 1927: 16 (“Hoa-Binh”).

Paranthophylax superbus: Gressitt & Rondon, 1970: 34 (partim, Northern Vietnam).

Trypogeus superbus: Hayashi & Villiers, 1985: 4, 29, 31 (partim, Vietnam, Laos); Vives, 2007: 54 (partim, Laos, Vietnam).

Material. Holotype ♂ by monotypy (MNHN), “Ha-Djiang, Tonkin”, “*Toxotus superbus* Pic”, “Type”, “Museum Paris, Coll. M. Pic” (Fig. 8), “Holotype”;

holotype (by monotypy), ♀ (MNHN), “Hoa Binh”, “[*Toxotus superbus*] var. *innotatus*”, “Museum Paris, Coll. M. Pic”, “Holotype” (Fig. 10).

Morphological notes. Male holotype. Body length 13.5 mm, humeral width 3.7 mm. Pronotum at level of lateral tubercles 1.28 or 1.23 times as wide as both width at base and length, respectively; base 1.10 times as wide as apex; elytra 2.13 times as long as width at base.

The female type of the var. *innotatus*. Body length 16.7 mm, humeral width 4.8 mm. Pronotum at level of lateral tubercles 1.22 or 1.32 times as wide as both width at base and length, respectively; base 1.17 times as wide as apex; elytra 2.10 times as long as width at base.

Distribution. Northern Vietnam.

Remarks. Gressitt and Rondon (1970), as well as Hayashi and Villiers (1985), surmised the type specimen of the var. *innotatus* Pic as being a female. Indeed it is a female of *T. superbus* (Figs 9, 10) while the name *innotatus* is an intrasubspecific category which has no status in nomenclature.

5. *Trypogeus gressitti* Miroshnikov, *sp. n.* (Figs 11–17, 19–21, 27, 28, 31, 32)

Paranthophylax superbus, Gressitt & Rondon, 1970: 31 (Fig. 7, i), 34 [partim, Laos: Phou Khao Khouay (= “Phou Khao Khoay”; = “Phou Kou Khouei”), 1000 m; Ban Van Heua, 1000 m; Tonpheng (= “Thong Phing”), 1000 m”] [non *Trypogeus superbus* (Pic, 1922)]; Hua, 1984: 83 (“*superba*”) (Laos) [non *T. superbus* (Pic, 1922)].

Trypogeus superbus, Hayashi & Villiers, 1985: 4, 29, 31 (partim, Laos) [non *T. superbus* (Pic, 1922)]; Vives, 2007: 54 (partim, Laos) [non *T. superbus* (Pic, 1922)].

Material. Holotype ♂ (BM), “Laos, Vientiane Prov., Phou Kou Khouei, 1.X.1963”, “J.A. Rondon Collection Bishop Mus.”, “*Toxotus superbus* Pic. J.L. Gressitt det.”, “*Paranthophylax superbus* (Pic) Gressitt & Rondon det. 196[?] [misidentification!]” (Fig. 12); paratype ♂ (cAM), “Laos, Vientiane Prov., Ban Van Eue, 30.IX.1965”, “J.A. Rondon Collection Bishop Mus.”; paratype ♀ (BM), “Laos, Tonpheng, 15.X.1965” (Fig. 14), “J.A. Rondon Collection

Bishop Mus.”, “*Paranthophylax superbus* (Pic) *innotatus*, ♀ Gressitt & Rondon det. 196[?] [misidentification!]” (Fig. 16).

Diagnosis. The new species resembles *T. superbus*, but differs very clearly by an evidently sharper impression before the discal tubercles at the base of the pronotum, an obviously clearer puncturation at least in the basal part of the elytra, slightly sharper longitudinal ribs extending from the humeral angle, distinct transverse wrinkles on the gula, the elytra to a varying degree noticeably diverging along the suture at the apex, all these differences thereby being characteristic of both sexes. The male of *T. gressitti* sp. n. is distinguished from the male of *T. superbus* by less strongly developed lateral tubercles of the pronotum, the shapes of tergite 8 (Figs 30–32) and the apex of the penis (Figs 26–28), as well as in slightly less robust antennae, evidently more strongly developed dark fragments of the elytra behind their light base creating there a contrasting border between light and dark backgrounds; this dark patch is thereby strongly elongated along the suture in the form of an acute triangle towards the scutellum, but slightly not reaching the latter. The female of *T. gressitti* sp. n. differs from the female of *T. superbus* by more strongly developed lateral tubercles of the pronotum, as opposed to the male, in shorter tarsomeres 2 and 3, an evidently more strongly developed dark, partly almost black spot at the margin of each elytron in the apical half, a strong predominance of black over light not only on the dorsal sides at least of antennomeres 3–6, but also on their ventral sides (Figs 17, 18). In addition, on the average the new species is possibly smaller than *T. superbus*. *Trypogeus gressitti* sp. n. can also be compared to *T. murzini* sp. n., from which it differs clearly by many characters noted below in the diagnosis of the latter species.

Description. Male. Body length 11.2–12.5 mm, humeral width 3.25–3.45 mm. Head dorsally completely or only part-

ly red-yellow, predominantly so behind eyes and in area of clypeus, black-brown between eyes and on vertex, mostly black and dark brown with a lighter gula on ventral and lateral sides; eyes and mandibles black; antennomeres 1 and 2 dorsally almost completely or partly, antennomeres 3–9 at base, red-yellow, remaining parts black, last two antennomeres or only last antennomere beige, antennomere 10 thereby slightly infuscate in apical part or strongly infuscate over most of surface; antennae ventrally almost completely red-yellow, only most of antennomere apices infuscate; pronotum mostly or, on the contrary, only in its smaller part black-brown, remaining surface red-yellow; scutellum red-yellow; elytra almost completely with a contrasting red-yellow fascia at base (only with small dark spots on each humerus at angles of pronotum base), behind with a complicated pattern and partly along lateral margin black-brown, remaining surface red-yellow, but it looks to a varying degree darker than the fascia at the base due to a recumbent setation; prosternum entirely, mesosternum completely or mostly, metasternum partly, always including episterna and adjoining lateral surface, sternites either completely or excluding both apical part of penultimate (visible) sternite and entire last (visible) sternite (as well as last visible tergite) dark brown, partly with reddish tint, remaining surface yellow, in places reddish-yellow; tibiae and tarsi a combination of beige, red-yellow and dark tones; coxae almost entirely beige.

Head noticeably narrower than pronotum at level of lateral tubercles; dorsally mostly with a granulate-scabrous sculpture, vertex predominantly with a coarse confluent puncturation; a sharp, longitudinal median groove; with moderately developed antennal tubercles and abundant, rough, irregularly-shaped, small knobs in-between; mandibles long, strongly curved, right mandible,

like in all congeners, with a large tooth at inner margin; eyes deeply emarginate, slightly convex, with not too large, but distinct ocelli; genae short; ventral side between eyes with abundant coarse knobs; well-expressed transverse wrinkles on gula; on either side of it with a sharp, irregular, partly condensed puncturation and a clearly rugose sculpture; antennae much longer than body, reaching beyond apex of elytra by antennomere 9, nearly reaching it by apex of antennomere 8.

Pronotum at level of lateral tubercles 1.25–1.27 or 1.14–1.20 times as wide as width at base and length, respectively; base 1.05–1.06 times as wide as apex; lateral tubercles well-developed, sharpened at apex, along upper margin strongly sloping down towards its apex, slightly curved; disk with four well-developed tubercles, two at base and further two in the middle, with a very sharp, transverse, oblique impression before tubercles at base; a fine granular sculpture and a most delicate puncturation.

Scutellum triangular, subequal in length and width at base.

Elytra 2.03–2.22 times as long as width at base; strongly narrowed towards apex; in apical one-third partly straighter; noticeably diverging along suture at apex; each elytron rounded at apex; with very clear, more or less uniform punctures almost all along, in basal half behind a light fascia forming longitudinal, partly confused, in places clearer rows.

Prosternal process very narrow between coxae; mesosternal process moderately wide; metasternum with a small, dense, rugose puncturation; metepisterna wide, moderately narrowed towards apex; sternites with a small, dense, rugulose puncturation; last (visible) sternite slightly impressed, widely, but slightly emarginate at apex.

Legs robust, moderately long; femora thickened, but not claviform; metatibiae clearly emarginate at apex; metatarsomere 1, 1.51–1.53 times as long as metatarsomeres 2 and 3 combined.

Recumbent setation well-developed; its silky looks and location on elytra being there contrasting iridescent like in other congeners.

Female. Body length 14.4 mm, humeral width 4.0 mm. Head, except for a strongly infusate apical part of mandible and the very margin of genae, as well as entire pronotum, venter, legs, antennomeres 1–2, elytra, except for an infusate apical part partly black along margins, red-yellow; antennomeres 3–8, except for a red-yellow base, most noticeably so antennomeres 3 and 4 (both dorsally and ventrally), black; two or three last antennomeres (see below) likely entirely light.

Head considerably narrower than pronotum at level of lateral tubercles; antennal tubercles more strongly developed and sharper than in male; sculpture about the same as in male; antennae likely slightly longer than body, reaching beyond apex of elytra probably by antennomere 10 (since the last three and four antennomeres are broken off on the right and left antennae of the single female, respectively, the length of the antennae is presumed, based on the proportions of antennomeres in some other species).

Pronotum at level of lateral tubercles 1.37 or 1.31 times as wide as width at base and length, respectively; base 1.06 times as wide as apex; lateral tubercles clearly more strongly developed than in male; structure of tubercles on disk and of impression before tubercles at base same as in male.

Elytra 2.16 times as long as width at base; moderately narrowed towards apex; noticeably diverging along suture at apex about same as in male; each elytron broadly rounded at apex; features of puncturation same as in male.

Sculpture of venter about same as in male; last (visible) sternite not emarginate at apex, broadly and barely rounded.

Legs shorter than in male; metatarsomere 1 clearly more sharply expanded towards apex than in male, only 1.25 times as long as

metatarsomeres 2 and 3 combined.

Recumbent setation developed as strongly as in male, with same features on elytra.

Distribution. Northern Laos.

Etymology. The new species is named in the memory of Dr. Judson Linsley Gressitt, on the eve of his 100th birthday.

6. *Trypogeus murzini* Miroshnikov, sp. n.

(Figs 4, 5, 24, 29, 33)

Material. Holotype ♂ (cSM), S Cambodia, Phnom Bokor National Park, 600 m, 24.–28.XI.2007, S. Murzin leg.

Diagnosis. *Trypogeus murzini* sp. n. is especially similar to *T. gressitti* sp. n., but differs clearly in structure of the pronotum, namely, a clearly weaker impression before the discal tubercles at its base (like *T. superbis*), by the more clearly obliterated discal tubercles in the middle, but more strongly developed and somewhat differently shaped lateral tubercles, as well as by the elytral structure, including a much less distinct and slightly smaller puncturation at their base, more strongly expressed longitudinal ribs extending from the humeral angle, a sharper elevation on the disk in the basal one-third in the middle, by more narrowly rounded apices of each elytron, the absence of distinct transverse wrinkles on the gula, a clearly weaker and sparser puncturation and a non-rugose sculpture of the adjacent surface of the head, more strongly developed antennal tubercles and a more evident impression between them, thereby with a somewhat coarser sculpture of this impression, the shapes of tergite 8 (Figs 31–33) and the apex of the penis (Figs 27–29), and barely longer antennae. In addition, *T. murzini* sp. n. is much more melanistic compared to *T. gressitti* sp. n. Thus, it differs from the latter by the presence of a dark coloration at the very base of the elytra before the light fascia, in general an evidently darker background of the elytra (except for a light fascia at the base), a black

scutellum, as well as an almost entirely black head, a completely black pronotum, a strong predominance of black on the dorsal side of the antennae (except for the last antennomere) against a light background, and almost completely dark ventral sides of antennomeres 9 and 10. But if the coloration of the head, pronotum and antennae is likely to vary, that of the scutellum and elytra can well prove to be a stable difference between *T. murzini* sp. n. and *T. gressitti* sp. n. By the coloration of the head, pronotum and scutellum, *T. murzini* sp. n. resembles *T. aureo-pubens*, but differs clearly in the absence of an evident median discal tubercle at the base of the pronotum, its less strongly developed lateral tubercles, better expressed longitudinal ribs extending from the humeral angle, a sharper elevation in the basal one-third on the disk in the middle, by the elytra clearly diverging along the suture at the apex, in a less sharp sculpture of the gula and adjacent surface, the shapes of tergite 8 and the apex of the penis, certain features of elytral coloration, a smaller body size and some other characters.

Description. Male. Body length 11.3 mm, humeral width 3.2 mm. Head almost completely black, only with small, unequally developed, yellow specks behind antennal tubercles; eyes and mouthparts partly lighter; antennae on dorsal side almost entirely black, bases of antennomeres 1 and 3–8 reddish, last antennomere beige, except for its black apex; ventral side of antennae mostly beige (coloration varying dependent on aspect, up to dark beige), apices of antennomeres 1, 3–8 and last one (antennomeres 7, 8 and last one with a more strongly developed black coloration in apical part) black, antennomeres 9 and 10 entirely black, antennomere 2 almost completely black; pronotum and scutellum entirely black; elytra black, partly black-brown at the very base before a wide yellow fascia with zigzag margins, behind it black-brown until apex; venter with almost

entirely black pro- and mesosterna, as well as sternites, a partly black metasternum; legs black, except for mostly yellow coxae, most of ventral side of femora and barely lighter apical tarsomeres.

Head clearly narrower than pronotum at level of lateral tubercles; dorsally mostly with a clearly granulate-scabrous sculpture, vertex predominantly with a coarse confluent puncturation; a sharp, longitudinal, median groove; with well-developed antennal tubercles and abundant, sharp, longitudinal, small knobs in-between; mandibles long, strongly curved, right mandible, like in all congeners, with a large tooth at inner margin; eyes deeply emarginate, slightly convex, with not too large, but distinct ocelli; genae short; ventral side between eyes coarsely and abundantly tuberculate; with an unclear sculpture, partly with longitudinal and oblique folds on gula; either side of it with a clear, sparse, but in places condensed puncturation; antennae much longer than body, reaching beyond apex of elytra by antennomere 8.

Pronotum at level of lateral tubercles 1.35 or 1.31 times as wide as width at base and length, respectively; apex barely narrower than base; lateral tubercles very well-developed, sharpened at apex, along upper margin moderately sloping down towards its apex (at least less strongly sloping and more straight than in *T. gressitti* sp. n.); disk with four moderately developed tubercles, two at base and further two in the middle; a finely granular sculpture and a most delicate puncturation.

Scutellum barely longitudinal, triangular.

Elytra 2.08 times as long as width at base; strongly narrowed towards apex; in apical one-third partly straighter; noticeably diverging along suture at apex; each elytron narrowly rounded at apex, with clearest puncturation at base behind a light fascia predominantly in area of impression along inner side of longitudinal ribs extending from humeral angle.

Prosternal process very narrow between coxae; mesosternal process moderately wide;

metasternum with a small, dense, rugose puncturation; metepisterna wide, moderately narrowed towards apex; sternites with a small, dense, rugulose puncturation; last (visible) sternite slightly impressed, broadly, but slightly emarginate at apex.

Legs robust, moderately long; femora thickened, but not claviform; metatibiae evidently emarginate at apex; metatarsomere 1 almost 1.5 times as long as metatarsomeres 2 and 3 combined.

Recumbent setation well-developed; its silky looks and location on elytra being there contrasting iridescent like in other congeners.

Distribution. Southern Cambodia.

Etymology. The new species honours my friend and colleague, Dr. Sergey Murzin (Moscow, Russia), who collected the holotype and, already over the many years, supports my entomological research.

7. *Trypogeus apicalis* Fischer, 1936

Trypogeus apicalis Fischer, 1936: 171. **Type locality:** Java, Tangkoeban (= Tangkoaban) Prahoe Mt, Preanger, \approx 1200–1500 m (“4000–5000 feet”) (according to the original description). Hayashi & Villiers, 1985: 29, 30.

Distribution. Indonesia: Java.

8. *Trypogeus javanicus* Aurivillius, 1925

Trypogeus javanicus Aurivillius, 1925: 482. **Type locality:** Java: Tengger Mt; Gede Mt; Sukabumi (according to the original description). Hayashi & Villiers, 1985: 29, 31; Makihara et al., 2002: 190, pl. 1, fig. 6; Vives, 2007: 54; Noerdjito, 2008: 374–377, 381.

Distribution. Indonesia: Java.

9. *Trypogeus cabigasi* Vives, 2005

Trypogeus cabigasi Vives, 2005: 303, fig. 2. **Type locality:** Philippines, Mindanao-N, Bukidnon, Impasug-oug (according to the original description). Vives, 2007: 54.

Distribution. Philippines.

Remarks. This species was described from a single specimen claimed to be a male (Vives, 2005). However, Dr. Eduard Vives (personal communication) has recently clarified the sex of the holotype, noting that actually it is a female. Such data are of paramount importance from the standpoint of well-expressed sexual dimorphism observed in species of the genus with respect to presumably stable considerable differences at least in the body coloration of the male and female.

10. *Trypogeus barclayi* Vives, 2007

Trypogeus barclayi Vives, 2007: 54, figs 1–2. **Type locality:** Brunei, Kuala Belalong FSC [Field Studies Centre] (according to the original description).

Distribution. Brunei.

11. *Trypogeus fuscus* Nonfried, 1894

Trypogeus fuscus Nonfried, 1894: 209 (“Süd-Sumatra, Tebing-Tinggi”). **Type locality:** Southern Sumatra, Tebing-Tinggi (according to the original description). Boppe, 1921: 44, pl. 3, fig. 10; Hayashi & Villiers, 1985: 29, 30; Vives, 2007: 54.

Distribution. Indonesia: Sumatra.

12. *Trypogeus coarctatus* Holzschuh, 2006 (Fig. 34)

Trypogeus coarctatus Holzschuh, 2006: 207, Abb. 2. **Type locality:** Sumatra, Tujuh Gunung, 5 km E Kersik Dua (according to the original description).

Material. Holotype ♂ (cCH) (photograph), Sumatra, Tujuh Gn., 5 km E Kersik Dua, 1900 m, 3.–5.V.2001, L. Bolm leg.

Distribution. Indonesia: Sumatra.

Remarks. This species was described from a single male. Its diagnosis reads “Die neue Art unterscheidet sich von allen anderen Arten der Gattung durch die hinten besonders stark verschmälerten Flügeldecken sowie dem weißlichgelb gefärbten,

letzten Fühlerglied.” (Holzschuh, 2006). The collection of the Natural History Museum, London contains one female taken relatively close to the type locality of *T. coarctatus*, but more than four times farther from the *locus typicus* of the likewise Sumatran *T. fuscus*. Provisionally (see Remarks below), I refer it to *T. coarctatus*.

Trypogeus ?coarctatus Holzschuh, 2006, female (Fig. 35).

Material. 1 ♀ (BMNH), “Sumatra, Barong Bharu, Korinchi. Main Range. 4,000 ft. June 1914”, “1915–182.”, “? *Trypogeus albicornis* Lac.” (Fig. 36).

Description. Body length 16.8 mm, humeral width 4.75 mm. Head (except for black eyes and an infusate inner margin of mandibles), antennomeres 1 and 2, venter and legs completely, pronotum, excluding infusate sides and margins of base and apex, yellow-red; antennomeres 3–8 brown with a reddish base of 3rd and lighter apices of antennomeres 7 and 8; antennomeres 9–11 completely beige; pronotum dull; elytra shiny.

Head evidently narrower than pronotum at level of lateral tubercles; with moderately developed, but not too sharp antennal tubercles; a sharp, longitudinal, median groove; a very clear, heterogeneous, dense, in places confluent, partly coarse puncturation, this being most coarse on vertex; gula with gentle, but clear, transverse wrinkles, on either side from it with sharp dense wrinkles; antennae shorter than body, but significantly reaching apical one-quarter of elytra, evidently expanded towards apex; antennomeres 8–10 with a strongly expanded apical external angle.

Pronotum subequal in length and width at base, 1.13 times as long as wide at apex; with large lateral tubercles rounded at apex; at their level 1.20 times as wide as width at base and length, respectively; tubercles on disk poorly-developed; with a clear, predominantly confluent puncturation, this generally being less coarse than on head.

Scutellum clearly longitudinal, triangular.

Elytra weakly narrowed towards apex; 2.33 times as long as width at base; weakly diverging along suture at apex; with double puncturation, one clear, not too dense and more or less uniform, the other very shallow and denser, almost entire elytra thereby being punctured.

Last (visible) sternite broadly and barely rounded at apex.

Metatarsomere 1, 1.25 times as long as metatarsomeres 2 and 3 combined.

Notes. Except for its coloration, the female differs from the male in structure of the pronotum and elytra. The pronotum of the male has poorly developed lateral tubercles while the elytra are strongly narrowed towards their apical one-third and noticeably diverge along the suture at the apex (Fig. 34). However, considerable differences in the degree of development of the lateral tubercles are observed in some other species as well. For example, the lateral tubercles of the female in *T. gressitti* sp. n., as well as in the above supposedly *T. coarctatus* female, are much more strongly developed and notably more expanded on the sides than in the male (Fig. 35). At the same time, the discal tubercles in the male and female of those or other species are thereby similar in structure. In the described female, they are about as poorly developed as in the male of *T. coarctatus*, versus being well-developed in *T. fuscus* (see Nonfried, 1894), the type of which has yet remained unrevised. Based on the above evidence, it seems more reasonable to refer the above female to *T. coarctatus* rather than to a yet undescribed species or *T. fuscus*, also taking into account its provenance. It is noteworthy that earlier it had provisionally been identified as *T. albicornis* (see Material above), but differs clearly from that species by shorter antennae noticeably not reaching the apex of the elytra (versus slightly extending beyond it in *T. albicornis*), in the antennae mostly consisting of less strongly elongate antennomeres, by an evidently different

shape of the lateral tubercles, considerably less strongly developed discal tubercles, the absence of a sharp impression in front of the discal tubercles at the base (this being observed in *T. albicornis*), as well as by the elytra being more sharply punctured, less clearly narrowed towards, and more weakly diverging along the suture at, the apex, and some other characters.

**Key to species of *Trypogeus*
from southern China and Indochina**

- A. At least legs and venter a combination of light and dark tones; sometimes venter mostly or almost completely dark; pronotum, often also head at least partly black or dark **Male.** Go to couplet 1
- B. At least legs monochrome light; head, pronotum and venter usually entirely, sometimes almost completely or at least mostly light **Female.** Go to couplet 5
1. Pronotum on disk with five clear tubercles, two located before middle and three at base (see also Remarks under *T. aureopubens*); scutellum completely dark or black, but base of elytra entirely light 2
- Pronotum on disk with four clear tubercles, two before middle and also two at base; scutellum completely or almost entirely light, if dark (almost black), then also elytra at the very base dark (almost black) 3
2. Elytra brownish-yellow, at the expense of their setation, except for their base, general looks clearly darker, this in turn creating a sharper contrast in coloration between a lighter base and an infuscate background of remaining bulk of elytra ***T. aureopubens*** (Pic)
- Elytra ochraceous, at the expense of their setation general looks evidently lighter, this in turn creating a less sharp contrast in coloration between a light base and a somewhat darker background of remaining bulk of elytra ***T. sericeus*** (Gressitt)
3. Scutellum completely light or infuscate only over a small part; elytra entirely light at base or with a small dark spot at the very base in area of impression in the middle of each elytron near angle of pronotum base; most of elytra, except their base, lighter, almost without black, this in turn creating a less sharp contrast in coloration between a light fascia at base and a darker background of remaining part of elytra; head and pronotum only partly dark, but coloration possibly variable; tergite 8 and apex of penis as in Figs 26–28, 30–32 4
- Scutellum completely black; elytra at the very base (at least over half the length of scutellum) almost black, mostly, except for base, clearly darker, partly almost black, this in turn creating a sharper contrast in coloration between a light fascia at base and a dark background of remaining part of elytra; head and pronotum almost completely black, but coloration possibly variable; tergite 8 and apex of penis as in Figs 29, 33 ***T. murzini* sp. n.**
4. Elytra definitely more clearly punctured, at least so their basal part, and with sharper longitudinal ribs extending from humeral angle; pronotum on disk with a sharp, obliquely transverse impression before tubercles at base; tergite 8 and apex of penis as in Figs 27, 28, 31, 32 ***T. gressitti* sp. n.**
- Elytra definitely less clearly punctured, at least so their basal part, and with less sharp longitudinal ribs extending from humeral angle; pronotum on disk with a clearly less strongly developed, not too sharp, obliquely transverse impression before tubercles at base; tergite 8 and apex of penis as in Figs 26, 30 ***T. superbus*** (Pic)
5. Elytra insignificantly or much more weakly diverging along suture in apical

- part; pronotum with clearly better developed lateral tubercles sharpened at apex 6
- Elytra strongly diverging along suture in apical part; pronotum with clearly less strongly developed, apically blunt, lateral tubercles *T. albicornis* Lacordaire
 - 6. Elytra definitely more clearly punctured, at least so their basal part, and with sharper longitudinal ribs extending from humeral angle (as in male), with a clearly more strongly developed, dark, partly almost black spot at margin of each elytron in apical half; pronotum on disk with a sharp, obliquely transverse impression between pairs of upper and lower tubercles (as in male); black coloration at least of antennomeres 3–6 strongly predominating over their lighter coloration, this being particularly clear on ventral side of antennomeres (Fig. 17) *T. gressitti* sp. n.
 - Elytra definitely less clearly punctured, at least so their basal part, and with less sharp longitudinal ribs extending from humeral angle (as in male), with a clearly less strongly developed, dark spot at margin of each elytron in apical half; pronotum on disk with a clearly weaker, obliquely transverse impression between pairs of upper and lower tubercles (as in male); light coloration at least of antennomeres 3 and 4 clearly predominating over their black coloration, this being particularly well expressed on ventral side of antennomeres (Fig. 18) *T. superbus* (Pic)

Remarks. Unfortunately, the key to *Trypogeus* species by Hayashi and Villiers (1985) contains such serious inaccuracies that they make it of little use. Thus, the second thesis of this key, which reads, “– Antennae without white or pale apical joints” (without any doubt, the authors meant the upper side of the antennomeres), included four species,

namely, *T. fuscus*, *T. apicalis*, *T. aureopubens* and *T. sericeus*. However, at least for the latter three species this character does not hold. The coloration of the antennae in *T. apicalis* is clearly visible in the picture of one of the types, in which both antennomeres 10 and 11 are actually light (see the site of the Smithsonian Institution, <http://elaphidion.com/>). In addition, the original description also states that “Antenna ... rather densely clothed with short, brown hairs, except the last two pale apical joints [sic!], where the hairs are whitish ...” (Fisher, 1936: 172). A photograph of the holotype of *T. aureopubens* shows this clearly (Figs 1, 2). As regards *T. sericeus*, the coloration of the antennae as put in the last thesis of the key, “– Reddish brown, blackish on mandibles, occiput, neck, inner sides of first 9 and upper sides of 4–11 [sic!] antennal joints ... Fukien, China ... *sericeus*”, disagrees with the original description (Gressitt, 1951: 50): “Ochraceous: blackish on mandibles, occiput, neck, inner sides of first nine, and upper sides of fourth to eighth [sic!], antennal segments ...”. That is, in fact two or three last antennomeres in *T. sericeus* are light dorsally. Even though I have not seen the type of *T. fuscus*, taking into account the additional material studied and the available literature data, including pictures, at least the last antennomere being entirely dark (black) seems to me unlikely. In addition, keeping in mind the sharply expressed sexual dimorphism in *Trypogeus* species, it is absolutely impossible to mix up the characters of the male and female when preparing a key.

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РЕЗЮМЕ

Приведен аннотированный список всех 12 видов ориентального рода *Trypogeus* Lacordaire, 1869. Как новые описаны *T. gressitti* sp. n. (северный Лаос) и *T. murzini* sp. n. (южная Камбоджа), для которых указаны также подробные диагнозы. Сделано заключение, что голотип *T. sericeus* (Gressitt, 1951), скорее всего, утрачен. Дано описание ранее неизвестной самки *T. coarctatus* Holzschuh, 2006 (Индонезия, Суматра), но отмечено, что она отнесена к этому виду пока предположительно. Показан явно выраженный половой диморфизм у представителей рода. Предложена таблица для определения всех видов из континентальной части ареала рода, включающей Индокитай и южный Китай. Указана подробная библиография. Представлено большое количество цветных иллюстраций.



Figs 1–5. *Trypogeus* Lacordaire.
 1, 2 – *T. aureopubens* (Pic), holotype male; 3 – labels of the holotype; 4, 5 – *T. murzini* sp. n., holotype male;
 1, 2, 4, 5 – habitus (1, 4 – dorsal view; 2, 5 – ventral view).



6



7



9



8



10

Figs 6–10. *Trypogeus superbus* (Pic).

6, 7 – holotype male; 8 – labels of this holotype; 9 – holotype of var. *innotatus* Pic, female; 10 – labels of this holotype; 6, 7, 9 – habitus (6, 9 – dorsal view; 7 – ventral view).



Figs 11–18. *Trypogeus* Lacordaire.

11–17 – *T. gressitti* sp. n. (11 – holotype male; 12 – labels of the holotype; 13 – paratype male; 14 – labels of this paratype; 15 – paratype female; 16 – labels of this paratype); 18 – *T. superbus* (Pic), holotype of var. *innotatus* Pic, female; 11, 13, 15 – habitus; 17, 18 – antennomeres 1–6, ventral view.



Figs 19–33. *Trypogeus* Lacordaire, details.

19–21, 27, 28, 31, 32 – *T. gressitti* sp. n. (19, 27, 31 – holotype male; 20, 28, 32 – paratype male; 21 – paratype female); 22, 23, 26, 30 – *T. superbus* (Pic) (22, 26, 30 – holotype male; 23 – holotype of var. *innotatus* Pic, female); 24, 29, 33 – *T. murzini* sp. n., holotype male; 25 – *T. aureopubens* (Pic), holotype male; 19–25 – head, ventral view; 26–29 – apical part of penis, ventral view; 30–33 – tergite 8, dorsal view.



Srinagar,
Baroun Bhara,
Kortochi,
Main Range,
4,000 ft. June 1914.
1915-192.
*Trypogeus
albicornis
Lac.*

36



*Trypogeus
albicornis
Lac.*
TYPE
HOLOTYPE
MUSEUM PARIS
COLL. J. MONROE
1852

38

Figs 34–38. *Trypogeus* Lacordaire.
34 – *T. coarctatus* Holzschuh, holotype male (after Holzschuh, 2006, but colour photograph, reproduced courtesy of Luboš Dembický); 35 – *T. ?coarctatus* female; 36 – labels of this specimen; 37 – *T. albicornis* Lacordaire, holotype female; 38 – labels of the holotype; 34, 35, 37 – habitus.

**A review of the genus *Paraclytus* Bates, 1884,
with the description of a new species from China
(Coleoptera: Cerambycidae)**

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With 208 figures and 2 maps

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Abstract. A review of the species of the genus *Paraclytus* Bates, 1884 is presented. A new species is described: *P. murzini* sp. n., from Sichuan Province, China. All 18 species of the genus, including the new one, are thoroughly diagnosed. All previously known species are redescribed while the distributions of some of them are significantly expanded, with other new data presented. Repeated attempts at relocating the holotype of *?Paraclytus multimaculatus* Pic, 1923 (Laos) have failed, but *Xylotrechus multimaculatus* Pic, 1923 (Laos) has nothing to do with that problem. A key to all species is proposed, with their distributions being mapped. The genus is rediagnosed and redescribed. Its differences from the very similar genus *Anaglyptus* Mulsant, 1839 are discussed in detail. A thorough bibliography list and a large number of colour illustrations are provided.

Key words. Coleoptera, Cerambycidae, Anaglyptini, *Paraclytus*, review, new species, taxonomy, key, distribution, bionomics, bibliography.

INTRODUCTION

The genus *Paraclytus* Bates, 1884 belongs to one of the taxonomically difficult groups of the subfamily Cerambycinae. Although started quite a long time ago, my studies on this genus, like those on several other similar genera of the tribe Anaglyptini Lacordaire, 1868, can only now be summarized.

Most of the relevant material was considered in due detail in the framework of a report made at the 14th Congress of the Russian Entomological Society, albeit published only as an abstract (Miroshnikov, 2012). Since then those results have been substantially amended, including descriptions of new species from China (Miroshnikov & Lin, 2012; Miroshnikov et al., 2013). The present contribution,

therefore, brings together almost all information accumulated to date concerning the genus under study.

At the moment, considering the new species described here, the genus *Paraclytus* includes 18 species. Unfortunately, the attribution of one form, described from Laos (Pic, 1923), presumably a member of *Paraclytus*, remains to be verified.

The latest catalogue by Löbl & Smetana (2010) which lists all previously known representatives of the genus considers only 8 species. Through clarifying the generic assignments of a number of species originally described in the genus *Anaglyptus* Mulsant, 1839, coupled with the discovery, both very recent and present, of new forms from China, the diversity of *Paraclytus* has

more than doubled. This genus may prove to be even richer in species than it is known at the moment, with some more new congeners, primarily from China and possibly the adjacent areas of northern Indochina, still to be expected.

The genus *Paraclytus* shows an extensive and highly peculiar distribution pattern characterized by a sharply expressed disjunction with sufficiently clearly delineated western and eastern parts. The distribution of species between these parts is very uneven. The absolute majority (14 species) inhabit China (Map 2), one congener is insular (Japan and the Kurils) while only three species are known from the western part of the range. Two of them are strictly Hyrcanian (Talysh and Elburs mountains framing the Caspian Sea from the Southwest and South, within Azerbaijan and Iran, respectively), whereas the third species is widespread in the Caucasus and northern Anatolia, reaching the Stranzha Mountains in the West, at the border between European Turkey and Bulgaria (Map 1).

MATERIAL AND METHODS

The material this paper is based upon comes from the following institutional and private collections:

- CAS – California Academy of Sciences, San Francisco, U.S.A.
 IZA – Institute of Zoology, Azerbaijan National Academy of Sciences, Baku, Azerbaijan
 IZAS – Institute of Zoology, Chinese Academy of Sciences, Beijing, China
 LNHSM – Lingnan Natural History Survey and Museum, Guangzhou, China
 MNHN – Muséum national d’Histoire naturelle, Paris, France
 NMP – Národní Museum, Prague, Czech Republic
 USNM – National Museum of Natural History, Smithsonian Institution, Washington, U.S.A.

- ZFMK – Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany
 ZISP – Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia
 ZMUM – Zoological Museum of the Moscow State University, Moscow, Russia
 PUM – Moscow State Pedagogical University, Moscow, Russia
 cAM – coll. Alexandr Miroshnikov (Krasnodar, Russia)
 cCH – coll. Carolus Holzschuh (Villach, Austria)
 cDD – coll. Diethard Dauber (Linz, Austria)
 cDK – coll. Denis Kasatkin (Rostov-on-Don, Russia)
 cMD – coll. Mikhail Danilevsky (Moscow, Russia)
 cPV – coll. Petr Viktora (Kutná Hora, Czech Republic)
 cSM – coll. Sergey Murzin (Moscow, Russia)
 cTT – coll. Tomáš Tichý (Opava, Czech Republic)

Type specimens and/or their quality colour pictures of all Chinese species have been assessed. Accurate identifications of the remaining, old and well-known four species which are represented in many collections is beyond any doubt.

The endophallus structure which is of primary importance for diagnosing the genus was studied in most species, including almost all of the Chinese representatives known from male material. The present paper adopts the terminology (nomenclature) of endophallus structures used in Danilevsky et al. (2005), Danilevsky & Kasatkin (2006), Kasatkin (2006), Toki & Kubota (2007), Nakamine & Takeda (2008), Yamasako & Ohbayashi (2011), and several others.

Body size measurements were rounded to two decimal places up or down, to 0.00 or 0.05 mm, respectively.

In the “Material” sections, type specimens studied from photographs alone are listed

only following any other pertinent material when such was present.

RESULTS AND DISCUSSION

Genus *Paraclytus* Bates, 1884

Paraclytus Bates, 1884: 234. Ganglbauer, 1889a: 71; Ganglbauer in Marseul, 1889b: 479 (*Anaglyptus* subgen.); Pic, 1900: 65 (*Anaglyptus* subgen.); Heyden et al., 1891: 348 (*Anaglyptus* subgen.); 1906: 520 (*Anaglyptus* subgen.); Pic, 1911: 10 (*Anaglyptus* subgen.); Aurivillius, 1912: 416; Winkler, 1929: 1181; Plavilstshikov, 1932: 192; Matsushita, 1933: 293; Mitono, 1940: 127; Plavilstshikov, 1940: 499, 747; 1948: 112; Gressitt, 1951: 302; Plavilstshikov, 1965: 395; Kojima & Hayashi, 1969: 88; Kusama & Hayashi, 1971: 111; Mamaev & Danilevsky, 1975: 216; Lobanov et al., 1982: 258; Tsherepanov, 1982: 204; Kusama & Takakuwa, 1984: 340; Danilevsky & Miroshnikov, 1985: 244; Danilevsky, 1988: 238; Tsherepanov, 1996: 111; Sama, 2002: 84; Özdikmen, 2009: 327; Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Type species: *Paraclytus excultus* Bates, 1884, by monotypy.

Diagnosis. This genus seems to be especially similar to *Anaglyptus* Mulsant, 1839, but differs clearly, first of all, in structure of the endophallus. The latter in *Paraclytus* is characteristically long, at least 8 times as long as the tube of the penis (Figs 152, 153, 156, 157, 164, 165, 169); the distal half of the medial tube is densely clothed with microtrichia, these sometimes forming a brush on the ventral side; the field of microtrichia extends to the apical phallomere and covers from half to two-thirds of its surface. In contrast, the endophallus in *Anaglyptus* spp. is significantly shorter than in *Paraclytus*, only 4–5 times as long as the tube of the penis (Figs 154, 155, 158–161, 166–168); its fine armature fails to form continuous and extensive fields, being represented instead by round or oval fields of varying size, located in the form of spots on the apical and medial phallomeres. Another important

difference of *Paraclytus* from *Anaglyptus* is the length ratio of antennomeres 3 and 4, in the latter genus this being considerably or much greater, as a rule. Thus, antennomere 4 in *Paraclytus* is 1.01–1.21 times as long as antennomere 3 (Figs 1–22); the maximum difference in the proportions of these antennomeres is thereby observed in two species only, whereas in all remaining cases this value does not exceed 1.18; in length, antennomere 3 can be equal to or slightly shorter than antennomere 4. In *Anaglyptus*, antennomere 4 is 1.23–1.70 times as long as antennomere 3 (Figs 23–40), with the minimum difference being only characteristic of a few species, whereas in the vast majority of cases this value is not less than 1.30; antennomere 3 is neither shorter than nor equal to antennomere 4. If the minimum length ratio in *Anaglyptus* approaches the maximum one in *Paraclytus*, then in the former genus at least the external apical angle of the elytra extends into a long sharp spine or tooth not hidden by dense long setae. This condition is never observed in *Paraclytus*. In addition, *Paraclytus* differs from *Anaglyptus* by a combination of some other characters, among which the most important are certain structural features of the pronotum and the apex of the elytra, the patterns of setation and coloration of the pronotum and elytra, as well as some morphological traits of the antennae still not mentioned above. These differences in comparative morphological aspects are discussed in due detail below (see Remaks). Evident differences of *Paraclytus* from *Oligoenoplus*, as well as from *Anaglyptus*, lie first of all in structure of the endophallus. By the length ratio of endophallus to tube of the penis, *Oligoenoplus* resembles *Anaglyptus*. However, based only on a single species studied yet, *O. rosti* (Pic, 1911), *Oligoenoplus* shows a peculiar pattern of endophallus fine armature different from that observed both in *Paraclytus* and *Anaglyptus*. Besides this, by the length

ratio of antennomeres 3 and 4, *Oligoenoplus* generally reminds of *Anaglyptus* as well.

Description. Body from rather small to medium-sized, length 7.6–20.9 mm. Head short, rather small; frons vertical or almost so; antennal tubercles from poorly developed to sharply expressed, sometimes sharpened at apex; isthmus between antennal cavities in most cases slightly to clearly greater than transverse diameter of lower lobe of eye, but both can also be subequal, infrequently the former value being even barely less than the latter one; genae long, usually slightly to clearly (sometimes even about 1.5 times) greater than transverse diameter of lower lobe of eye, but sometimes vice versa; eyes deeply emarginate, with clear, but rather small ocelli; antennae in male from clearly not reaching the apex of elytra to much longer than body, in female far from to slightly not reaching the apex of elytra, sometimes up to almost or completely reaching it; apical external angle of antennomeres 3 and 4 (Figs 1–22) either without spine or, to a varying degree, with a well-developed spine, this being longer on antennomere 3 where it can be quite long.

Pronotum (Figs 41–60) variable in shape, from clearly transverse to barely or slightly longitudinal; with very well-developed to less well-expressed lateral tubercles, it can only be obtusely angulate to broadly rounded on sides; from barely convex to supplied with a very strongly developed, roof-shaped elevation; puncturation variable.

Scutellum triangular, usually more or less longitudinal, often sharpened apically.

Elytra (Figs 77–94) slightly to moderately narrowed towards apex, sometimes parallel-sided until about apical one-third; from wide to moderately narrow and evidently elongated; 2.1–2.9 times as long as width at base; noticeably to strongly tuberculiform elevated at base, each elytron can be with a clear to very well-developed, sometimes keel-shaped, longitudinal tubercle, sometimes this tubercle being imitated by a dense

tuft of suberect, predominantly black setae; rarely, each elytron with a very strong tuberculiform elevation; external apical angle either without tooth or with a more or less clear, often well-developed tooth, sometimes only a denticle; each elytron can be narrowly or more broadly rounded apically; variously sculptured.

Pro- and mesosterna usual in structure; metasternum with a clearly or sharply expressed longitudinal suture, as a rule; sometimes a well-visible pore (so-called aromatic pore) near apex of each metepisternum.

Abdomen normal in structure; last (visible) sternite of both male and female truncate or broadly rounded apically, it can also be shallowly, but clearly emarginate, as well as slightly impressed in apical part.

Legs moderately long; femora usually not claviform, but can be slightly or moderately claviform; metafemora clearly or far from reaching the apex of elytra, only sometimes in male they can reach it.

Coloration of body, antennae and legs different; entire head usually black, sometimes partly red tones; antennae entirely red (or brown-red) or bicoloured in various combinations with participation of black (black-brown) and red (red-brown) tones, thereby basal antennomeres (usually antennomeres 1–6 or 2–6) often entirely or mostly black while apical antennomeres (usually antennomeres 7–11) often completely red or reddish-brown tones; all or almost all antennae can be a combination of black and red, often with a black apices of antennomeres; pronotum entirely black or with a characteristic red border apically, sometimes red at the very base on sides; elytra either almost entirely black, only with apex and epipleura brownish, or red under all or almost all fasciae and spots of dense, usually light setae, sometimes they can be brownish or reddish only under fascia in apical part and at apex; venter usually entirely or almost completely

black, sometimes with participation of red; legs usually bicoloured, although with partly lighter tibiae and tarsi, whereas femora and tibiae can be completely black or red.

Setation usually well-developed; as noted above, pattern of setation of antennae, pronotum and elytra, combined with their coloration, highly diagnostic; setation pattern of dorsum often complex, to a varying degree variegate; each species characterized by a peculiar pattern on elytra, this even in very similar forms usually showing more or less clear species-specific features; apical margin of elytra (Figs 113–132) in most cases strongly or completely hidden by dense long setae; setation of venter partly or mostly dense, usually uniform in coloration.

Endophallus characterized above, as in Figs 152, 153, 156, 157, 162–165, 169.

Comparative remarks. When generally comparing the habitus of *Paraclytus* and *Anaglyptus* species, it becomes clear that, however different their habitus and the coloration at least of their dorsum, the former genus is strongly dominated by evidently more complex and variegated to very motley patterns, predominantly on the elytra and, in most cases, bright tones.

The elytral patterns formed both by setation and the coloration of the integument that are generally highly characteristic of *Paraclytus* species are as in Figs 77–94. Even with various transformations of the pattern in individual forms which visibly change the looks of the elytra, its common traits or at least pattern derivatives can be traced to a varying degree. In the vast majority of *Anaglyptus* species, as well as in some other genera of the tribe Anaglyptini, in particular, the predominantly Oriental *Oligoenoplus* Chevrolat, 1863 or the Nearctic *Cyrtophorus* LeConte, 1850, elytral patterns (Figs 95–112) different from those in *Paraclytus* are observed. Only a few forms of *Anaglyptus* show certain similarities to *Paraclytus*. In many *Paraclytus*, the elytra are with a well-visible metallic

bluish or bluish-greenish lustre. The elytra in *Anaglyptus*, even if shiny, are devoid of an evident metallic lustre, as a rule. Only a few species demonstrate a bright metallic lustre, e.g., on the mesonotum, but I do not know of any *Anaglyptus* with a clear metallic lustre on the elytra.

In *Paraclytus*, the base of the elytra, at least the humeri or they and the area of the scutellum, is usually clothed with a more or less dense, recumbent, light setation; the integument in many species is red there and forms a peculiar, often well-developed pattern clearly contrasting against a black (dark) background of the surrounding surface. In most species of *Anaglyptus*, an elytral setation on the humeri and near the scutellum is either visibly developed or much weaker than in *Paraclytus*, at least less dense and often consisting only of individual or sparse setae; or most of the elytra, including the base, can be clothed with a continuous setation; the coloration of the integument of the base of the elytra, even if red or similar tones, is usually devoid of a pattern; only a few species show some resemblance to *Paraclytus* in the coloration of the humeri and in the area of the scutellum, but they are often devoid there of the dense setation observed in *Paraclytus*.

As noted above, the vast majority of *Paraclytus* species are characterized by the presence of very dense, long, light setae at the apex of the elytra, strongly or completely hiding its margin (Figs 113–132); if the external angle of the elytra is thereby extended into a tooth, sometimes very well-developed, then it is also hidden beneath these setae; only sometimes it can be only partly exposed. The apex of the elytra in *Anaglyptus* (as well as some other similar genera) is usually with light setae only slightly or not at all hiding its margin (Figs 133–151). If the external angle is extended into a spine or tooth, this obviously being characteristic of all forms occupying the eastern and south-

eastern parts of the distribution area of the genus, then it is also completely exposed and often strongly developed, usually much more strongly than in *Paraclytus*. Only some representatives, known yet only from China and usually demonstrating a predominantly continuous setation of the dorsum, have the apex of the elytra which can be similar to that in *Paraclytus*, but the structure of their antennae and pronotum, as well as the other morphological features show that they all belong to the genus *Anaglyptus* only.

In most of the *Paraclytus* species, the pronotum (Figs 41–60) normally has well-developed or at least clear lateral tubercles, but if they are absent or very weakly expressed, then always one or another of the characteristic features of *Paraclytus* is observed, e.g., in structure of antennomeres 3–4, the pattern of the elytra etc. Many species of *Paraclytus* typically show a sharply outlined fascia of light setae at the apex of the pronotum and/or a strongly developed light setation on the pronotum sides, sometimes mostly in the basal part. Besides this, in some *Paraclytus* the apex of the pronotum is bordered red. The pronotum in *Anaglyptus* (Figs 61–76) is with neither lateral tubercles nor an evident fascia of light setae (if the pronotum is without a continuous or almost continuous dense light setation), nor a red border at the apex. Most species of *Paraclytus* show a more or less transverse or subequally long and wide pronotum; only a clear minority of forms have a barely or slightly longitudinal pronotum. In *Anaglyptus*, the pronotum is never transverse, at most about equal in length and width, usually barely or slightly longitudinal, but often looking clearly longitudinal.

In addition to the above-mentioned structural features of the antennae in *Paraclytus* and *Anaglyptus*, the following must be noted. Only in some species of *Paraclytus* is the apical external angle of antennomeres 3 and 4 with a spine, only these two antennomeres being spinigerous: even in species with a

very well-developed spine on both antennomeres 3 and 4, the following antennomeres lack a spine. The absolute majority of *Anaglyptus* spp. have a variously developed, but at least evident spine on antennomeres 3 and 4, while in many species of this genus the spine is also present on antennomere 5 and, in some, even on antennomere 6 as well; sometimes a spine can be well-developed on all these four antennomeres (3–6). Yet in some species of *Anaglyptus* the spine on antennomere 3 attains a very large size not known in any *Paraclytus*.

Therefore, taking into account all above structural features of *Paraclytus* and *Anaglyptus* species, these genera show sufficiently clear differences to allow their reliable separation.

A review of species

1. *Paraclytus apicicornis* (Gressitt, 1937) (Figs 1, 41, 77, 113, 114, 152, 153, 170, 171)

Aglaophis apicicornis Gressitt, 1937a: 92. **Type locality:** China, Sichuan Province, near Muping, 2200–3900 m (according to the original description and the label of the holotype).

Anaglyptus (Aglaophis) apicicornis: Gressitt, 1951: 303, 305; Hua, 1982: 24.

Anaglyptus apicicornis: Chiang et al, 1985: 86; Hua, 1987: 8; 2002: 192; Hua et al., 2009: 23 (col. plate 23, fig. 253), 150; Wang & Hua, 2009: 161.

Paraclytus apicicornis: Holzschuh, 2003: 228; Özdikmen, 2009: 328; Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Miroshnikov & Lin, 2012: 249, col. plate 4, fig. 15; Danilevsky, 2013: 179.

Material. China: Sichuan Province: 1 ♀ (IZAS), Emeishan Mt, 1100–2100 m, 26.VI.1955, B.-R. Ou leg.; 1 ♀ (IZAS), Emeishan Mt, Jiulaodong, 1800–1900 m, 25.VI.1963, J.-L. Mao leg.; 1 ♀ (IZAS), Mianzhu, Qingpinglinchang, 6.VI.1981, B.-A. Xie leg.; 1 ♀ (cAM), Wolong env., 2200 m, 7.VII.2000, S. Murzin leg.; 1 ♀ (cSM), 35 km W Wolong, Densheng, 2800 m, 7.–17.VII.2000, S. Murzin leg.; 1 ♂ (cSM), Wenchuan env., 2000 m, 28.–30.VI.2001, S. Murzin leg.; 1 ♂ (cSM), 55 km N Baoxing, Qiao Qi, 2150–2300 m, 20.VI.2003, S. Murzin leg.; holotype ♀ (USNM) (photograph), “China, Szechuen, D.C. Graham”, “near Muping, 7000–13000 ft, 6.–8.VII.[19]29”,

“Holotype *Paraclytus* [sic!] *apicicornis* Gressitt”, “Type No. 51628 U.S.N.M.”. Hunan Province: 1 ♂ (IZAS), Yizhang County, Mangshan Gongyuan (forest park), Tiantaishan, 1570 m, 15.VII.2008, G.-Y. Yang leg. Guizhou Province: 1 ♂, 5 ♀ (IZAS), Leishan, Leigongshan Mt, 13.VII.1983, Zou leg.; 1 ♀ (IZAS), Leishan, Leigongshan Mt, 1700–2100 m, 2.VII.1988, S.-Y. Wang leg.; 1 ♀ (IZAS), Jiagkou, Fanjingshan Mt, 23.VIII.2012 (unknown collector). Guangxi Province: 1 ♂ (IZAS), Longsheng, 1800 m, 20.VI.1963, S.-Y. Wang leg.; 1 ♂ (IZAS), Longsheng, Huaping, Anjiangping, 1.VIII.2006, M.-Y. Lin leg.

Diagnosis. This species differs from all congeners by the combination of characters which includes contrasting bicoloured antennae, the presence of a spine on both antennomeres 3 and 4, the absence of a light pubescence on antennomeres 2–6, in certain structural features of the pronotum, in the pattern of coloration of the elytral integument (including a red base), and the pattern of elytral dense setation. *Paraclytus apicicornis* can be compared to *P. shaanxiensis* and *P. scolopax*, but differs clearly from both by the features presented in the latter’s diagnoses.

Description. Body length 12.2–14.4 mm, humeral width 3.3–4.1 mm. Head black; antennomere 1 either almost completely or mostly red, antennomeres 7–11 usually entirely red, only sometimes antennomere 7 partly infuscate; antennomeres 3–6 almost completely or predominantly black, at least so dorsally; antennomere 2 from almost completely red to almost entirely black or infuscate; pronotum either almost completely black, only apically reddish, or entirely black; elytra mostly black, only along suture, starting from base until pre-apical fascia, red tone under all fasciae and spots (sometimes except for small spots) of light setae; venter and, partly, legs black; elytra usually with a clear metallic bluish or greenish lustre.

Head with moderately developed antennal tubercles; shortest distance between antennal cavities subequal to transverse diameter of lower lobe of eye; genae 1.10–1.30 times as long as this diameter; antennae clearly longer

than body in male, slightly not reaching the apical fascia of elytra in female; antennomere 1, 1.10–1.26 times as long as antennomere 3; the latter 1.07–1.10 times as long as antennomere 4; apical external angle of antennomeres 3 and 4 with a more or less well-developed spine, sometimes smaller in 4th.

Pronotum from slightly transverse to barely longitudinal; with evident lateral tubercles; at their level 1.22–1.32 times as long as width at base; apex slightly narrower than (usually in female) or subequal to base (in male); moderately convex.

Elytra moderately narrowed towards apex; 2.45–2.52 times as long as width at base; base tuberculiform elevated, but there without evident tubercles; external apical angle usually with a very well-developed tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 1, 170, 171; apical margin of elytra, including teeth, entirely or almost completely hidden by dense long setae, as a rule.

Endophallus as in Figs 152, 153.

Distribution (Map 2 and Table). China: Gansu, Shaanxi, Sichuan, Guizhou, Hunan, Fujian and Guangxi provinces (see Remarks).

Bionomics. Adults active from early June almost to the end of August, but most of the records are confined to the second half of June to July; visit flowers; observed at 1500–2800 m elevations.

Remarks. The distribution of this species in Gansu, Shaanxi and Fujian provinces, which I only know from the literature, is not reflected on Map 2, because no specific localities are indicated (Löbl & Smetana, 2010).

2. *Paraclytus shaanxiensis* Holzschuh, 2003 (Figs 2, 42, 78, 115, 172, 173)

Paraclytus shaanxiensis Holzschuh, 2003: 228, Abb. 63. **Type locality:** China, Shaanxi Province, Qinling Shan, 12 km SW of Xunyangba, 1900–2250 m (according to the original description). Özdikmen, 2009: 330; Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Material. China: Shaanxi Province: 1 ♂ (cSM), Zhouzhi env., 1350 m, 30.V.1999, S. Murzin leg.; 1 ♀ (cSM), Houzhenzi, 1350–2000 m, 27.V.–8.VI.1999, S. Murzin leg.; holotype ♂ (cCH) (photograph), Qinling Shan, 12 km SW of Xunyangba, 1900–2250 m, 14.–18.VI.2000 [? J. Turna leg.]; 3 ♂ (IZAS) (photograph), Ningshan County, Huoditang, Pingheliang, 2010–2450 m, 1.VI.2007. M.-Y. Lin leg. Sichuan Province: 1 ♂ (cSM), Dafengding Mts., 50 km N Meigu, 3100 m, 14.–16.VIII.2007, S. Murzin leg. Hubei Province: 1 ♀ (cDD) (photograph), Shennongjia, Forestry District [forest region] 2000 m, 7.VI.1995, A. Shamaev leg.

Diagnosis. This species is very similar to *P. apicicornis*, but differs clearly at least in the coloration of the antennae, the presence of a light pubescence on all antennomeres, and the absence of a well-developed spine from antennomeres 3 and 4; if present sometimes on antennomere 3, then noticeably less strongly developed. In addition, *P. shaanxiensis* shows a pattern on the elytra which is somewhat different from that observed in *P. apicicornis*.

Description. Body length 13.0–16.1 mm, humeral width 3.6–4.5 mm (according to the original description, the minimum length 9.2 mm). Head almost entirely black; antennae almost completely red, only antennomere apices infusate while apex of antennomere 1 can be partly black; pronotum almost entirely black, reddish only apically and, partly, at the very base on sides; elytra contrasting bicoloured, mostly black, along suture, starting from base until pre-apical fascia, red tones under all fasciae and spots (except for small spots) of light setae; venter and, partly, legs black; elytra with a light, but more or less noticeable, metallic, bluish-greenish lustre.

Head with moderately developed antennal tubercles; isthmus between antennal cavities subequal to transverse diameter of lower lobe of eye; genae 1.07–1.27 times as long as this diameter; antennae clearly longer than body in male, freely reaching the apical fascia of elytra in female; antennomere 1 subequal to (in male) or 1.14–1.22 times (in female) as

long as antennomere 3; the latter about equal to or 1.04–1.09 times as long as antennomere 4; apical external angle of antennomeres 3 and 4 without evident spine, but antennomere 3, sometimes also 4th, can have a small, but evident spine.

Pronotum slightly transverse in male, clearly so in female; with evident lateral tubercles; at their level 1.25–1.31 times as long as width at base; apex slightly narrower than (usually in female) or subequal to base (in male); moderately convex.

Elytra moderately narrowed towards apex; 2.45–2.46 times as long as width at base; base tuberculiform elevated, but there without evident tubercles; external apical angle variable in structure, from a very well-developed tooth to a slight tooth-shaped protrusion.

Distribution and coloration of setation of antennae and dorsum as in Figs 2, 172, 173; apical margin of elytra, including teeth or dentiform protrusions, completely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Shaanxi, Hubei and Sichuan provinces. Above is the first record in Sichuan, more specifically, its southern part which is very far away from both other places.

Bionomics. Adults active from late May at least until mid-August; visit flowers; observed at a wide range of elevations (1300–3100 m).

3. *Paraclytus scolopax* (Holzschuh, 1999) (Figs 3, 43, 79, 116, 174, 175)

Anaglyptus scolopax Holzschuh, 1999: 40, Abb. 55. **Type locality:** China, Gansu Province, 70 km W Wudu, 2000–2400 m (according to the original description).

Anaglyptus (Anaglyptus) scolopax: Löbl & Smetana, 2010: 144.

Paraclytus scolopax: Miroshnikov, 2012: 286; Danilevsky, 2013: 179; Miroshnikov et al., 2013: 116.

Material. China: Gansu Province: 1 ♀ [IZAS, IOZ(E)1904702], Wenxian County, Bikou,

19.V.1992, H.-J. Wang leg.; 1 ♂, 1 ♀ (cAM), 70 km W Wudu, 1800–2200 m, 30.V.1997, A. Shamaev leg.; 1 ♂ (cAM), same label, but “1800–2000 m, 31.V.1997”; 1 ♂ (cAM), same label, but “1800–2000 m, 6.VI.1997”; 1 ♂ (cAM), same label, but “1800–2200 m, 6.VI.1997”; 1 ♀ (cSM), 70 km W Wudu, Minshan Mts, 2100 m, 25.VII.2000, A. Gorodinsky leg.; holotype ♀ (cCH) (photograph), 70 km W Wudu, 2000–2400 m, 29.05–10.VI.1997, A. Shamaev leg. Sichuan Province: 1 ♂ (NMP), Juizhaigou, 11.–16.VI.2001, E. Kučera leg.

Diagnosis. This species especially strongly resembles *P. apicicornis* and *P. shaanxiensis*, but differs clearly from both by the clearly better developed and more variegate pattern of the elytra formed by the spots and fasciae of dense light setae which more strongly hide the black background of the integument. In addition, *P. scolopax* differs from *P. apicicornis* in the coloration of the antennae, the absence of a spine from each of antennomeres 3 and 4, whereas from *P. shaanxiensis* by sharper antennal tubercles. From the also similar *P. helenae*, it differs by the pattern of the elytra, the more heterogeneous coloration of their setation, the less brightly coloured antennomeres 2–6, the presence of a light pubescence on all antennomeres, the generally darker legs and some other characters.

Description. Body length 13.1–14.8 mm, humeral width 3.80–4.15 mm. Head black; antennomeres 1 and 2 red, sometimes 1st mostly dorsally and 2nd predominantly such; remaining antennomeres almost entirely red, usually antennomeres 3–6 or 3–7 infuscate apically, sometimes antennomeres 3–6 strongly blackish dorsally while each of apical antennomeres, except last one, with an infuscate apex; pronotum almost completely black, reddish only apically; elytra contrasting bicoloured, mostly black, along suture, starting from base until pre-apical fascia, red tone under all fasciae and spots (except for small spots) of light setae; venter and, partly, legs black; sometimes legs almost completely black; elytra with a light, but more or less noticeable, metallic, bluish-greenish lustre.

Head with well-developed antennal tubercles which can be sharpened apically; isthmus between antennal cavities barely or only slightly greater than transverse diameter of lower lobe of eye; genae 1.25–1.29 times as long as this diameter; antennae clearly longer than body in male, freely reaching apical fascia of elytra in female; antennomere 1, 0.92–1.09 (male) or 1.07 times (female) as long as antennomere 3; the latter subequal to or barely longer than 4th, but not more than 1.04 times so; apical external angle of antennomeres 3 and 4 without spine.

Pronotum barely or slightly transverse; with evident lateral tubercles; at their level 1.25–1.32 times as long as width at base; apex slightly narrower than or subequal to base; moderately to clearly convex.

Elytra moderately narrowed towards apex; 2.49–2.67 times as long as width at base; base tuberculiform elevated, but there without evident tubercles; external apical angle with a very clear, sometimes very well-developed tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 3, 174, 175; apical margin of elytra, including teeth, completely hidden by dense, long, light setae.

Remarks. This species was described from a single female. Male features are given here for the first time.

Distribution (Map 2 and Table). China: Gansu and Sichuan provinces. Above is the first record in Sichuan.

Bionomics. Adults active from about the middle of May at least until the end of July; visit flowers; observed at 1800–2200 m elevations.

4. *Paraclytus emili* Holzschuh, 2003 (Figs 16, 52, 80, 125, 169, 185, 186)

Paraclytus emili Holzschuh, 2003: 229, Abb. 64. **Type locality:** China, Yunnan Province, Baishui, 3000 m (according to the original description). Özdikmen, 2009: 329; Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Material. China: Yunnan Province: 1 ♂ (cSM), Haba Shan, 1.–6.VII.2005, E. Kučera leg.; 1 ♂ (cTT), same label; 1 ♀ (cSM), Bailakou Pass, 3400 m, 28.V.–7.VI.2006, S. Murzin & I. Shokhin leg.; holotype ♂ (cCH) (photograph), Baishui, 3000 m, 26.VI.–3.VII.1996, E. Kučera leg.

Diagnosis. To a certain degree, by the pattern of its elytra this species reminds of *P. apicicornis*, *P. shaanxiensis* and *P. scolopax*, but differs clearly from them at least through shorter antennae in both sexes, in structure of the pronotum on the sides, as well as by certain morphological features of the elytra, namely, the absence of an evident teeth from the apex, in the much sparser long setae clearly incompletely or even insignificantly hiding the apical margin, and a less strongly expressed pattern.

Description. Body length 11.8–13.4 mm, humeral width 3.1–3.5 mm (according to the original description, the minimum length 10.7 mm). Whole body, antennae and legs a combination of black, brown (reddish-brown) and red tones; venter more or less monochromous, predominantly dark, prosternum, sometimes also mesosternum red tone.

Head with well-developed antennal tubercles which can be sharpened apically; isthmus between antennal cavities 1.35–1.36 or 1.19 times as long as transverse diameter of lower lobe of eye in male and female, respectively; genae 1.33–1.50 or 1.19 times as long as this diameter in male and female, respectively; antennae shorter than body, about reaching the apical fascia of elytra in male; extending beyond lower border of an oblique fascia of elytra located behind their middle in female; antennomere 1, 1.03–1.15 times as long as 3rd; the latter 1.04–1.11 times as long as 4th; apical external angle of antennomeres 3 and 4 without spine.

Pronotum barely longitudinal; either obtusely angulate on sides or with weakly developed lateral tubercles; at their level 1.29–1.36 or 1.06 times as long as width at base in male and female, respectively; apex

and base subequal in width; moderately or slightly convex.

Elytra barely narrowed towards apex, sometimes very faintly so; 2.63–2.78 times (up to 2.9 times in the original description) as long as width at base; base tuberculiform elevated, each elytron there with an evident or sharp tubercle; external apical angle without clear-cut tooth, more or less obtuse, sometimes protruding dentiform.

Distribution and coloration of setation of antennae and dorsum as in Figs 16, 185, 186; apical margin of elytra can only be partly or significantly (but not more) hidden by long light setae.

Endophallus as in Fig. 169.

Distribution (Map 2 and Table). China: Yunnan Province.

Bionomics. Adults active mainly in July; visit flowers; observed at elevations of 3000–3400 m.

Remarks. Together with my Chinese colleagues Dr. M. Lin (Institute of Zoology, Chinese Academy of Sciences, Beijing) and Mr. W. Bi (Shanghai Entomological Museum, Chinese Academy of Sciences, Shanghai) I have been privileged to examine one female of a *Paraclytus* from the environs of Yajiang, Sichuan Province. By a number characters, it is extremely similar to *P. emili*, but still shows some differences. It cannot be excluded that this female belongs to a yet undescribed species. However, to check this assumption, it is necessary to get more material of *P. emili*, to some degree a morphologically variable species.

5. *Paraclytus murzini* Miroshnikov, sp. n. (Figs 4, 44, 83, 119, 176)

Material. China: holotype ♀ (cSM), Sichuan Province, Liangshan Mts, S Xichang, 3000 m, 1.VII.2002, S. Murzin & I. Shokhin leg.

Diagnosis. By certain features of the setation-formed elytral pattern, as well as by

the habitus, the structure of the pronotum and a number of other characters, the new species seems to be especially similar to *P. apicicornis*, *P. shaanxiensis* and *P. scolopax*, but differs clearly from them by a brightly white coloration of the setation of the antennae, almost entire dorsum and legs, the clearly delineated spots of setae on the pronotal disk, the somewhat peculiar elytral pattern, the black coloration of the elytral integument basally, in addition from *P. apicicornis* in the absence of an evident spine on each of antennomeres 3 and 4. To a varying degree, *P. murzini* sp. n. reminds also of *P. thibetanus*, *P. excellens*, *P. helenae* and *P. irenae*, but, like with the above trio, differs clearly from them by the coloration of the setation of the antennae and dorsum, the peculiar pattern of the elytra, as well as by some other characters of each of these species individually.

Description. Female. Body length 14.0 mm, humeral width 3.8 mm. Black; eyes and palpi lighter; antennomeres 7–11 red-brown; elytra under oblique fascia of setae in apical part, at apex and on epipleura, as well as most of legs brown tones; elytra with a clear, metallic, bluish lustre.

Head dorsally with a coarse, dense, predominantly confluent puncturation; frons almost vertical, about equal in length and width; isthmus between antennal cavities subequal to transverse diameter of lower lobe of eye; antennal tubercles well-developed, sharply excavate in-between; genae 1.42 times as long as transverse diameter of lower lobe of eye; eyes deeply emarginate, with clear, but rather small ocelli; palpi short, last maxillary and labial palpomeres moderately broadened towards an obliquely truncate apex, barely rounded there; antennae shorter than body, reaching the front margin of apical fascia of setae of elytra; antennomere 1 slightly longer than 3rd or 4th, subequal to 6th; antennomere 2 barely longitudinal; antennomere 3, 1.04 times as long as 4th; antennomere 5 barely longer than 6th;

apical external angle of antennomere 3 with a small, but well-visible denticle.

Pronotum slightly transverse; narrowed towards base more sharply than towards apex; with evident lateral tubercles; at their level 1.29 times as long as width at base; apex barely narrower than base; on disk tuberculiform elevated, more sharply sloping towards base than towards apex; with a coarse, sharp, confluent, cellular puncturation, punctures mainly being clearly larger than on head.

Scutellum slightly longitudinal, triangular, sharpened apically.

Elytra moderately narrowed towards apex; 2.56 times as long as width at base; base tuberculiform elevated, but without evident tubercles there; humeral angle well-expressed; sutural angle of elytra obtuse while external angle extended into a well-developed tooth; basal part with a clear, but not too coarse, very dense, mostly confluent puncturation, punctures being strongly weakened towards apical one-third and much smaller than on pronotum.

Mesosternal process about 3 times as wide as prosternal one; metasternum with a sharply expressed longitudinal suture, deepest at its base, with a well-visible pore (so-called aromatic pore) at apex of metepisterna; thoracic segments and first (visible) sternite with very small and very dense punctures, generally hardly visible because of a dense setation and mostly sparser on other sternites; last (visible) sternite truncate at apex, without evident impression.

Legs moderately long; metafemora far from reaching apex of elytra; metatarsomere 1, 1.26 times as long as next two metatarsomeres combined.

Setation predominantly white, with a small admixture of beige tone on elytra, and of beige spots on pronotal disk; features of antennal pubescence and elytral pattern as in Figs 4, 176; apical margin of elytra, including teeth, completely hidden by dense long setae; venter with a dense setation growing

sparser over most of mesosternum, on metasternum predominantly behind mesocoxae and in middle part of visible sternites, except for first one.

Distribution (Map 2 and Table). China: Sichuan Province.

Bionomics. A single specimen collected in early July at an elevation of about 3000 m.

Etymology. The new species honours my friend and colleague, Dr. Sergey Murzin (Moscow, Russia), who collected the holotype and, over the many years, supports my entomological research.

6. *Paraclytus tibetanus* (Pic, 1914) (Figs 5, 6, 11, 45, 46, 81, 117, 178–182)

Anaglyptus tibetanus Pic, 1914: 38 (“Thibet”).

Type locality: Tibet (according to the original description and the label of the holotype). Wang & Hua, 2009: 161.

Paraclytus tibetanus: Winkler, 1929: 1182; Pavilstshikov, 1940: 499; Miroshnikov, 2012: 286; Miroshnikov & Lin, 2012: 247, figs 2–4, col. plate 4, figs 12–14; Danilevsky, 2013: 179, 180; Miroshnikov et al., 2013: 113, figs 4–8, 11–14.

Anaglyptus (? *Anaglyptus*) *tibetanus*: Gressitt, 1951: 303, 305.

Anaglyptus (*Anaglyptus*) *tibetanus*: Löbl & Smetana, 2010: 144.

Material. China: holotype ♀, by monotypy (MNHN), “Thibet Coll. Le Moul’t”, “*tibetanus* Pic Type”, “Type” (Fig. 189). Yunnan Province: 1 ♂ [IZAS, IOZ(E)1905688], Fugong County, Lumadengxiang, Yaping Shibali, 2500 m, 27°9′54″N, 98°46′48″E, 10.VIII.2005, Ye Liu leg.; 2 ♀ [IZAS, IOZ(E)1905691–92], “Gongshan County, Qiqi Reserve [Qiqi Nature Reserve Station], 2100 m”, “Sino-American Exped., N27.43, E98.34, 9.VII.2000, Liang H.B.”.

Diagnosis. This species differs from all congeners by the combination of characters which includes the coloration of the antennae, the absence of a well-developed spine from antennomeres 3 and 4, by certain features of structure and coloration of the pronotum, the colour pattern of the elytral integument, their pattern of dense setae, in structure of the elytral apex, and by leg coloration. *Paraclytus*

tibetanus seems to be especially similar to *P. excellens*, but differs clearly by the characters listed in the diagnosis of that latter species.

Description. Body length 13.0–14.5 mm, humeral width 3.6–4.2 mm. Head black; antennomeres 1–6 black, following antennomeres but last one reddish-brown, sometimes red, with infusate apices; pronotum completely black; elytra almost entirely black, brownish only apically; venter and legs black, tibiae and tarsi sometimes partly brownish; elytra shiny and can be with a slight metallic bluish lustre.

Head with moderately or well-developed antennal tubercles; isthmus between antennal cavities slightly exceeding transverse diameter of lower lobe of eye; genae 1.24–1.27 times as long as this diameter; antennae clearly longer than body in male, freely reaching the apical fascia of elytra in female; antennomere 1 barely (male) or 1.06–1.08 times (female) as long as 3rd; the latter 1.08 or 1.11–1.14 times as long as 4th in male and female, respectively; apical external angle of each of antennomeres 3 and 4 without long spine, yet 3rd can be with a small, but evident denticle.

Pronotum slightly transverse; with evident or very well-developed lateral tubercles; at their level 1.35–1.41 times as long as width at base; apex slightly or barely narrower than base; moderately or evidently convex.

Elytra moderately narrowed towards apex; 2.53–2.66 times as long as width at base; base tuberculiform elevated, each elytron there with an evident or sharp tubercle; external apical angle with a more or less clear tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 5, 6, 11, 178–180, 182; apical margin of elytra, including teeth, completely or almost entirely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Yunnan Province and obviously also the eastern parts of Xizang (Tibet) Province.

Bionomics. Adults active from about the beginning of July to the first half of August; observed at 2100–2500 m elevations.

7. *Paraclytus excellens*

Miroshnikov et Lin, 2012
(Figs 7, 47, 82, 118, 177)

Paraclytus excellens Miroshnikov et Lin, 2012: 248, fig. 5, col. plate 3, figs 7–11. **Type locality:** China, Yunnan Prov., Lushui, Yaojiaping, 2450 m (according to the original description and the label of the holotype). Miroshnikov et al., 2013: 116, figs 9–10, 15.

Material. China: holotype ♀ [IZAS, IOZ(E)1905690], Yunnan Province, Lushui, Yaojiaping, 2450 m, 1.VI.1981, X.-Z. Zhang leg.

Diagnosis. This species seems to be especially similar to *P. thibetanus*, but differs clearly by the more robust and larger body, the shorter antennae (at least so in the female), the absence of a light pubescence and the presence of only black suberect setae on antennomeres 2–5, the somewhat deviating pattern on the elytra (mainly a less strongly oblique fascia behind the middle of the elytra), a more pronounced participation of creamy-yellow tones in the coloration of the setation which forms this pattern, the purely white (without evident grey tint) setation of the venter and some other characters.

Description. Female. Body length 16.8 mm, humeral width 5.1 mm. Black; base of antennomere 1 and entire antennomeres 7–11 red, all but last blackish at apices; legs partly brownish; elytra with a clear, metallic, bluish lustre.

Head with well-developed antennal tubercles; isthmus between antennal cavities clearly greater than transverse diameter of lower lobe of eye; genae 1.5 times as long as this diameter; antennae shorter than body, extending slightly beyond oblique fascia in apical part of elytra and noticeably not reaching the apical fascia; antennomere 1 about equal to 3rd; the latter 1.07 times as long as

4th; apical external angle of antennomeres 3 and 4 without spine.

Pronotum barely transverse, with well-developed lateral tubercles; at their level 1.34 times as long as width at base; apex noticeably narrower than base; strongly convex.

Elytra moderately narrowed towards apex; 2.4 times as long as width at base; base tuberculiform elevated, each elytron there with a sharp, keel-shaped, longitudinal, backwards sloping tubercle; external apical angle with a well-developed tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 7, 177; apical margin of elytra, including teeth, almost completely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Yunnan Province.

Bionomics. A single specimen collected in early June at an elevation of 2450 m.

8. *Paraclytus helenae* (Holzschuh, 1993) (Figs 8, 48, 84, 120, 183)

Anaglyptus helenae Holzschuh, 1993: 43, Abb. 50. **Type locality:** China, Yunnan Province, Lugu Lake, Luo Shui, 27°45'N, 100°45'E (according to the original description).

Anaglyptus (Anaglyptus) helenae: Löbl & Smetana, 2010: 144.

Paraclytus helenae: Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Material. China: holotype ♀ (cCH) (photograph), Yunnan Province, Lugu Lake, Luo Shui, 27°45'N, 100°45'E, 8.–9.VII.1992, E. Jendek leg.

Diagnosis. *Paraclytus helenae* can be compared with *P. scolopax*, but differs clearly by the characters listed in the diagnosis of that latter species. From the also very similar *P. apicicornis* and *P. shaanxiensis*, *P. helenae* differs distinctly in the coloration of the antennae, a more strongly developed pattern on the elytra which forms the spots and fasciae of dense light setae that strongly prevail against a black background. In addition, *P. helenae*

differs from *P. apicicornis* by the absence of spines from antennomeres 3 and 4.

Description. Female. Body length 14.8 mm. Head black; antennae red, but antennomeres 7–11 lighter not only due to a light pubescence, but also a light integument; pronotum almost completely black, only apex reddish; elytra contrasting bicoloured, mostly black, along suture, starting from base until pre-apical fascia, red tones under almost all fasciae and spots of light setae; legs almost completely red.

Head with moderately developed antennal tubercles; antennae shorter than body, slightly not reaching the apical fascia of elytra; antennomere 3, 1.14 times as long as 4th; apical external angle of antennomeres 3 and 4 without spine.

Pronotum subequal in length and width; with well-developed lateral tubercles; at their level 1.25 times as long as width at base; apex noticeably narrower than base.

Elytra moderately narrowed towards apex; about 2.5 times as long as width at base; external apical angle with a clear tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 8, 183; apical margin of elytra, including teeth, almost completely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Yunnan Province.

Bionomics. A single specimen collected in early July at an elevation of 3000 m.

9. *Paraclytus irenae* (Holzschuh, 1993) (Figs 9, 49, 85, 121, 184)

Anaglyptus irenae Holzschuh, 1993: 43, Abb. 51.
Type locality: China, Yunnan Province, Weibaoshan Mts, 25°12'N, 100°24'E, 2800–3000 m (according to the original description).

Anaglyptus (Anaglyptus) irenae: Löbl & Smetana, 2010: 144.

Paraclytus irenae: Miroshnikov, 2012: 286; Dani-levsky, 2013: 179.

Material. China: holotype ♀ (cCH) (photograph), Yunnan Province, Weibaoshan Mts, 25°12'N,

100°24'E, 2800–3000 m, 29.–30.VI.1992, native collector.

Diagnosis. This species differs from all congeners by the strongly developed dense setation of light setae on the pronotum, leaving only two relatively small black spots on its disk in the middle, as in Figs 49, 184, by the elytral pattern of light setae, as in Figs 85, 184, as well as by a combination of some more characters, including coloration and antennal pubescence, the structure of the pronotum and the apex of the elytra.

Description. Female. Body length 17.2 mm. Black; antennomeres 7–11 reddish; elytra apically and, partly, tarsi brownish.

Head with moderately developed antennal tubercles; antennae shorter than body, freely reaching behind inside apical one-quarter of elytra; antennomere 3 about 1.1 times as long as 4th; apical external angle of antennomeres 3 and 4 without spine.

Pronotum evidently transverse, with very well-developed lateral tubercles; at their level about 1.3 times as long as width at base; apex clearly narrower than base.

Elytra moderately narrowed towards apex; about 2.4 times as long as width at base; external apical angle with a clear tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 9, 184; apical margin of elytra, including teeth, almost completely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Yunnan Province.

Bionomics. A single specimen collected at the end of June at 2800–3000 m elevations.

10. *Paraclytus albiventris* (Gressitt, 1937) (Figs 12, 13, 53, 87, 123, 162, 163, 187–189)

Aglaophis albiventris Gressitt, 1937b: 455, pl. 4, fig. 6. **Type locality:** China, Kiangsi (now Jiangxi) Province, Hong San (= Hong Shan), 1570 m (according to the original description and the label of the holotype). Gressitt, 1938: 56.

Anaglyptus (Aglaophis) albiventris: Gressitt, 1951: 303, 305; Hua, 1982: 24; Löbl & Smetana, 2010: 143.

Anaglyptus albiventris: Hua, 1987: 8; Zhang et al., 1989: 26; Hua, 2002: 192; Wang & Hua, 2009: 161.

Paraclytus albiventris: Miroshnikov, 2012: 286; Danilevsky, 2013: 179; Miroshnikov et al., 2013: 116, figs 1–3.

Material. China: holotype ♂ (CAS), “Hong San, SE Kiangsi, China, VI-23-[19]36”, “L. Gressitt Collection”, “Holotype *Anaglyptus* [sic!] *albiventris* Gressitt”, “California Academy of Sciences Type No 7463”, handwritten label “Hong San, 5,300 ft. VI-23-[19]36” (Fig. 196); 1 ♀ [IZAS, IOZ(E) 1859054], Guangxi Province, Xing’an, Gaozhai, Donglingjie, 900–1000 m, 25°51’46”N, 110°29’37”E, 15.VII.2007, S.-E. Wang leg.; 1 ♂, 1 ♀ (cTT) (photographs), Hunan Province, Shunhuangshan forest park, 700–1200 m, 26.V.2012, J. Turna leg.

Diagnosis. This species differs clearly from all congeners by the pattern of the elytra being as in Figs 87, 187, 189, as well as by the combination of characters which includes the peculiar coloration of the antennae, the presence of a clear spine on each of antennomeres 3 and 4, the rather long antennae of the male, and the structure of the elytral apex. Based on a similar elytral pattern, the presence of a spine on certain antennomeres and some other features, *P. albiventris* resembles *P. jii*, but is distinctly distinguishable by more strongly elongated elytra, an evidently different shape of their fasciae, and a longitudinal pronotum.

Description. Body length 15.5–16.8 mm, humeral width 4.2–4.7 mm. Head black; antennae almost completely red, only antennomere 1 slightly infusate dorsally; pronotum almost completely black, reddish only apically; elytra contrasting bicoloured, mostly black, along suture, starting from base until pre-apical fascia, red tones under all fasciae and spots of white and brownish-red setae; venter and, partly, legs black; elytra with a clear, metallic, bluish-greenish lustre.

Head with moderately developed antennal tubercles; isthmus between antennal cavities clearly exceeding transverse diameter of lower lobe of eye; genae 1.25–1.27 times as long as this diameter; antennae much

or clearly longer than body in male, about reaching the apical fascia or apex of elytra in female; antennomere 1 clearly shorter than 3rd; the latter 1.10 or 1.18 times as long as antennomere 4 in male and female, respectively; apical external angle of each of antennomeres 3 and 4 with a more or less well-developed spine, this being shorter in male.

Pronotum slightly or barely longitudinal in male and female, respectively, globular in female; both apex and base subequal in width; without distinct lateral tubercles, much more strongly narrowed only towards base than towards apex; strongly convex.

Elytra moderately narrowed towards apex; 2.42–2.53 times as long as width at base, more elongated in female; base tuberculiform elevated, each elytron there with a clear tubercle; external apical angle with a more or less clear tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 12, 13, 187, 189; apical margin of elytra, including teeth, almost completely hidden by dense, long, light setae.

Structural details of endophallus as in Figs 162, 163.

Distribution (Map 2 and Table). China: Guangxi, Hunan and Jiangxi provinces. Recorded in Hunan for the first time.

Bionomics. Adults active from the second half of May at least until mid-July; observed at a range of elevations of 700–1600 m.

11. *Paraclytus jii* (Holzschuh, 1992) (Figs 14, 54, 86, 122, 190)

Anaglyptus jii Holzschuh, 1992: 43, Abb. 52. **Type locality:** China, Sichuan Province, Emei Mt, 1000 m (according to the original description).

Anaglyptus (*Anaglyptus*) *jii*: Löbl & Smetana, 2010: 144.

Paraclytus jii: Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Material. China: holotype ♀ (cCH) (photograph), Sichuan Province, Emei Mt, 1000 m, 4.–20.V.1989, native collector.

Diagnosis. *Paraclytus jii* is very similar to *P. albiventris*, but differs clearly by the characters listed immediately above in the diagnosis of the latter species.

Description. Female. Body length 12.5–14.1 mm. Head black; antennae almost completely red, but some apical antennomeres partly lighter than remaining ones; pronotum almost completely black, reddish only apically; elytra contrasting bicoloured, mostly black, along suture, starting from base until pre-apical fascia, red tones under all fasciae and spots of white and brownish-red setae; venter and, partly, legs black; elytra with a clear, metallic, bluish-greenish lustre.

Head with moderately developed antennal tubercles; antennae shorter than body, slightly not reaching the apical fascia of elytra; antennomere 3, 1.16 times as long as 4th; apical external angle of antennomeres 3 and 4 each with a long spine.

Pronotum clearly transverse; narrowed towards base much more than towards apex; sides protruding angularly; at that level 1.25 times as long as width at base; apex distinctly narrower than base.

Elytra clearly narrowed towards apex; about 2.3 times as long as width at base; external apical angle with a clear tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 14, 190; apical margin of elytra, including teeth, completely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Sichuan Province.

Bionomics. Both type specimens collected between May 4 to 20 at an elevation of 1000 m.

12. *Paraclytus ochrocaudus*

(Gressitt, 1951)

(Figs 10, 15, 50, 51, 88, 124, 193–195)

Anaglyptus (Aglaophis) ochrocaudus Gressitt, 1951: 303, 305, pl. 11, fig. 9. **Type locality:** China, Fukien (now Fujian) Province, Shaowu, Tachulan

(now Dazhulan) (= “Tachufung”), 1200 m (according to the original description and the label of the holotype). Breuning, 1956: 231; Löbl & Smetana, 2010: 143.

Anaglyptus ochrocaudus: Chiang et al., 1985: 29, pl. 6, fig. 91; Hua, 2002: 192; Hua et al., 2002: 192; Hua et al., 2009: 23 (pl. 23, fig. 258), 150; Wang & Hua, 2009: 161; Ulmen et al., 2010: 12.

Paraclytus ochrocaudus: Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Material. China: paratype ♀ (ZFMK), “Fukien, Kuantun, 2300 m, 27.40°N, 117.40°E, 3.IV.1938, L.J. Klapperich”, “Paratypoid *Anaglyptus ochrocaudus* n. sp. Gressitt, i.l. 22.XII.[19]49”; holotype ♂ (LNHSM) (photograph), “Fukien, Shaowu, Ta-chu-Fung, 2.–5.V.1943”, “Holotype *Anaglyptus (Aglaophis) ochrocaudus* J.L. Gressitt” (Fig. 203).

Diagnosis. This species differs clearly from all congeners at least in structure of the base of the pronotum and elytra, as in Fig. 51, also by the pattern and coloration of the elytra, as in Figs 88, 193, 195.

Description. Body length 12.25–12.40 mm, humeral width 3.80–4.15 mm. Head black dorsally, area of genae and, partly, frons red; antennae red, mostly antennomere 1 lighter; pronotum almost completely black, reddish only apically; elytra contrasting bicoloured, mostly red, at base, along suture and in apical half red; venter and, partly, legs black; elytra with a clear, metallic, bluish-greenish lustre.

Head with well-developed antennal tubercles; isthmus between antennal cavities clearly exceeding transverse diameter of lower lobe of eye; genae 1.3 times as long as this diameter; antennae much longer than body in male, freely extending behind a dark narrow fascia before apex of elytra in female; antennomere 1 clearly shorter than 3rd; the latter 1.14 or 1.21 times as long as antennomere 4 in male and female, respectively; apical external angle of antennomeres 3 and 4 each with a long spine better developed in female.

Pronotum slightly transverse; narrowed towards base much more than towards apex; sides protruding angularly; at that level 1.34

or 1.25 times as long as width at base in male and female, respectively; apex barely or clearly narrower than base in male and female, respectively; extremely strongly roof-shaped elevated (Fig. 51).

Elytra moderately narrowed towards apex; 2.28 or 2.06 times as long as width at base in male and female, respectively; each elytron at base with a strong tubercle (Fig. 51); external apical angle with a well-developed tooth.

Distribution and coloration of setation of antennae and dorsum as in Figs 10, 15, 193, 195; apical margin of elytra, including teeth, entirely or almost completely hidden by dense, long, light setae.

Distribution (Map 2 and Table). China: Fujian Province.

Bionomics. Adults active in April to May; observed at a wide range of elevations (1200–2300 m).

13. *Paraclytus primus* Holzschuh, 1992 (Figs 17, 55, 93, 126, 196–198)

Paraclytus primus Holzschuh, 1992: 42, Abb. 51.

Type locality: China, Sichuan Province, Nanping, Bai He (according to the original description). Hua et al., 2009: 463; Özdikmen, 2009: 329; Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Miroshnikov & Lin, 2012: 249, col. plates 5–6, figs 17–20, 22, 24–25; Danilevsky, 2013: 179, 180; Miroshnikov et al., 2013: 117.

Material. China: Sichuan Province: 1 ♂ (cPV), Jiuzhaigou, 12.–17.VI.2000, E. Kučera leg.; 1 ♂ (NMP), same, 11.–16.VI.2001, E. Kučera leg.; 1 ♂ (cTT), same, 10.–12.VI.2007, leg. E. Kučera; 2 ♂ (cAM), Pingwu env., 2000 m, 27.VI.2011, A. Gorodinsky leg.; holotype ♂ (cCH) (photograph), Nanping, Bai He, VI.–VII.1985. Shaanxi Province: 1 ♂ (cSM), Houzhenzi env., 1350–2000 m, 14.–24.VI.1999, S. Murzin leg.; 1 ♀ (cTT), Tiantaishan forest park, 1950 m, 33°16'N, 107°05'E, 10.VI.2010, J. Turna leg.; 1 ♂ [IZAS, IOZ(E)1904706], Ningshan County, Huoditang, Pingheliang, 2015–2450 m, 33°29'N, 108°29'E, 1.VI.2007, M.-Y. Lin leg.; 1 ♀ [IZAS, IOZ(E) 1904707], Zhouzhi County, Houzhenzhen, Laoxianchengcun – Qinlingliang, 1745–2020 m, 33°49'N, 107°44'E, 27.V.2007, M.-Y. Lin leg.

Diagnosis. This species differs from all congeners by the elytral pattern being as in Figs 93, 196–198, as well as by the combination of characters which includes the coloration of the antennae, the length ratio of antennomeres 3 to 4, the presence there of a spine, certain structural features of the pronotum and elytral apex, including the absence of dense setae from the latter. *Paraclytus primus* is similar to *P. wangi*, but differs clearly by the characters noted in the diagnosis of that latter species.

Description. Body length 7.6–10.8 mm, humeral width 2.1–2.9 mm (according to the original description, maximum length 11.6 mm). Body brown-black; antennae almost entirely (only antennomere 1 sometimes more or less infusate, as a rule) and, usually partly, legs red-brown; sometimes area of elytral suture and usually also epipleura red-brown as well, epipleura thereby always one way or another lighter than adjoining surface on sides of elytra.

Head with poorly developed antennal tubercles; isthmus between antennal cavities barely or slightly exceeding transverse diameter of lower lobe of eye, or vice versa, but barely so; genae clearly or only barely shorter than this diameter; antennae slightly longer than body in male, about reaching the apical fascia of elytra in female; antennomere 1, 1.10–1.16 times as long as 3rd, sometimes in male about equal to or even slightly shorter than 3rd; the latter usually barely, sometimes even slightly shorter than antennomere 4, exceptionally these antennomeres equal in length; apical external angle of antennomeres 3 and 4 each with a small, yet evident spine, but it can be very poorly developed on 4th, sometimes also on 3rd.

Pronotum slightly or barely longitudinal; without lateral tubercles, only broadly rounded on sides; apex usually clearly, sometimes only barely, narrower than base, strongly convex.

Elytra slightly or moderately narrowed towards apex; 2.57–2.58 times as long as

width at base; base tuberculiform elevated, but without tubercles there; external apical angle without evident tooth, obtuse or subrectangular.

Distribution and coloration of setation of antennae and dorsum as in Figs 17, 196–198; apical margin of elytra not or almost not hidden by long setae.

Distribution (Map 2 and Table). China: Shaanxi, Sichuan and, most probably, Gansu provinces.

Bionomics. Adults active at the end of May to June; visit flowers; observed at elevations of 1300–2500 m.

14. *Paraclytus wangi*

Miroshnikov et Lin, 2012

(Figs 18, 56, 94, 127, 199, 200)

Paraclytus wangi Miroshnikov et Lin, 2012: 250, fig. 6, col. plates 5–6, figs 16, 21, 23, 26. **Type locality:** China, Sichuan Province, Luding County, Xinxing, 1600 m (according to the original description and the label of the holotype).

Material. China: holotype ♀ [IZAS, IOZ(E)1905689], Sichuan Province, Luding County, Xinxing, 1600 m, 19.VI.1983, S.-Y. Wang leg.

Diagnosis. This species is similar to *P. primus*, but clearly distinguished by the much shorter, erect, slender setae on the disk at the base of the elytra, the somewhat different structure of the fasciae of the elytra, the shorter antennae (at least so in the female), as well as in many of the antennomeres being less elongated (more noticeable in antennomeres 5–9), an evidently more strongly developed spine on each of antennomeres 3 and 4, and some other characters.

Description. Female. Body length 10.0 mm, humeral width 2.7 mm. Brown-black; antennae, except for antennomere 1, apex of elytra, protarsi and, partly, meso- and metatarsi, apically protibiae, bases of all femora, and most of (visible) sternites 3–5 red-brown tones.

Head with poorly developed antennal tubercles; isthmus between antennal cavities,

as well as length of genae, clearly exceeding transverse diameter of lower lobe of eye; antennae shorter than body, noticeably not reaching the apical fascia of elytra; antennomere 1 about equal to 3rd or 4th; apical external angle of both latter with a long spine each.

Pronotum barely longitudinal; without evident lateral tubercles, only obtusely angulate on sides; narrowed almost equally towards both base and apex; base and apex subequal in width; strongly convex.

Elytra very slightly narrowed towards apex; 2.6 times as long as width at base; base tuberculiform elevated, but there without tubercles; with well-expressed sutural and external angles, but at least without clear-cut denticle.

Distribution and coloration of setation of antennae and dorsum as in Figs 18, 199, 200; apical margin of elytra not hidden by long setae.

Distribution (Map 2 and Table). China: Sichuan Province.

Bionomics. A single specimen collected towards the end of June at an elevation of 1600 m.

15. *Paraclytus excultus* Bates, 1884

(Figs 19, 57, 89, 128, 165, 191, 192)

Paraclytus excultus Bates, 1884: 234, pl.1, fig. 11 (“throughout Japan”). **Type locality:** Japan (according to the original description). Ganglbauer, 1889a: 71; Aurivillius, 1912: 416; Winkler, 1929: 1182; Matsushita, 1933: 293; Mitono, 1940: 127; Plavilstshikov, 1940: 507, 749; Gressitt, 1951: 302; Kojima & Hayashi, 1969: 88; Kusama & Hayashi, 1971: 111; Krivolutskaja, 1973: 105, 259, fig. 65, 2; Mamaev & Danilevsky, 1975: 217 (larva); Lobanov et al., 1982: 258; Tsherepanov, 1982: 204; Kusama & Takakuwa, 1984: 340, pl. 47, figs 343, 343a, 343b; Danilevsky, 1988: 240 (larva); Tsherepanov, 1996: 111; Sama, 2002: 84 (“*exculptus* Bates”, misspelling); Hua, 2002: 222 (China, a doubtful record!); Özdikmen, 2009: 329; Wang & Hua, 2009: 180 (China, a doubtful record!); Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Paraclytus excultus (“*exculptus*”, misspelling) var. *interruptus* Pic, 1915: 13 (“Japan: Kioto”);

Material. Japan: 1 ♂ (ZMUM), Tsushima, [coll.] Rost; 1 ♀ (ZISP), Hakodate, Albrecht [leg.]; 1 ♂ (ZMUM), same; 1 ♀ (ZMUM), Sapporo, Tamanuki [leg.]; 1 ♂ (ZISP), Kamikochi; 1 ♂ (ZISP), “Japan”; 1 ♀ (ZMUM), Hokkaido, Aoyama, 8.VII.[19]24, coll. Tamanuki; 1 ♂ (NMP) Hokkaido, Aomori, 14.V.1952 (ex coll. S. Kadlec); 1 ♀ (ZISP), Tokio, Okutana, 3.VIII.1966; 1 ♀ (cAM), Fukushima Pref., Tateiwamura, 5.V.1999, M. Yoshida leg.; 1 ♂ (cMD), Nagano, Inashi, Monomoki, Hase 2.–3.V.2010, N. Ohbayashi leg.; 1 ♀ (cMD), Gumma, Narahara, Uenomura 25.–26.VII.2010, N. Ohbayashi leg.; 1 ♂, 3 ♀ (cMD), Izu Is., 5.V.2011, Y. Notsu leg. Kuriles: 1 ♀ (ZISP), Iturup, 3.VII.1966; 1 ♂ (cMD), Iturup, 11.VII.1976, Odnosum leg. [in Russian]; 1 ♂ (cMD), Kunashir [Mendeleev], 9.IX.1972, in pupal cell, M. Danilevsky leg. [in Russian]; 1 ♂ (cAM), same label; 1 ♂ (cMD), same label, but “14.IX.1972”; 2 ♂, 1 ♀ (cMD), same, but taken on 20.–22.VI.1977, A. Kompantsev leg.; 1 ♂ (ZISP), Kunashir, Tretjakovo, 29.VI.1973, Kerzhner leg. [in Russian]; 1 ♀ (ZISP), same, but “30.VI.1973, Kerzhner leg.” [in Russian]; 1 ♀ (cAM), same, but “3.VIII.1973, Kerzhner leg.” [in Russian]; 1 ♂, 1 ♀ (cMD), Kunashir, Alekhino, 26.VII.1985, M. Danilevsky leg. [in Russian]; 1 ♂ (ZISP), Kunashir, 7.VIII.1988, O. Kabakov leg. [in Russian]; 1 ♂ (PUM), Kunashir, Severyanka River estuary, 44°20'N, 146°00'E, 2.VII.2008, I. Melnik leg. [in Russian]; 1 ♀ (PUM), Kunashir, Golovnin Volcano env., 43°51'N, 145°30'E, 20.VII.2008, K. Makarov leg. [in Russian].

Diagnosis. This species differs from all congeners by the elytral pattern being as is Figs 89, 191, 192, as well as by the combination of some characters which includes the coloration of the antennae, the absence of spines from antennomeres 3 and 4, and in certain structural features of the pronotum and elytra.

Description. Body length 9.1–13.0 mm, humeral width 2.3–3.4 mm [according to the literature, length 11–15 mm (Bates, 1884), 10.0–13.5 mm (Plavilstshikov, 1940), 10.0–15.0 mm (Tsherepanov, 1982) or 10.0–16.5 mm (Kusama & Takakuwa, 1984)]. Black; antennomere 1 black or partly lighter; the next few antennomeres black-brown, apical ones red-brown to red, or basal antennomeres, except 1st, red-brown while apical antennomeres red; elytra under fasciae and spots, sometimes also under a narrow strip

along suture, brownish or reddish; femora can be brown or red-brown.

Head usually with poorly, sometimes moderately, developed antennal tubercles; isthmus between antennal cavities 1.08–1.27 times as long as transverse diameter of lower lobe of eye, sometimes, conversely, barely shorter; genae clearly or only barely shorter than this diameter, sometimes, conversely, slightly longer; male antennae varying in length, from barely to much longer than body, slightly not or about reaching the elytra in female; antennomere 1, 0.93–0.97 times as long as 3rd; the latter 1.07–1.10 times as long as antennomere 4; apical external angle of antennomeres 3 and 4 without evident spine.

Pronotum barely or slightly longitudinal; usually obtusely angulate on sides, sometimes with slightly expressed lateral tubercles; base and apex often subequal in width, but apex can also be clearly wider or, conversely, noticeably narrower than base; often slightly convex.

Elytra either parallel-sided until about apical one-third or slightly narrowed from base towards apex; 2.58–2.90 times as long as width at base; base tuberculiform elevated, but without tubercles there; external apical angle without evident tooth, obtuse or subrectangular, sometimes protruding tooth-shaped.

Distribution and coloration of setation of antennae and dorsum as in Figs 19, 191, 192; apical margin of elytra can be almost entirely or even completely hidden by dense, long, light setae.

Endophallus as in Fig. 165.

Distribution. Japan and Kuril Islands (see Remarks). The record from Sakhalin (Özdikmen, 2009) is most likely wrong.

Bionomics. In the Kuril Islands, adults are active from mid-June to mid-August, in Japan from about early May also to mid-August, visit flowers. The larva is developed in hardwood species, including *Quercus*, *Fagus*, *Alnus*, *Betula*, *Acer*, *Ulmus*, *Sorbus*, *Morus*, *Phellodendron*, *Zelkova* and others.

Pupation at the end of July to August. Adults overwinter in pupal cells. Each generation lasting at least two years.

Remarks. Since this species occurs throughout Japan, as shown, for example, on a map given by Kusama & Takakuwa (1984, p. 341), mapping the distribution seems to be superfluous, while the localities in the Kuriles are listed above.

16. *Paraclytus raddei* (Ganglbauer, 1882)
(Figs 20, 58, 90, 129, 164, 201, 202)

Anaglyptus raddei Ganglbauer, 1882: 737 (“Caucasus”). **Type locality:** Caucasus (according to the original description), but more accurately Lerik = “Lyrik” [Talysh Mountains] (according to the redescription: Ganglbauer, 1886, see further below). Heyden et al., 1883: 187; Leder, 1886: 169 (“Lyrik”); Ganglbauer, 1886: 232, taf. 1, fig 1 (“Lyrik”); 1889a: 71; König, 1899: 396.

Anaglyptus (Paraclytus) raddei: Ganglbauer in Marseul, 1889b: 479; Heyden et al., 1891: 348; Pic, 1900: 65; Heyden et al., 1906: 520; Pic, 1911: 11, 13.

Paraclytus raddei: Aurivillius, 1912: 416; Winkler, 1929: 1181; Plavilstshikov, 1931: 78; 1932: 192; 1940: 501, 505, 748, figs 312, 313; 1955: 530; 1958: 416; Davatchi et al., 1959: 240; Villiers, 1967: 362; Gfeller, 1972: 4, Abb. 6; Adeli, 1972: 12; Holzschuh, 1974: 118; Danilevsky & Miroshnikov, 1985: 247, col. fig. 18; Miroshnikov, 1986: 132; Samedov & Effendi, 1986: 196; Miroshnikov, 2001: 49; 2004: 110; Sama, 2002: 84; Sama et al., 2008: 116; Özdikmen, 2009: 329; Samedov, 2010: 16, 108, fig. 31; Löbl & Smetana, 2010: 145; Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Clytus bieberi Pic, 1920: 21 (“Perse: Iran”).

Material. Azerbaijan (Talysh Mountains): 2 ♀ (ZMUM), “Talysch, [coll.] C. Rost”; 1 ♀ (cMD), “Shovu [now Suvi], 15.V.1983, S. Nikireev leg.”; 1 ♀ (cAM), Aurora, 14.05.1993, Shamaev & S. Mukhanov leg.; 1 ♂ (cAM), Avarut [= Avyarud], 38°30'N, 48°37'E, 28.V.1993, A. Shamaev leg.; 8 ♂, 6 ♀ (cAM), Avarut, 2.V.1994, A. Shamaev & N. Tselikov leg. [in Russian or English]. Iran (Elburs Mountains): 1 ♂ (ZISP), “Alborus, 1895, Rost”, “coll. G. Sievers” [in Russian]; 1 ♂ (cMD), Gilan Prov., Assalem, 1300 m, 5.–11.V.1975, C. Holzschuh leg.

Diagnosis. This species differs from congeners by the elytral pattern being as

shown in Figs 90, 201, 202, as well as by the combination of some characters which includes the coloration of the antennae, certain structural features of the pronotum and elytral apex, including the absence of very dense setae on the latter, often also in a larger body size and long antennae in the male.

Description. Body length 15.4–20.9 mm, humeral width 4.00–5.55 mm (according to the literature, length 12.0–20.0 mm). Black; antennae almost entirely red; antennomere 1 almost completely or mostly black; elytra along suture, starting from base until pre-apical fascia and on epipleura, red under almost all fasciae and spots of light setae, usually brownish apically; bases of femora, as well as tibiae and tarsi red; clava of femora often red-brown.

Head with well-developed antennal tubercles, sometimes very abrupt and sharpened apically; isthmus between antennal cavities 1.16–1.35 times as long as transverse diameter of lower lobe of eye; genae slightly or clearly longer than this diameter; antennae noticeably or significantly longer than body, often extending beyond apex of elytra by their 9th antennomere in male, slightly or clearly extending beyond pre-apical fascia of elytra in female; antennomere 1, 0.87–0.94 times (male) or 0.95–1.16 times (female) as long as 3rd; the latter 1.03–1.17 times as long as 4th; apical external angle of antennomeres 3 and 4 each usually with a small, but evident denticle, sometimes denticle on 3rd well-developed.

Pronotum to some degree variable in shape, from about equal in length and width to barely transverse, but can be barely or slightly longitudinal; apex barely or slightly narrower than base; widely rounded or obtusely angulate on sides; weakly or very weakly convex.

Elytra usually slightly narrowed towards apex; 2.56–2.67 times as long as width at base; base tuberculiform elevated, but there without tubercles; each elytron narrowly

rounded or obtusely angular apically, sometimes external angle protruding tooth-shaped.

Distribution and coloration of setation of antennae and dorsum as in Figs 20, 201, 202; apical margin of elytra always clearly visible, never being strongly hidden by long light setae.

Endophallus as in Figs 164.

Distribution (Map 1). Hyrcania within northern Iran (Elburs Mountains) and Azerbaijan, Caucasus (Talysh Mountains).

Bionomics. Adults active in May to June, visit flowers. The larva is developed in hardwood species, in particular *Carpinus* and *Fagus*, obviously also *Quercus* and some others. Most likely, adults overwinter in pupal cells. Each generation lasting at least two years.

17. *Paraclytus reitteri* (Ganglbauer, 1882)

(Figs 22, 59, 91, 130, 131, 203, 204)

Anaglyptus reitteri Ganglbauer, 1882: 737 (“Caucasus”). **Type locality:** Caucasus (according to the original description), but more accurately Lerik = “Lyrik” [Talysh Mountains] (according to the redescription: Ganglbauer, 1886, see further below). Heyden et al., 1883: 187; Leder, 1886: 169 (“Lenkoran, Lyrik”); Ganglbauer, 1886: 233 (“Bei Lyrik”); 1889a: 71; König, 1899: 396; Bodemeyer, 1930: 84.

Anaglyptus (Paraclytus) reitteri: Ganglbauer in Marseul, 1889b: 479; Heyden et al., 1891: 348; Pic, 1900: 65; Heyden et al., 1906: 520; Pic, 1911: 11.

Paraclytus reitteri: Aurivillius, 1912: 416; Winkler, 1929: 1181; Plavilstshikov, 1931: 78; 1932: 192; 1940: 501, 503, 748, figs 310, 311; 1955: 530; 1958: 416; Davatchi et al., 1959: 240; Villiers, 1967: 362; Heyrovský, 1967: 38; Adeli, 1972: 12; Samedov, 1971: 195; Gfeller, 1972: 4, Abb. 7; Holzschuh, 1974: 118; Danilevsky & Miroshnikov, 1985: 246–248, fig. 294; Miroshnikov, 1986: 132; Samedov & Effendi, 1986: 196; Danilevsky, 1988: 240 (larva); Miroshnikov, 2001: 49; Sama, 2002: 84; 2004: 110; Özdikmen, 2009: 330; Samedov, 2010: 16, 108, fig. 32; Löbl & Smetana, 2010: 145; Barimani et al., 2010: 52; Miroshnikov, 2012: 286; Danilevsky, 2013: 179.

Material. Azerbaijan (Talysh Mountains): 1 ♂ (ZISP), “Talyschgeb. Transcaucas. Leder & Reitter”, “coll. G. Sievers” [in Russian]; 1 ♀ (ZISP), “Lirik, 1885, Leder”, “coll. G. Sievers” [in Russian]; 1 ♀

(ZMUM), “Lenkoran [= Lankaran], Leder (Reitter)”; 2 ♂ (ZMUM), “Talysch”; 1 ♂ (ZMUM), “Talysch (Reitt.)”; 1 ♀ (ZMUM), “Talysch, [coll.] Rost”; 1 ♂ (ZMUM), “Transcaucas. Talysch, 13.VI.[1]913”, “ex coll. A. Menshikov”; 1 ♂ (IZA), “Lenkoran C[ounty]., Baba-Gildya, 15.VI.1928” [in Russian]; 1 ♀ (ZMUM), Lankaran – Lerik, 5.VI.1936, A. Bogachev leg.; 1 ♀ (cAM), Avrova, 14.IV.1979, in pupal cell, M. Danilevsky leg. [in Russian]; 1 ♀ (cMD), same, 8.IV.1980, M. Danilevsky leg. [in Russian]; 1 ♀ (cMD), same label; 1 ♂ (cMD), same label, but taken on 25.IV.1980; 1 ♀ (cMD), same label, but taken on 4.V.1980; 1 ♀ (ZISP), same label; 1 ♂ (ZISP), same, ex l., VIII.1980, M. Danilevsky leg. [in Russian]; 1 ♂ (cMD), Lenkoran, 24.IV.1986, S. Saluk leg. [in Russian]; 2 ♂ (ZISP), 3 km E Lerik, 17.V.1988, A. Lobanov leg. [in Russian]; 26 ♂, 21 ♀ (cAM), Avearut [= Avyarud], 38°30'N, 48°37'E, 30.IV.–18.V.1993, A. Shamaev & S. Mukhanov leg. [in Russian or English]; 1 ♀ (cMD), same, 1.VI.1994, A. Shamaev leg. [in Russian]; 11 ♂, 7 ♀ (cAM), Alexeevka [now Biurdzhali], 18.–20.V.1994, A. Shamaev & N. Tselikov leg. [in Russian or English]; 1 ♂, 1 ♀ (cAM), Sym, 15.V.2012, A. Miroshnikov leg. Iran (Elburs Mountains): 1 ♂ (ZISP), “Alborus, 1895, Rost”, “coll. G. Sievers” [in Russian]; 1 ♂, 1 ♀ (cSM), Mazandaran Prov., S Chalus, Kalardasht env., 1700–2200 m, 3.–6.V.2001, S. Murzin leg.

Diagnosis. This species differs from congeners by the elytral pattern as shown in Figs 91, 203, 204, as well as by the combination of some characters which includes the length and coloration of antennae, the absence of a spine on the antennomeres 3 and 4, and in some structural features of the pronotum and the apex of the elytra.

Description. Body length 9.1–17.5 mm, humeral width 2.60–4.75 mm. Black; apical antennomeres (usually starting from 7th) red, sometimes antennomeres 2–6 brown-red with black apices; elytra predominantly red under large spots of light setae, often brownish apically; tarsi almost entirely or partly, sometimes partly also tibiae, red.

Head with poorly developed antennal tubercles; isthmus between antennal cavities 1.10–1.22 times as long as transverse diameter of lower lobe of eye; genae slightly shorter or, conversely, barely longer than this diameter; antennae from noticeably not

reaching the apex of elytra to barely exceeding body length in male, from extending slightly beyond middle of elytra to reaching their apical one-third in female; antennomere 1 about equal to or slightly longer than 3rd, or, conversely, slightly shorter; antennomere 3, 1.06–1.12 or 1.12–1.21 times as long as 4th in male and female, respectively; apical external angle of each of antennomeres 3 and 4 with neither a denticle nor a spine.

Pronotum usually barely longitudinal in male, barely transverse or subequal in length and width in female, rarely barely longitudinal in the latter; apex and base about equal in width, but either can be barely narrower or wider; without lateral tubercles, widely rounded on sides; barely convex.

Elytra more or less moderately narrowed towards apex; 2.50–2.68 times as long as width at base; base tuberculiform elevated, but there without tubercles; each elytron at apex narrowly or more broadly rounded.

Distribution and coloration of setation of antennae and dorsum as in Figs 22, 203, 204; apical margin of elytra often strongly, sometimes almost entirely or even completely hidden by dense, long, light setae.

Distribution (Map 1). Hyrcania within northern Iran (Elburs Mountains) and Azerbaijan, Caucasus (Talysh Mountains).

Bionomics. Adults active in May to June, visit flowers, more often *Crataegus*. The larva is developed in hardwood species, including *Pterocarya*, *Carpinus*, *Alnus*, *Quercus*, *Acer*, *Paliurus* and apparently some others. Adults overwinter in pupal cells. Each generation lasting at least two years. Larvae are parasitized by *Pristaulacus gloriator* (Fabricius, 1804) (Hymenoptera, Aulacidae).

18. *Paraclytus sexguttatus* (Adams, 1817)
(Figs 21, 60, 92, 132, 156, 157, 205, 206)

Callidium sexguttatum Adams, 1817: 308 (“Caucasi meridionalis”). **Type locality:** Transcaucasia (according to the original description). Gemminger in Gemminger & Harold, 1872: 2920.

Clytus sexguttatus: Hampe in Wagner, 1852: 307 (“6-maculatus Fald.”).

Anaglyptus sexguttatus: Ganglbauer, 1889a: 71; König, 1899: 396; Clermont, 1909: 4; Berg, 1910: 0160.

Anaglyptus (Paraclytus) sexguttatus: Ganglbauer in Marseul, 1889b: 479; Heyden et al., 1891: 348; Pic, 1900: 65; Heyden et al., 1906: 520; Pic, 1911: 11.

Paraclytus sexguttatus: Aurivillius, 1912: 416; Bogdanov-Katjkov, 1917: 48; Winkler, 1929: 1182; Plavilstshikov, 1931: 78; 1932: 192; 1940: 501, 747, figs 308–309 (northern Iran, wrong record!); Lozovoy, 1941: 37; Plavilstshikov, 1948: 113 (northern Iran, wrong record!); Milianovsky, 1953: 212; Zaitsev, 1954: 15; Plavilstshikov, 1955: 530 (northern Iran, wrong record!); Khnzorian, 1957: 104; Davatchi et al., 1959: 240 (northern Iran, wrong record!); Iablokov-Khnzorian, 1961: 87; Plavilstshikov, 1965: 395; Villiers, 1967: 362 (according to Plavilstshikov, 1940, northern Iran; wrong record!); Milianovsky, 1971: 81; Adeli, 1972: 12 (northern Iran, wrong record!); Mamaev & Danilevsky, 1975: 217 (larvae) (northern Iran, wrong record!); Mirzoyan, 1977: 320; Miroshnikov, 1984: 8; Danilevsky & Miroshnikov, 1985: 246–248, figs 292–293 (northern Iran, wrong record!); Danilevsky, 1988: 240 (larvae) (northern Iran, wrong record!); Arzanov et al., 1993: 13; Sama, 2002: 84 (“sexmaculatus Adams”, misspelling); Georgiev & Stojanova, 2003: 106; Georgiev, 2008: 115–117; Nikitsky et al., 2008: 349; Özdikmen, 2009: 330 (Iran, wrong record!); Miroshnikov, 2010: 252; Samedov, 2010: 16, 109 (northern Iran, wrong record!); Löbl & Smetana, 2010: 145; Miroshnikov, 2011: 561; 2012: 286; Danilevsky, 2013: 179.

Clytus caucasicus Motschulsky, 1839: 54, tab. 1, fig. G (“Caucase”). Hampe in Wagner, 1852: 307; Marseul, 1863: 254; 1867: 116; Tournier, 1872: 277; Gemminger in Gemminger & Harold, 1872: 2926; Schneider & Leder, 1879: 60; Leder, 1880: 453–454.

Clytus (Anaglyptus) caucasicus: Stein & Weise, 1877: 167.

Anaglyptus caucasicus: Ganglbauer, 1882: 737; Heyden et al., 1883: 187; Ganglbauer, 1889a: 71.

Clytus bruckii Kraatz, 1864: 389, taf. 4, fig. 1 (“Olimp bei Brussa”). Marseul, 1867: 116 (“brucki Kratz”).

Anaglyptus sexguttatus var. *disjunctus* Pic, 1909: 123 (“Caucase: Elisabethpol”). Pic, 1910: 4.

Anaglyptus (Paraclytus) sexguttatus var. *disjunctus*: Pic, 1911: 11.

Material. Russia: 5 ♂, 4 ♀ (cAM), Gelendzhik env., Krestovaya Mt, 23.V.2002, A. Miroshnikov leg.; 2 ♀ (ZMUM), Maikop, 15.VI.1949 [in Russian]; 1 ♀ (ZMUM), Maikop distr., Guzeripl, 24.IV.1928

[in Russian]; 2 ♀ (ZISP), Maikop distr., Kisha Valley, 19.V. or 24.VI.1911, Volnukhin leg. [in Russian]; 1 ♂ (ZMUM), Caucasian Nature Reserve, Sennaya Polyana, 15.VII.1959, Chen Yun-Lin leg. [in Russian]; 1 ♂ (ZISP), “Kuban Province [now partly Krasnodar Region], Psebai, 27.V.1911, Volnukhin leg. [in Russian]; 1 ♂ (ZMUM), Sochi, Lazarevskoe, 1.VII.2008, Tsurikov leg. [in Russian]; 2 ♂, 1 ♀ (ZISP), Sochi env., Krasnaya Polyana, 1.VI.1907, Kirichenko leg.; 1 ♂ (ZISP), Sochi env., Lake Kardvach, 20.VI.1912; 1 ♂ (ZMUM), Sochi env., Krasnaya Polyana, Aibga Mt Ridge, 6.VII.1914, Zhikharev leg. [in Russian]; 1 ♂, 1 ♀ (ZMUM), Sochi env., Aishkha Mt, 1800 m, 22.VIII.[19]33, K. Arnoldi [leg.]; 1 ♀ (ZMUM), Sochi env., Aibga Mt Ridge, 1900 m, 17.VIII.[19]33, K. Arnoldi [leg.]; 1 ♂, 1 ♀ (ZMUM), Sochi env., Achishkho Mt Ridge, 2000 m, 10.VII.1938 [in Russian]; 2 ♂ (PUM), same, but 1500 m, 10.–18.V.1996, A. Brinev leg. [in Russian]; 1 ♂ (PUM), Karachay-Cherkessia, Pastbischnyi Mt Ridge, 15.V.2006, A. Zernov leg. [in Russian]; 1 ♂ (ZMUM), Teberda, 21.VI.1925 (“ex coll. A. Menshikov”); 2 ♂ (ZISP), Teberda, Dombai, 1600 m, VI.1955, Maximov leg. [in Russian]; 1 ♂, 1 ♀ (cAM), Northern Ossetia, Nizhniy Nar, 11.VI.1993, A. Miroshnikov leg.; 2 ♂ (ZMUM), Vladikavkaz, 13.VI.1924 (“ex coll. A. Menshikov”); 1 ♀ (ZMUM), same labels, but “15.VI.1926”. Georgia: 1 ♂, 2 ♀ (ZMUM), “Vicis Umrioni, Svanetia inf., 10.VII.1911; 1 ♀ (ZISP), Adzharia, Kintrishi Nature Reserve, Didvaki, 21.VI.1974, Zagulyaev leg. [in Russian]; 1 ♀ (ZMUM), “Caucas., Suram”; 1 ♀ (ZISP), Borjom, 13.VI.1909, L. Berg leg. [in Russian]; 2 ♀ (ZISP), same, but “Zakharov leg.” [in Russian]; 1 ♀ (ZISP), Gori Distr., Bakuriani, 17.VII.1928, Kirschenblatt [leg.]; 1 ♂ (ZMUM), “Cauc. Cent. Passanaur [near Dusheti], V.1893, A. Zolotarev [leg.]; 1 ♂ (ZISP), “Tiflis, 17.IV.1879”, “coll. G. Sievers” [in Russian]; 1 ♂ (ZMUM), “Transkaukas., Tiflis, 12.VI.1927”, “ex coll. A. Menshikov”; 2 ♂ (ZISP), Lagodekhi, [18]93, Mlokosevich leg. [in Russian]; 2 ♂, 1 ♀ (ZISP), the same, but taken on 24.IV.1910, Mlokosevich leg. [in Russian]. Abkhazia: 1 ♀ (ZMUM), Gagry [in Russian]; 2 ♂, 3 ♀ (cAM), Gagry env., Mamdzyskhka Mt, 1500–1600 m, 3.–4.VI.1985, A. Miroshnikov leg.; 1 ♂ (ZMUM), Sukhum, Gulripsh, 30.IV.1937 [in Russian]; 3 ♂ (cAM), Bercheli Mt Ridge, Gizle, 1300 m, 5.VI.1985, A. Miroshnikov leg. [in Russian]; 1 ♀ (PUM), Khuap, 7.VI.1990, M. Danilevsky leg. [in Russian]; 2 ♂, 2 ♀ (ZISP), Chkhalta Valley, 1300–1400 m, 5.VII.1982, Drabkin leg. [in Russian]. Southern Ossetia: 6 ♀ (ZMUM), Vezuri, 2000 m, 19.–23.VII.1928, A. Bogachev [leg.]; 1 ♀ (ZMUM), Tsona, 12.VII.1928, A. Bogachev [leg.]; 1 ♀ (ZMUM), Tedeleti, 13.VII.1928, A. Bogachev [leg.]. Armenia: 1 ♀

(ZMUM), “Uzuntala [now Aygehovit], 28.V.1955, L. Zimina”; 1 ♂, 3 ♀ (PUM), Dilijan Nature Reserve, 24.VII.1999, A. Rubenyan leg. [in Russian].

In addition, I have examined another 150+ specimens from numerous Caucasian localities (including the above) stemming from various collections, mostly kept on cotton.

Diagnosis. This species differs from all congeners by the elytral pattern being as in Figs 92, 205, 206, as well as by the combination of some characters which includes the length, coloration and pubescence of the antennae, the absence of spines from antennomeres 3 and 4, and in certain structural features of the pronotum and the apex of the elytra.

Description. Body length 9.0–17.4 mm, humeral width 2.5–4.8 mm (according to the literature, length 8–18 mm). Black; apical antennomeres red-brown or reddish; elytra red under spots (except for area of humeri and scutellum) of light setae, often brownish apically; tarsi partly reddish.

Head with poorly or moderately developed antennal tubercles; isthmus between antennal cavities 1.14–1.29 times as long as transverse diameter of lower lobe of eye; genae slightly shorter or, conversely, slightly longer than this diameter, sometimes subequal to it; antennae slightly not reaching or reaching the apex of elytra, can be slightly exceeding body length in male, usually freely reaching the apical one-third of elytra in female; antennomere 1 usually clearly shorter than 3rd in male, often both subequal in female; antennomere 3, 1.07–1.09 or, usually, 1.12–1.15 times as long as 4th in male and female, respectively; apical external angle of each of antennomeres 3 and 4 with neither a denticle nor a spine.

Pronotum usually subequal in length and width; apex and base usually also about equal in width; without lateral tubercles, broadly rounded on sides; weakly or very weakly convex.

Elytra more or less moderately narrowed towards apex; 2.46–2.55 times as long as

width at base; base tuberculiform elevated, but without tubercles there; each elytron rounded at apex.

Distribution and coloration of setation of antennae and dorsum as in Figs 21, 205, 206; setation often white; apical margin of elytra can be almost entirely or even completely hidden by dense, long, light setae.

Endophallus as in Figs 156, 157.

Distribution (Map 1). Southeastern Balkan Peninsula (east of Stranzha Mountains at the border between Bulgaria and Turkey), northern Anatolia and Caucasus.

Bionomics. Adults active from late April through August, visit flowers, most often *Crataegus*. The larva is developed in hardwood species, including *Corylus*, *Carpinus*, *Quercus*, *Fagus* and obviously many others. Adults overwinter in pupal cells. Each generation lasting at least two years.

?Paraclytus multimaculatus Pic, 1923

? *Paraclytus multimaculatus* Pic, 1923a: 12 (Laos).

Paraclytus multimaculatus: Plavilstshikov, 1940: 499 (Laos).

Remarks. So far my repeated attempts to relocate the type specimen of this species in the collection of the Muséum national d'Histoire naturelle, Paris, including directly in the Pic Collection, have failed. The original description reads: “*?Paraclytus multimaculatus* n. sp. Angustatus, niger, griseo pubescence, elytris multi et irregulariter nigro maculatis; capite antice truncato; antennis corpore longioribus, gracilibus, infra ciliatis; thorace satis breve, lateraliter subarcuato, postice marginato; elytris thorace valde latioribus, subparallelis, apice subrotundatis; pedibus gracilibus. Long. 18 mill. Laos (coll. Pic). – Je range provisoirement dans le genre *Paraclytus* Bates, cette espèce dont le prothorax est peu allongé et les antennes sont longues.” (Pic, 1923a: 12).

Based on the described pattern of the elytra in this species, which is characterized

by the presence of numerous, irregularly scattered, black spots, as well as on the structure of the apex of the elytra, combined with body size, its attribution to the genus *Paraclytus* is indeed not quite obvious, especially so bearing in mind a large group of Chinese species with their highly characteristic general complex of features (see above). However, Plavilstshikov (1940) unambiguously placed that species in *Paraclytus*, albeit without any comments. In my opinion, it seems highly unlikely that Plavilstshikov had revised the holotype. Gressitt and Rondon (1970), in their monograph specially devoted to the fauna of Laos, failed to mention this taxon altogether.

Incidentally, Pic (1923b: 9) nearly simultaneously, the same year, used the same species name for a beetle also deriving from Laos and showing the same body size, but placed in a different genus: *Xylotrechus multimaculatus* Pic, 1923. According to Gressitt & Rondon (1970: 199), this species is a junior synonym of *X. subdepressus* (Chevrolat, 1863). It is noteworthy that *Paraclytus* then belonged to the tribe Clytini which also included *Xylotrechus* Chevrolat, 1860. Taking into account these curious coincidences, especially in view of the apparent absence of the holotype of *?Paraclytus multimaculatus* from the MNHN collection, in order to exclude any possible confusion concerning the identity and types of these two forms, I have re-examined the still available holotype of *Xylotrechus multimaculatus* (Figs 207, 208). Hardly accidentally, the name *?P. multimaculatus* has already been associated with the name *X. multimaculatus* in an essay on *X. subdepressus* (<http://lully.snv.jussieu.fr/titan>). In fact the morphological features of the holotype of *X. multimaculatus* fully correspond to Pic's (1923b) original description, but differ substantially from the above description of *?P. multimaculatus*. Thus, this holotype does show generally short antennae that are very characteristic of the genus *Xylo-*

trechus, albeit their length was omitted from the description, whereas in ?*P. multimaculatus* they were said to be longer than the body (“antennis corpore longioribus”, see above). Therefore, ?*Paraclytus multimaculatus* Pic, 1923a (Laos) undoubtedly represents an independent species which has nothing to do with *Xylotrechus multimaculatus* Pic, 1923b (Laos) and presumably has its own corresponding type material to locate.

Key to species of *Paraclytus*

- A. Species distributed in the South of the western Palaearctic 1
- B. Species distributed in China 3
- C. Species distributed in Japan and the Kurils
..... *P. excultus* Bates (Figs 191, 192)
1. Pronotum with a large dense puncturation, one way or another covered by light, often yellow, partly dense setae, but in any case forming no contrasting fascia, be it at apex or base (Figs 67, 68); pattern of elytra consisting only or predominantly of light spots (Figs 91, 92, 203–205); at least first few antennomeres black or dark 2
- Pronotum with a small dense puncturation, a clear, more or less narrow, contrasting fascia of dense, usually yellow setae both at apex and base (Figs 58, 201, 202); pattern of elytra consisting of narrow, usually yellow (like on pronotum) fasciae (Figs 90, 201, 202); antennae, except antennomere 1 and, often, antennomere 2, usually almost entirely red *P. raddei* (Ganglbauer)
2. A dense light setation covering elytra and forming sharply defined spots and an apical fascia like in Figs 92, 205, 206; some antennomeres, starting from 3rd, clothed with a dense light pubescence, except for apex, being clearly annulate, as in Figs 21, 205, 206
..... *P. sexguttatus* (Adams)
- A dense light setation covering elytra highly variegate, forming separate, more or less large, usually not too sharply defined spots, as well as numerous small specks and sparse groups of setae, like in Figs 99, 211, 212; antennae not annulate, as in Figs 22, 211, 212
..... *P. reitteri* (Ganglbauer)
3. Antennomere 4 equal to or barely, sometimes slightly, longer than 3rd; apical external angle either of both these antennomeres or at least of 3rd with an evident spine; apex of elytra only with sparse, moderately long, light setae, almost or quite not hiding its margin, external angle thereby not extended into a tooth, but can only be acute; pronotum longitudinal, without evident lateral tubercles, only angular or broadly rounded on sides; body setation white or greyish-white; body smaller, length 7.6–11.6 mm 4
- Antennomere 4 at least barely shorter than 3rd, sometimes both equal in length; apical external angle of each of these antennomeres with or without spine; apex of elytra with very dense, long, light setae completely or strongly hiding its margin, or at least with long, rather abundant setae, external angle thereby either extended into a tooth (dorsally usually completely or almost entirely hidden under setae) or devoid of it; pronotum transverse or longitudinal, either with or without evident to well-developed lateral tubercles; body setation either with participation of yellow and reddish tones or white (grey-white); body larger, length 10.7–17.2 mm, often more than 12.0 mm long 5
4. Elytra on disk, predominantly in basal part, with very long, slender, erect setae (Fig. 198); antennae longer, at least so in female, apical external angle of antennomeres 3 and 4 each with a less strongly developed spine (Fig. 17); fascia at least

- in basal one-third of elytra consisting of dense setae arranged predominantly along contour; pattern of elytra in general as in Figs 93, 196–198
 *P. primus* Holzschuh
- Elytra on disk, mainly in basal part, with much shorter, but slender and erect setae (Fig. 199); antennae shorter, at least so in female, apical external angle of antennomeres 3 and 4 each with a more strongly developed spine (Fig. 18); fasciae of elytra entirely consisting of uniformly dense setae; pattern of elytra in general as in Figs 94, 199, 200
 *P. wangi* Miroshnikov et Lin
5. Elytra (excluding area at humeri and scutellum, as well as apex) with three relatively narrow fasciae spanning at least across entire width of disk: one strongly oblique fascia on each elytron in basal one-third and two evidently horizontal fasciae coming close to each other in the middle (one of them can be only partly interrupted), as in Figs 86, 87, 187, 189, 190; antennae completely or almost entirely red (brownish-red), apical external angle of antennomeres 3 and 4 each with a spine (Figs 12–14) 6
- Elytra (excluding area at humeri and scutellum, as well as apex) with a different pattern, can only be with one fascia behind middle of elytra spanning across entire width of disk; antennae from completely or almost entirely red (brownish-red) to mostly black (regardless of light pubescence), apical external angle of antennomeres 3 and 4 each with or without spine 7
6. Fascia on each elytron in basal one-third less oblique (located at about 45°) and clearly more straight (Figs 86, 190); pronotum, at least so in female, slightly transverse (Fig. 54); elytra less elongated
 *P. jii* (Holzschuh)
- Fascia on each elytron in basal one-third more oblique (located at an angle clearly exceeding 45°, particularly in upper part) and noticeably curved (Figs 87, 187, 189); pronotum at least barely longitudinal (Figs 53, 187, 189); elytra more elongated
 *P. albiventris* (Gressitt)
7. Pronotum on disk one way or another either keel-shaped elevated, but not to such a strong extent as in Fig. 51, or generally slightly convex; each elytron at base with a clearly less strongly developed crest-shaped tubercle, with diverse patterns, but different from those in Figs 88, 193, 195; apical external angle of antennomeres 3 and 4 without spine, but if a well-developed spine present at least on antennomere 3, then at least some basal antennomeres black, at least partly so (Figs 1, 170, 171) 8
- Pronotum extremely strongly roof-shaped elevated on disk, as in Fig. 51; each elytron at base with a large crest-shaped tubercle (Fig. 51), with a peculiar pattern as in Figs 88, 193, 195; antennae almost completely brownish-red, apical external angle of antennomeres 3 and 4 each with a well-developed spine (Figs 10, 15)
 *P. ochrocaudus* (Gressitt)
8. Apex of elytra usually with very dense, long, light setae completely or almost entirely hiding its margin, including there an often present, evident tooth formed by an extended external angle; pronotum with more or less well-developed, at least always evident, lateral tubercles; antennae of male (at least so in the species for which it is known) longer than body 9
- Apex of elytra with more or less numerous, but not too dense, long, light setae only partly hiding or not hiding at all its margin, whereas external angle often without evident tooth; pronotum only obtusangularly protruding on sides or at least with clearly less strongly developed lateral tubercles; antennae of

- male noticeably shorter, in female much shorter, than body
 *P. emili* Holzschuh
9. Apical external angle of each of antennomeres 3 and 4 without spine, sometimes with a small spine or denticle only on antennomere 3; if antennae with a combination of black and red antennomeres, then antennomere 1 always black (discarding a white pubescence) 10
- Apical external angle of each of antennomeres 3 and 4 with an evident spine, yet sometimes poorly developed, but still clear on antennomere 4, whereas antennomere 1 almost completely or mostly while antennomeres 7–10 entirely red, contrasting with almost completely or predominantly black antennomeres 3–6, at least so dorsally
 *P. apicicornis* (Gressitt)
10. Discarding light pubescence, a few basal antennomeres entirely, pronotum completely, and elytra almost entirely black, at least so in basal part, sometimes elytra can be brownish in apical part under a light setation 11
- At least antennomeres 3–6 completely or at least partly red, never entirely black; elytra contrasting bicoloured, predominantly red tones under a dense light setation, over remaining part black; pronotum at least at apical margin usually red (regardless of a light setation)
 14
11. A dense light setation clearly less strongly developed, forming a pattern as in Figs 44–47, 81–83, 176–180, 182, a significant part or most of both pronotum and elytra thereby with a black background; at least metafemora only partly with such a setation, leaving free surface in the form of a wide black ring 12
- A dense light setation strongly developed, leaving bare only two small, black, paramedian spots on disk of pronotum and hiding black integuments of most of elytra (forming a pattern as in Figs 49, 85, 184), and almost completely of all femora and at least of basal antennomeres *P. irenae* (Holzschuh)
12. Antennae generally not too brightly white, can be clothed with a white pubescence on various antennomeres, but only partly hiding background integument (except for antennomere 1); white colour only subordinate to dense setation on dorsum, a peculiar pattern of elytra being formed only by spots and fasciae, but without participation of a broad strip at suture, as in Figs 81, 82, 177–180, 182 13
- Antennae almost completely with a dense, bright, white pubescence, strongly hiding coloration of integument, only apex of each of antennomeres 3–6 thereby remaining black; dense setation on most of dorsum the same brightly white as on antennae, on elytra forming a peculiar pattern with participation of a rather wide strip at suture, as in Figs 83, 176 *P. murzini* sp. n.
13. Antennomeres 3–6 black, with a white pubescence only on a part of antennomere 6 (Fig. 7), inner side covered by black, long, suberect setae; patterns of dense light setae on pronotum and elytra as in Figs 47, 82, 177, a fascia behind middle of elytra thereby less oblique *P. excellens* Miroshnikov et Lin
- Antennomeres 3–6 black, with a white pubescence, inner side predominantly or at least partly with light, long, suberect setae (Figs 5, 6, 11); patterns of dense light setae on pronotum and elytra as in Figs 48, 49, 81, 178–180, 182, a fascia behind middle of elytra thereby more oblique *P. thibetanus* (Pic)
14. Antennae almost completely or mainly red, some antennomeres can be largely or almost completely black, all antennomeres clothed with a more or less dense,

- light pubescence; a dense light setation of pronotum, at least in apical part (except for a fascia at the very apex), less strongly developed on sides of disk, as in Figs 42, 4315
- Antennae red, antennomere 1 and antennomeres 7–11 with, but antennomeres 2–6 without, dense light pubescence, thus making the first and second groups of antennomeres look contrasting to each other; a dense light setation of pronotum more strongly developed on sides of disk, as in Fig. 48
..... *P. helenae* (Holzschuh)
15. Elytra with strongly expressed spots of light dense setation generally dominating over a black background, as in Figs 79, 174, 175 *P. scolopax* (Holzschuh)
- Elytra with evidently less strongly expressed spots of light dense setation, with a black background generally dominating, as in Figs 78, 172, 173 *P. shaanxiensis* Holzschuh

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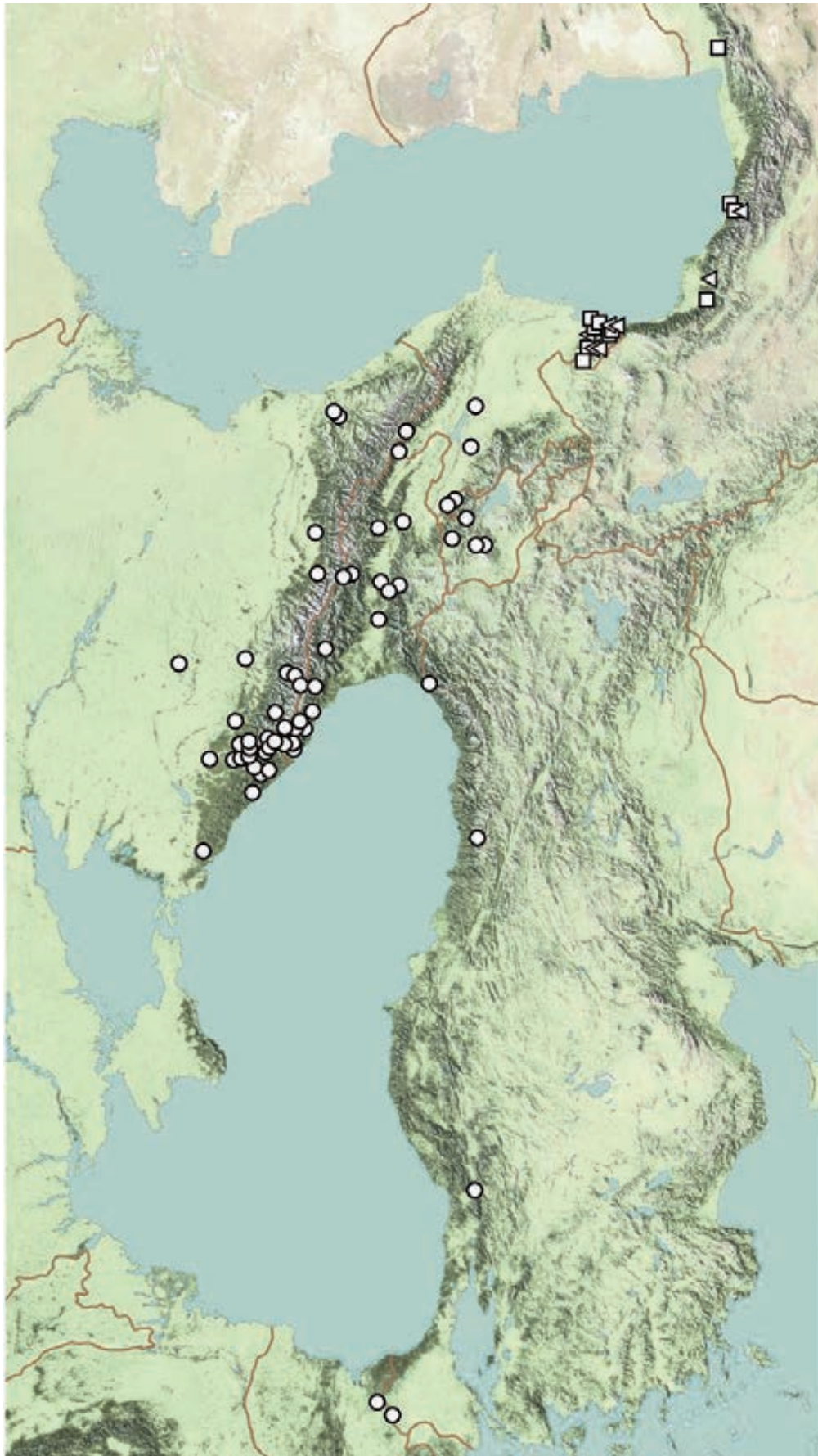
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РЕЗЮМЕ

Предлагается обзор видов рода *Paraclytus* Bates, 1884. Описан как новый *P. murzini* sp. n. из Сычуани (Китай). Для всех 18 видов рода, включая новый, даны диагнозы. Для ранее известных видов приведены описания, а для некоторых из них значительно расширен ареал и указаны разнообразные новые сведения. Отмечено, что неоднократные попытки отыскать голотип *Paraclytus multimaculatus* Pic, 1923 (Лаос) до сих пор не увенчались успехом, при этом показано, что *Xylotrechus multimaculatus* Pic, 1923 (Лаос) никак не связан с этой проблемой. Предложена таблица для определения всех видов, как и даны карты их распространения. Приведены диагноз и описание рода. Детально рассмотрены его отличия от очень сходного с ним рода *Anaglyptus* Mulsant, 1839. Указана подробная библиография. Представлено большое количество цветных иллюстраций.

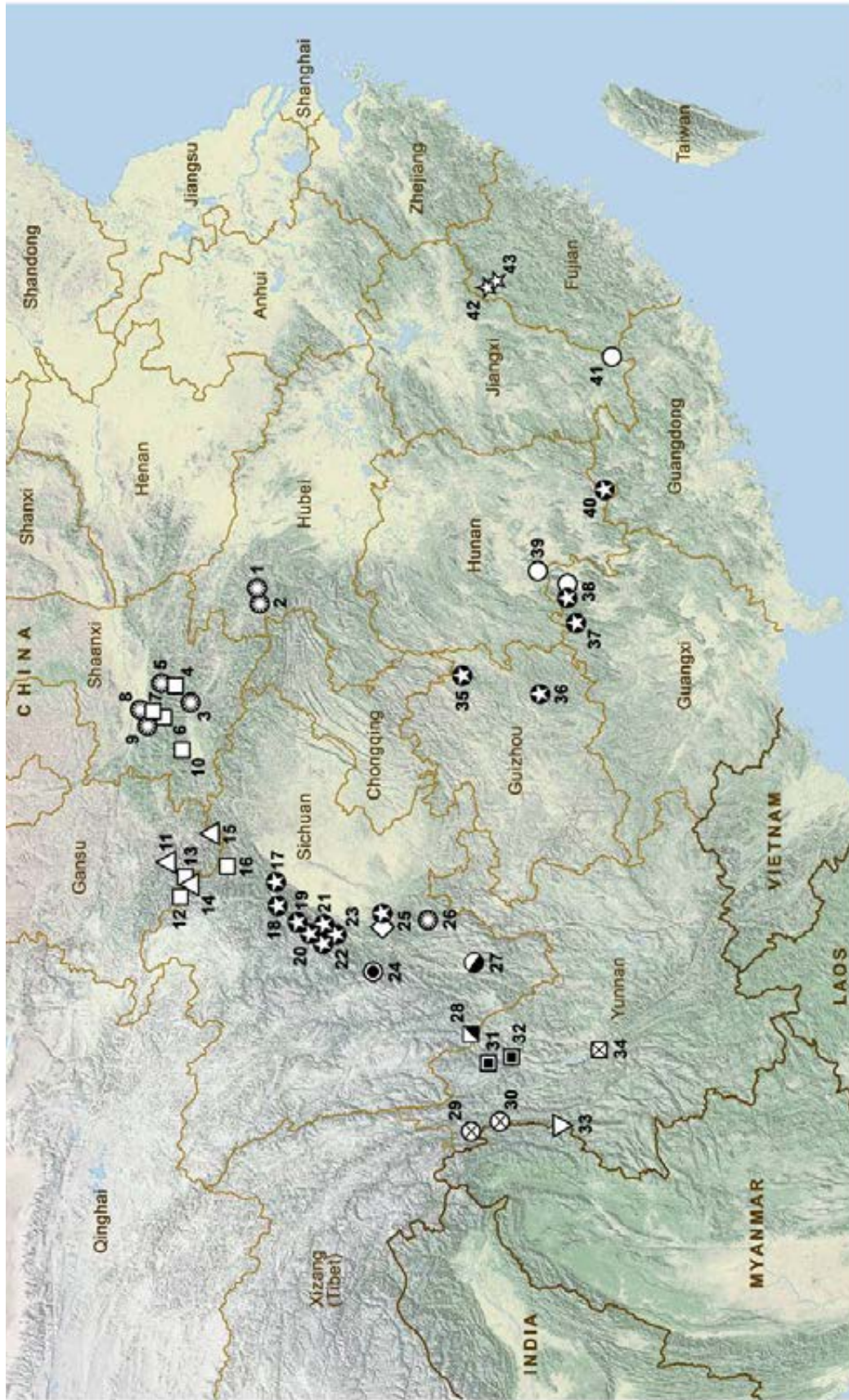


Map 1. Geographical distribution of the genus *Paraclytus* Bates and related species in the South of the western Palaearctic.
△ – *P. raddei* (Ganglbauer); □ – *P. reitteri* (Ganglbauer); ○ – *P. sexguttatus* (Adams).

Table. Localities in China and the corresponding *Paraclytus* species.

No	Locality	Species	No	Locality	Species	No	Locality	Species
1	HUB: Dashemongjia Mts, 2500–3000 m, 31°50'N, 110°30'E	<i>P. shaanxiensis</i>	16	SCH: Pingwu env., 2000 m, 32°25'58"N, 104°30'15"E	<i>P. primus</i>	31	YUN: Haba Shan, 27°22'54"N, 100°06'03"E	<i>P. emili</i>
2	HUB: Shemongjia, Forestry District, 2000 m, 31°50'N, 110°20'E	<i>P. shaanxiensis</i>	17	SCH: Mianzhu, Qingpinglinchang, 31°31'16"N, 104°08'54"E	<i>P. apicicornis</i>	32	YUN: Baishui, 3000 m, 26°56'N, 100°15'E	<i>P. emili</i>
3	SHA: road Xi'an – Ningshan, Qinling Shan, pass 50 km S Xi'an, 2000 m, 33°08'N, 108°08'E	<i>P. shaanxiensis</i>	18	SCH: Wenchuan env., 2000 m, 31°28'45"N, 103°34'48"E	<i>P. apicicornis</i>	33	YUN: Lushui, Yaojiaping, 2450 m, 25°57'27"N, 98°42'37"E	<i>P. excellens</i>
4	SHA: Ningshan, Huoditang, Pingheliang, 2015–2450 m, 33°29'N, 108°29'E	<i>P. primus</i>	19	SCH: Wolong env., 2200 m, 31°01'59"N, 103°10'49"E	<i>P. apicicornis</i>	34	YUN: Weibaoshan Mts, 2800–3000 m, 25°12'N, 100°24'E	<i>P. irenae</i>
5	SHA: Qinling Shan, 12 km SW of Xunyangba, 1900–2250 m, 33°32'N, 108°31'E	<i>P. shaanxiensis</i>	20	SCH: 35 km W Wolong, Densheng 2800 m, 30°51'36"N, 102°58'41"E	<i>P. apicicornis</i>	35	GUI: Jiagou, Fajingshan Mt, 27°54'56"N, 108°42'29"E	<i>P. apicicornis</i>
6	SHA: Zhouzhi, Houzhenzhen, Laoxianchengcun – Qinlingliang, 1745–2020 m, 33°49'N, 107°44'E	<i>P. primus</i>	21	SCH: Xiling Xue Shan, 30°41'N, 103°14'E	<i>P. apicicornis</i>	36	GUI: Leishan, Leigongshan Mt, 26°22'03"N, 108°18'18"E	<i>P. apicicornis</i>
7	SHA: Houzhenzhen env., 1350–2000 m, 33°50'34"N, 107°50'52"E	<i>P. primus</i>	22	SCH: 55 km N Baoxing, Qiao Qi, 2150–2300 m, 30°41'50"N, 102°45'10"E	<i>P. apicicornis</i>	37	GUX: Longsheng, Huaping, Aujiangping, 25°38'59"N, 109°54'01"E	<i>P. apicicornis</i>
8	SHA: Zhouzhi env., 1950 m, 34°00'44"N, 107°51'40"E	<i>P. shaanxiensis</i>	23	SCH: Baoxing, Muping env., 2200–3900 m, 30°23'44"N, 102°52'39"E	<i>P. apicicornis</i>	38	GUX: GuiLin, Maoershan, 900–1000 m, 25°51'46"N, 110°29'37"E	<i>P. apicicornis</i> <i>P. albiventris</i>
9	SHA: Houzhenzhen env., 1350–2000 m, 33°52'N, 107°44'E	<i>P. shaanxiensis</i>	24	SCH: Luding, Xinxing 1600 m, 29°40'17"N, 102°06'08"E	<i>P. wangi</i>	39	HUN: Shunhuangshan forest park, 700–1200 m, 26°25'29"N, 111°04'06"E	<i>P. albiventris</i>
10	SHA: Tiantaishan forest park, 1950 m, 33°16'N, 107°05'E	<i>P. primus</i>	25	SCH: Erneishan Mt, 1100–2100 m, 29°31'11"N, 103°19'57"E	<i>P. apicicornis</i> <i>P. ji</i>	40	HUN: Yizhang, Mangshan Gongyuan (forest park), Tiantaishan, 1570 m, 24°59'N, 112°50'E	<i>P. apicicornis</i>
11	GAN: 70 km W of Wudu, 1800–2400 m, 33°30'N, 104°35'E	<i>P. scolopax</i>	26	SCH: Dafengding Mts, 50 km N Meigu, 3100 m, 28°35'51"N, 103°17'14"E	<i>P. shaanxiensis</i>	41	JIX: Xunwu, Xiangshan, Xiangshan Nature Reserve, 24°55'59"N, 115°48'55"E	<i>P. albiventris</i>
12	SCH: Nanning, Bai He, 33°18'32"N, 103°48'10"E	<i>P. primus</i>	27	SCH: Liangshan Mts, S. Xichang, 3000 m, 27°41'09"N, 102°20'56"E	<i>P. murzini sp. n.</i>	42	FUJ: Guadun (= Kuatun), 2300 m, 27°24'N, 117°24'E	<i>P. ochrocaudus</i>
13	SCH: Jiuzhaigou, 33°15'07"N, 104°14'35"E	<i>P. primus</i>	28	YUN: Lugu Lake, Luo Shui, 27°45'N, 100°45'E	<i>P. helena</i>	43	FUJ: Shaowu, Dazhulan (= Tachulan), 1200 m, 27°20'27"N, 117°28'59"E	<i>P. ochrocaudus</i>
14	SCH: Jiuzhaigou env., 33°11'08"N, 104°07'09"E	<i>P. scolopax</i>	29	YUN: Gongshan, Qiqi N.R., 2100 m, 27°43'59"N, 98°34'59"E	<i>P. thibetanus</i>			
15	GAN: Wenxian, Bikou, 32°44'00"N, 105°14'12"E	<i>P. scolopax</i>	30	YUN: Fugong, Lumadeng, Yaping, Shibai, 2500 m, 27°09'54"N, 98°46'48"E	<i>P. thibetanus</i>			

Note. Abbreviations of provinces: HUB – Hubei; SHA – Shaanxi; GAN – Gansu; SCH – Sichuan; YUN – Yunnan; GUI – Guizhou; GUX – Guangxi; HUN – Hunan; JIX – Jiangxi; FUJ – Fujian



Map 2. Geographical distribution of the genus *Paraclytus* Bates and related species in China.
 ⬤ – *P. apicicornis* (Gressitt); ⬤ – *P. shaanxiensis* Holzschuh; △ – *P. scolopax* (Holzschuh); ◻ – *P. thibetanus* (Pic)
 ▽ – *P. excellens* Miroshnikov et Lin; ◻ – *P. helenae* (Holzschuh); ☆ – *P. irenae* (Holzschuh); ☆ – *P. ochrocaudus* (Gressitt); ○ – *P. jii* (Holzschuh); ◻ – *P. primus* Holzschuh; ● – *P. wangi* Miroshnikov et Lin (NB: the locality numbers correspond to the numbers and names of localities in Table).



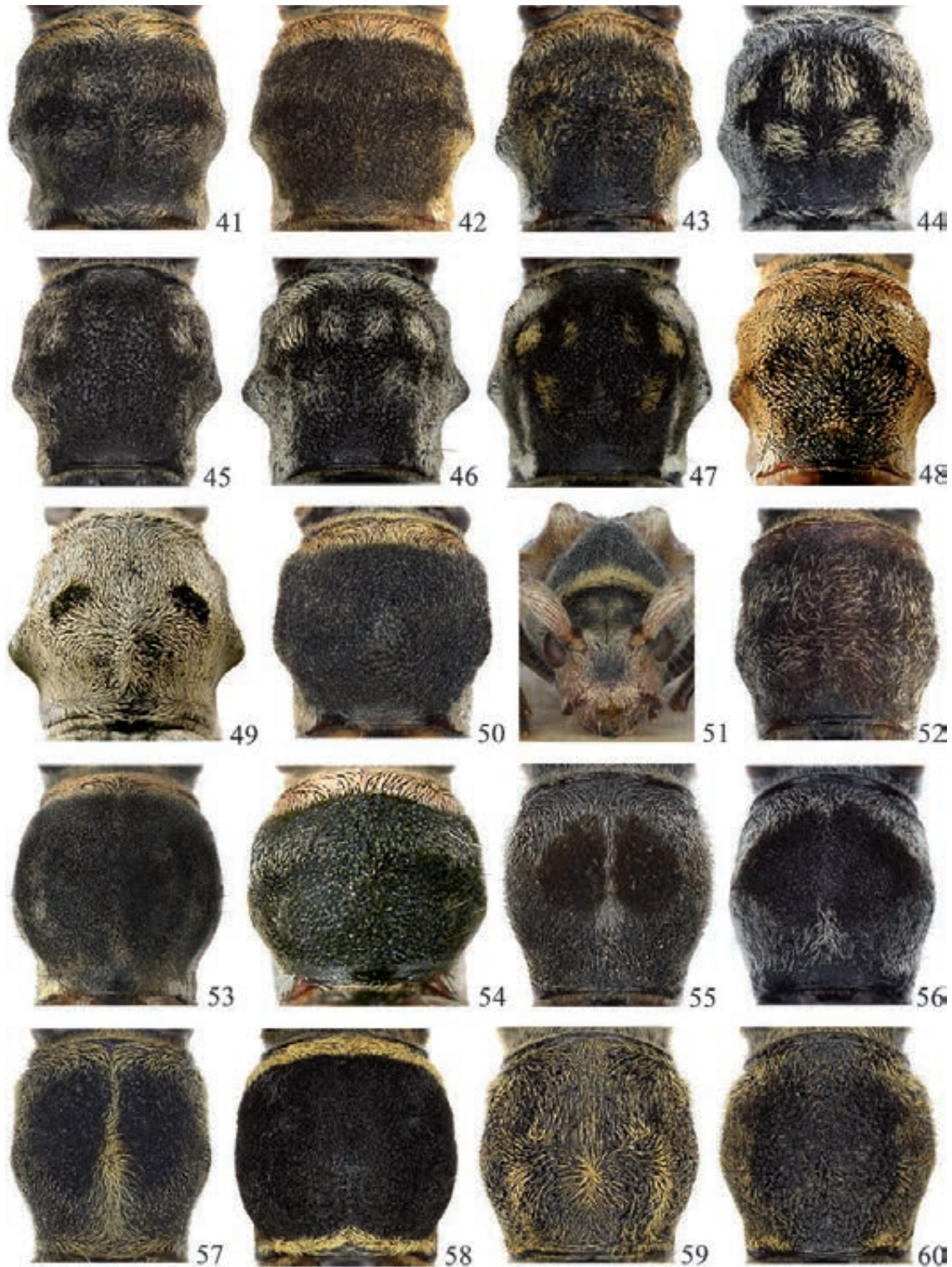
Figs 1–22. *Paraclytus* Bates, left antenna.

1 – *P. apicicornis* (Gressitt); 2 – *P. shaanxiensis* Holzschuh; 3 – *P. scolopax* (Holzschuh); 4 – *P. murzini* sp. n., holotype; 5, 6, 11 – *P. thibetanus* (Pic) (5 – holotype); 7 – *P. excellens* Miroshnikov et Lin, holotype; 8 – *P. helenae* (Holzschuh), holotype; 9 – *P. irenae* (Holzschuh), holotype; 10, 15 – *P. ochrocaudus* (Gressitt) (10 – holotype; 15 – paratype); 12, 13 – *P. albiventris* (Gressitt) (12 – holotype); 14 – *P. jii* (Holzschuh), holotype; 16 – *P. emili* Holzschuh; 17 – *P. primus* Holzschuh; 18 – *P. wangi* Miroshnikov et Lin, holotype; 19 – *P. excultus* Bates; 20 – *P. raddei* (Ganglbauer); 21 – *P. sexguttatus* (Adams); 22 – *P. reitteri* (Ganglbauer); 1–9, 13–15, 17–20, 22 – female; 10–12, 16, 21 – male.



Figs 23–40. *Anaglyptus* Mulsant, left antenna.

23 – *A. mysticus* (Linnaeus); 24 – *A. mysticoides* Reitter; 25 – *A. simplicicornis* Reitter; 26 – *A. arabicus* (Küster); 27 – *A. ganglbaueri* Reitter; 28 – *A. danilevskii* Miroshnikov; 29 – *A. praecegens* Holzschuh; 30 – *A. luteofasciatus* Pic; 31 – *A. gibbosus* (Fabricius); 32 – *A. matsushitai* Hayashi; 33 – *A. niponensis* Bates; 34 – *A. arakawae* (Kano); 35 – *A. vicinulus* Holzschuh; 36 – *A. prope gressitti* Holzschuh (from Sichuan, China); 37 – *A. ambiguus* Holzschuh; 38 – *A. colobothoides* (Bates); 39 – *A. bellus* Matsumura et Matsushita; 40 – *A. prope annulicornis* (Pic) (from Sichuan, China); 23, 24, 26, 28, 29, 33–38 – female; 25, 27, 30–32, 39, 40 – male.



Figs 41–60. *Paraclytus* Bates, pronotum.

41 – *P. apicicornis* (Gressitt); 42 – *P. shaanxiensis* Holzschuh; 43 – *P. scolopax* (Holzschuh); 44 – *P. murzini* sp. n., holotype; 45, 46 – *P. thibetanus* (Pic) (45 – holotype); 47 – *P. excellens* Miroshnikov et Lin, holotype; 48 – *P. helenae* (Holzschuh), holotype; 49 – *P. irenae* (Holzschuh), holotype; 50, 51 – *P. ochrocaudus* (Gressitt), paratype (51 – frontal view); 52 – *P. emili* Holzschuh; 53 – *P. albiventris* (Gressitt); 54 – *P. jii* (Holzschuh), holotype; 55 – *P. primus* Holzschuh; 56 – *P. wangi* Miroshnikov et Lin, holotype; 57 – *P. excultus* Bates; 58 – *P. raddei* (Ganglbauer); 59 – *P. reitteri* (Ganglbauer); 60 – *P. sexguttatus* (Adams); 41–57, 59 – female; 58, 60 – male.



Figs 61–76. *Anaglyptus* Mulsant, pronotum.

61 – *A. mysticus* (Linnaeus); 62 – *A. simplicicornis* Reitter; 63 – *A. arabicus* (Küster); 64 – *A. ganglbaueri* Reitter; 65 – *A. danilevskii* Miroshnikov; 66 – *A. praecellens* Holzschuh; 67 – *A. luteofasciatus* Pic; 68 – *A. gibbosus* (Fabricius); 69 – *A. matsushitai* Hayashi; 70 – *A. arakawae* (Kano); 71 – *A. niponensis* Bates; 72 – *A. vicinulus* Holzschuh; 73 – *A. colobothoides* (Bates); 74 – *A. ambiguus* Holzschuh; 75 – *A. bellus* Matsumura et Matsushita; 76 – *A. prope annulicornis* (Pic) (from Sichuan, China); 61, 63, 65, 66, 70–74 – female; 62, 64, 67–69, 75, 76 – male.



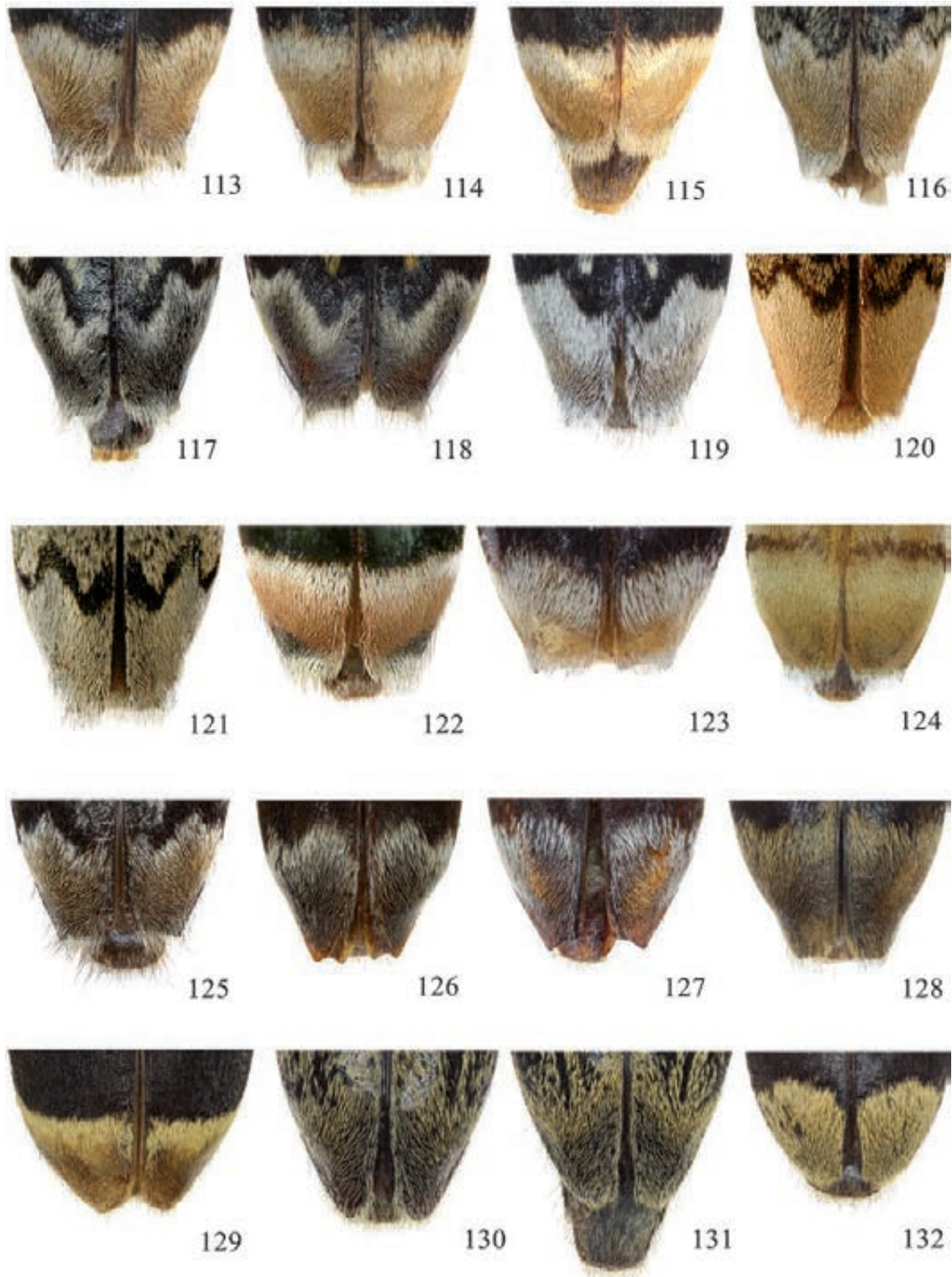
Figs 77–94. *Paraclytus* Bates, elytra.

77 – *P. apicicornis* (Gressitt); 78 – *P. shaanxiensis* Holzschuh; 79 – *P. scolopax* (Holzschuh); 80 – *P. emili* Holzschuh; 81 – *P. thibetanus* (Pic); 82 – *P. excellens* Miroshnikov et Lin holotype; 83 – *P. murzini* sp. n., holotype; 84 – *P. helenae* (Holzschuh), holotype; 85 – *P. irenae* (Holzschuh), holotype; 86 – *P. jii* (Holzschuh), holotype; 87 – *P. albiventris* (Gressitt); 88 – *P. ochrocaudus* (Gressitt), paratype; 89 – *P. excultus* Bates; 90 – *P. raddei* (Ganglbauer); 91 – *P. reitteri* (Ganglbauer); 92 – *P. sexguttatus* (Adams); 93 – *P. primus* Holzschuh; 94 – *P. wangi* Miroshnikov et Lin, holotype; 77, 81–89, 93, 94 – female; 78–80, 90–92 – male.



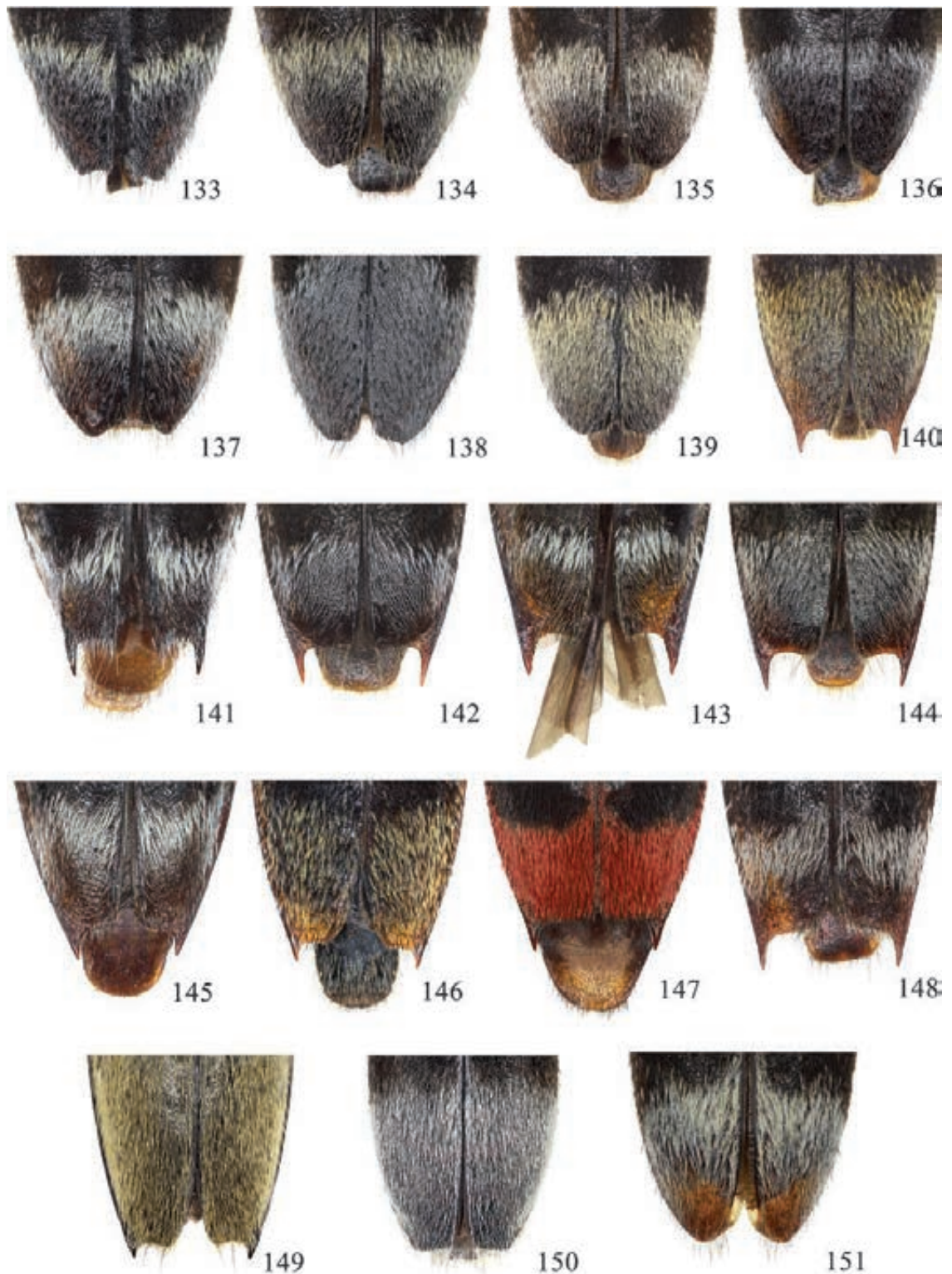
Figs 95–112. *Anaglyptus* Mulsant, elytra.

95 – *A. mysticus* (Linnaeus); 96 – *A. mysticoides* Reitter; 97 – *A. simplicicornis* Reitter; 98 – *A. arabicus* (Küster); 99 – *A. danilevskii* Miroshnikov; 100 – *A. ganglbaueri* Reitter; 101 – *A. luteofasciatus* Pic; 102 – *A. praecellens* Holzschuh; 103 – *A. gibbosus* (Fabricius); 104 – *A. matsushitai* Hayashi; 105 – *A. niponensis* Bates; 106 – *A. arakawae* (Kano); 107 – *A. prope gressitti* Holzschuh (from Sichuan, China); 108 – *A. vicinulus* Holzschuh; 109 – *A. colobothoides* (Bates); 110 – *A. ambiguus* Holzschuh; 111 – *A. prope annulicornis* (Pic) (from Sichuan, China); 112 – *A. bellus* Matsumura et Matsushita; 95, 96, 98, 99, 102, 105–110 – female; 97, 100, 101, 103, 104, 111, 112 – male.



Figs 113–132. *Paraclytus* Bates, apex of elytra.

113, 114 – *P. apicicornis* (Gressitt); 115 – *P. shaanxiensis* Holzschuh; 116 – *P. scolopax* (Holzschuh); 117 – *P. thibetanus* (Pic); 118 – *P. excellens* Miroshnikov et Lin, holotype; 119 – *P. murzini* sp. n., holotype; 120 – *P. helenae* (Holzschuh), holotype; 121 – *P. irenae* (Holzschuh), holotype; 122 – *P. jii* (Holzschuh), holotype; 123 – *P. albiventris* (Gressitt), holotype; 124 – *P. ochrocaudus* (Gressitt), paratype; 125 – *P. emili* Holzschuh; 126 – *P. primus* Holzschuh; 127 – *P. wangi* Miroshnikov et Lin, holotype; 128 – *P. excultus* Bates; 129 – *P. raddei* (Ganglbauer); 130, 131 – *P. reitteri* (Ganglbauer); 132 – *P. sexguttatus* (Adams); 113, 123, 125, 126, 129, 130, 132 – male; 114–122, 124, 127, 128, 131 – female.



Figs 133–151. Anaglyptini Lacordaire, apex of elytra.

133 – *Anaglyptus mysticus* (Linnaeus); 134 – *A. mysticoides* Reitter; 135 – *A. simplicicornis* Reitter; 136 – *A. arabicus* (Küster); 137 – *A. danilevskii* Miroshnikov; 138 – *A. luteofasciatus* Pic; 139 – *A. praezellens* Holzschuh; 140 – *A. gibbosus* (Fabricius); 141 – *A. matsushitai* Hayashi; 142 – *A. niponensis* Bates; 143 – *A. arakawae* (Kano); 144 – *A. prope gressitti* Holzschuh (from Sichuan, China); 145 – *A. vicinulus* Holzschuh; 146 – *A. ambiguus* Holzschuh; 147 – *A. bellus* Matsumura et Matsushita; 148 – *A. colobothoides* (Bates); 149 – *A. prope annulicornis* (Pic) (from Sichuan, China); 150 – *Oligoenoplus rosti* Pic; 151 – *O. gonggashanus* Miroshnikov; 133, 134, 136, 137, 139, 142–146, 148 – female; 135, 138, 140, 141, 147, 149–151 – male.



Figs 152–155. Anaglyptini Lacordaire, endophallus and tube of penis.
152, 153 – *Paraclytus apicicornis* (Gressitt); 154, 155 – *Anaglyptus simplicicornis* Reitter.



Figs 156–159. Anaglyptini Lacordaire, endophallus and tube of penis.
156, 157 – *Paraclytus sexguttatus* (Adams); 158, 159 – *Anaglyptus ganglbaueri* Reitter.



Figs 160–165. Anaglyptini Lacordaire.

160 – *Anaglyptus bicallosus* (Kraatz); 161 – *A. arabicus* (Küster); 162, 163 – *Paraclytus albiventris* (Gressitt), holotype; 164 – *P. raddei* (Ganglbauer); 165 – *P. excultus* Bates; 160, 161, 164, 165 – endophallus and tube of penis; 162 – microtrichia; 163 – field of microtrichia.



Figs 166–169. Anaglyptini Lacordaire, endophallus and tube of penis.
166, 167 – *Anaglyptus* sp. (from Sichuan, China); 168 – *A. bellus* Matsumura et Matsushita; 169 – *Paraclytus emili* Holzschuh.



Figs 170–173. *Paraclytus* Bates, habitus.

170, 171 – *P. apicicornis* (Gressitt), male and female, respectively; 172, 173 – *P. shaanxiensis* Holzschuh, male and female, respectively.



Figs 174–177. *Paraclytus* Bates, habitus.
174, 175 – *P. scolopax* (Holzschuh), male and female, respectively; 176 – *P. murzini* sp. n., holotype female;
177 – *P. excellens* Miroshnikov et Lin, holotype female.



Figs 178–182. *Paraclytus thibetanus* (Pic).

178–180, 182 – habitus; 178 – male; 179, 180, 182 – female (180 – holotype); 181 – labels of the holotype.



183



184



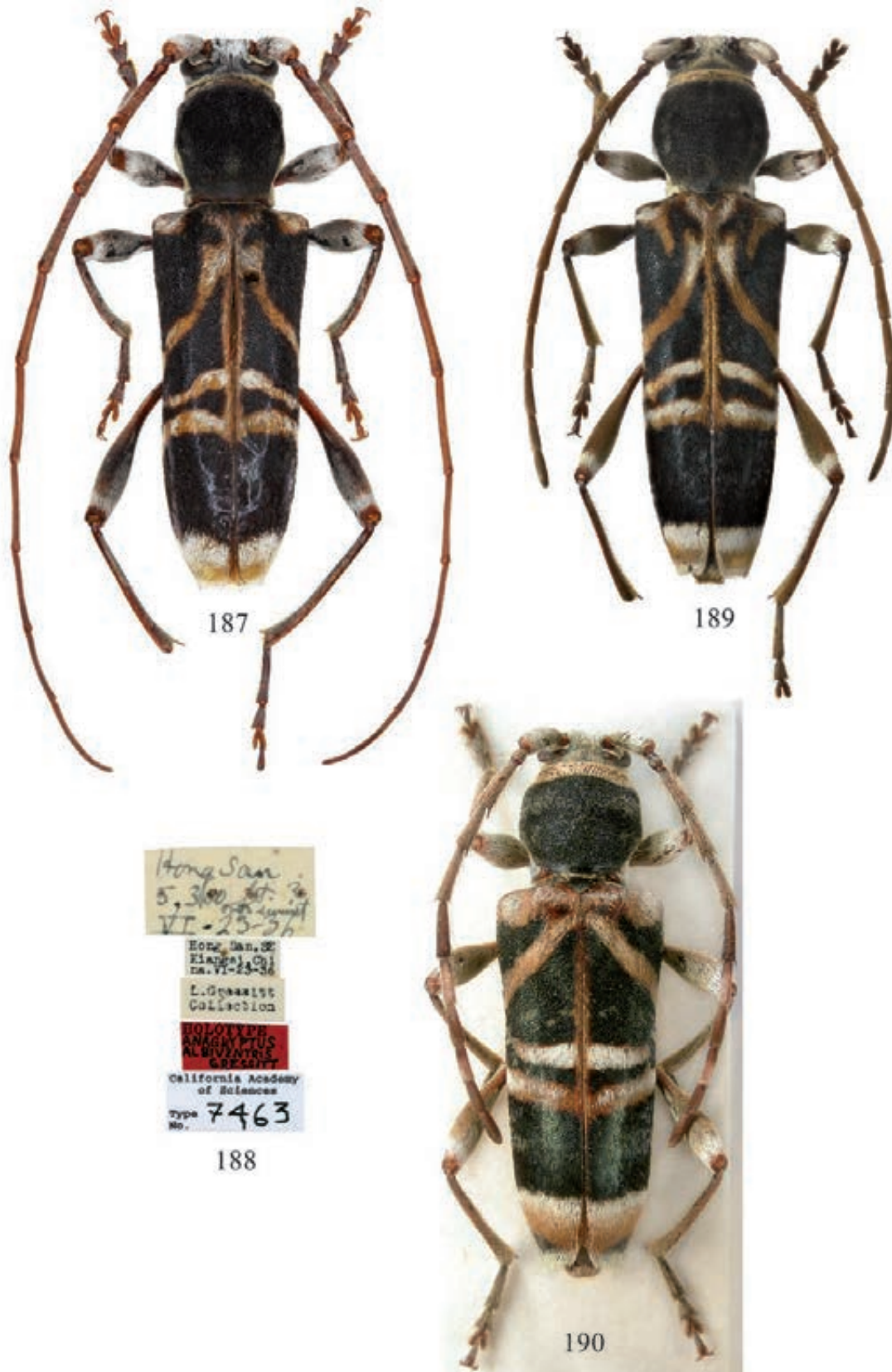
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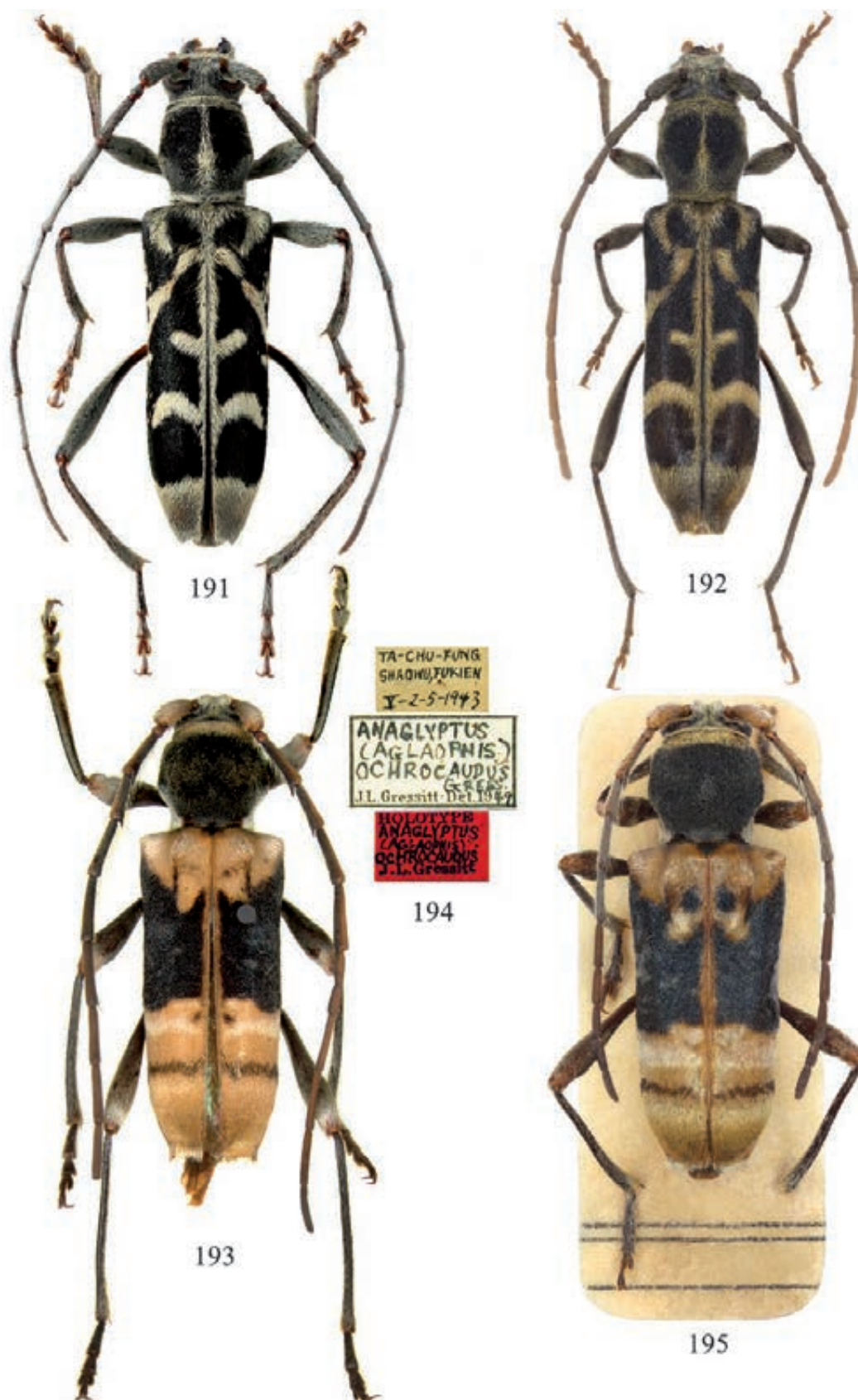
Figs 183–186. *Paraclytus* Bates, habitus.

183 – *P. helenae* (Holzschuh), holotype female; 184 – *P. irenae* (Holzschuh), holotype female (183, 184 – after Holzschuh, 1993, but colour photographs, reproduced courtesy of Luboš Dembický); 185, 186 – *P. emili* Holzschuh, male and female, respectively.



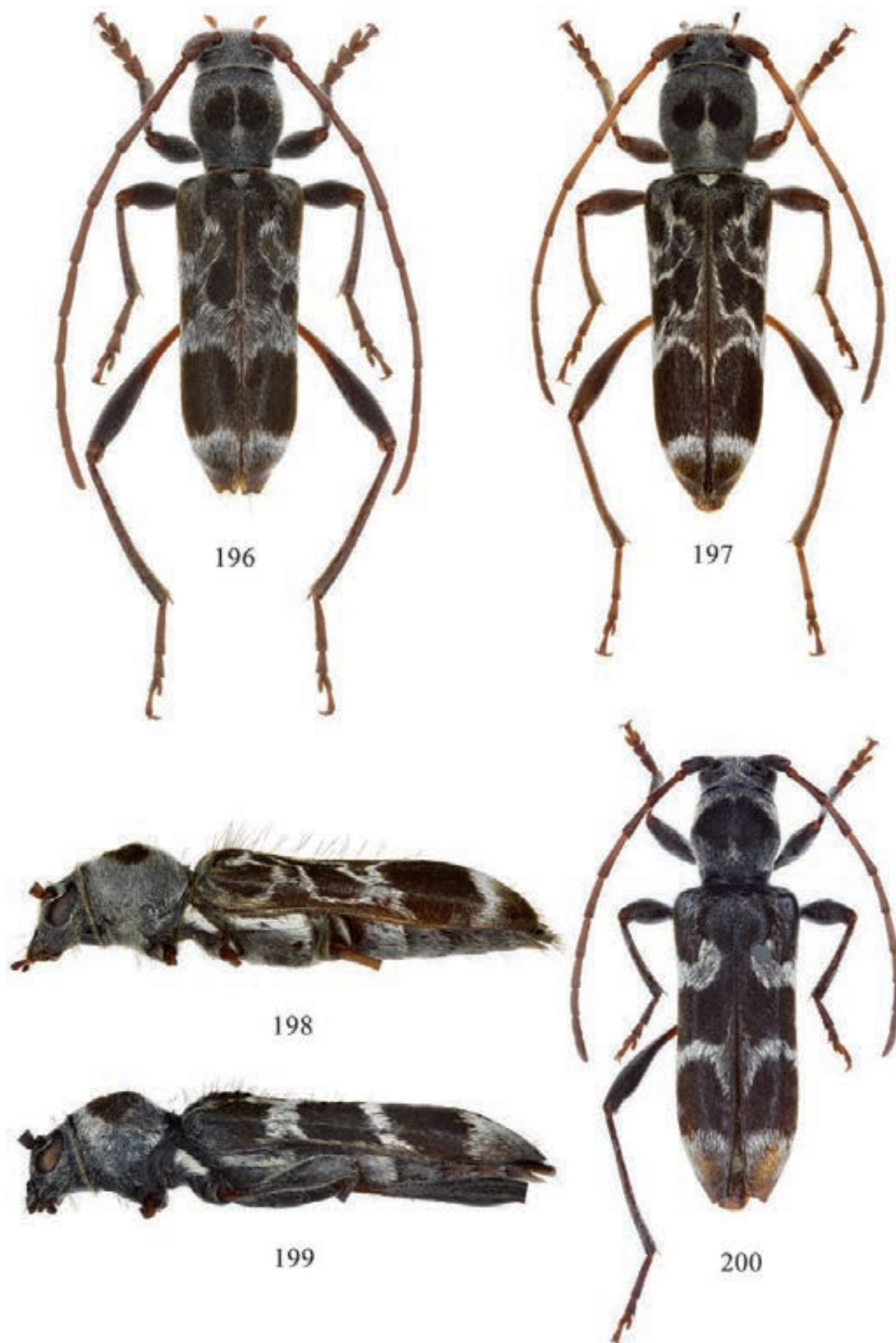
Figs 187–190. *Paraclytus* Bates.

187, 189 – *P. albiventris* (Gressitt) (187 – holotype male; 189 – female); 188 – labels of the holotype; 190 – *P. jii* (Holzschuh), holotype female (after Holzschuh, 1992, but colour photograph, reproduced courtesy of Luboš Dembický); 187, 189, 190 – habitus.



Figs 191–195. *Paraclytus* Bates.

191, 192 – *P. excultus* Bates, male and female, respectively; 193, 195 – *P. ochrocaudus* (Gressitt), holotype male and paratype female, respectively; 194 – labels of the holotype (193, 194 – photographs by Jianhua Huang).

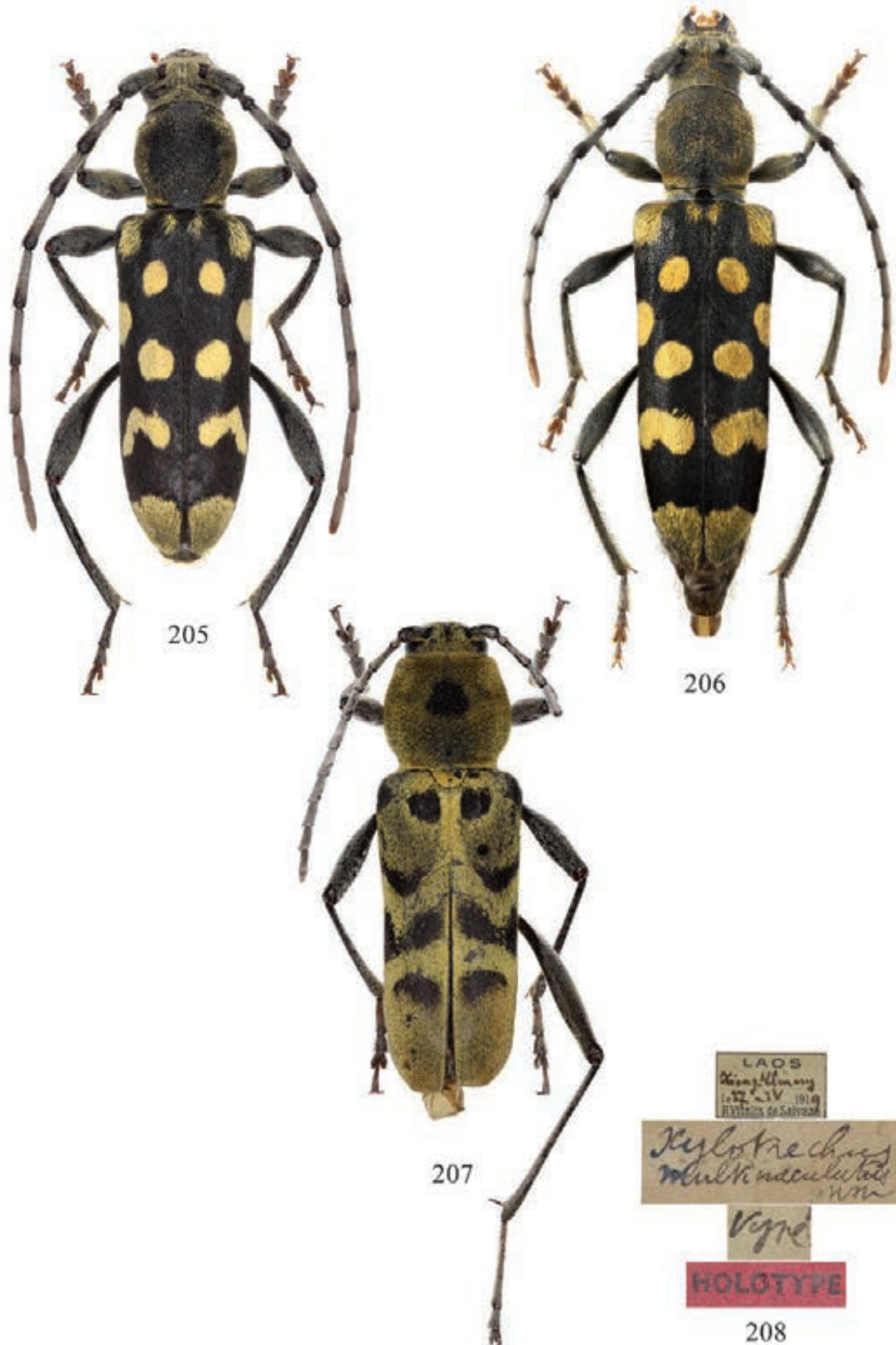


Figs 196–200. *Paraclytus* Bates, habitus.

196–198 – *P. primus* Holzschuh (196 – male; 197, 198 – female); 199, 200 – *P. wangi* Miroshnikov et Lin, holotype female; 196, 197, 200 – dorsal view; 198, 199 – lateral view.



Figs 201–204. *Paraclytus* Bates, habitus.
201, 202 – *P. raddei* (Ganglbauer), male and female, respectively; 203, 204 – *P. reitteri* (Ganglbauer), male and female, respectively.



Figs 205–208. *Paraclytus* Bates, and *Xylotrechus* Chevrolat.

205, 206 – *P. sexguttatus* (Adams), male and female, respectively; 207 – *X. multimaculatus* Pic, holotype male; 208 – labels of the holotype; 205–207 – habitus.

**A review of the genus *Clytellus* Westwood, 1853,
with notes on its systematic position
and descriptions of eleven new species
(Coleoptera: Cerambycidae)**

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With 273 figures and 4 maps

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Abstract. The Oriental genus *Clytellus* Westwood, 1853 is reviewed, rediagnosed, redescribed and mapped for all of its known species. The following 11 species are described as new: *C. dembickyi* sp. n. (southern Vietnam), *C. kubani* sp. n. (western Malaysia), *C. vivesi* sp. n. (Brunei), *C. tatarianae* sp. n. (western Malaysia), *C. belokobylskiji* sp. n., *C. lobanovi* sp. n. (both from northern Vietnam), *C. barclayi* sp. n. (eastern Malaysia), *C. gressitti* sp. n. (western Malaysia and Singapore), *C. kasatkini* sp. n. (Sumatra, Indonesia), *C. makarovi* sp. n. and *C. perhentianus* sp. n. (both from western Malaysia). *Clytellus malayanus* Hayashi, 1977, stat. n., originally described as a subspecies of *C. westwoodii* Pascoe, 1857, is regarded as a separate species. *Clytellus kareli* Holzschuh, 2003 is assumed to be a synonym of *C. kiyoyamai* Hayashi, 1977, but no formal synonymization is proposed. Detailed diagnoses and descriptions of, as well as a key to, all 28 species of the genus are given, with several new or first records, including those of the opposite sex. The systematic position of *Clytellus* is refined as representing a new monotypic subtribe, Clytellini subtribus n., with its differences from the numerous genera of the nominate subtribe Tillomorphina being detailed and discussed. A thorough bibliography list is provided, coupled with abundant colour pictures.

Key words. Coleoptera, Cerambycidae, Tillomorphini, new subtribe, *Clytellus*, review, new species, taxonomy, key, distribution, bionomics, bibliography.

INTRODUCTION

The genus *Clytellus* Westwood, 1853 occurs in the Oriental realm and has hitherto counted 17 species. No revision of this little-known, but highly interesting group has been carried out.

A detailed study of a diverse material from numerous museums and private collections treated here has led to the discovery of 11 new species. In addition, various new important morphological characters

previously not used in the systematics of the genus have been revealed. Previously unknown males or females, which appear to show sexual dimorphic external features, have also been found and described for the first time for a number of species. Last but not least, the distribution of most species has been clarified. To summarize, the present paper provides a global review of the genus *Clytellus*, with the bulk of old type material revised and significant amount of new samples analyzed.

Lacordaire (1869) originally assigned *Clytellus*, together with some other genera such as *Tillomorpha* Blanchard in Gay, 1851, *Euderces* LeConte, 1850, *Epipedocera* Chevrolat, 1863, to the group (tribe) Tillomorphides Lacordaire, 1868. Pascoe (1869), considering different groups like the above as “subfamilies”, included *Clytellus*, *Epipedocera* and the newly described *Halme* Pascoe in Tillomorphinae. Gahan (1906) placed the latter three genera, as well two more, namely, *Centroclytus* Motschulsky, 1863 and *Bicon* Pascoe, 1866, in a separate tribe, Epipedocerini Gahan. However Aurivillius (1912) synonymized this tribe with the Tillomorphini, proposing the latter tribe to contain over 20 genera, including *Clytellus*. Since then this genus has always been considered as a member of the tribe Tillomorphini Lacordaire, 1868.

The taxonomic composition of Tillomorphini has undergone numerous other changes since its erection, being treated in different ways by different authors. Even at the present the attribution of these or those genera to this tribe is controversial, as one can see from some recent works (e.g. Lingafelter, 2011; Vitali, 2011 and others). A discussion of the taxonomy of the tribe Tillomorphini is generally beyond the scope of this paper, but some comments on its composition and morphological features are presented below in relation to a refined systematic position of the genus *Clytellus*.

MATERIAL AND METHODS

The material this paper is based upon comes from the following institutional and private collections:

BM – Bishop Museum, Honolulu, U.S.A.
 BMNH – Natural History Museum, London (formerly British Museum, Natural History), United Kingdom
 EUM – Ehime University Museum, Matsuyama, Japan
 IZAS – Institute of Zoology, Chinese

Academy of Sciences, Beijing, China
 MCSN – Museo Civico di Storia Naturale “Giacomo Doria”, Genova, Italy
 MNHN – Muséum national d’Histoire naturelle, Paris, France
 MTD – Staatliches Museum für Tierkunde, Dresden, Germany
 NHMD – Natural History Museum of Denmark, University of Copenhagen, Copenhagen
 NHMW – Naturhistorisches Museum, Wien, Austria
 NMP – Národní Museum, Prague, Czech Republic
 OMNH – Osaka Museum of Natural History, Osaka, Japan
 SDEI – Senckenberg Deutsche Entomologische Institut, Müncheberg, Germany
 SMNH – Swedish Museum of Natural History, Stockholm, Sweden
 ZISP – Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia
 cAM – coll. Alexandr Miroshnikov (Krasnodar, Russia)
 cCH – coll. Carolus Holzschuh (Villach, Austria)
 cEV – coll. Eduard Vives (Barcelona, Spain)
 cFV – coll. Francesco Vitali (Luxembourg)
 cLD – coll. Luboš Dembický (Brno, Czech Republic)
 cNO – coll. Nobuo Ohbayashi (Kamimiyada, Miura City, Japan)
 cPV – coll. Petr Viktora (Kutná Hora, Czech Republic)
 cSM – coll. Sergey Murzin (Moscow, Russia)

The holotypes (only in one case, paratypes) of most of the *Clytellus* species have been examined. The holotypes of all four species described by Hayashi (1977) could only be assessed through quality photographs showing the habitus and various parts of the body, the pictures having been obtained from Dr. Kiyoshi Ando (Osaka, Japan), Dr. Nobuo Ohbayashi (Kamimiyada, Miura City, Japan),

Mr. Shigehiko Shiyake (Osaka Museum of Natural History, Japan) and Dr. Eduard Vives (Museu de Ciències Naturals de Barcelona, Spain). For two of these species, the photographs of the holotypes helped to reliably identify additional conspecific material. Moreover, a photograph-based re-examination of the holotype of yet another species of Hayashi has been significantly facilitated and clarified by some personal comments of Dr. Ohbayashi. Similarly, a picture of the fourth species described by Hayashi required no additional comments to properly establish its identity. All this has allowed for a revision of the entire genus to be accomplished, the older species rediagnosed, new congeners described, and an appropriate key compiled.

Material of the other genera of Tillomorphini used here for comparative purposes is not specified in detail. Some of this material is kept in the above-mentioned museums and private collections (including the author's collection), some other specimens have been obtained for study from Dr. James E. Wappes (American Coleoptera Museum, San Antonio, U.S.A.). Representatives of some of the genera of Tillomorphini could only be examined, based on numerous photographs (including those of type specimens) available both on specialized websites of various museums and on other network resources. Literature data have extensively been used as well.

Body size measurements were rounded to two decimal places up or down, to 0.00 or 0.05 mm, respectively.

In the "Material" sections, type specimens studied from photographs alone are listed only following any other pertinent material when such was present.

RESULTS AND DISCUSSION

Tribe *Tillomorphini* Lacordaire, 1868

Tillomorphides Lacordaire, 1868: 405; Lacordaire, 1869a: 88; Blackburn, 1896: 38.

Tillomorphinae, Pascoe, 1869: 640; Bates, 1870:

400; Pascoe, 1871: 274; Bates, 1885: 303; Shelford, 1902: 244.

Tillomorphini, Aurivillius, 1912: 418; Winkler, 1929: 1182; Bradley, 1930: 230, 240; Plavilstshikov, 1931: 15 (as *Tillomorphina*); Matsushita, 1933: 308; Linsley, 1935: 87; Wu, 1937: 719; Gressitt, 1939: 46; 1940: 84; Plavilstshikov, 1940: 533, 753; Mitono, 1940: 128; Gressitt, 1942: 32; Knull, 1946: 225; McKeown, 1947: 100; Gressitt, 1951a: 128, 308; 1959: 168; Arnett, 1962: 861, 888; Linsley, 1964: 179; Chemsak, 1969: 304; Gressitt & Rondon, 1970: 43, 281; Zayas, 1975: 140; Hayashi, 1975: 185; 1977: 124; Villiers, 1980: 299; Makihara et al., 1989: 298; Hüdepohl, 1990: 53; MacRae, 1994: 235; Giesbert & Chemsak, 1997: 212; Peck & Thomas, 1998: 120; Makihara, 1999: 68; Martínez, 2000: 79, 81, 90; Adlbauer, 2000: 8; 2001: 7; Turnbow et al., 2003: 16; Galileo & Martins, 2003: 31; Monné, 2005: 542; López-Pérez, 2005: 52; Peck, 2005: 173; Martins & Galileo, 2005: 10; Monné & Hovore, 2005: 132; Heffern, 2005: 25; Weigel, 2006: 501; Wappes et al., 2006: 19; Monné et al., 2007: 138; Barriga & Cepeda, 2007: 9; Galileo & Martins, 2008: 53; Holzschuh, 2009: 349, 351; Bousquet et al., 2009: 56 (as *Tillomorphini* Pascoe, 1869); Monné et al., 2009a: 244; Monné et al., 2009b: 305; Löbl & Smetana, 2010: 206; Micheli, 2010: 136; Swift et al., 2010: 29; Vitali, 2010: 114; Lingafelter, 2011: 72; Peck, 2011: 35; Bouchard et al., 2011: 75, 483; Monné & Bezark, 2012: 172 (as *Tillomorphini* Pascoe, 1869); Monné, 2012: 52 (as *Tillomorphini* Pascoe, 1869); Peck & Perez-Gelabert, 2012: 15–17, 21; Noguera et al., 2012: 621; MacRae et al., 2012: 179; Weigel et al., 2013: 98.

Epipedocerini Gahan, 1906: 305; Aurivillius, 1912: 418 (syn. pro *Tillomorphini*).

For a discussion of the systematic position of *Clytellus*, one based both on published and newly studied material, the tribe is here provisionally considered as encompassing the following genera, including *Clytellus*: the New World *Arawakia* Villiers, 1981, *Bonfilsia* Villiers, 1979, *Calliclytus* Fisher, 1932, *Epipodocarpus* Bosq, 1951 (Figs 19–21), *Epropetes* Bates, 1870 (Fig. 18), *Euderces* LeConte, 1850 (Figs 13–18), *Gourbeyrella* Lane, 1959, *Lamproclytus* Fisher, 1932 (Figs 7–9), *Licracantha* Lingafelter, 2011, *Mygalobas* Chevrolat, 1862, *Pentanodes* Schaeffer, 1904 (Figs 10–12), *Tetranodus* Linell, 1896

(Fig. 17), *Tilloglomus* Martins, 1975, and *Tillomorpha* Blanchard in Gay, 1851 (Figs 1–6), the South African *Paramyrmecoclytus* Breuning, 1970 and *Capederces* Adlbauer, 2001, the North African *Pseudomyrmecion* Bedel, 1885 (Fig. 22), the mainly Central Asian (together with the adjacent parts of China) *Cleroclytus* Kraatz, 1884 (Fig. 23), the strictly Oriental *Bicon* Pascoe, 1866, *Centroclytus* Motschulsky, 1863 (Figs 28–29), *Dembickya* Miroshnikov, 2013, *Halmenida* Pic, 1922, *Khampaseuthia* Holzschuh, 2009 and *Serratobicon* Holzschuh, 2009, the predominantly Oriental (with some representatives from New Guinea) *Epipedocera* Chevrolat, 1863 (Figs 25, 26) and *Halme* Pascoe, 1869 (Figs 27, 30), and the Australian *Acrogenoides* McKeown, 1945, *Homaemota* Pascoe, 1865, *Ochyra* Pascoe, 1871 and *Tilloforma* McKeown, 1945. In addition, *Tillomorphytes* Vitali, 2011 (Fig. 24), a genus recently described from Baltic amber, seems to belong here as well.

Although such a composition of the tribe, where the assignment of some genera is doubtful, may be problematic, I do not see this as an obstacle for neglecting their morphological characteristics in order to clarify the systematic position of *Clytellus*.

Concerning the generic composition of the tribe, it seems worth to emphasize a few genera, mostly not listed above, in some of which certain problems of their systematic position remain unresolved. Thus, the genus *Paramyrmecoclytus* Breuning, 1970 was originally placed in the tribe Acanthocinini, subfamily Lamiinae (Breuning, 1970), but later it was justly transferred to the Tillomorphini (Adlbauer, 2000). I have also revised the holotype of *P. similis* Breuning, 1970, kept in MNHN, and agree with the assignment of this genus to Tillomorphini. At the same time, the genus *Myrmecoclytus* Fairmaire, 1895, from Madagascar, the Comoros and South Africa, originally compared to

Clytellus, was assigned to Tillomorphini by Aurivillius (1912) and Plavilstshikov (1940), but Breuning (1957) correctly transferred it to the subfamily Lamiinae and placed in the tribe Acanthocinini, where this genus still remains, according to some modern authors and certain websites (e.g. <http://lully.snv.jussieu.fr/titan/>). I have been able to restudy the holotype of the type species *M. raffrayi* Fairmaire, 1895, the holotypes of *M. mayottei* Breuning, 1957, *M. singularis* Breuning, 1957, *M. affinis* Breuning, 1976 and some others, as well as some non-types, all in the MNHN collection. Again, my examination of this material confirms that their currently accepted placement in Acanthocinini is reasonable. The Central American genus *Hormathus* Gahan, 1890 has been transferred from the Tillomorphini to the tribe Ibidiionini (now Neoibidiionini Monné, 2012) (Lingafelter & Nearn, 2007). The genus *Falsohomaemota* Hayashi, 1961, described from New Caledonia and originally included in the Tillomorphini (Hayashi, 1961), has recently been assigned to the tribe Parmenini, subfamily Lamiinae (Vives et al., 2011; Vives, 2012; Sudre et al., 2013). Yet I believe the choice of the tribe to place this genus is doubtful. The New World *Tilloclytus* Bates, 1885, was originally referred to the Tillomorphinae (Bates, 1885), later restricted to the Tillomorphini by Aurivillius (1912). Zayas (1975) continued including *Tilloclytus* in the Tillomorphini, although Linsley (1964) had transferred it to the tribe Anaglyptini. Lingafelter (2011) does not exclude that Zayas is right, but still holds the position of Linsley. Some authors (López-Pérez, 2005) err in treating the genus *Epipodocarpus* within the tribe Obriini. At the same time, the genus *Obriomorpha* Aurivillius, 1917, originally assigned to the Tillomorphini, has since been synonymized with *Iphra* Pascoe, 1869 (Gressitt, 1951b), which is referred to the Obriini.

Subtribe **Tillomorphina** Lacordaire, 1868

Type genus: *Tillomorpha* Blanchard in Gay, 1851.

This subtribe includes all above genera composing the tribe but *Clytellus*. The subtribe is in need of a detailed revision.

Subtribe **Clytellina** Miroshnikov, **subtrib. n.**

Type genus: *Clytellus* Westwood, 1853.

Diagnosis. The new monogeneric subtribe features the characters of the genus *Clytellus*, all discussed below. It differs clearly from the Tillomorphina s. str. by body shape, structural details of the head, thoracic segments (at least the prothorax), abdomen, claws and some other traits.

Genus ***Clytellus*** Westwood, 1853

Clytellus Westwood, 1853: 481. Westwood, 1854: 240; White, 1855: 291; Boheman, 1857: 48; Thomson, 1860: 379; 1864: 195; Lacordaire, 1869a: 94; Pascoe, 1869: 642; Gemminger in Gemminger, Harold, 1872: 2943; Gahan, 1906: 312; Aurivillius, 1912: 424; Matsushita, 1933: 308; Wu, 1937: 719; Gressitt, 1939: 46; Mitono, 1940: 129; Gressitt, 1951a: 310; Gressitt & Rondon, 1970: 287; Maki-hara et al., 1998: 299; Heffern, 2005: 25; Löbl & Smetana, 2010: 206.

Type species: *Clytellus methocoides* Westwood, 1853, by monotypy.

Diagnosis. *Clytellus* shows a number of peculiar characters and differs very well from all genera of the Tillomorphina s. str. by the cylindrical body, the strongly developed part of the prosternum subtending the procoxae from behind (including an extremely long prosternal process), the only slightly separated antennal cavities, the square or subquadrate frons, the sculpture on the sides of the basal part of the prothorax, the very long first (visible) sternite which exceeds in

length all other (visible) sternites combined, the location and structure of the claws, and the length ratio of the last two antennomeres. In addition, *Clytellus* differs from the vast majority of the genera of the nominative subtribe by certain structural features of the elytra and some other characters. None of the genera of Tillomorphina s. str. shows such a diversified complex of important diagnostic characters as the genus *Clytellus*. This is certainly evidence of a considerable isolation of the genus within the tribe Tillomorphini, providing a sound basis for the establishment of a separate new subtribe.

Description. Body small, cylindrical (Fig. 58) (humeral width sometimes even slightly less than body thickness), with a characteristic habitus (e.g. Figs 55, 56, 59–62), prothorax often noticeably narrower than remaining body.

Head (e.g., Figs 57, 63, 66, 70, 73, 74) short, medium-sized, frons vertical or almost so, about equal in length and width (Figs 64, 65, 150, 151, 217, 218, 267–269), flat or barely convex, often with a distinct axial suture; antennal cavities placed very close together, isthmus between them usually clearly or considerably, rarely barely, shorter than antennomere 2 and more than twice shorter than isthmus between inner margins of eyes on frons; antennal tubercles extended into a triangular, apically transversely flattened or differently shaped tooth, this always being sharply delimited, sometimes quite high; genae long laterally, at base of mandibles drawn into a more or less long tooth; eyes large, moderately convex, not emarginate, with fully reduced dorsal lobes and distinct medium-sized (not large) ocelli; mandibles short; last segment of maxillary palpi often axe-shaped, last segment of labial palpi of male sometimes more or less axe-shaped; antennae always 11-segmented, one way or another shorter than body, in male they can freely extend behind inside apical one-quarter, in female reaching the middle or apical

one-third, of elytra, sometimes only slightly differing in both sexes, slightly thickened toward apex; all antennomeres longitudinal, more or less strongly elongated, from base to apex gradually (not sharply) and at most moderately expanded, with neither a tooth nor a spine at apex; antennomere 1 always longer than 3rd, subequal either to one or each of antennomeres 4–6, or as long as each of them, but sometimes clearly shorter than antennomere 5; 2nd 1.4–1.9 times as long as wide; last antennomere longest, often clearly curved, 1.58–2.07 times as long as penultimate one.

Pronotum of characteristic shape (e.g., Figs 57, 63, 66–76), longitudinal, strongly elongated, much narrower at base than at apex, deeply constricted before base, 2.03–2.73 or 1.38–1.93 times as long as width at base and apex, respectively, sometimes maximum extended before middle; in apical one-third, about the length of antennomere 2 off margin, either with (e.g. Figs 67–69) or without (e.g., Figs 71, 72, 75, 76) a more or less sharp constriction; at the very apex often with a well-expressed narrow constriction; at the very base with a narrow, usually sharp constriction as well; convex to a varying degree, often strongly so; sculptured differently, from almost entirely smooth with separated gentle punctures to coarsely folded longitudinally (especially so on sides, e.g. Figs 59, 60), granulate or cellulate (e.g., Figs 91, 92, 103, 104, 113, 120, 136–139, 141); disk sometimes with some axial structure, e.g., a longitudinal, strongly elongated, keel-shaped elevation (Figs 150, 151), a keel-shaped small tubercle (e.g., Figs 61, 62, 263–266) or a very strong oblong-oval tubercle (Fig. 179); constriction in front of base often with more or less deep longitudinal grooves (e.g., Figs 57, 67, 70, 71, 76) or, in contrast, a very smooth and strongly shiny integument; bottom of this constriction usually with a sharp or well-expressed, deep, longitudinal, straight or downcurved groove

(e.g. Fig. 57b), sometimes less strongly developed and poorly visible either against the background of a coarse sculpture on sides in the form of rough longitudinal folds (e.g. Figs 59, 60) or entirely masked under a very dense white setation (e.g. Fig. 89).

Scutellum triangular, longitudinal, often strongly elongated, sharpened or narrow at apex, sometimes more broadly rounded, usually located in a highly inclined plane with apex upwards.

Elytra (e.g., Figs 55, 56, 59–62) 2.27–2.79 times as long as width at base; behind humeri to a varying degree either tapered or, vice versa, slightly expanded towards middle, less often more or less straight in about basal one-third, extended behind middle, sometimes either very weakly or, on the contrary, significantly so (broadest in the extended area, as a rule), narrowed towards apex; apex always rounded, with neither teeth nor spines, sutural angle sometimes sharpened, rarely clearly emarginate on suture before apex; at the very base in the middle abruptly sloping down and, tapered on sides, extended forward to base of pronotum, apex of scutellum thereby either located about level to line connecting humeral angles or scutellum extending behind it only by no more than halfway while base of pronotum clearly removed from the line; disk at base often elevated and tuberculiform on each elytron; middle part or basal one-third usually clearly depressed both on sides and dorsally, sometimes mainly dorsally; surface behind depression often convex (e.g. Figs 56, 59, 60), sometimes strongly to very strongly so (e.g. Fig. 59); sculptured differently, from almost entirely smooth (excluding depressed areas) with a homogeneous and strongly shiny surface, bearing separate punctures, to presence mostly in basal half or one-third of coarse or very coarse, usually oblong-oval punctures, often in depressed areas on sides either with (e.g., Figs 202, 212, 214, 215, 232, 234) or without longitudinal, more or

less coarse and deep grooves, only punctured this or that way; base of each elytron often with a crest (e.g., Figs 59, 60, 90, 113–116, 121, 122, 132–135, 143), sometimes with a large crest-shaped elevation (e.g. Figs 191, 192) different in size and shape, sometimes very strong and high; elytra devoid of sculptural light fasciae, same as with neither fasciae consisting of dense light setae nor those visible only through light contrasting pigments on a flat, not inflated surface; only apex of elytra can be clothed with dense light setae.

Prosternum of peculiar structure (e.g. Figs 78–81), its part subtending procoxae from behind long, subequal to diameter of procoxae; prosternal process very long, more or less narrow at least between procoxae, in apical part closely appressed to remaining prosternum, forming no narrow slit, arched from base for most of its length, at apex more or less straight and usually clearly, sometimes strongly or poorly, elevated above adjoining surface, often moderately extended, sometimes either very clearly so, but not too strongly, or vice versa, parallel-sided to the very apex, between procoxae slightly to even clearly wider, but never narrower, than mesosternal process (!) (e.g. Figs 78, 79), both processes being subequal in width; prosternum in profile either straight (e.g., Figs 59–62, 70, 73, 74) or its apical part curved (e.g., Figs 57a, 63, 66, 89, 164) to a varying degree (this being very evident in lateral view), the curved profile thereby often correlated with presence of a constriction in apical third of pronotum; sculpture of prosternum of two types: one about the same in both sexes (e.g. Figs 105, 106), but usually more distinct in male; the other type, only in male, more or less coarse and deep, sparse or abundant, often heterogeneous punctures mainly in middle part, but entirely absent from female (e.g. Figs 80, 81); mesosternal process usually parallel-sided, sometimes slightly expanded towards apex, about half

the length of prosternal process; metepisterna usually almost entirely hidden under elytra, exposed only in their apical part, with either a peculiar, often shiny denticle directed back to base of metepisterna and oblique upward or laterad (Fig. 82a) or a tooth-shaped protrusion, this latter can be barely visible in small-bodied species; apical part of metepisterna sometimes strongly masked under a very dense white setation, but usually with a more or less naked denticle; profile of abdomen from base to apex usually directed more or less obliquely upward (e.g. Figs 56, 59–62), sometimes strongly so, thereby often either most of each of 2–3 last (visible) sternites or only last (visible) one located almost completely or entirely above level of epipleura of, and hidden behind, elytra in lateral view; first (visible) sternite very long (e.g. Fig. 77a), 1.14–1.80 (most often, 1.3–1.4) times as long as all following (visible), short sternites (e.g. Fig. 77b) combined; last (visible) sternite usually broadly rounded at apex.

Legs usually moderately long, but sometimes relatively short; femora claviform; metatarsomere 1 shorter than next two combined, but noticeably to much longer than 2nd; claws (e.g. Figs 83–85) parallel or nearly so, their apices usually very close together, can be partly fused at base (Fig. 84) or only one claw present (Fig. 85).

Body coloration generally not variegate; head usually black or at least dark on dorsal side, even if partly reddish-brown or red, then elytra and thoracic segments black or dark red-brown, only sometimes more flavous, but never clearly light in coloration; antennae from black to reddish-brown, sometimes red, but not clearly light, as a rule; thoracic segments and elytra in most cases monochrome or nearly so, dark tones, can be partly reddish-brown or red; abdomen often partly brownish or reddish, sometimes venter entirely or almost completely red-brown or red; either pronotum and elytra or just elytra

often clearly or strongly shiny, elytra (sometimes pronotum as well) often with a metallic lustre of different tints; legs from almost entirely or mostly black or dark brown to mostly brownish-red or red, tarsi often more or less lighter, femora in apical part or at base often reddish-brown, sometimes red.

Setation characterized by usually sparse, but rather often abundant, erect, light setae present on elytra, yet mostly absent from pronotum, if present also there, then very few or sparse, as a rule; base of pronotum often with a fascia, sometimes quite wide, of dense, recumbent, light, usually white setae; dense, recumbent, white setae on elytra can only be observed at their apex, sometimes combined with suberect setae; setation on ventral side of body usually well-developed on thoracic segments and first (visible) sternite, thereby setae on prosternum often thicker in male and, if it has a coarse or rather rough, deep puncturation, then setation in-between can feature a peculiar pattern.

In general, the habitus and structural details of *Clytellus* species are so characteristic that all authors in their original descriptions have never erred in their generic allocations. The same certainty concerns the numerous new species described below.

Note. Some features used in the identification keys, diagnoses and descriptions of the species are shown in Figs 55–84.

Comparative remarks. In all genera of Tillomorphina s. str., the body is small to medium-sized, from clearly flat, e.g. in *Tillomorpha lineoligera* Blanchard in Gay, 1851 (the type species of the genus) (Fig. 2), the monotypic *Epipodocarpus* (Fig. 20) or *Epropetes* spp., to robust, subcylindrical, e.g. in the monobasic *Licracantha* (see Lingafelter, 2011, figs 1, 2), but the width of the humeri, albeit to a varying degree, always exceeds the maximum thickness of the body; thereby, unlike *Clytellus*, the prothorax is usually about as thick as, sometimes even slightly thicker than, the rest of the body.

The head is with an evident or strongly transverse frons (Figs 31–34). At least I am unaware of forms showing a square frons like in *Clytellus*. The antennal cavities usually are more or less considerably separated from each other, but the isthmus between them, in one way or another, always exceeds the length of antennomere 2, often less than twice so, only sometimes, e.g. in the monotypic *Pseudomyrmecion*, just slightly longer (about 1.2 times), but even in this case the frons remains strongly transverse (Fig. 34). The antennal tubercles are from poorly to very well-developed, usually oriented more or less longitudinally. The eyes are arranged in different ways, but in most genera from the New World, in all Australian genera, *Cleroclytus* and some others they are deeply emarginate, with a small, but well-developed dorsal lobe (Figs 8, 18, 35, 36, 38–40, 42). The antennae vary from very short to strongly exceeding the length of the body, sometimes very peculiar in structure, as e.g. in *Licracantha* (see Lingafelter, 2011, figs 1, 2). In many *Euderces* species, antennomere 3 has a long or very long spine at the apex (Figs 13, 16); often each of antennomeres 3–4 or 3–5 can bear an evident spine, the best developed one in antennomere 3. In the males of *Pentanodes* and *Tetranodus*, antennomeres 3–6 are strongly inflated (Figs 10, 12, 17). The antennae of *Arawakia*, *Bonfilsia*, *Lamproclytus* (Fig. 7), *Calliclytus* (at least *C. macoris* Lingafelter, 2011), by the way like in some *Tilloclytus* species, count only 10 segments. In a number of tillomorphine genera, antennomere 3 is to a varying degree longer than antennomere 1, even much longer as observed in numerous representatives of the genera *Euderces*, *Epropetes* and *Cleroclytus* (Figs 13–16, 18, 23), as well as in the monotypical *Acrogenoides*. The apical antennomeres of *Lamproclytus*, *Centroclytus*, *Bicon*, *Serratobicon*, numerous *Epipedocera*, as well as some others are shortened, expanded, their apical external

angle to a varying degree being inflated (in different cases, except for the last antennomere) (Figs 7, 25, 26, 28). However, it seems to be only *Clytellus* that shows the longest last antennomere, even though usually it only slightly exceeds the length of the penultimate antennomere.

The pronotum varies (Figs 1, 2, 4, 5, 7, 8, 10, 11, 13–20, 23–25, 27–30, 35–42) from longitudinal, through variously elongated, often strongly so, to transverse, considerably expanded in the middle, sometimes with a large, sharp, lateral tubercle, as e.g. in *Ochyra*; often before the base there is a more or less clearly developed constriction; the very base is usually narrower than the apex, but sometimes it is vice versa, as e.g. in *Acrogenoides*. However, the shape of the constriction in front of the base reminds of that of *Clytellus* only in a few tillomorphines, e.g. *Epropetes* (Fig. 18) or *Licracantha*. The pronotum in most cases is clearly less convex than in *Clytellus*, often poorly to moderately convex, only in the basal one-third it can be more or less abruptly sloped towards the very base (Figs 35–42).

The base of the scutellum in most cases is located either about level to the humeral line or slightly pushed forward towards the base of the pronotum; it is more rarely that the location of the scutellum resembles to a varying degree that of *Clytellus*.

The elytra are often more or less flat on the disk (Figs 2, 5, 8, 20), sometimes more or less clearly convex in the apical part (Fig. 29), a clear depression in the middle or basal one-third is absent, as a rule, but neither such a strong degree of convexity in the apical part nor such a sharp depression in front of it is observed beyond these or those species of *Clytellus*. The base of the elytra in most cases is devoid of an evident tubercle-shaped elevation or crest, but either or both are often present in *Clytellus*. The apex of the elytra is sometimes with sharp, more or less long spines or teeth, e.g. in *Centroclytus* (Fig.

28), *Bicon*, *Serratobicon* or *Epipedocera*. Unlike *Clytellus*, most of the tillomorphines show a highly characteristic, light, more or less narrow fascia (sometimes fasciae) usually located in the middle of the elytra and formed by an inflated surface (Figs 4, 5, 7, 8, 10, 11, 13–17, 23, 25, 27–30). Sometimes the elytra have not only similarly arranged fasciae (Figs 1, 2, 22), but also either partly fused or free longitudinal strips, as observed in *Acrogenoides* and *Arawakia*, respectively. In a number of tillomorphines the fascia or fasciae are composed of dense light setae or formed by a light pigment coloration over a plain, non-inflated surface.

The prosternum (Figs 9, 12, 21, 26, 43–48) is arranged differently, but its part subtending the procoxae from behind is more or less narrow in the vast majority of tillomorphines, thereby often failing to close the coxae sufficiently completely and forming a visible gap or a significant break; only in some genera is the prosternum more strongly developed, as e.g. in *Epropetes*, but it can only reach in length not more than half the diameter of the procoxae (Fig. 45). The prosternum in the male of numerous tillomorphines shows more or less coarse, usually abundant punctures which are absent in the female. Thereby in some species-rich genera such as *Euderces*, this external sexual character is surprisingly very stable, unlike *Clytellus*. The profile of the prosternum varies from straight to strongly curved (Figs 8, 29, 35–42). The prosternal process ranges from very narrow to much wider, about equal to half the diameter of the procoxae or even their entire diameter, as e.g. in *Epipedocera*. The mesosternal process is to a varying degree broader than the prosternal process between the procoxae, often clearly, sometimes only slightly or even barely so, up to both being subequal (I am unaware of a reverse ratio as in *Clytellus*). In some tillomorphines, the mesosternal process is not less than twice as broad as the prosternal

process between the procoxae, as observed e.g. in *Cleroclytus*, *Epipedocera* and certain other members. The metepisterna at the apex show neither a denticle nor a dentiform protrusion (Figs 49–54) present in *Clytellus*.

The profile of the abdomen is often more or less straight (Figs 1, 3, 8, 11, 20), but in some forms it is clearly or strongly, as e.g. in *Licracantha*, directed obliquely from base to apex (see Lingafelter, 2011, fig. 2). In lateral view, usually all (visible) sternites are exposed to a varying degree, not hidden behind the elytra. The first (visible) sternite is always somewhat shorter than all following (visible) sternites combined (Figs 3, 6, 9, 12, 21, 26, 29), often not or only slightly longer than the next two (visible) sternites combined.

The legs are usually more or less moderately long, the femora are claviform to a varying degree; metatarsomere 1 in most cases is shorter than to subequal to the next two metatarsomeres combined, but sometimes vice versa, from slightly to much longer than all subsequent metatarsomeres combined, as e.g. in some species of *Epropetes*, *Tillomorpha myrmicaria* Fairmaire et Germain, 1859 and probably some others. By the way, *T. myrmicaria* (Figs 4–6, 32, 36, 44) differs from *T. lineoligera* (Figs 1–3, 31, 35, 43) strongly enough by a number of features and possibly deserves a new generic-level taxon of its own, being considered here within the genus *Tillomorpha* but provisionally. The claws in the vast majority of genera, including all from the New World, Australia, as well as *Pseudomyrmecion*, *Cleroclytus* and some others are opposed; in all Oriental genera except *Dembickya*, which has opposed claws, the claws are to one degree or another diverging, usually strongly so. Only in *Centroclytus* can the location of the claws sometimes resemble that in *Clytellus*, but in the former genus they usually diverge more strongly. There are no other genera like *Clytellus* where some species show either

both claws partly fused at the base or only one claw present.

The beetles are often with a bright coloration; the head (discarding the eyes and mouthparts) are often almost entirely red tones or at least partly red; the antennae, pronotum, elytra (usually their basal part), prosternum, mesosternum and legs are often completely or partly red as well; the elytra can be highly variegated, with three, sometimes four, colours forming a pattern.

The setation is variable enough. The dorsal side of the body is clothed with more or less abundant setae often observed not only on the elytra, but also on the pronotum, including its dorsal side. In the presence of coarse (rough) punctures on the prosternum of the male, the setae between them form no pattern similar to the one observed in many *Clytellus*.

It is noteworthy that *Tillomorphites* (Fig. 24) differs clearly from *Clytellus* in almost all these characters as do the other members of the subtribe Tillomorphina. In particular, this concerns a flattened body, the structure of the head, including very widely spaced antennal cavities, the shape and length ratios of some antennomeres, the structure of the elytra and the ventral part of the body, including the width ratio of the pro- and mesosternal processes between the coxae. The above comparative morphological characteristics of these genera can be very useful in reconstructing the phylogeny both of the whole tribe Tillomorphini and the genus *Clytellus*.

A review of species

1. *Clytellus elongatus*

Pic, 1931

(Figs 78, 86–92)

Clytellus elongatus Pic, 1931: 13 (“Tonkin, Hoa Binh”). **Type locality:** Northern Vietnam, Hoa Binh Province (according to the original description and the label of the holotype).

Material. Holotype ♀, by monotypy (MNHN), “Hoa Binh Tonkin”, “*Clytellus elongatus* n sp”, “type” (in fact the holotype is provided with one more label, see Fig. 87); 1 ♂ (ZISP), Vietnam, Hoa Binh Prov., Yen Thuy Distr., Da Phuc, 20°18'N, 105°35'E, 100 m, 3.–4.V.2002, S. Belokobylskij leg.

Diagnosis. This species differs clearly from all congeners by the wide fascia of bright light setae at the base of the pronotum which is barely interrupted at the axial line and embraces on the dorsal side the very margin of the base, almost completely hiding a narrow constriction in front; a distinct, longitudinal, median groove at the base of the pronotum between the very margin and the constriction before the base, emphasizing a narrow interrupted fragment of the fascia; a coarse sculpture of the pronotum forming clear large cells ruptured in places and dominating in the male, but only partly evident in the female (a similar cellulate sculpture is only observed in *C. methocoides*); a very coarse puncturation of the elytra, clearly weakened in the apical half of the disk, but rather coarse on the sides up to the very apex and even near it dorsally; almost entirely monochrome elytra with a strong metallic lustre uniform over the entire surface (except for a lighter apex), without apical fascia of light setae. *Clytellus elongatus* can be relatively easily diagnosed by the structural features of the pronotum alone, namely, the above fascia and groove at the base combined with its generally coarse sculpture. Besides *C. methocoides*, a coarse sculpture of the pronotum (apart from special structures in the form of a very strong tubercle, a keel-shaped tubercle, a longitudinally elongated keel-shaped elevation on the disk and grooves in the area of constriction in front of the base, as in Figs 57, 61, 62, 67, 70, 71, 76, 150, 151, 179, 263–266) occurs only in a few species, namely, *C. laosicus*, *C. canaliculatus*, *C. serratulus* and *C. dembickyi* sp. n., all of which are also characterized by a generally coarse sculpture of the elytra. However, a

fascia at the base of the pronotum amongst these species is only present in *C. dembickyi* sp. n., but it is much narrower than in *C. elongatus*, widely interrupted dorsally and not reaching the very margin of the base. In addition, *C. elongatus* differs clearly from *C. dembickyi* sp. n., as well as from the other species noted above, by several other characters, including a poorly developed crest at the base of each elytron and the absence at the apex of a fascia of light setae. No evident median groove at the base of the pronotum is observed in the other species of the genus.

Description. Body length 4.5–4.6 mm, humeral width 1.10–1.15 mm (see Remarks below). Black; antennae of male dark brown, in female predominantly dark reddish-brown; base of femora, tarsi and, in female, also tibiae, apex of femora and, partly, venter brown and reddish-brown tones; elytra metallic dark blue-green or dark blue, shiny, brownish at apex.

Head with a flat frons; antennomere 2 ca 1.1 times as long as isthmus between antennal cavities; antennae reaching up to about apical one-third or middle of elytra in male and female, respectively; antennomere 1, 1.42–1.50, 1.10–1.14, 1.10–1.20 or 1.10–1.26 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.40–1.50 times as long as wide; last antennomere 1.66–1.78 times as long as penultimate one.

Pronotum 1.66–1.73 times as long as wide at apex, 2.03–2.04 times as long as width at base; apex 1.18–1.22 times as broad as base, the very base 1.21–1.23 times as broad as constriction in front of base; moderately convex; in female slightly more rounded on sides in the middle than in male; with a coarse alveolate/cellular sculpture very sharp in the center of disk in male, but clearly more smooth, sometimes weakly expressed in female; most of surface clearly microsculptured; the very base on dorsal side of the middle with a sharp longitudinal groove; area of constriction in front of base with longitudi-

nal wrinkles, these being more abrupt in male and better developed on one side; a longitudinal groove at bottom of this constriction masked under very dense light setae.

Elytra 2.5–2.52 times as long as width at base, in apical half 1.05–1.13 times as broad as base; each elytron at base with a clear, but not coarse, relatively low, longitudinal, yet noticeably oblique crest, partly serrate above; behind the crests first a weak depression, then slightly convex; almost from the very base with coarse to very coarse, deep oblong-oval punctures, roughest over most of elytra, to a varying degree weakened in apical one-third on disk, but still clearly coarse on sides almost up to the very apex, as well as on dorsal side of apex, especially so in male.

Prosternum with a heterogeneous sculpture, similar in both sexes (in male without coarse deep punctures), in apical part with gentle transverse folds better expressed in male, in the middle with sparse, irregular, flat (!), relatively large, but not coarse punctures mostly masked under dense setae in male and clearly visible in female; prosternal process at apex clearly wider than between procoxae; mesosternal process slightly narrower than prosternal process between procoxae, at least so in male; meso- and metasterna, and first (visible) sternite with sparse flat punctures like on prosternum; metepisterna with a poorly developed (especially so in male) denticle at apex; first (visible) sternite 1.14–1.40 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a strong fascia, partly sides of pronotum, scutellum, most of prosternum, almost entirely (in male) or partly (in female) meso- and metasterna, and first (visible) sternite, partly also following sternites (especially in male) and legs clothed with dense, recumbent, white setae with silver

tint; head, antennae, partly pronotum, venter and legs clothed with similar, but sparser setae; head, partly antennae, mostly apical part of pronotum on sides, venter and partly legs with more or less long, sparse, erect or suberect, light setae; elytra covered by sparse, predominantly robust (clearly thicker than over remaining surface), on sides short and partly suberect, light setae longest and erect on disk; setation in female especially recumbent and clearly less strongly developed than in male.

Distribution (Maps 1, 2 and Table). Northern Vietnam: Hoa Binh Province. Known only from one particular locality.

Bionomics. Adults active at least in the first half of May, obviously visit flowers.

Remarks. This species was omitted from the monograph on the fauna of Laos (Gressitt & Rondon, 1970). Instead, these authors quote there not only *C. laosicus*, but also *C. olesteroides*, distributed in the Andamans, and *C. methocoides*, recorded solely in Hong Kong, China.

The holotype is smaller.

2. *Clytellus methocoides* Westwood, 1853 (Figs 59, 77, 83, 93–106)

Clytellus methocoides Westwood, 1853: 481 (“prope Hong Kong, China”). Westwood, 1854: 240, pl. 12, fig. 6. **Type locality:** China, Victoria Peak, near Hong Kong (according to the original description and redescription); Gerstaecker, 1855: 192; White, 1855: 291; Pascoe, 1857: 97; Boheman, 1857: 48; Chevrolat, 1863: 339; Lacordaire, 1869a: 95; 1869b: 32, pl. 92, fig. 5; Pascoe, 1869: 642; Gemminger in Gemminger, Harold, 1872: 2943; Pascoe, 1885: 57; Aurivillius, 1912: 424; Kano, 1930: 46 (southern Taiwan, Arisan; now Alishan; ?wrong record); Matsushita, 1933: 308; Wu, 1937: 719; Gressitt, 1939: 46; Mitono, 1940: 129; Gressitt, 1951a: 310; Gressitt & Rondon, 1970: 287; Hua, 1982: 34; 1984: 26; 1987: 13; Makihara et al., 1998: 299; Hua, 2002: 202; Wang & Hua, 2009: 166; Yiu, 2009: 74; Löbl & Smetana, 2010: 206.

Material. China: holotype ♀, by monotypy (BMNH), “Hong Kong” (upperside) + “50–108” (underside), “*methocoides* West.” (this label has additional text, see Fig. 94), “Holotype”, + one

more label (Fig. 94); 2 ♂ (BMNH), “China [Hong Kong]”, “122, 3/4/52”, “Bowring, 63–47*”; 1 ♂ (BMNH), “China [Hong Kong]” (upperside) + “56–45” (underside), “122, 22/3/54”; 1 ♂ (BMNH), “China, H.[ong] Kong”, “Fry Coll. 1905–100”, “ex Mus. Murray”, “28978”; 1 ♀ (BMNH), “China”; 1 ♀ [IZAS, IOZ(E)1859044], Hong Kong, Ngau Ngak Shan, 22°24'54"N, 114°14'53"E, 610 m, 21.IV.2009, V. Yiu leg.; 1 ♂ (NMP), “*Clytellus methocoides* Westw. China”, “122, 19/3/62”, “Coll. Nickerl, Mus. Pragense”; 1 ♂ (NHMW), “Boyer / 860” (a label with locality data is missing, but probably this specimen stems from China); 1 ♀ (EUM) (photograph), Hong Kong, Victoria Peak, 3.VI.1990, K. & M. Ando leg. (K. Ando Collection). Vietnam: 1 ♂ (cSM), Baitylong [= Bai Thu Long] Archipelago, Dongkho Island, 22.III.1987, V. Yanushev leg.; 1 ♀ (ZISP), Hoa Binh Prov., Mai Chau Distr., Pa Co, 20°45'N, 104°54'E, 1100–1200 m, 27.–28.IV.2002, S. Belokobylskij leg. Laos: 1 ♂ (cPV), Houa Phan Prov., Ban Saleui [= Saleuy] – Phou Pane Mt, 1450–1920 m, 10.–21.VI.2010, S. Jakl & local collectors leg.; 2 ♀ (cPV), Houa Phan Prov., Phou Pane Mt, 20°12'N, 103°59'E, 1200–1600 m, 1.–10.VI.2011, local collectors leg.; 2 ♂ (cNO) (photograph), Phou Pane Mt, Ban Saleui, Xam Neua, 28.–30.III.2005, N. Ohbayashi leg.; 2 ♂ (NMP) (photograph), Houa Phan Prov., Ban Saleuy – Phou Pane Mt, 1340–1870 m, 2.–22.VI.2011, V. Kubán & Lao leg.

Diagnosis. This species differs from all congeners by the peculiar structure of the crest at the base of each elytron, the most strongly convex elytra on the disk behind the crests, certain features of pronotum sculpture (resembling only *C. canaliculatus* and partly also *C. elongatus*), combined with some other characters described below. Based on the puncturation of the elytra, the shape and generally coarse sculpture of the pronotum, the absence of coarse punctures on the prosternum in the male, partly also on body coloration, *C. methocoides* can be compared to *C. laosicus*, *C. serratulus*, *C. dembickyi* sp. n. and the already mentioned *C. canaliculatus*, but differs from them in structure of the claws (not partly fused at the base), by the elytra are more extended in the apical part compared to their base, as well as in some other characters of each of the above species (see their diagnoses).

Description. Body length 4.40–5.85 mm, humeral width 0.95–1.30 mm (holotype: 5.55 mm and 1.25 mm, respectively) (see Remarks below). Black; elytra partly red, starting from base, thereby red coloration either can reach about apical one-third of elytra on disk and almost their apical one-fifth on sides or, vice versa, present only at the very base as dark tones, leaving almost entire surface of elytra black except for a brownish apex; sometimes elytra completely black except for a brownish apex (see Remarks below); pronotum and prosternum can partly be red (in basal part, as a rule, but sometimes also at apex), also completely or partly mesonotum, meso- and metasterna, partly sternites, usually except for first (visible) sternite, apex or base of all femora (in area of clava), as well as partly or entirely tarsi; elytra often with a bluish lustre.

Head with a slightly or barely convex frons; antennomere 2, 1.22–1.30 times as long as isthmus between antennal cavities; antennae usually slightly differing in length in male and female, freely or far reaching behind inside apical quarter of elytra, sometimes slightly failing to reach the apex of elytra in male; antennomere 1, 1.15–1.20 or 1.02–1.07 times as long as 3rd and 4th, respectively, either barely longer or shorter than antennomere 5 or 6, or subequal to each of them; antennomere 2, 1.50–1.76 times as long as wide; last antennomere 1.65–1.86 times as long as penultimate one.

Pronotum 1.62–1.73 times as long as wide at apex, 2.07–2.19 times as long as width at base; apex 1.26–1.27 times as broad as base, the very base 1.21–1.27 times as broad as constriction in front of base; extremely strongly convex; in female slightly more rounded on sides in the middle than in male; coarsely sculptured on disk due to numerous granulations and more or less short, mostly irregular folds; side surface of pronotum, mostly at base, usually with very sharp, long, longitudinal, partly sinuous folds masking to

a varying degree a longitudinal groove located there at bottom; most of pronotum clearly microsculptured.

Elytra 2.50–2.66 times as long as width at base, in apical half 1.28–1.34 times as broad as base; each elytron at base with a very strong, longitudinal, but noticeably obliquely positioned crest, its shape resembling a shark's dorsal fin, usually slightly serrate above; surface behind crests extremely strongly convex; in basal one-third with a coarse to very coarse, deep, oblong-oval puncturation strongly weakened towards the middle of elytra on disk (on its convex surface), but well-developed about until the middle of elytra on sides; base partly microsculptured.

Prosternum with a heterogeneous sculpture, similar in both sexes (in male without coarse deep punctures), in apical part with gentle transverse folds, smoother in female; prosternal process at apex clearly wider than between procoxae; mesosternal process about as wide as or barely narrower than prosternal process between procoxae; metepisterna with a small denticle at apex; first (visible) sternite 1.4–1.8 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: partly sides of pronotum, as well as pro- and mesosternum, coxae, almost entire or most of metasternum, and first (visible) sternite, often apex of elytra clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides and usually dorsally, elytra, venter and partly legs covered by more or less long, sparse, on elytra mostly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). Until recently, this species was reliably known only from Hong Kong (Gressitt, 1951; Gressitt & Rondon, 1970), since then recorded

also in Guangdong Province, China (Löbl & Smetana, 2010: “Guandong”, sic!). Above are the first reports from northern Vietnam (Hoa Binh Province) and northeastern Laos (Houa Phan Province). Without any doubt, *C. methocoides* is widely distributed in the extreme Southeast of China, at least west of Hong Kong. The old record in southern Taiwan (Kano, 1930) has not yet been confirmed (Chou, 2004), although Taiwan is mentioned by Löbl & Smetana (2010). However, this requires verification, based on pertinent material.

Bionomics. In China, adults are active from early April to about early June, in Vietnam from the second half of March at least to the end of April, in Laos from the end of March to the second half of June, visit flowers.

Remarks. Body length is given here, based on the material examined. According to published data (Gressitt, 1951; Gressitt & Rondon, 1970), the beetles are 4–6 mm long.

The strongest red coloration on the elytra is observed in specimens from northern Laos, as in Figs 59, 96, 98, 99, 104, 106; both pronotum and prosternum are red tones not only at the base (noted also in the Chinese populations), but at the apex as well. Highly unusual is the coloration of the specimens from northern Vietnam, in which the elytra are almost entirely black (with a bluish lustre), and only the very base is red while the apex brownish (Figs 97, 100, 101), or completely black except for a brownish apex. It is noteworthy that even the crests in these specimens remain entirely black, these always being red, often only with a blackened apex, in the Chinese and Laotian samples. It is somewhat surprising to see melanism in the northern Vietnamese population (as far as one can judge, based only on two specimens), although its locality lies between the typically coloured Chinese and north Laotian populations characterized by a far greater development of red coloration both on the elytra and prothorax.

3. *Clytellus laosicus*

Gressitt et Rondon, 1970
(Figs 107–116)

Clytellus laosicus Gressitt & Rondon, 1970: 287, fig. 44, h. **Type locality:** Laos, Vientiane Province, Tha Ngone (= Tangone) (according to the original description and the label of the holotype). Hua, 1984: 26.

Material. Holotype ♂ (BM), “Laos, Vientiane, Tangone, 20.II.[19]64”, “J.A. Rondon Collection Bishop Mus.”, “Holotype *Clytellus laosicus* J.L. Gressitt et Rondon”, “8444” (Fig. 108); paratype ♂ (BM), same labels, but “Paratype *Clytellus laosicus* J.L. Gressitt et Rondon” (Fig. 112); paratype ♂ (BM), same labels, but taken on 2.III.[19]64; paratype ♂ (BM), “Laos, Borikhane Prov., Paksane, 17.II.[19]64”, “J.A. Rondon Collection Bishop Mus.” (Fig. 110); 2 paratypes ♂♂ (BM), same labels, but taken on 29.II.[19]64.

Diagnosis. This species resembles *C. methocoides*, but differs clearly by structure of the crest at the base of each elytron, the less convex elytra behind the crests, in certain features of the sculpture of the pronotum, including the absence of longitudinal folds on the sides of the base, and by some other characters. Together with *C. canaliculatus*, *C. serratulus* and *C. dembickyi* sp. n., it forms a group of species characterized by the claws partly fused at the base (not observed in the other congeners), by a generally coarse sculpture of the pronotum, a well-developed crest at the base of each elytron, a very coarse sculpture in the basal part of the elytra, the absence of a coarse deep puncturation on the prosternum in the male, and a number of other features. Among these species, *C. laosicus* seems to be especially similar to *C. dembickyi* sp. n., but differs by the coarser and much more abundant granulations on the pronotum, the absence of a fascia of dense light setae at its base, the presence of a more abundant and coarse puncturation in the basal part of the elytra, as well as in the somewhat different shapes of the pronotum and elytra. Evident differences of *C. laosicus* from both *C. canaliculatus* and *C. serratu-*

lus lie in structure and position of the crest on the elytra, the sculpture of the pronotum (including the absence in *C. laosicus* and *C. serratulus* of longitudinal folds on the sides at the base and the presence of much coarser granulations than in *C. serratulus*), as well as in some other structural details noted in the diagnoses of these species.

Description. Male (see Remarks below). Body length 3.9–4.5 mm, humeral width 0.80–0.95 mm (holotype: 4.20 mm and 0.95 mm, respectively). Head (except for black eyes), antennae, venter and legs dark reddish-brown; pronotum black; elytra brown-black or dark brown with reddish tint, lighter at apex, moderately shiny.

Head with a barely convex frons; antennomere 2, 1.61–1.75 times as long as isthmus between antennal cavities; antennae reaching about apical one-third or one-quarter of elytra; antennomere 1, 1.12–1.19, 1.11–1.24, 1.09–1.24 or 1.06–1.26 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.75–2.00 times as long as wide; last antennomere 1.90–1.95 times as long as penultimate one.

Pronotum 1.38–1.60 times as long as wide at apex, 2.04–2.44 times as long as width at base; apex 1.47–1.64 times as broad as base, the very base 1.25–1.28 times as broad as constriction in front of base; strongly convex; with numerous coarse granulations, on sides without folds, in area of constriction in front of base smooth, shiny; longitudinal groove at bottom of this constriction sharply expressed; most of surface clearly microsculptured.

Elytra 2.53–2.70 times as long as width at base, in apical half 1.15–1.24 times as broad as base; each elytron at base with a well-developed, more or less high, relatively short, longitudinal, but highly obliquely placed crest serrate above; behind the crests first a noticeable depression, then strongly convex; a small, sometimes poorly expressed, tooth-shaped ledge at angle of humeri; basal part

with a coarse to very coarse, deep, oblong-oval puncturation; base partly microsculptured.

Prosternum with an obliterated sculpture, without coarse deep punctures; prosternal process at apex about as wide as between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; denticle at apex of metepisterna poorly visible; first (visible) sternite 1.47–1.60 times as long as all following (visible) sternites combined.

Last tarsomere with two claws, these partly fused at base.

Setation mainly as follows: bottom of sides of pronotum, apex of elytra, most of both pro- and mesosterna, almost entire or most of metasternum, and first (visible) sternite, partly also coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, mainly sides of pronotum, elytra, venter and partly legs beset with more or less long, sparse, on elytra mostly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). Northern Laos: Vientiane and Bolikhamxai (= Borikhane) provinces.

Bionomics. Adults active from about mid-February at least to the second half of March, obviously visit flowers.

Remarks. I have examined the holotype and all paratypes of *C. laosicus* currently kept in the BM and BMNH collections (see Material above). Among them, 5 specimens, including the holotype, are males while 3 are females, including the “allotype” (Figs 126–131, 133, 135, 138, 139) which actually belongs to a different species, *C. serratulus* (see details under Remarks to that species). This female “allotype” thereby derives from the type locality of *C. laosicus* (Tha Ngone = “Tangone”, Vientiane Prov.) while the other two females from the locality noted for some

of the male paratypes (Paksane, Borikhane Prov.). At least some of the remaining paratypes of *C. laosicus* (according to the original description, there must be another 9 paratypes) are kept in the collection of the California Academy of Sciences, San Francisco, U.S.A. Moreover, a picture of a paratype is available at <http://plant.cdfa.ca.gov/byciddb/>, this specimen both in habitus and coloration agreeing quite well with the BM males I revised. The female of *C. laosicus* is still unknown to me while the description given here concerns only the above males. The description of the female in Gressitt & Rondon (1970) is misleading, because it must have been based, at least in part, on the “allotype” (i.e., the female of *C. serratulus*, Figs 128, 129, 135). In addition, the female shown on the photograph in the original description (Gressitt & Rondon, 1970, p. 290, fig. 44, h) is also the one I have studied. It shows an entirely black pronotum and almost completely black elytra and, as noted above, belongs to *C. serratulus* as well (Figs 126, 127, 138). I have properly remounted this female, as well as the other type specimens of *C. laosicus*, including the holotype, in order to take high-quality photographs. That female was received from the BM collection just as it had looked in the original description.

4. *Clytellus canaliculatus* Holzschuh, 1993 (Figs 60, 117–122)

Clytellus canaliculatus Holzschuh, 1993: 53, Abb. 53. **Type locality:** Northern Thailand, “Thanon Thong Chai”, Lansang N. P., 16°48'N 98°57'E, 500 m (according to the original description and the label of the holotype).

Material. Holotype ♂ (cCH), “Thailand 91, «Thanon Thong Chai», D. Král & V. Kubán”, “Thai, Lansang n. p., 16°48'N 98°57'E, 500 m, 18.–24.IV.1991, Vít Kubán leg.”, “Holotypus *Clytellus canaliculatus* n. sp. det. C. Holzschuh 1993” (Fig. 119); 1 ♂ (NHMD), “Siam, Prae, 1931–33, Poul Fogh”, “Coll. Rosenberg”.

Diagnosis. This species resembles *C. methocoides* and *C. laosicus*, but differs clearly from both by structure of the crest at the base of each elytron, from *C. methocoides* by the clearly less convex elytra on the disk (like *C. laosicus*) behind the crests, the more homogeneous, mostly granulate sculpture of the disk of the pronotum, the less sharp longitudinal folds at the base on the sides of the pronotum, and the claws partly fused at the base, whereas from *C. laosicus* by the folds on the sides of the pronotum, the elytra being less expanded in the apical part compared to their base, possibly also by its body coloration (see Remarks to *C. laosicus* above). *Clytellus canaliculatus* is also similar to *C. serratulus* and *C. dembickyi* sp. n., but differs clearly from both by the pronotum sculpture, including the presence of longitudinal folds on the sides of the base, from the former species also by a more variable shape and size of the crest on the elytra, whereas from the latter species also by the absence of a fascia of dense light setae at the base of the pronotum, by certain structural features of the elytra, in particular, the shape of the crest, the more abundant coarse puncturation, by its coloration, and the more strongly developed apical fascia of light setae being less narrowly interrupted at the suture.

Description. Male. Body length 3.9–4.4 mm, humeral width 0.95–1.15 mm (see Remarks below). Head with dorsal side and eyes black, remaining parts brown-black; pronotum mostly black or brown-black at base and partly red at apex (pronotum sculpture somewhat leveling a clear border between red and black or brown-black and being able to create a partly motley mixed background); bases of elytra and epipleura red, apical parts black, in general shiny; venter predominantly red and brown-red; first (visible) sternite partly black, following sternites brown tones; legs brown, clava of femora darker or, conversely, lighter.

Head with a barely convex or flat frons;

antennomere 2, 1.36–1.44 times as long as isthmus between antennal cavities; antennae reaching behind middle or even inside apical quarter of elytra; antennomere 1, 1.12–1.15, 1.10–1.15, 1.08–1.15 or 1.14–1.22 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.66–1.71 times as long as wide; last antennomere 1.95–2.00 times as long as penultimate one.

Pronotum 1.65–1.79 times as long as wide at apex, 2.35–2.46 times as long as width at base; apex 1.37–1.43 times as broad as base, the very base 1.25–1.26 times as broad as constriction in front of base; strongly convex; with abundant coarse granulations, sides at base with more or less sharp, long, longitudinal, partly sinuous folds considerably masking a longitudinal groove located at bottom; much more obliterated, but still more or less clear, short, longitudinal folds extending onto dorsal side of constriction before base; most of pronotum clearly microsculptured.

Elytra 2.27–2.45 times as long as width at base, in apical half 1.05–1.15 times as broad as base; each elytron at base with a strong or somewhat less strongly developed longitudinal, but noticeably oblique crest serrate above (see Remarks); behind the crests a noticeable depression followed by a relatively strongly convex surface; basal part with a coarse to very coarse, deep, oblong-oval puncturation; base partly microsculptured.

Prosternum with an obliterated sculpture devoid of coarse deep punctures, apical part mostly transversely rugose; prosternal process at apex slightly narrower than between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; metepisterna with a small denticle at apex; first (visible) sternite 1.31–1.42 times as long as all following (visible) sternites combined.

Last tarsomere with two claws, these partly fused at base.

Setation mainly as follows: apex of elytra, partly pro- and mesosterna, most of metastern-

num, and first (visible) sternite covered by more or less dense, recumbent, white or partly yellowish setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum, elytra, venter and partly legs with more or less long, sparse, on elytra mostly more robust, erect or suberect, light setae (these on elytra can be yellowish).

Female unknown.

Distribution (Maps 1, 2 and Table). Northern Thailand: Tak and Phrae provinces.

Bionomics. Adults active at least in the second half of April, obviously visit flowers.

Remarks. The significant differences in size and shape of the crest at the basis of the elytra in both examined males is noteworthy (Figs 121, 122). In the other species similar to *C. canaliculatus* that show a structured crest, this difference is evidently less considerable. In addition, the body of the holotype is clothed with white setae, versus a partly clearly yellowish setation in the other male.

The holotype is smaller.

5. *Clytellus serratulus* Holzschuh, 1991 (Figs 123–139)

Clytellus serratulus Holzschuh, 1991: 60, Abb. 40. **Type locality:** Northern Thailand, Chiang Mai, Hang Dong (according to the original description and the label of the holotype).

Material. Holotype ♂ (cCH), “N Thailand, Chiang Mai, Hang Dong, 9.VI.1989, native collector”, “Holotypus *Clytellus serratulus* n. sp. det. C. Holzschuh 1991” (Fig. 124); 1 ♀ (cPV), NE Thailand, Nan Prov., Ban Wan, 3.V.2004, P. Viktora leg.; 1 ♀ (BM), “Laos, Vientiane, Tangone, 2.III.[19]64”, “J.A. Rondon Collection Bishop Mus.”, “Allotype *Clytellus laosicus* J.L. Gressitt et Rondon [misidentification!]”, “♀”, “*Clytellus serratulus* Holz. C. Holzschuh det. 1998” (Fig. 129); 1 ♀ (BM), “Laos, Borikhane Prov., Paksane, 23.II.[19]64”, “J.A. Rondon Collection Bishop Mus.”, “Paratype *Clytellus laosicus* J.L. Gressitt et Rondon [misidentification!]” (Fig. 127), “*Clytellus serratulus* Holzschuh 1991, ♀ A. Miroshnikov det. 2013”; 1 ♀ (BMNH), “Laos, Borikhane Prov., Paksane, 29.II.[19]64”, “J.A. Rondon Collection Bishop Mus.”, “Paratype”, “*Clytellus laosicus*

J.L. Gressitt et Rondon [misidentification!]” (Fig. 131), “*Clytellus serratulus* Holzschuh 1991, ♀ A. Miroshnikov det. 2013”.

Diagnosis. This species is clearly similar to *C. laosicus* and *C. canaliculatus*, but differs from both by the more obliterate sculpture of the pronotum, from the former species also in structure and location of the crest at the base of the each elytron, the slightly less strongly expanded apical parts of the elytra, whereas from the latter species by the absence of longitudinal folds on the sides at the base of the pronotum, the less variable shape and size of the crest on the elytra (in *C. canaliculatus*, the crest structure is strongly variable, see the above description of this species). *Clytellus serratulus* can also be compared to *C. dembickyi* sp. n., but differs clearly by the absence of a fascia of dense light setae at the base of the pronotum, the structure of the crest, and the more abundant coarse puncturation of the elytra.

Description. Body length 3.9–4.6 mm, humeral width 0.9–1.1 mm. From almost entirely black with red-brown antennae and, partly, legs to mostly dark reddish-brown or reddish-brown (see Remarks below).

Head with a barely convex or flat frons; antennomere 2, 1.30–1.62 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical quarter of elytra in male, reaching or almost reaching the middle to apical one-third of elytra in female; antennomere 1, 1.11–1.17, 1.12–1.20, 1.05–1.16 or 1.08–1.20 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.73–1.86 times as long as wide; last antennomere 1.83–2.07 times as long as penultimate one.

Pronotum 1.71–1.78 times as long as wide at apex, 2.39–2.73 times as long as width at base; apex 1.36–1.56 times as broad as base, the very base 1.26–1.37 times as broad as constriction in front of base; strongly convex; with clear, but not coarse, partly strongly obliterate, abundant granulations, on sides devoid of rugosity; constriction area in front

of base smooth, shiny; longitudinal groove at bottom of this constriction sharply expressed; mostly clearly microsculptured.

Elytra 2.36–2.62 times as long as width at base, in apical half usually 1.02–1.11 times as broad as base, or these parts of elytra subequally wide; each elytron at base with a well-developed, longitudinal, but noticeably oblique crest serrate above, more sharply expressed in male; behind the crests an evident depression followed by a moderately convex surface; basal part with a coarse to very coarse, deep, oblong-oval puncturation; base partly microsculptured.

Prosternum without coarse sculpture, similar in both sexes (even in male devoid of coarse deep punctures); prosternal process at apex slightly wider than between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; denticle at apex of metepisterna poorly visible; first (visible) sternite 1.25–1.47 times as long as all following (visible) sternites combined.

Last tarsomere with two claws, these partly fused at base.

Setation mainly as follows: apex of elytra, partly pro- and mesosternum (or most of mesosternum), also almost completely or partly metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs covered by similar, but sparser setae; head, partly antennae, mostly apex of pronotum, elytra, venter and, partly, legs with more or less long, sparse, on elytra mostly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). Northern Thailand: Chiang Mai and Nan provinces; northern Laos: Vientiane and Bolikhamxai (= Borikhane) provinces.

Bionomics. In Thailand, adults are active from early May at least to the first half of June, in Laos collected in the second half of February and in early March, obviously visit flowers.

Remarks. The holotype male and the non-type female from Thailand are characterized by a dominating black coloration, except for the red-brown antennae (completely in the male and, with the exception of antennomere 1, in the female) and this or that part of the legs, only the apex of the elytra being flavous (Figs 123, 125). Two of the Laotian females (Figs 128, 130), which are paratypes of *C. laosicus*, are coloured differently, to some degree being dissimilar even between themselves. In one of them, only the eyes and antennal tubercles remain clearly black, whereas in the other the head dorsally in part (including the antennal tubercles), the eyes, most of the pronotum and the apical parts of the elytra, except for the very apex are black. Both these females have reddish-brown antennae, red bases of the pronotum and elytra, and an almost entirely red-brown venter. In one female, most of the pronotum and the apical parts of the elytra, except for the very apex, are black-brown while its legs are generally lighter than in the other which has, in particular, black-brown clava of the femora. However, one more female from Laos (Fig. 126), also a paratype of *C. laosicus*, is coloured about as well as the male and female from Thailand. Therefore, generally this species can be stated to show considerable variability in body coloration, at least so in its Laotian populations.

6. *Clytellus dembickyi* Miroshnikov, sp. n.
(Figs 140, 142, 143)

Material. Holotype ♀ (cLD), S Vietnam, Gia Lai Prov., 40 km NW An Khe, Buon Luoi, 14°06'N, 108°18'E, 620–750 m, 28.III.–12.IV.1995, P. Pacholátko & L. Dembický leg.

Diagnosis. By the habitus, the shape and location of the crest at the base of each elytron, certain features of sculpture of the pronotum, in body coloration and some other characters, this new species seems to be especially similar to *C. laosicus*, but differs

clearly by the presence of a well-developed fascia of white setae at the base of the pronotum, the more strongly obliterated granulations on the pronotum, the much more spacious pronotum free from such granulations and completely smooth at its base, the more abundant, albeit sparse, subrecumbent, white setae on the pronotum, the less abundant coarse puncturation in the basal part of the elytra, a somewhat different shape of the elytra, their apical fascia of white setae being more widely interrupted in the area of the suture. By the presence of a fascia of white setae at the base of the pronotum, the shape of the crest and the less numerous coarse punctures on the elytra, *C. dembickyi* sp. n. differs well also from two other similar species, *C. serratulus* and *C. canaliculatus*, from the latter also in the absence of longitudinal folds on the sides of the pronotum base.

Description. Female. Body length 4.15 mm, humeral width 0.95 mm. Black; antennae, base of femora and, partly, tarsi dark reddish-brown; apex of elytra and last tarsomeres reddish; dorsum in general moderately shiny.

Head with a barely convex or flat frons; antennomere 2, 1.5 times as long as isthmus between antennal cavities; antennae reaching the middle of elytra; antennomere 1, 1.11 times as long as subequal antennomeres 3–6; antennomere 2, 1.71 times as long as wide; last antennomere 1.80 times as long as penultimate one.

Pronotum 1.69 times as long as wide at apex, 2.23 times as long as width at base; apex 1.32 times as broad as base, the very base 1.22 times as broad as constriction in front of base; strongly convex; with clear, partly obliterated, abundant granulations turning barely visible on disk behind the middle, but on sides well-developed, but not rugose below the constriction; area of constriction in front of base smooth, shiny; longitudinal groove at bottom of this constriction sharply expressed; with a clearly cellular microscul-

pture only on disk in apical part and, partly, on sides.

Elytra 2.70 times as long as width at base, in apical half 1.21 times as broad as base; each elytron at base with a well-developed, high, relatively short, longitudinal, but strongly oblique crest serrate above; an evident depression behind the crests, followed by a relatively strongly convex surface; basal part with a coarse to very coarse, deep, oblong-oval puncturation; base partly microsculptured.

Prosternum without coarse sculpture; prosternal process at apex about as wide as between procoxae; mesosternal process noticeably narrower than prosternal process between procoxae; denticle at apex of metepisterna poorly-visible; first (visible) sternite 1.2 times as long as all following (visible) sternites combined.

Last tarsomere with two claws, these partly fused at base.

Setation mainly as follows: pronotum at base in the form of a well-developed, but dorsally widely interrupted fascia, as well as apex of elytra, this or that part of pro- and mesosternum, metasternum, first (visible) sternite and coxae clothed with more or less dense, white, recumbent setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, as well as pronotum on sides at apex, elytra, venter and partly legs covered by more or less long, sparse, on elytra mostly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). Southern Vietnam: Gia Lai Province. Known from a single locality.

Bionomics. The holotype was collected between March 28 and April 12; adults obviously visit flowers.

Etymology. The new species honours of Mr. Luboš Dembický (Brno, Czech Republic), a good collector of Oriental Cerambycidae who, together with Petr Pacholátka (Brno, Czech Republic), took the holotype.

7. *Clytellus olesteroides* Pascoe, 1885
(Figs 141, 144, 148, 151, 152)

Clytellus olesteroides Pascoe, 1885: 56. **Type locality:** Andaman Islands (according to the original description and the label of the holotype). Gahan, 1906: 313; Aurivillius, 1912: 424; Gressitt & Rondon, 1970: 287; Hua, 1984: 26.

Material. Holotype ♂, by monotypy (BMNH), “Andaman”, “*Clytellus olesteroides* Pasc. type”, “*Clytellus olesteroides* Pasc. Andaman Is.” (upper-side) + “Pascoe Coll. 93–60” (underside), “Type” (Fig. 152); 1 ♂ (BMNH), “Andaman Islands”, “Atkinson Coll. 92-3”; 1 ♀ (BMNH), “Andaman Islands”, “Capt. Wimberley”, “Fry Coll. 1905–100”, “47246”; 1 ♂ (BMNH), “Nicobars (Røepstorff)”.

Diagnosis. This species differs from all congeners by certain structural features of the pronotum (the presence of a longitudinal, gentle, but sufficiently clear, keel-shaped elevation on the disk, of abundant white setae covering in a wide band both the apex and base behind the constriction and thus well contrasting with an almost dull black background surface, as well as the absence of a sharp constriction in the apical one-third) and elytra (the presence of coarse to very coarse punctures in the basal half, these partly located against the background of a microsculpture fascia in the basal one-third, as well as the presence on each elytron of a clear crest and, on both elytra, of an apical fascia of dense light setae), and the presence of abundant coarse punctures on the prosternum of the male. *Clytellus olesteroides* can be compared to *C. gressitti* sp. n., from which it differs clearly by the less sharp keel-shaped elevation and much more abundant white setation on the pronotum, the latter’s smooth surface in the area of constriction in front of the base, in the more abundant coarse puncturation of the elytra in the area of the depression, the more strongly developed apical fascia of setae on the elytra, and the coloration of the legs. By the sculpture of the prosternum of

the male and of the elytra, it also reminds of *C. shibatai*, but differs clearly by a number of characters, including the structure and coloration of the pronotum, the much less strongly developed tubercle at the base of each elytron, the presence on each of the above crest, of a continuous microsculpture fascia in the basal one-third and of an apical fascia of dense light setae on both elytra, as well as in the coloration of the legs.

Description. Body length 5.75–6.50 mm, humeral width 1.45–1.65 mm (see Remarks below). Black; antennae and, partly, legs sometimes dark reddish-brown; elytra mostly shiny, with a clear, metallic, greenish-cupreous lustre, predominantly so in area of depression.

Head with a barely convex or flat frons; antennomere 2, 1.36–1.52 times as long as isthmus between antennal cavities; antennae freely reaching behind inside or almost reaching apical one-quarter of elytra in male and female, respectively; antennomere 1, 1.34–1.45 times as long as 3rd, barely longer or shorter than antennomere 4 or 6, or subequal to each of them, 0.85–0.90 times as long as 5th; antennomere 2, 1.62–1.90 times as long as wide; last antennomere 1.58–1.65 times as long as penultimate one.

Pronotum 1.84–1.93 times as long as wide at apex, 2.26–2.44 times as long as width at base; apex 1.23–1.28 times as broad as base, the very base 1.33–1.36 times as broad as constriction in front of base; strongly convex; without sharp, but still with a well-marked keel-shaped elevation along axial line between apex and front margin of constriction in front of base; longitudinal groove at bottom of this constriction sharply expressed; apical one-third with a barely visible constriction; microsculpture creating a velvety background.

Elytra 2.41–2.44 times as long as width at base, in apical half 1.04–1.08 times as broad as base; each elytron at base with a tuberculiform elevation supporting a low,

but nonetheless quite clear longitudinal crest serrated above; a clear depression before middle, moderately convex behind; basal part with coarse to very coarse, deep, oblong-oval punctures, thereby some of them located in area of a wide, velvety, dull, microsculpture fascia covering entire width of elytra.

Prosternum in male, mostly its apical half, with abundant, coarse, deep punctures, in-between a very clear cellular microsculpture arranged around punctures in several, more or less clear rows of cells; surface in female entirely smooth; profile of prosternum in apical part clearly curved; prosternal process at apex slightly narrower than between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; metepisterna with a small, hardly traceable denticle at apex; first (visible) sternite 1.40–1.55 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: frons (usually in male), pronotum at base and its apex in the form of more or less well-developed fasciae, scutellum, apex of elytra, partly prosternum (male with a peculiar pattern, Fig. 144), usually most of mesosternum, almost entire metasternum and first (visible) sternite, partly also coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, mainly sides of pronotum at apex, elytra, venter and, partly, legs covered by more or less long sparse, on elytra mostly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). India: Andaman and Nicobar islands. Above is the first record in the Nicobar Islands.

Bionomics. Unknown.

Remarks. The holotype is the largest.

8. *Clytellus gressitti* Miroshnikov, sp. n.

(Figs 145–147, 149, 150)

Material. Holotype ♂ (cLD), W Malaysia, Pahang, Banjaran Benom Mts, 10–15 km SSE Kampong Ulu Dong, 17.–23.IV.1997, D. Hauck leg.

Diagnosis. This new species seems to be especially similar to *C. olesteroides*, but differs clearly by the more distinct longitudinal keel-shaped elevation on the pronotum, the presence of not too sharp, but still well-marked longitudinal grooves in the area of constriction in front of the base on the sides of the pronotum, by the sparser coarse punctures on the elytra in the depression area and, as a result, by the sparser erect setae they support, in the much less abundant, white, recumbent setae in the apical part of the pronotum entirely missing (maybe abraded!) at its base, the clearly narrower fascia of white setae at the apex of the elytra, the less coarse punctures on the prosternum, and red clava of the femora. Based on to some degree similar features of the sculpture of the elytra's basal part, of the pronotum in the area of constriction in front of the base, of the male prosternum and, partly, body coloration, *C. gressitti* sp. n. resembles *C. shibatai*, but differs clearly by the smaller body, the sculpture of the pronotal disk, the pronotum showing a barely visible constriction in the apical one-third, also supporting gentle white setae and a mainly dull surface, the weak tubercles at the base of each elytron, the presence there of a low, but sufficiently clear longitudinal crest, of a continuous microsculpture fascia, and a well-expressed fascia of dense light setae at the apex of the elytra.

Description. Male. Body length 4.9 mm, humeral width 1.25 mm. Black; clava of femora, apex of tibiae and, partly, tarsi (at least pro- and mesotarsi), brownish-red; elytra mostly shiny, with a clear, metallic, green-cupreous lustre, predominantly so in area of depression.

Head with a flat frons; antennomere 2, 1.3

times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical one-quarter of elytra; antennomere 1, 1.45, 1.11 or 1.07 times as long as 3rd, 4th and 6th, respectively, barely shorter than 5th; antennomere 2, 1.66 times as long as wide; last antennomere 1.64 times as long as penultimate one.

Pronotum 1.62 times as long as wide at apex, 2.11 times as long as width at base; apex 1.31 times as broad as base, the very base 1.24 times as broad as constriction in front of base; strongly convex; dorsally with a rather sharp (especially in the middle) keel-shaped elevation along axial line between apex and front margin of constriction in front of base; longitudinal groove at bottom of this constriction sharply expressed; microsculpture creating a velvety background.

Elytra 2.42 times as long as width at base, in apical half 1.08 times as broad as base; each elytron elevated tuberculiform at base, also showing a low, but quite clear longitudinal crest, the latter partly serrate above; an evident depression before middle, a relatively strongly convex surface behind; basal part covered by coarse to very coarse, deep, oblong-oval punctures, thereby some of them located in area of a wide, well-expressed, velvety, dull fascia of microsculpture covering entire width of elytra.

Prosternum, mostly its apical half, with abundant, coarse (yet not too coarse), deep punctures, in-between a very clear cellular microsculpture with several more or less clear rows of cells around punctures; surface entirely smooth only in female; profile of prosternum in apical part clearly curved; prosternal process at apex about as wide as between procoxae; mesosternal process noticeably narrower than prosternal process between procoxae; metepisterna with a fairly well-marked denticle at apex; first (visible) sternite 1.2 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: pronotum at apex mostly on sides, apex of elytra in the form of a relatively narrow fascia, partly venter and coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, as well as pronotum on sides at apex, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mostly more robust and yellowish, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Pahang. Known from a single locality.

Bionomics. The holotype was collected between 17 and 23 April; adults obviously visit flowers.

Etymology. The new species is named in the memory of Dr. Judson Linsley Gressitt, on the eve of his 100th birthday.

9. *Clytellus shibatai* Hayashi, 1977 (Figs 55–58, 67, 82, 153–159)

Clytellus shibatai Hayashi, 1977: 125. **Type locality:** Western Malaysia, Maxwell Hill (now Bukit Larut) (according to the original description and the label of the holotype). Mizuno & Shiyake, 2004: 33.

Material. Western Malaysia: 1 ♂ (cLD), Kelantan, Banjaran Titi Wangsa Mts, Ladang Pandrak env., 1500–1800 m, 9.–11.IV.1997, P. Čechovský leg.; 1 ♀ (cFV), Pahang, Cameron Highlands, Tanah Rata, 1500 m, 13.–20.IV.1999, A. Ballerio leg. (Coll. F. Vitali, Luxembourg); 2 ♂ (cAM), same locality, 4°28'N, 101°23'E, 1800 m, 15.II.2000, P. Pacholátko leg.; 1 ♂ (cAM), same locality, 1600 m, 11.–27.II.2000, J. Horák leg.; 1 ♂ (cLD), Perak, 40 km SE Ipoh, Banjaran Titi Wangsa, Ringlet, 900 m, 29.III.–15.IV.2004, P. Čechovský leg.; 1 ♂ (cSM), same label; holotype ♂ (see Remarks) (OMNH) (photographs), "Malaysia, Maxwell's Hill, 22.V.1975, Y. Kiyoyama", "*Clytellus shibatai* Hayashi det. M. Hayashi, 1977", "Holotype" (Fig. 154).

Diagnosis. This species differs from all congeners by the combination of charac-

ters which includes a body size large for the genus, its specific coloration, certain structural details of the pronotum (the presence of a sharp constriction in the apical one-third and of longitudinal grooves in the area of constriction in front of the base, the absence both of a coarse sculpture on the remaining surface and of a fascia of light setae at the base) and elytra (the presence of a very strong tubercle at the base of each elytron, of very coarse punctures in the basal half, partly located against the background of a wide, in some places interrupted fascia of microsculpture in the basal one-third, the absence of an evident apical fascia of dense, recumbent, light setae), the presence of abundant coarse punctures on the prosternum in the male (see Remarks below), and of a strongly developed denticle at the apex of the metepisterna. *Clytellus shibatai* can be compared to *C. vivesi* sp. n. and *C. gressitti* sp. n., but differs clearly from the former species by the absence of a fascia of light setae at the base of the pronotum, the more shiny elytra (as well as the pronotum), and a much greater development of microsculpture surface fragments at their base, whereas from the latter species by the larger body, certain structural details of the pronotum (including a shiny surface and deeper grooves in the constriction in front of the base), the less strongly developed fascia of microsculpture in the basal one-third of the elytra, and the strongly protruding denticle at the apex of the metepisterna. In addition, in comparison with both these species, *C. shibatai* shows a much better developed tubercle at the base of each elytron, as well as a missing longitudinal crest present in *C. gressitti* sp. n.

Description. Body length 5.9–7.0 mm, humeral width 1.55–1.90 mm (see Remarks below). Black; clava of femora red, sometimes also bases of femora reddish-brown tones; dorsum almost entirely shiny; elytra with a clear or bright, metallic, greenish-cupreous, sometimes cupreous-green lustre,

this being more intense mainly in area of depression.

Head with a flat frons; antennomere 2, 1.27–1.33 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical one-quarter or one-third of elytra in male and female, respectively; antennomere 1, 1.44–1.48 or 1.03–1.08 times as long as 3rd and 4th, respectively, subequal to antennomere 5 or 6, or barely longer than 6th; antennomere 2, 1.58–1.93 times as long as wide; last antennomere 1.60–1.76 times as long as penultimate one.

Pronotum 1.80–1.90 times as long as wide at apex, 2.19–2.38 times as long as width at base; apex 1.16–1.30 times as broad as base, the very base 1.27–1.33 times as broad as constriction in front of base; apical one-third with a sharp constriction; strongly convex; partly with a more or less distinct microsculpture; area of constriction in front of base, mostly on sides, with sharp longitudinal grooves, sometimes clearly visible, but obliterate and shorter on dorsal side; longitudinal groove at bottom of this constriction sharply expressed; remaining surface smooth, only with individual punctures usually turning coarser at apex on sides.

Elytra 2.37–2.53 times as long as width at base (in female more elongated), in apical half 1.08–1.10 times as broad as base; each elytron at base very strongly elevated tuberculiform; with a sharp depression before middle, relatively strongly convex behind; basal part with coarse to very coarse, deep, mainly oblong-oval punctures, thereby most of the most coarse punctures located in area of contrasting, velvety, dull fascia of microsculpture, the latter covering most of the tubercles, clearly interrupted at suture and extended along lateral margins to humeral angles.

Prosternum in male (see Remarks below), mostly its apical half, with abundant, coarse, deep punctures, in-between a very clear cellular microsculpture arranged in several

more or less clear rows of cells around punctures; sculpture in female obliterated; profile of prosternum in apical part usually sharply curved; prosternal process at apex slightly or noticeably wider than between procoxae; mesosternal process about as wide as prosternal process between procoxae; metepisterna with a very well-developed, sharpened denticle at apex; first (visible) sternite 1.33–1.40 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: partly prosternum (in male with a peculiar pattern, Figs 57c, 156) and mesosternum, almost completely or most of metasternum, and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides, mainly at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae, these being denser, but not too dense, at apex of elytra.

Distribution (Maps 1, 3 and Table). Western Malaysia: Perak, Kelantan and Pahang.

Bionomics. Adults active from the first half of February at least to mid-April, visit flowers.

Remarks. This species was based on the holotype claimed to be a female (Hayashi, 1977). However, the original description noted the presence in the holotype of a very coarse puncturation on the prosternum, a character observed, as shown above, only in the male. Based on this evidence, as well as on the photographs of the holotype at my disposal, I consider it to actually be a male.

According to the original description, the holotype is 5.5 mm long, the humeri are 1.5 mm wide.

10. *Clytellus vivesi* Miroshnikov, sp. n.
(Figs 160, 163, 164)

Material. Holotype ♀ (cEV), “Brunei, Kuala Belalong FSC [Field Studies Centre], 4.34°N, 115.7°E, Dipterocarp forest, BM(NH), 1991–173”, “Ground Malaise 1A, 260 m alt., 22.VI.[19]91, N. Mawdsley [leg.] NM232”, “*Clytellus kiyoyamai* Hay.[ashi] E. Vives det. 2005 [misidentification!]”.

Diagnosis. The new species seems to be especially similar to *C. shibatai*, but differs clearly by the presence of a fascia of white setae at the base of the pronotum and the much more modest tubercle at the base of each elytron, by the absence at the apex of the elytra of denser, erect, light setae, as well as by the much weaker development in the basal one-third of the elytra of velvety dull fragments of surface microsculpture, the clearer and more uniform longitudinal grooves on the dorsal side in the area of constriction in front of the base of the pronotum, the less shiny pronotum and elytra, the less strongly expressed metallic lustre on the elytra, and the different shape of the denticle at the apex of the metepisterna. By the structure of the basal part of the pronotum, partly also the sculpture of the elytra, body coloration and some other features, *C. vivesi* sp. n. resembles *C. viridipennis* and *C. tatianae* sp. n., but differs clearly from both these species by the sharp constriction in the apical one-third of the pronotum, from the former also in the absence of a fascia of dense light setae at the apex of the elytra, generally a less shiny dorsum, and a dimmer metallic lustre of the elytra (like in *C. tatianae* sp. n.), whereas from the latter species in the shorter grooves on the dorsal side in the area of constriction in front of the pronotum base, the noticeably coarser punctures in the basal part of the elytra, an almost complete absence of even small punctures behind the middle of the elytra, and the elytra being slightly wider in the apical part relative to their base.

Description. Female. Body length 5.75

mm, humeral width 1.45 mm. Black; antennae and legs dark reddish-brown; apices of prosternum and sternites red-brown; elytra reddish at apex; pronotum and elytra mostly shiny, thereby mostly basal part of elytra with a weak, metallic, greenish-cupreous lustre, the latter being better seen in area of depression.

Head with a flat frons; antennomere 2, 1.06 times as long as isthmus between antennal cavities; antennae reaching apical one-third of elytra; antennomere 1, 1.40, 1.11 or 1.09 times as long as 3rd, 4th and 5th, respectively, subequal to 6th; antennomere 2, 1.55 times as long as wide; last antennomere 1.60 times as long as penultimate one.

Pronotum 1.74 times as long as wide at apex, 2.20 times as long as width at base; apex 1.27 times as broad as base, the very base 1.30 times as broad as constriction in front of base; apical one-third with a sharp constriction; strongly convex; partly more or less clearly microsculptured; area of constriction in front of base with sharp longitudinal grooves growing shorter on dorsal side; longitudinal groove at bottom of this constriction sharply expressed; remaining surface smooth, only with individual punctures.

Elytra 2.48 times as long as width at base, in apical half 1.11 times as broad as base; each elytron moderately elevated tuberculiform at base, with an evident depression before middle, pretty strongly convex behind; base with coarse to very coarse, deep, oblong-oval punctures; area of tubercles partly microsculptured and forming a velvety dull surface contrasting with elytra generally strongly dominated by a smooth and shiny background surface.

Prosternum with an obliterated sculpture; its profile in apical part usually clearly curved; prosternal process at apex slightly wider than between procoxae; mesosternal process about as wide as prosternal process between procoxae; metepisterna at apex with

a large denticle of peculiar shape; first (visible) sternite 1.53 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, partly venter and coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides and mostly at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 4 and Table). Brunei. Known from a single locality.

Bionomics. The holotype was collected in the second half of June; adults obviously visit flowers.

Remarks. When/if the male of this species is found, the presence of a coarse deep puncturation on its prosternum could be expected.

Etymology. The new species honours my colleague, Dr. Eduard Vives (Museu de Ciències Naturals de Barcelona, Spain), who provided his valuable material for the present study.

11. *Clytellus viridipennis* Hayashi, 1977 (Figs 161, 162, 165–170, 176, 177)

Clytellus viridipennis Hayashi, 1977: 127. **Type locality:** Western Malaysia, Gap (according to the original description and the label of the holotype). Mizuno & Shiyake, 2004: 33, pl. 11, fig. 300.

Material. Holotype ♂ (OMNH) (photographs), “Malaysia, Gap, 5.IV.1975, Y. Kiyoyama”, “*Clytellus viridipennis* Hayashi ♂ det. M. Hayashi, 1977”, “Holotype” (Fig. 162); paratype, ♂ (UEM) (photographs), “Malaysia, Gap, 3.IV.1975, Y. Kiyoyama”, “*Clytellus viridipennis* Hayashi ♂ det. M. Hayashi, 1977”, “Paratype”, “K. Ando Collection” (Fig. 167); 1 ♀ (UEM) (photographs), “Malaysia, Gap, 2.IV.1975, Y. Kiyoyama”, “K. Ando Collection” (Fig. 170).

Diagnosis. This species differs from all congeners by the combination of characters which includes certain structural features of the pronotum (the absence of a constriction in the apical one-third and of a coarse sculpture almost all over the surface, the presence of longitudinal grooves in the area of constriction in front of the base and of a very well-developed fascia of light setae at the base) and elytra (the presence of coarse to very coarse punctures in the basal half, of a clear microsculpture in the basal one-third in the middle part of the disk, and of an apical fascia of dense light setae), and the absence of coarse deep punctures from the prosternum in the male. *Clytellus viridipennis* can be compared to *C. monilis* and *C. tatianae* sp. n., but differs clearly from both by certain features of the sculpture of the elytra, the presence at their apex of a fascia of dense light setae, the absence of a very strong tubercle from the disk of the pronotum as observed in *C. monilis*, as well as by a sharp metallic lustre of the elytra in comparison with *C. tatianae* sp. n. By some important details of body structure and coloration, *C. viridipennis* also reminds of *C. vivesi* sp. n., but differs by the absence of a constriction in the apical one-third of the pronotum, the presence at the apex of the elytra of a fascia of dense light setae, a generally more shiny dorsum and a sharper metallic lustre on the elytra.

Description. Body length 4.30–5.75 mm, humeral width 1.1–1.5 mm (see Remarks below). Black; antennae, venter and legs dark reddish-brown to reddish-brown, clava of femora lighter, red tones; pronotum and elytra shiny, the latter with an evident, metallic, greenish-cupreous lustre.

Head with a flat frons; antennomere 2, 1.34–1.36 times as long as isthmus between antennal cavities; antennae reaching apical one-third of elytra both in male and female; antennomere 1, 1.40–1.42, 1.05–1.13 or 1.08–1.23 times as long as 3rd, 4th and 6th,

respectively, subequal to or slightly longer than antennomere 5; antennomere 2, 1.50–1.52 times as long as wide; last antennomere 1.76–1.78 times as long as penultimate one.

Pronotum 1.72–1.85 times as long as wide at apex, 2.21–2.27 times as long as width at base; apex 1.23–1.29 times as broad as base, the very base 1.22–1.30 times as broad as constriction in front of base; strongly convex; area of constriction in front of base with sharp longitudinal grooves; remaining surface smooth; longitudinal groove at bottom of this constriction sharply expressed.

Elytra 2.35–2.38 times as long as width at base, widest there; an evident depression behind basal one-third; basal part with coarse to very coarse, deep, oblong-oval punctures; basal one-third partly with microsculpture between punctures located in inner half of each elytron (Figs 176, 177).

Prosternum sculpture not too coarse, similar in both sexes (i.e., in male without coarse deep punctures); profile of prosternum in apical part without evident curve; prosternal process at apex clearly wider than between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; metepisterna with a well-visible denticle at apex; first (visible) sternite 1.29–1.38 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly pro- and mesosterna, almost completely or mostly metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, antennae partly, pronotum at apex, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Selangor and Pahang.

Bionomics. Adults active at least in April, obviously visit flowers.

Remarks. This description is prepared upon a study of a series of high-quality photographs of the holotype, a paratype and one non-type specimen of *C. viridipennis* (see Material above) received through the courtesy of Dr. Nobuo Ohbayashi (Kamimiyada, Miura City, Japan) and Mr. Shigehiko Shiyake (Osaka Museum of Natural History, Japan). At the same time, some personal comments of Dr. Ohbayashi and the original description of this species have also been taken into account.

Besides these photographs, I have also obtained from Dr. Ohbayashi a few pictures he took of a *Clytellus* specimen kept at the Ehime University Museum, Matsuyama, Japan, with the following labels: “Malaysia, Gap, 27.03.1974, Y. Kiyoyama”, “K. Ando Collection” (Figs 171–173, 175). Earlier, Dr. Eduard Vives (Barcelona, Spain) sent me a picture of a *Clytellus* male (Fig. 174) extremely similar to the previous one and labeled as “Malaysia, Gap, 23.03.1974, Y. Kiyoyama” that he had taken on July 10, 2007 in the Osaka Museum of Natural History (E. Vives, personal communication). The original description of *C. viridipennis* referred to a few paratypes with the same label as above. However, the holotype and other paratypes of this species also stem from Gap, but the dates, including the year of collecting, are different, namely, 3, 4, 5 and 6 April, 1975 (Hayashi, 1977). Both these specimens are very similar to *C. viridipennis*, but differ from the holotype and two other specimens of this species, based on their pictures alone, at least by the structure of the elytra, namely, their shape, the field of microsculpture in the basal one-third which is developed across their entire width (Fig. 175; for comparison see Figs 176, 177) (like in some other *Clytellus* species, e.g. *C. olesteroides* or *C.*

gressitti sp. n.), and the absence of an apical fascia of dense light setae. Having discussed the problem with Dr. Ohbayashi, we agreed that the two specimens of *Clytellus* collected at Gap on 23 and 27 March 1974, are likely to belong to a species different from *C. viridipennis*. Therefore, I am inclined to refer these specimens (requiring a detailed study, but, like all paratypes of *C. viridipennis*, collected in 1974) to a still undescribed species.

12. *Clytellus monilis* Holzschuh, 2011 (Figs 76, 178–180, 182)

Clytellus monilis Holzschuh, 2011: 326, Abb. 69.

Type locality: Eastern Malaysia, Borneo, Sabah, Trus Madi Mt (according to the original description and the label of the holotype).

Material. Holotype ♀ (cCH), “E Malaysia, Borneo, Sabah Pr., Mt. Trus Madi, III.2004, loc. leg.”, “Holotypus *Clytellus monilis* n. sp. det. C. Holzschuh 2011” (Fig. 180).

Diagnosis. This species resembles *C. viridipennis*, but differs clearly by the presence of a very large, peculiar tubercle on the disk of the pronotum, the absence at the apex of the elytra of a fascia of dense light setae, the somewhat better developed grooves in the area of constriction in front of the pronotum base, certain features of elytral sculpture, including a peculiar allocation of punctures, partly also the coloration of the setae and some other characters. *Clytellus monilis* can also be compared to *C. vivesi* sp. n. and *C. tatanianae* sp. n., but it differs clearly from both by a brighter metallic lustre over most of the surface of the elytra, a stronger expression of red tones on the clava of the femora and, in comparison with *C. vivesi* sp. n., also by other structural details of the pronotum, in particular, the absence of a sharp constriction in its apical one-third, the longer and deeper grooves in the area of constriction in front of the base (especially on the dorsal side), resembling those in *C. tatanianae* sp. n.

Description. Female. Body length 6.9 mm, humeral width 1.65 mm. Black; base of femora, all tibiae and tarsi dark reddish-brown, clava of femora red; margin of sternites brown; venter almost entirely and strongly shiny; elytra with a strong, metallic, greenish-cupreous lustre.

Head with a barely convex frons; vertex with sharp, transverse, irregular folds and a very clear microsculpture developed over remaining dorsal surface as well; antennomere 2, 1.41 times as long as isthmus between antennal cavities; antennae extended clearly behind middle of elytra; antennomere 1, 1.15, 1.06 or 1.13 times as long as 3rd, 4th and 6th, respectively, almost equal to 5th; antennomere 2, 1.51 times as long as wide; last antennomere 1.85 times as long as penultimate one.

Pronotum 1.63 times as long as wide at apex, 2.14 times as long as width at base; apex 1.32 times as broad as base, the very base 1.26 times as broad as constriction in front of base; very strongly convex, with a strong oblong-oval tubercle covered by a very clear microsculpture, this partly irregularly scattered around base of the tubercle, dorsally with rough, partly unclear punctures; area of constriction in front of base with very coarse, longitudinal, long grooves almost equally developed on both sides and dorsally; longitudinal groove at bottom of this constriction sharply expressed, very deep in middle part; remaining surface smooth, only with a sparse, small, partly unclear puncturation; besides this, area of tubercle clearly microsculptured, mainly so at the very apex and at base, partly covering there the area of longitudinal grooves.

Elytra 2.35 times as long as width at base, in apical half 1.06 times as broad as base; a sharp depression before middle, surface moderately convex behind; each elytron at base with a crest-shaped, longitudinal, but noticeably oblique tubercle covered by coarse, mostly confluent punctures and a clear microscul-

pture, the latter creating a dull background; basal part with a heterogeneous, coarse, mostly oblong-oval, irregularly distributed, in places denser puncturation; the latter in apical part clearly less coarse or quite fine, generally forming on each elytron four more or less clear longitudinal rows, of which two inner consisting of coarser punctures.

Prosternum with an obliterated sculpture; its profile slightly curved in apical part; metepisterna completely hidden under elytra, including denticle at their apex; first (visible) sternite 1.32 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: antennomere 1 partly, base of pronotum in the form of a very well-developed fascia, partly also scutellum and prosternum, most of meso- and metasterna, almost entire first (visible) sternite, partly coxae, apical part of both lateral and inner sides of metafemora in the form of a wide longitudinal strip of more or less dense, recumbent, white and, partly, yellowish (mainly on fascia of pronotum) setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust and yellowish, erect or suberect, light setae.

Male unknown.

Distribution (Maps 1, 4 and Table). Eastern Malaysia: Sabah. Known from a single locality.

Bionomics. The holotype was collected in March; adults obviously visit flowers.

13. *Clytellus tatianae* Miroshnikov, **sp. n.** (Figs 70, 71, 181, 183, 184)

Material. Holotype ♀ (cLD), W Malaysia, Johor, 15 km NW Kota Tinggi, Muntahak Mt, 200 m, 7.–13.III.2002, P. Čechovský leg.

Diagnosis. By the habitus and the structural details of the pronotum (the absence of a constriction in the apical one-third, the presence of grooves in the area of constriction in front of the base and of a fascia of light setae at the base), this new species resembles *C. viridipennis* and *C. monilis*, but differs clearly from both by a number of features, primarily, the sculpture of the elytra which is characterized both by the presence of only coarse, but more or less homogeneous punctures in the basal part and the absence from there of any other clear-cut structures, as well as by the less shiny pronotum and elytra, the weaker metallic lustre of the elytra, and the absence of a tubercle on the disk of the pronotum, as observed in *C. monilis*, or the absence from the apex of the elytra of a fascia of dense light setae so typical of *C. viridipennis*. *Clytellus tatianae* sp. n. can also be compared to *C. vivesi* sp. n., as both share some features such as a well-developed fascia of light setae at the base of the pronotum, sharp longitudinal grooves in the area of constriction in front of the base of the pronotum, to a varying degree coarse puncturation in the basal part of the elytra which are devoid of a fascia of light setae at their apex, a generally moderately shining dorsum and a not too bright metallic lustre of the elytra, as well as the coloration of the antennae and legs. However, *C. tatianae* sp. n. differs clearly from that species by the absence of a sharp constriction in the apical one-third of the pronotum, the longer grooves in the area of constriction in front of its base (at least so on the dorsal side), the less coarse puncturation in the basal part of the elytra, the absence from there of clear fragments of surface microsculpture, the presence in the apical half of more or less regular, longitudinal rows of small punctures (by the way, resembling those of *C. monilis*), as well as the elytra wider in the apical part relative to their base, a little curved profile of the apical part of the prosternum, and a clear-

ly less readily visible denticle at the apex of the metepisterna.

Description. Female. Body length 5.2 mm, humeral width 1.4 mm. Black; antennae and legs dark reddish-brown, apex of elytra and femora, the very margin of sternites except last (visible) one, and, partly, tarsi reddish; pronotum and elytra moderately shiny, elytra with a clear (but not too strong), metallic, greenish-cupreous lustre.

Head with a barely convex frons; antennomere 2, 1.39 times as long as isthmus between antennal cavities; antennae slightly not reaching apical one-third of elytra; antennomere 1, 1.38, 1.18, 1.14 or 1.16 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.63 times as long as wide; last antennomere 1.83 times as long as penultimate one.

Pronotum 1.59 times as long as wide at apex, 2.27 times as long as width at base; apex 1.42 times as broad as base, the very base 1.24 times as broad as constriction in front of base; strongly convex; disk with a longitudinal, oval, dull spot of microsculpture, the spot and surface next to it with clear sparse punctures; area of constriction in front of base with coarse longitudinal grooves very sharp both on sides and dorsally; longitudinal groove at bottom of this constriction sharply expressed; remaining surface almost smooth, only with individual, mostly unclear punctures.

Elytra 2.48 times as long as width at base, in apical half 1.21 times as broad as base; no evident tubercle at base; a strong depression before middle, a moderately convex surface behind; surface behind scutellum clearly, but not deeply rugose longitudinally; basal part with relatively coarse, mostly oblong-oval, heterogeneous punctures strongly weakened on disk in apical part and forming there on each elytron four more or less clear, longitudinal, long rows.

Prosternum with an obliterated sculpture; its profile almost straight, without evident curve in apical part; prosternal process at

apex about as wide as between procoxae; mesosternal process considerably narrower than prosternal process between procoxae; metepisterna at apex with a well-visible, but not coarse denticle; first (visible) sternite 1.44 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, partly both pro- and mesosternum, most of metasternum, almost entire first (visible) sternite, partly coxae, apical part of both lateral and inner sides of metafemora and, to a lesser extent, mesofemora in the form of a longitudinal wide strip of more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Johor. Known from a single locality.

Bionomics. The holotype was collected between 7 and 13 March; adults obviously visit flowers.

Etymology. The new species honours my wife Tatiana, who has edited the photographs in this paper.

14. *Clytellus kiyoyamai* Hayashi, 1977 (Figs 185, 188, 189, 191)

Clytellus kiyoyamai Hayashi, 1977: 126. **Type locality:** Western Malaysia, Maxwell Hill (now Bukit Larut) (according to the original description and the label of the holotype). Mizuno & Shiyake, 2004: 33.

? *Clytellus kiyoyamai*: Makihara, 1999: 69, pl. 17, fig. 188 (Eastern Kalimantan; see below); Heffern, 2005: 25.

Material. Holotype ♂ (OMNH) (photographs), "Malaysia, Maxwell's Hill, 18.VI.1975, Y. Kiyoya-

ma", "*Clytellus kiyoyamai* Hayashi ♂ det. M. Hayashi, 1977", "Holotype" (Fig. 188).

Diagnosis. This species differs from all congeners by certain features of sculpture at the base of the elytra, in particular, the peculiar structure of a large crest-shaped tubercle, as well as a combination of some other characters. By the habitus and various structural details, *C. kiyoyamai* resembles *C. westwoodii*, *C. malayanus*, *C. belokobylskiji* sp. n., *C. lobanovi* sp. n. or *C. fulgidus*, but, in addition to the structure of the base of the elytra, it differs clearly from all of them but the latter species at least by the absence of a sharp constriction in the apical third of the pronotum, from *C. fulgidus*, as well as from the other listed species except *C. belokobylskiji* sp. n., by the absence of coarse punctures from the male prosternum. This latter distinguishing character could not be applied to *C. belokobylskiji* sp. n. only because it is known so far only from a single female (see below).

Description. Male. Body length 4.75 mm, humeral width 1.15 mm. Black; antennae and legs dark reddish-brown with more reddish clava of femora; pronotum and elytra shiny, the latter with a metallic greenish-cupreous lustre.

Head with a flat frons; antennomere 2 clearly longer than isthmus between antennal cavities; antennae reaching apical one-quarter of elytra; antennomere 1, 1.25 or 1.24 times as long as 3rd and 6th, respectively, 1.18 times as long as antennomere 4 or 5; antennomere 2, 1.60 times as long as wide; last antennomere 1.85 times as long as penultimate one.

Pronotum 1.73 times as long as wide at apex, 2.33 times as long as width at base; apex 1.34 times as broad as base, the very base 1.31 times as broad as constriction in front of base; strongly convex; with a barely visible constriction in apical one-third; mostly smooth, only with individual unclear punctures; area of constriction in front of base with rather fine longitudinal grooves on

sides; longitudinal groove at bottom of this constriction sharply expressed; partly clearly microsculptured.

Elytra 2.60 times as long as width at base, in apical half 1.06 times as broad as base; each elytron at base with a large, longitudinal, crest-shaped tubercle, the latter microsculptured dorsally and creating a well-expressed scabrous (but not serrate) and dull surface; a sharp depression behind the tubercle, further behind clearly convex; basal part on disk with a heterogeneous, mainly oblong-oval puncturation, the most coarse one in area of depression, in front of it and along suture; sides of depression area with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum with an obiterated sculpture devoid of coarse deep punctures; profile of prosternum very gradually and almost regularly curved; metepisterna at apex with a well visible denticle; first (visible) sternite 1.27 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly both pro- and mesosternum, almost entire metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Female unknown (see also Remarks to the following species).

Distribution (Maps 1, 3 and Table). Western Malaysia: Perak. Known from a single locality.

The record of *C. kiyoyamai* in eastern

Borneo (Makihara, 1999) seems to actually concern another, apparently yet undescribed species.

Bionomics. The holotype was collected in the second half of June; adults obviously visit flowers.

Remarks. This description is based on a study of a series of high-quality photographs of the holotype received through the courtesy of Dr. Nobuo Ohbayashi (Kamimiyada, Miura City, Japan) and Dr. Kiyoshi Ando (Osaka, Japan). The original description of this species (Hayashi, 1977) has also been taken into account.

15. *Clytellus kareli* Holzschuh, 2003 (Figs 186, 187, 190, 192)

Clytellus kareli Holzschuh, 2003: 233, Abb. 67.

Type locality: Thailand, Ranong Province, Ban Na env., 9°34'N, 98°42'E (according to the original description and the label of the holotype).

Material. Holotype ♀ (cCH), "Thailand, Ranong Prov., Ban Na env., 9°34'N, 98°42'E", 22.–26.III.1996, K. Majer leg., "Holotypus *Clytellus kareli* n. sp. det. C. Holzschuh 2003" (Fig. 187).

Diagnosis. This species is extremely similar to *C. kiyoyamai* (see Remarks below).

Description. Female. Body length 5.5 mm, humeral width 1.3 mm. Black; antennae and legs dark brown with red clava of femora; pronotum and elytra shiny, the latter with a metallic greenish-cupreous lustre.

Head with a flat frons; antennomere 2, 1.2 times as long as isthmus between antennal cavities; antennae reaching apical one-third of elytra; antennomere 1, 1.17, 1.12, 1.07 or 1.14 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.7 times as long as wide; last antennomere 1.63 times as long as penultimate one.

Pronotum 1.70 times as long as wide at apex, 2.32 times as long as width at base; apex 1.36 times as broad as base, the very base 1.25 times as broad as constriction in front of base; strongly convex; with a barely visible

constriction in apical third; disk with a longitudinal dull spot of microsculpture in apical part; mostly smooth, only with individual unclear punctures; area of constriction in front of base with rather fine longitudinal grooves on sides; longitudinal groove at bottom of this constriction sharply expressed; partly clearly microsculptured apart from the spot on disk.

Elytra 2.50 times as long as width at base, in apical half 1.05 times as broad as base; each elytron at base with a large, longitudinal, crest-shaped tubercle covered dorsally with microsculpture and creating a sharply expressed, rough (but not serrate) and dull surface; a clear depression behind the tubercles, surface further behind clearly convex; basal part of disk with a heterogeneous, predominantly oblong-oval punctation, the most coarse one in area of depression, in front of it and along suture; sides of depression area with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum with an obliterated sculpture; its profile without evident curves in apical part; metepisterna at apex with a well visible denticle; first (visible) sternite noticeably longer than all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly both pro- and mesosternum, almost entire metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Male unknown (see also Remarks below).

Distribution (Maps 1, 2 and Table). Southern Thailand: Ranong Province. Known from a single locality.

Bionomics. The holotype was collected between 22 and 26 March; adults obviously visit flowers.

Remarks. When comparing the holotype of *C. kareli* with colour pictures of various structural details in the holotype of *C. kiyoyamai*, as well as its habitus in several aspects (see Remarks to *C. kiyoyamai*), I have failed to find any significant morphological differences between these species. Their indisputable similarity, besides a whole number of other important features, is emphasized by virtually the same sculpture of the basal part of the elytra. Such a sculpture is only typical of these two species, being unknown, as noted above, in any other congener. The diagnostic characters of *C. kareli* and *C. kiyoyamai* as listed in the key below are only conditional and most likely variable. However, considering that at the moment these species are only represented by one specimen each, the more so of different sexes, as well as their type (and so far the only) localities lie rather far from each other, I refrain here from unambiguously recognizing *C. kareli* as a synonym of *C. kiyoyamai*.

16. *Clytellus westwoodii* Pascoe, 1857 (Figs 63, 68, 193–205)

Clytellus westwoodii Pascoe, 1857: 97 (“Borneo”).

Type locality: Eastern Malaysia, Sarawak (according to the label of the holotype). Gerstaecker, 1859: 325; Chevrolat, 1863: 339; Pascoe, 1869: 643 (“Singapore”; see below); 1885: 56; Heffern, 2005: 25.

Clytellus westwoodii (incorrect subsequent spelling): Lacordaire, 1869a: 95; Gemminger in Gemminger, Harold, 1872: 2943; Shelford, 1902: 244, 251; Aurivillius, 1912: 424; Makihara, 1999: 69, pl. 17, fig. 187 (Eastern, Kalimantan).

Clytellus westwoodii (sic!) f. *metallescens* Hayashi, 1975: 185 (unavailable name) (Borneo, Malaysia, Sabah, Kinabalu Mt).

Material. Holotype ♀, by monotypy (BMNH), “Sar.[awak] 1463”, “*Clytellus westwoodii* Pasc.

Type", "Type", "Pascoe Coll. 93–60" (Fig. 194); 1 ♀ (BMNH), "W Sarawak, Quop, 30.III.[19]14, G.E. Bryant [leg.]", "G. Bryant Coll. 1919–147"; 1 ♂, 1 ♀ (cLD), Indonesia, Kalimantan Selatan, 40 km E Kandangan, Loksado, 2°30'S, 115°20'E, 7.–22.IX.1997, S. Jakl leg.; 1 ♀ (SMNH) (photographs), "[Sarawak] Kuching, 3.III.1903", "NHRS–JLKB, 000020324", "5544 E92"; 1 ♀ (SMNH) (photographs), "Borneo", "Mjöberg", "NHRS–JLKB, 000020323", "5545 E92"; 1 ♀ (cAM), Indonesia, Sumatra, Riau Prov., Bukit Tigapuluh N. P., 0°50'S, 102°26'E, 18.–25.I.2000, D. Hauck leg.; 1 ♀ (cPV), W Malaysia, Pahang, 70 km SW Kuala Rompin, Endau Rompin NP, 600 m, G. Beremban (Kg. Tebu Hitam), 13.IV.–3.V.2009, P. Čechovský leg.; 1 ♀ (NHMD), "Philippines, Dalawan Bay, 10.X.1961, Noona Dan Exp. 61–62", "Caught in Malaise-traps", "*Clytellus westwoodi* Pasc. Hüdepohl det. 1985".

Diagnosis. This species is characterized by a body size on the average being large for the genus, by an almost completely smooth pronotum with a fascia of white setae at its base and a sharp constriction in the apical one-third, as a rule, the mostly smooth elytra with a sculpture coarse only in the area of the depression and with rather sparse, small punctures in the basal part of the disk, the absence from there of tubercles or crests, the presence of an apical fascia of light setae on the elytra, and a few rough (but not coarse) punctures on the prosternum in the male (see Remarks below). By a combination of these characters, *C. westwoodii* differs clearly from most of the congeners and can primarily be compared to *C. malayanus* stat. n., yet being distinguished through the clearer, always present puncturation on the disk at the base of the elytra, the presence of only individual rough punctures and a different pattern of setation on the prosternum in the male, and on the average a larger body. Some similarity of *C. westwoodii* is observed to a number of other species, in particular, *C. belokobylskiji* sp. n., *C. lobanovi* sp. n., *C. fulgidus* and *C. kasatkini* sp. n. However, at least the former two species show a clearly different sculpture on the disk of the elytra while the pronotum in the latter two species

is devoid of a sharp constriction in the apical one-third (see other differences in the diagnoses of these species).

Description. Body length 5.50–6.55 mm (according to Hayashi, 1975 & 1977, up to 8.0 mm), humeral width 1.40–1.65 mm (see Remarks below). Black; elytra at apex lighter; clava of femora from dark reddish-brown to red; antennae sometimes dark reddish-brown, tarsi often lighter one way or another; dorsum almost entirely shiny; elytra sometimes with an evident metallic lustre of greenish-cupreous and blue-violet (and possibly other) tones.

Head with a barely convex frons; antennomere 2, 1.26–1.54 times as long as isthmus between antennal cavities; antennae reaching behind inside apical one-quarter or one-third of elytra in male and female, respectively, or slightly touching it in female alone; antennomere 1, 1.32–1.42, 1.17–1.23, 1.07–1.19 or 1.18–1.28 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.6–1.75 times as long as wide; last antennomere 1.70–1.86 times as long as penultimate one.

Pronotum 1.72–1.86 times as long as wide at apex, 2.13–2.50 times as long as width at base; apex 1.24–1.37 times as broad as base, the very base 1.19–1.24 times as broad as constriction in front of base; apical one-third with a sharp or evident constriction; strongly convex; smooth, only with individual unclear punctures more often visible on sides near apex; longitudinal groove at bottom of the constriction in front of base sharply or well-expressed.

Elytra 2.49–2.60 times as long as width at base; they can be widest in apical half, but then not more than 1.06 times as wide as base; a sharp depression before middle, surface visibly (but not too much) convex behind; almost smooth, only disk at base with very sparse punctures usually clearer and more closely spaced along suture; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal

grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum of male in apical half approximately in the middle between side margin and axial line with three rather rough, deep, but not sharply expressed punctures forming a small triangle (see Remarks below), remaining surface as in female, with a pretty smooth sculpture; profile of prosternum in apical part usually clearly curved (Figs 63, 204), more rarely slightly curved (Fig. 205) or relatively straight; prosternal process at apex about as wide as between procoxae; mesosternal process about as wide as or slightly narrower than prosternal process between procoxae; metepisterna at apex with a well-visible denticle; first (visible) sternite 1.40–1.57 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly prosternum, most of or almost entire mesosternum, usually almost entire metasternum, most of or almost entire first (visible) sternite and, partly, coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, mostly sides of pronotum, sometimes also disk, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 4 and Table). Among the congeners, this species has the most extensive distribution which covers the central Sumatra and most of Borneo in Indonesia, eastern Malaysia, the extreme Southwest of the Philippines, the southern parts of western Malaysia, and Singapore. Above are the first records in Sumatra, western Malaysia and the Philippines. The report by Pascoe (1869) of only Singapore as the distribution

area of *C. westwoodii*, without any comments whatever, seems to be strange, likely a mistake, since in the original description of the species he himself mentioned Borneo while the label of the holotype reads “Sar. [awak]” (see above). However, considering the reliable records of *C. westwoodii* in the South of western Malaysia and in the central part of Sumatra, its occurrence in Singapore is beyond any doubt.

Bionomics. In Borneo, adults are active at least in March in the northern part (eastern Malaysia) and in September in the southern part (South Kalimantan, Indonesia), in western Malaysia, Philippines and central Sumatra in April (or May), October or January, respectively; visit flowers.

Remarks. I know of only one male collected together with one female in southern Borneo (see Material above) to be identified as *C. westwoodii*. Therefore, the differences of this species from the other forms in certain structural features of the male prosternum so far are based of the single specimen only.

The holotype is the largest among the studied specimens.

17. *Clytellus malayanus*

Hayashi, 1977, **stat. n.**

(Figs 66, 69, 80, 81, 206–212)

Clytellus westwoodii (“westwoodi”, sic, incorrect subsequent spelling) *malayanus* Hayashi, 1977: 124. **Type locality:** Western Malaysia, Tanah Rata (according to the original description and the label of the holotype). Holzschuh, 1991: 61; Mizuno & Shiyake, 2004: 32.

?*Clytellus westwoodii malayanus*: Makihara, 1999: 69, pl. 17, fig. 189 (*westwoodi malayana*, sic!) (Eastern, Kalimantan; see below).

Material. 1 ♂ (cLD), W Malaysia, Pahang, Cameron Highlands, 30 km E Ipon, Tanah Rata, 1500 m, 20.II.–3.III.1998, P. Čechovský leg.; 1 ♀ (cAM), same label; 1 ♀ (cLD), same locality, 4°28'N, 101°23'E, 1800 m, 15.II.2000, P. Pacholátko leg.”; 1 ♂ (cPV), Pahang, 70 km SW Kuala Rompin, Endau Rompin N. P., 600 m, G. Beremban (Kg. Tebu Hitam), 13.IV.–3.V.2009, P. Čechovský leg.; holotype ♀ (see

Remarks) (OMNH) (photographs), "Malaysia, Tanah Rata, 21.I.1976, Y. Kiyoyama", "*Clytellus westwoodi malayanus* Hayashi det. M. Hayashi, 1977", "Holotype" (Fig. 207).

Diagnosis. This species seems to be especially similar to *C. westwoodii*, but differs by the absence of puncturation, at least so in the basal one-third of the elytra (or the presence there of only a few gentle punctures, the clearest ones along the suture on each side), by an abundant, generally much coarser puncturation and a peculiar pattern of setation of light setae on the male prosternum, on the average also a smaller body. *Clytellus malayanus* stat. n. can also be compared to *C. belokobylskiji* sp. n., *C. lobanovi* sp. n., *C. fulgidus* or *C. kasatkini* sp. n., but differs clearly from the former two species by the absence of a well-expressed tuberculiform elevation at the base of each elytron and by a smooth or almost smooth sculpture in the basal one-third of the elytra, from the latter two species by a sharp constriction in the apical one-third of the pronotum, a clearly less strongly developed or almost undeveloped fascia of light setae on the dorsal side of the pronotum base, by numerous coarse punctures on the prosternum of the male (at least compared to *C. fulgidus*), and the usually brown-red clava of the femora.

Description. Body length 4.85–5.50 mm, humeral width 1.2–1.3 mm. Black; elytra lighter at apex, clava of femora usually red; tarsi partly reddish-brown; dorsum almost entirely shiny; elytra sometimes with a metallic greenish-cupreous or bluish lustre.

Head with a flat or barely convex frons; antennomere 2, 1.30–1.55 times as long as isthmus between antennal cavities; antennae reaching behind inside apical one-quarter of elytra in male, but only reaching or slightly not reaching it in female; antennomere 1, 1.19–1.26, 1.11–1.21, 1.07–1.11 or 1.18–1.19 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.44–1.62 times as long as wide; last antennomere

1.70–1.88 times as long as penultimate one.

Pronotum 1.71–1.82 times as long as wide at apex, 2.21–2.37 times as long as width at base; apex 1.28–1.30 times as broad as base, the very base 1.16–1.26 times as broad as constriction in front of base; apical one-third with a sharp or evident constriction; strongly convex; smooth, only with individual unclear punctures; longitudinal groove at bottom of the constriction in front of base well-expressed.

Elytra 2.58–2.78 times as long as width at base, in apical half 1.04–1.08 times as broad as base; a sharp depression before middle, visibly (but not too much) convex behind; usually smooth, sometimes at base along suture with individual, more or less clear punctures; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum of male over most of its apical half with abundant, coarse, deep punctures, in-between a gentle, in places clearer, cellular microsculpture arranged around punctures into several more or less clear rows of cells; female with only a smooth sculpture; profile of prosternum in apical part clearly curved; prosternal process at apex about as wide as between procoxae; mesosternal process about as wide as or clearly narrower than prosternal process between procoxae; metepisterna at apex with a well-visible denticle; first (visible) sternite 1.28–1.45 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly prosternum (forming a peculiar pattern in male, Fig. 80), most of or almost entire mesosternum, usually almost complete metasternum, most of or almost entire first (visible) sternite and, partly, coxae clothed with more or less dense, recumbent, white setae; head, anten-

nae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, mainly sides of pronotum at apex, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Pahang.

In my opinion, the record of this species in eastern Borneo (Makihara, 1999) requires confirmation and possibly concerns another species.

Bionomics. Adults active from the second half of January at least to the end of April or early May, obviously visit flowers.

Remarks. It was Dr. Hiroshi Makihara (Forestry and Forest Products Research Institute, Tsukuba, Japan), who kindly drew my attention to this taxon as warranting the status of a full species (a personal communication of February 7, 2012). The results of my further studies have only confirmed his opinion.

This species was described from a single specimen claimed to be male (Hayashi, 1977). However, based on several photographs of the holotype (e.g. Fig. 206), as well as the original description, I believe the holotype is actually a female. One of the pictures clearly shows a part of the ovipositor while the description mentions nothing like a coarse puncturation on the prosternum which is only present, as shown above, in the male. By the way, this highly obvious character was well documented by Hayashi (1977) for another species, *C. shibatai*, he described simultaneously. However, this author likewise erred there with respect to the sex of the holotype (see above).

18. *Clytellus belokobylskiji* Miroshnikov, sp. n.
(Figs 213, 214, 217, 222)

Material. Holotype ♀ (ZISP), Vietnam, Hoa Binh Prov., Mai Chau Distr., Hang Kia, 20°44'N, 104°53'E, 1300 m, 25.–26.IV.2002, S. Belokobylskij leg.

Diagnosis. The new species resembles *C. westwoodii* and *C. malayanus* stat. n., but differs from both by the well-expressed tuberculiform elevation at the base of each elytron, the very clear, in places rough to coarse (in area of depression on disk) puncturation in the basal part of the elytra, the much less strongly developed fascia of white setae at the base of the pronotum visible only on the sides. *Clytellus belokobylskiji* sp. n. can also be compared to *C. lobanovi* sp. n., but differs clearly by a generally less coarse puncturation at the base of the elytra, a clearly longer tooth at the base of the mandibles, as well as in the coloration of the antennae and legs.

Description. Female. Body length 5.45 mm, humeral width 1.35 mm. Black; antennae and legs partly dark reddish-brown; elytra lighter at the very apex; clava of femora red; dorsum almost entirely shiny; elytra with an evident, metallic, mostly greenish-blue lustre with cupreous tint in area of depression.

Head with a flat frons; antennomere 2, 1.25 times as long as isthmus between antennal cavities; antennae reaching apical one-third of elytra; antennomere 1, 1.24 or 1.19 times as long as 3rd and 4th, respectively, 1.15 times as long as antennomere 5 or 6; antennomere 2, 1.55 times as long as wide; last antennomere 1.76 times as long as penultimate one.

Pronotum 1.58 times as long as wide at apex, 2.14 times as long as width at base; apex 1.36 times as broad as base, the very base 1.22 times as broad as constriction in front of base; apical one-third with a sharp constriction; strongly convex; smooth, only with individual unclear punctures and, partly, a more or less distinct microsculpture; longitudinal groove at bottom of the constriction in front of base well-expressed.

Elytra 2.61 times as long as width at base, in apical half 1.09 times as broad as base; each elytron with a strong tuberculiform elevation at base; a sharp depression before middle, surface moderately convex behind;

basal part with a heterogeneous puncturation visibly coarser on disk before middle, but clearly weakened and few in area of tubercle and over adjacent surface; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum with an obliterated sculpture; its profile in apical part clearly curved; prosternal process at apex about as wide as between procoxae; mesosternal process clearly narrower than prosternal process between procoxae; metepisterna at apex with a well-visible denticle; first (visible) sternite 1.38 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a fascia (strip) on sides, apex of elytra, partly prosternum, most of both meso- and metasterna, first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, as well as pronotum, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). Northern Vietnam: Hoa Binh Province. Known from a single locality.

Bionomics. The holotype was collected in the end of April; adults obviously visit flowers.

Remarks. When/if the male of this species is found, in my opinion its prosternum can be expected to support a coarse and deep puncturation.

Etymology. The new species honours my friend and colleague, Dr. Sergey A. Belokobylskij (Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia), who collected it, as well as some other very valuable specimens of *Clytellus*.

19. *Clytellus lobanovi* Miroshnikov, sp. n.
(Figs 64, 215, 216, 218–221)

Material. Holotype ♂ (cLD), Vietnam, Vinh Phu Prov., 70 km NW Hanoi, Tam Dao, 21°27'N, 105°39'E, 900–1200 m, 2.–9.VI.1999, P. Spáčil leg.

Diagnosis. The new species is very similar to *C. belokobylskiji* sp. n., but differs clearly by a partly distinctly coarser and more abundant puncturation at the base of the elytra, a visibly less strongly developed tooth at the base of the mandibles, as well as the entirely black antennae and legs. *Clytellus lobanovi* sp. n. reminds also of *C. westwoodii* and *C. malayanus* stat. n., but differs from both by a well-expressed tuberculiform elevation at the base of each elytron (like in *C. belokobylskiji* sp. n.), a coarse puncturation at least in the basal one-third of the elytra, and a less strongly developed fascia of white setae at the base of the pronotum, from *C. westwoodii* also by an abundant and generally much coarser puncturation, as well as in the pattern of prosternum setation of the male.

Description. Male. Body length 5.45 mm, humeral width 1.4 mm. Black; last tarsomeres slightly lighter; dorsum almost entirely shiny; elytra with an evident, metallic, predominantly greenish-blue lustre with cupreous tint in area of depression.

Head with a flat frons; antennomere 2, 1.31 times as long as isthmus between antennal cavities; antennae almost reaching the middle of apical one-quarter of elytra; antennomere 1, 1.30 or 1.17 times as long as 3rd and 4th, respectively, 1.09 times as long as antennomere 5 or 6; antennomere 2, 1.70 times as long as wide; last antennomere 1.66 times as long as penultimate one.

Pronotum 1.67 times as long as wide at apex, 2.03 times as long as width at base; apex 1.21 times as broad as base, the very base 1.13 times as broad as constriction in front of base; apical third with a sharp constriction; strongly convex; smooth, only with individual unclear punctures and, part-

ly, a more or less clear microsculpture; longitudinal groove at bottom of the constriction in front of base well-expressed.

Elytra 2.40 times as long as width at base, in apical half 1.04 times as broad as base; each elytron with a strong tuberculiform elevation at base; a sharp depression before middle, surface moderately convex behind; basal part with a heterogeneous puncturation noticeably coarser on disk before middle, but also sufficiently coarse, only partly clearly obliterated and sparser in area of tubercle and over adjacent surface; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum over most of its apical half with abundant, coarse, deep punctures, in-between with a very clear cellular microsculpture located around punctures and arranged into several more or less clear rows of cells; profile of prosternum in its apical part clearly curved; prosternal process at apex about as wide as between procoxae; mesosternal process clearly narrower than prosternal process between procoxae; metepisterna at apex with a well-visible denticle; first (visible) sternite 1.46 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a fascia (strip) on sides, apex of elytra, partly prosternum forming a peculiar pattern (Fig. 216), most of mesosternum, almost completely metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, as well as pronotum, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 2 and Table). Northern Vietnam: Vinh Phu Province. Known from a single locality.

Bionomics. The holotype was collected between 2 and 9 June; adults obviously visit flowers.

Etymology. The new species honours my friend and colleague, Dr. Andrey L. Lobanov (Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia), who over the many years supports my entomological research.

20. *Clytellus fulgidus* Holzschuh, 1991 (Figs 228, 229, 232)

Clytellus fulgidus Holzschuh, 1991: 61, Abb. 41.

Type locality: Thailand, Ranong (according to the original description and the label of the holotype).

Material. Holotype ♂ (cCH), "S Thailand, Ranong, I.-III.1989, native collector", "Holotypus *Clytellus fulgidus* n. sp. det. C. Holzschuh 1991" (Fig. 229).

Diagnosis. By the habitus, this species resembles *C. westwoodii* and *C. malayanus* stat. n., but is distinguished through the absence of a sharp constriction in the apical one-third of the pronotum, by a straight profile of the prosternum, a different structure of the apex of the elytra, and a more strongly developed fascia of white setae on the dorsal side of the pronotum base. In addition, it differs from *C. malayanus* stat. n. by the presence of very clear punctures on the disk in the basal part of the elytra, the far fewer rather rough punctures on and a peculiar setation pattern of the male prosternum, on average also being obviously smaller than *C. westwoodii*. *Clytellus fulgidus* can also be compared to *C. kubani* sp. n. and *C. kasatkini* sp. n., but differs from both by the less elongated elytra, from the former in the shorter longitudinal grooves on the sides in the depression area, and only individual rather rough punctures on the male prosternum, from the latter species by certain struc-

tural features of the apex of the elytra and the not too abundant, long, erect setae of the pronotum.

Description. Male. Body length 5.1 mm, humeral width 1.2 mm. Black; antennae and most of legs dark reddish-brown; dorsum almost entirely strongly shiny; elytra with a bright, metallic, green-blue lustre with faint cupreous tint.

Head with a flat frons; antennomere 2, 1.25 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical one-quarter of elytra; antennomere 1, 1.32 times as long as 3rd, 1.06 times as long as 4th or 6th, subequal to antennomere 5; antennomere 2, 1.50 times as long as wide; last antennomere 1.79 times as long as penultimate one.

Pronotum 1.73 times as long as wide at apex, 2.32 times as long as width at base; apex 1.35 times as broad as base, the very base 1.21 times as broad as constriction in front of base; moderately convex; apical one-third with a barely traceable constriction; greatest width reached at the very apex; smooth, only with individual, in places clear, small punctures; longitudinal groove at bottom of the constriction in front of base partly hidden by dense light setae.

Elytra 2.50 times as long as width at base, in apical half 1.02 times as broad as base; a sharp depression before middle, surface behind relatively weakly convex; base both with pretty clear, small and individual larger punctures in the middle; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures; apical sutural angle sharpened, visibly emarginate at apex on each side of suture.

Prosternum with individual, rough, deep punctures on sides; its profile straight; metepisterna at apex with a weakly visible denticle; first (visible) sternite clearly longer than all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a fascia, apex of elytra, partly prosternum, most of mesosternum, almost completely both metasternum and first (visible) sternite, as well as partly legs clothed with a more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, mostly apical part of pronotum, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Female yet unknown.

Distribution (Maps 1, 2 and Table). Southern Thailand: Ranong Province. Known from a single locality.

Bionomics. The holotype was collected between January and March without more precise data; adults obviously visit flowers.

21. *Clytellus barclayi* Miroshnikov, sp. n. (Figs 74, 75, 223–227)

Material. Holotype ♂ (BMNH), “W Sarawak, Quop, 30.III.[19]14, G.E. Bryant [leg.]”, “G. Bryant Coll. 1919 – 147”, “Data unreliable. See Brit. Mus. 1949–314”, “*Clytellus westwoodi* Pasc. det. E. Vives 2008 [misidentification!]”.

Diagnosis. The new species differs from all congeners by the combination of characters which primarily includes the relatively small size and the coloration of the body, some structural features of the pronotum (the absence both of a constriction in the apical one-third and of a coarse sculpture almost over the entire surface, the presence both of longitudinal grooves in the area of constriction in front of the base and of a strongly developed a fascia of light setae at the base) and elytra (the absence of large tubercles and crests from the base, the presence of a peculiar location of most of the moderate-

ly coarse and sparse punctures in the basal half, and of an apical fascia of light setae), the absence of coarse deep punctures from the prosternum (considering the single specimen being a male) and the latter's uncurved profile. By the habitus, *C. barclayi* sp. n. can be compared to *C. fulgidus*, but differs clearly by the sculpture of the prosternum and pronotum in the area of constriction in front of the base, in some features of elytral puncturation, body coloration etc.

Description. Male. Body length 4.05 mm, humeral width 1.0 mm. Black; antennae, legs and, partly, venter dark reddish-brown; elytra black-brown, partly with reddish tint; dorsum almost entirely shiny; elytra with a very slight metallic lustre.

Head with a barely convex frons; antennomere 2, 1.44 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical one-quarter of elytra; antennomere 1, 1.39 or 1.16 times as long as 3rd and 4th, respectively, 1.14 times as long as antennomere 5 or 6; antennomere 2, 1.63 times as long as wide; last antennomere 1.84 times as long as penultimate one.

Pronotum 1.70 times as long as wide at apex, 2.30 times as long as width at base; apex 1.37 times as broad as base, the very base 1.33 times as broad as constriction in front of base; strongly convex; area of constriction in front of base with longitudinal, clear, but not coarse grooves on sides and much more strongly obliterated, very gentle (barely relief) ones on dorsal side; longitudinal groove at bottom of the constriction in front of base well-expressed; remaining surface smooth, with only individual unclear punctures.

Elytra 2.43 times as long as width at base, in apical half 1.03 times as broad as base; a sharp depression before middle, surface behind relatively weakly convex; basal part with a heterogeneous, predominantly rather rough puncturation arranged in a peculiar way, when punctures on disk of each elytron

(apart from punctures along suture and other individual punctures) forming a long longitudinal row displaced towards the margin of elytra, and a obliquely-transverse row in area of depression, both rows generally creating a w-shaped pattern; area of depression on sides with a short longitudinal groove covering two coarse punctures, with a weak impression below.

Prosternum with an obliterated sculpture; its profile straight; prosternal process at apex slightly narrower than between procoxae; mesosternal process noticeably narrower than prosternal process between procoxae; metepisterna at apex with a poorly-visible denticle; first (visible) sternite 1.35 times as long as all subsequent (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly both pro- and mesosternum, almost entire metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, venter and legs clothed with similar, but sparser setae; head, partly antennae, sides of pronotum at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 4 and Table). Eastern Malaysia: Sarawak. Known from a single locality only.

Bionomics. The holotype was collected in the end of March; adults obviously visit flowers.

Etymology. The new species honours my colleague, Dr. Maxwell V.L. Barclay, the curator of the collection of Coleoptera at the Natural History Museum, London, United Kingdom, who provided a very valuable material for study, including the holotype of this species.

22. *Clytellus kubani* Miroshnikov, sp. n.

(Figs 230, 231, 233–235)

Material. Holotype ♂ (cLD), W Malaysia, Pahang, Benom Mts, 15 km E Kampong Dong, 3°53'N, 102°01'E, 300–1000 m, 24.03.–15.IV.1998, L. Dembický & P. Pacholátko leg.; paratype ♂ (NMP), "Singapore, [19]29 Dr. Baum".

Diagnosis. The new species is similar to *C. fulgidus*, but differs by the visibly more elongated elytra, the longer longitudinal grooves in the area of depression of the elytra on the sides, a greater number of coarse punctures on and by certain features of setation of the prosternum, as well as by the somewhat weaker metallic lustre of the elytra. *Clytellus kubani* sp. n. can also be compared to *C. kasatkini* sp. n., but is distinguished by the presence of clear punctures on the disk all over the basal part of the elytra, the latter's sharpened apices, a slightly different shape of the apical part of the pronotum, its only a few long erect setae and some other characters.

Description. Male. Body length 4.1–4.6 mm, humeral width 0.95–1.05 mm. Black; antennae, partly venter and legs dark reddish-brown; elytra lighter at apex; clava of femora brown-red or red; dorsum almost entirely shiny; elytra with a visible, metallic, greenish-blue lustre with cupreous tint.

Head with a flat frons; antennomere 2, 1.40–1.44 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical quarter of elytra; antennomere 1, 1.29–1.36, 1.13–1.25, 1.1–1.15 or 1.17–1.25 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.63–1.69 times as long as wide; last antennomere 1.70–1.98 times as long as penultimate one.

Pronotum 1.71–1.74 times as long as wide at apex, 2.32–2.40 times as long as width at base; apex 1.42–1.43 times as broad as base, the very base 1.25–1.27 times as broad as constriction in front of base; moderately convex; apical one-third with a barely visible constriction; greatest width reaching the very

apex; smooth, only with individual, in places clear, small punctures; longitudinal groove at bottom of the constriction in front of base partly hidden by dense light setae.

Elytra 2.68–2.79 times as long as width at base, in apical half 1.01–1.02 times as broad as base; a sharp depression before middle, surface behind relatively weakly convex; basal one-third with individual, more or less clear, small punctures and individual larger ones in the middle; area of depression on sides with two coarse, deep, longitudinal grooves, one above the other, the lower one always very long while the upper groove somewhat variable in length; sutural apical angle more or less sharpened, suture on each side visibly emarginate at apex.

Prosternum with 5–10 coarse, heterogeneous, deep punctures on each side, microsculpture clear, located in a peculiar way around punctures; profile of prosternum straight; prosternal process at apex noticeably narrower than between procoxae; mesosternal process clearly narrower than prosternal process between procoxae; metepisterna at apex with a weakly visible denticle; first (visible) sternite 1.29–1.31 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, prosternum in the form of a peculiar pattern (Fig. 233), partly mesosternum, almost completely both metasternum and first (visible) sternite, as well as partly coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum at apex, elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Pahang; Singapore.

Bionomics. The holotype was collected between March 24 and April 15; adults obviously visit flowers.

Etymology. The new species honours my friend and colleague, Dr. Vítězslav Kubáň (Národní Museum Prague, Czech Republic), who rendered me his great help in getting access to a very valuable material.

23. *Clytellus kasatkini* Miroshnikov, sp. n.
(Figs 248, 250, 252)

Material. Holotype ♀ (cLD), Indonesia, S Sumatra, Lampung Prov., Bukit Barisan Selatan National Park, 5 km SW Liwa, 5°04'S, 104°04'E, 600 m, 7.–17.II.2000, D. Hauck leg.

Diagnosis. The new species resembles *C. fulgidus* and *C. kubani* sp. n., but differs from both by the shape of the sutural angle of the elytra, the almost complete absence of a clear puncturation in the basal one-third of the elytra, in some structural features of the pronotum, in particular, a slightly different shape of the apical part, a relatively more strongly developed fascia of white setae at the base, at least so on its dorsal side, and by abundant, erect, long setae, mostly such on the sides. In addition, it differs from *C. fulgidus* by visibly more elongated elytra (like in *C. kubani* sp. n.). *Clytellus kasatkini* sp. n. can also be compared to *C. westwoodii* and *C. malayanus* stat. n., but is clearly distinguished from both by at least an almost unnoticeable constriction in the apical one-third of the pronotum, a straight profile of the prosternum, and a better developed fascia of white setae on the dorsal side at the base of the pronotum.

Description. Female. Body length 5.0 mm, humeral width 1.15 mm. Black; antennae and legs dark reddish-brown; elytra reddish at apex; dorsum almost entirely shiny; elytra with an evident, metallic, greenish-cupreous lustre.

Head with a barely convex frons; antennomere 2, 1.36 times as long as isthmus

between antennal cavities; antennae slightly not reaching apical one-third of elytra; antennomere 1, 1.37 or 1.11 times as long as 3rd and 5th, respectively, 1.20 times as long as antennomere 4 or 6; antennomere 2, 1.66 times as long as wide; last antennomere 1.85 times as long as penultimate one.

Pronotum 1.80 times as long as wide at apex, 2.45 times as long as width at base; apex 1.36 times as broad as base, the very base 1.22 times as broad as constriction in front of base; moderately convex; apical third with a barely visible constriction; greatest width reached well before apex, even before apical one-quarter, whence faintly, but still visibly narrowed towards apex; smooth, only with individual, in places clear, small punctures; longitudinal groove at bottom of the constriction in front of base well-expressed.

Elytra 2.78 times as long as width at base, in apical half 1.09 times as broad as base; a sharp depression before middle, surface behind relatively weakly convex; with very sparse punctures on disk in area of depression and in front of it; depression area on sides with two coarse longitudinal grooves, one above the other, thereby the lower much narrower and shorter.

Prosternum with a smooth sculpture; its profile straight; prosternal process at apex about as wide as between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; metepisterna at apex with a hardly traceable denticle; first (visible) sternite 1.3 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: base of pronotum in the form of a well-developed fascia, apex of elytra, partly venter and coxae clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum, elytra, venter and, partly,

legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 4 and Table). Indonesia: Sumatra, Lampung Province. Known from a single locality.

Bionomics. The holotype was collected between 7 and 17 February; adults obviously visit flowers.

Remarks. When/if the male of this species is found, in my opinion, its prosternum can be expected to support a coarse (or rough) and deep puncturation.

Etymology. The new species honours my friend and colleague, Dr. Denis G. Kasatkin (Rostov-on-Don, Russia), who has rendered his great help in obtaining a valuable material for study.

24. *Clytellus selebensis* Gestro, 1877
(Figs 236, 237, 240, 241, 243, 245, 247, 251)

Clytellus selebensis Gestro, 1877: 653. **Type locality:** Indonesia, Sulawesi (= Celebes) Island, Kendari (= Kandari) (according to the original description and the label of the holotype). Aurivillius, 1912: 424.

Material. Holotype ♂, by monotypy (MCSN), "Celebes, Kandari, III.[18]74, O. Beccari", "*Clytellus selebensis* Gestro typus", "Typus", "Holotypus *Clytellus selebensis* Gestro, 1877", "Museo Civico di Genova" (Fig. 237); 1 ♂ (BMNH), "Indonesia, Sulawesi Utara, Dumoga-Bone N. P., II.1985", "Lowland forest 300–400 m", "Malaise trap up tree", "R. Ent. Soc. Lond. Project Wallace B.M. 1985–10", "125.2", "*Clytellus* sp. R.J.W. Aldridge det. 1986", "*Clytellus benguetanus* E. Vives det. 2008 [misidentification!]"; 1 ♂ (BMNH), "Indonesia, Sulawesi Utara, Dumoga-Bone N. P., IV.1985" (upperside) + "24.IV.–1.V." (underside), "Plot A, ca 200 m, Lowland forest", "Malaise trap up tree", "R. Ent. Soc. Lond. Project Wallace B.M. 1985–10", "*Clytellus* ?? *benguetanus* E. Vives det. [? 2008] [misidentification!]".

Diagnosis. This species, as well as the very similar *C. benguetanus* (see below), differ from all congeners by the combination of characters which includes the presence of an evident or strong metallic lustre both on the elytra and pronotum, the absence

from there, excluding only the depression area on the elytra, of a coarse sculpture, by certain structural features of the pronotum (the absence of a constriction from the apical one-third and the presence of a very wide fascia of light setae at the base, at least on its sides), the presence of abundant, coarse, deep punctures, and the typical pattern of dense light setae on the prosternum in the male. At least an evident metallic lustre of the elytra is typical of many species of the genus, but the pronotum can thereby be only simply shiny, without any metallic tint. Sometimes a strong metallic lustre of the elytra, partly being reflected this or that way on the surface of the pronotum as well, creates only the illusion of a metallic lustre, as observed e.g. in *C. shibatai*. But this latter species differs strongly from *C. selebensis* in many characters. By its habitus and a number of other details of structure, *C. selebensis* resembles *C. westwoodii* and *C. malayanus* stat. n., yet, besides the features of dorsal coloration, it is clearly distinguished from them by the absence of a sharp constriction in the apical one-third of the pronotum, a clearly stronger fascia of white setae at its base and, in comparison with *C. westwoodii*, by certain features of the sculpture and setation of the prosternum in the male.

Description. Body length 4.95–5.40 mm, humeral width 1.2–1.3 mm (see Remarks below). Black; tarsi partly reddish; antennae and legs partly sometimes dark reddish-brown; pronotum and elytra strongly shiny, with a metallic, usually blue, green or blue-green lustre, sometimes with cupreous tint; metallic lustre variably bright, but in any case always evident.

Head with a barely convex frons; antennomere 2, 1.28–1.35 times as long as isthmus between antennal cavities; antennae reaching or freely reaching behind inside apical one-quarter of elytra in male, only slightly shorter in female (see Remarks below); antennomere 1, 1.05–1.08, 1.04 or 1.08–1.09 times

as long as 3rd, 5th and 6th, respectively, equal or almost equal to antennomere 4; antennomere 2, 1.60–1.66 times as long as wide; last antennomere 1.80–1.82 times as long as penultimate one.

Pronotum 1.84–1.88 times as long as wide at apex, 2.37–2.46 times as long as width at base; apex 1.29–1.31 times as broad as base, the very base 1.20–1.21 times as broad as constriction in front of base; strongly convex; smooth, only with sparse, small, partly unclear punctures; longitudinal groove at bottom of the constriction in front of base partly hidden by dense light setae.

Elytra 2.54–2.63 times as long as width at base; they can be broadest in apical half, but then not more than 1.02 times as wide as base; a sharp depression before middle, surface behind noticeably, but not too strongly convex; basal part with a heterogeneous puncturation, very coarse in area of depression, visibly less coarse along suture while small, sparse, partly unclear punctures covering remaining surface of base; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum of male with apical part bearing abundant, coarse, deep punctures, in-between a very clear cellular microsculpture located around punctures and arranged into several more or less clear rows of cells; sculpture in female obviously smooth; profile of prosternum straight; prosternal process at apex about as wide as between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; metepisterna at apex with a well-visible denticle; first (visible) sternite 1.33–1.37 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: partly head, base of pronotum in the form of a very well-developed fascia, apex of elytra, partly both prosternum (in male in the form of

a peculiar pattern, Fig. 243) and mesosternum, almost complete metasternum and first (visible) sternite, as well as partly legs clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 4 and Table). Indonesia: Sulawesi.

Bionomics. Adults active at least from February to the end of April or early May, visit flowers.

Remarks. I am only familiar with the male of this species. However, considering its extreme similarity to *C. benguetanus* (in which both sexes are available), the above description also considers some female characters of *C. selebensis* extrapolated from the *C. benguetanus* one to follow.

The holotype is the largest among the studied specimens.

25. *Clytellus benguetanus* Schultz, 1920 (Figs 238, 239, 242, 244, 246, 249)

Clytellus benguetanus Schultz, 1920: 195. **Type locality:** Philippines, Luzon Island, Benguet, Baguio (according to the original description and the label of the holotype). Vives, 2009: 7 (Mindanao, Bukidnon).

Material. Holotype ♂, by monotypy (MTD), “Luzon, P. I. Benguet, Baguio”, “*Clytellus benguetanus* Schultz det. W. Schultz Type”, “Coll. W. Schultz Ankauf 1942”, “Staatl. Museum für Tierkunde, Dresden” (Fig. 239); 1 ♂ (MTD), “Baguio, Benguet, Baker”, “1923 6”, “*Clytellus selebensis* Gestro det. K.M. Heller 1916”, “Staatl. Museum für Tierkunde, Dresden”; 1 ♀ (cEV), “C4193 Impasug-ong, Bukindon, I.V.[20]04”, “*Clytellus benguetanus* Sch. E. Vives det. 2008”; 1 ♀ (SDEI), “[Philippines], Benguet, [?] Janson”, “coll. W. Horn, DEI Eberswalde”, “DEI Müncheberg, Col – 04159”; 1 ♀ (SMNH) (photographs), “Philippinen, Luzon, Balbalan” (upperside) + “I.1917, G. Boettcher” (underside), “NHRS-JLKB, 000020322”, “5543 E92”.

Diagnosis. This species is very similar to *C. selebensis* (see Remarks just above and below), but differs by a less strongly developed fascia of white setae at the base of the pronotum, such that its dorsal side is only covered much more weakly or not covered at all, as a rule, also in the clearly narrower fragments of light setae forming a peculiar pattern on the prosternum of the male.

Description. Body length 5.35–5.80 mm, humeral width 1.3–1.4 mm (see Remarks below). Black; tarsi partly reddish; antennae and legs partly sometimes dark reddish-brown; pronotum and elytra strongly shiny, with a metallic, usually blue, green or blue-green lustre, sometimes with cupreous tint; lustre of varying brightness, but in any case always evident.

Head with a barely convex frons; antennomere 2, 1.25–1.27 times as long as isthmus between antennal cavities; antennae freely reaching behind inside or slightly not reaching apical one-quarter of elytra in male and female, respectively; antennomere 1, 1.15–1.25, 1.05–1.2 or 1.05–1.25 times as long as 3rd, 5th and 6th, respectively, 1.15 times as long as or subequal to antennomere 4; antennomere 2, 1.55–1.58 times as long as wide; last antennomere 1.80–1.90 times as long as penultimate one.

Pronotum 1.87–1.92 times as long as wide at apex, 2.40–2.47 times as long as width at base; apex 1.27–1.32 times as broad as base, the very base 1.22–1.36 times as broad as constriction in front of base; strongly convex; smooth, only with sparse, small, partly unclear punctures; longitudinal groove at bottom of the constriction in front of base partly hidden by dense light setae.

Elytra 2.60–2.66 times as long as width at base, in apical half 1.05–1.07 times as broad as base; a sharp depression before middle, surface behind visibly, but not too strongly convex; basal part with a heterogeneous puncturation, very coarse in area of depression, noticeably less coarse along suture, but

small, sparse, partly unclear punctures over remaining surface of base; area of depression on sides with a coarse heterogeneous sculpture in the form of longitudinal grooves and coalescing or poorly separated, rough, oblong-oval punctures.

Prosternum of male in apical part with abundant, coarse, deep punctures, in-between a very clear cellular microsculpture located around punctures and forming several more or less clear rows of cells; sculpture in female obviously obliterated; profile of prosternum straight; prosternal process at apex about as wide as between procoxae; mesosternal process slightly narrower than prosternal process between procoxae; metepisterna at apex with a well-visible denticle; first (visible) sternite 1.40–1.46 times as long as all following (visible) sternites combined.

Last tarsomere with two claws not fused at base.

Setation mainly as follows: head partly, base of pronotum in the form of a very well-developed fascia (strip) usually not or only poorly developed on dorsal side, apex of elytra, partly both prosternum (in male in the form of a peculiar pattern, Fig. 244) and mesosternum, almost complete metasternum and first (visible) sternite, as well as partly legs clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 4 and Table). Philippines.

Bionomics. Adults active at least from January to early May, visit flowers.

Remarks. The differences of this species from *C. selebensis*, as shown above, concern only the degree of development of setation on the male prosternum and on the pronotum. Perhaps *C. benguetanus* represents

only a form of *C. selebensis*, occupying the northern part of the latter's distribution area. However, to confirm or refute this suggestion, additional material of both taxa is necessary from various localities.

The holotype is the largest among the studied specimens.

26. *Clytellus mononychus*

Holzschuh, 2003

(Figs 61, 79, 253–259, 264, 266–268, 271, 272)

Clytellus mononychus Holzschuh, 2003: 232, Abb. 66. **Type locality:** Western Malaysia, Pahang, Banjaran Benom Mts., 10–15 km SSE Kampong Ulu Dong (according to the original description).

Material. Paratype ♂ (NMP), “W Malaysia, Pahang, Banjaran Benom Mts., 15 km E Kampong Ulu Dong, 3,53N, 102,01E, 300–1000 m, 24.III.–15.IV.1998, Dembický & Pacholátko leg.”, “Paratypus *Clytellus mononychus* n. sp. det. C. Holzschuh 2003”, “ex coll. S. Kadlec, National Museum Prague, Czech Republic”; paratype ♂ (cAM), “W Malaysia, Pahang, Cameron Highlands, Tanah Rata, 1600 m, 11.–27.II.2000, J. Horák leg.”, “Paratypus *Clytellus mononychus* n. sp. det. C. Holzschuh 2003” (Fig. 254); paratype ♀ (cCH), same labels (Fig. 256); 2 ♂ (cPV), W Malaysia, Cameron Highlands, Tanah Rata, Gunung Jasar Mt, 26.IV.–15.V.2006, P. Viktora leg.

Diagnosis. This and two other very similar species described below, *C. makarovi* sp. n. and *C. perhentianus* sp. n., are characterized by the presence of only one claw and a peculiar tubercle on the disk of the pronotum. By these features, the trio is distinguished from all other congeners. Compared to *C. makarovi* sp. n., *C. mononychus* has a noticeably different shape both of the depression on the elytra and of the convexity of the pronotum. From *C. perhentianus* sp. n., it differs in structure of the antennal tubercles, by more convex eyes, and a usually slightly deviating form of the apical part of the pronotum. In addition, *C. mononychus* shows a brighter setation of the body than observed in the other two species compared.

Description. Body length 3.3–5.1 mm, humeral width 0.85–1.25 mm. Black; antennae, tarsi, apex of elytra, usually partly or completely tubercle on pronotum, sometimes also most of epipleura red-brown tones; dorsum almost entirely shiny; elytra usually with a metallic bluish or bluish-cupreous lustre.

Head with a flat frons; antennomere 2, 1.14–1.20 times as long as isthmus between antennal cavities; antennae freely reaching the apical one-quarter or clearly extending only behind middle of elytra in male and female, respectively; antennomere 1, 1.14–1.24, 1.08–1.25, 1.08–1.18 or 1.05–1.13 times as long as 3rd, 4th, 5th and 6th, respectively; antennomere 2, 1.50–1.85 times as long as wide; last antennomere 1.70–1.94 times as long as penultimate one.

Pronotum 1.55–1.61 times as long as wide at apex, 2.05–2.27 times as long as width at base; apex 1.33–1.43 times as broad as base, the very base 1.25–1.33 times as broad as constriction in front of base; more or less moderately convex; disk with a longitudinal keel-shaped tubercle usually well-developed and acute at apex, sometimes strongly obliterated; area of constriction in front of base with evident, but not too coarse, longitudinal grooves or longitudinally elongated rough punctures on sides; longitudinal groove at bottom of this constriction well-expressed; remaining surface smooth, only with individual, partly clear, small punctures; partly with microsculpture especially well visible in area of tubercle.

Elytra 2.67–2.76 times as long as width at base, in apical half 1.06–1.18 times as broad as base; a sharp depression before middle, thereby surface of each elytron, starting almost from suture, abruptly sloping down towards lateral margin (Figs 271, 272); behind depression usually barely convex; each elytron at base with a weak, but well-expressed, longitudinal, narrow elevation dorsally covered by microscul-

pture and creating a scabrous surface; generally, basal one-third with a heterogeneous, predominantly rude puncturation; in area of depression on sides with a coarse sculpture in the form of longitudinal grooves and/or coalescing or connivent, rough, oblong-oval punctures.

Prosternum with an obliterated sculpture; its profile straight; prosternal process at apex about as wide as between procoxae; mesosternal process considerably narrower than prosternal process between procoxae; metepisterna at apex with a poorly noticeable denticle; first (visible) sternite 1.35–1.38 times as long as all subsequent (visible) sternites combined.

Last tarsomere with one claw.

Setation mainly as follows: head partly, base of pronotum in the form of a well-developed fascia, scutellum usually, apex of elytra, partly prosternum, most of mesosternum, almost complete metasternum and first (visible) sternite, as well as legs clothed with more or less dense, recumbent, white setae with silver tint; head, antennae, partly pronotum, as well as venter and legs covered by similar, but sparser setae; head, partly antennae, pronotum on sides at apex, elytra, venter and, partly, legs with more or less long, sparse, mainly more robust on elytra, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia (Pahang), including islands at least off the southeastern coast.

Bionomics. Adults active from the second half of January to the first half of May, visit flowers.

27. *Clytellus makarovi* Miroshnikov, sp. n.
(Figs 62, 260, 261, 263, 273)

Material. Holotype ♂ (cLD), W Malaysia, Perak, 25 km NE Ipoh, Banjaran Titi Wangsa Mts, Korbu Mt, 1200 m, 6.–12.V.2001, P. Čechovský leg.

Diagnosis. The new species is very similar to *C. mononychus*, but differs clearly in

structure of the elytra in the depression area, by the more abrupt apical part of the pronotum, a narrower fascia of light setae at the base of the pronotum, a less bright coloration of the recumbent setation of the body. *Clytellus makarovi* sp. n. differs from *C. perhenthianus* sp. n. also in structure of the elytra in the area of depression and by some other features listed below in the diagnosis of the latter species.

Description. Male. Body length 4.0 mm, humeral width 1.0 mm. Black; antennae, base of tubercle on pronotum, apex of elytra and epipleura, legs and, partly, venter reddish-brown tones; clava of femora and tibiae infuscate; dorsum almost entirely shiny; elytra without evident metallic lustre.

Head with a barely convex frons; antennomere 2, 1.44 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical one-quarter of elytra; antennomere 1, 1.20 or 1.14 times as long as 3rd and 4th, respectively, 1.09 times as long as antennomere 5 or 6; antennomere 2, 1.63 times as long as wide; last antennomere 1.79 times as long as penultimate one.

Pronotum 1.59 times as long as wide at apex, 2.30 times as long as width at base; apex 1.45 times as broad as base, the very base 1.25 times as broad as constriction in front of base; strongly convex, thereby the level of inclination approximately from the middle of pronotum to apex about the same sharp as to base; with a keel-shaped longitudinal tubercle in the middle of disk; area of constriction in front of base with evident, but not too coarse, short, longitudinal grooves; longitudinal groove at bottom of this constriction well-expressed; remaining surface smooth, only with individual, partly clear, small punctures; partly with microsculpture especially well visible in area of tubercle.

Elytra 2.57 times as long as width at base, in apical half 1.04 times as broad as base; a sharp depression before middle, thereby surface of each elytron relatively plain over about half

of its width on inner side, subhorizontal, only slightly elevated near suture, but remaining part abruptly sloping down towards outer margin (Fig. 273); surface behind depression slightly convex; each elytron at base with a weak, but well-expressed, longitudinal, narrow elevation dorsally covered by microsculpture creating a scabrous texture; basal one-third generally with a heterogeneous, predominantly rough puncturation; area of depression on sides with a coarse sculpture in the form of longitudinal grooves which cover coalescing, coarse, oblong-oval punctures and, at bottom, show a slight impression and individual punctures.

Prosternum with an obliterated sculpture; its profile almost straight; prosternal process at apex about as wide as between procoxae; mesosternal process noticeably narrower than prosternal process between procoxae; metepisterna at apex with a poorly-visible denticle; first (visible) sternite 1.27 times as long as all following (visible) sternites combined.

Last tarsomere with one claw.

Setation mainly as follows: head partly, base of pronotum in the form of a fascia, apex of elytra, partly prosternum, most of mesosternum, almost complete metasternum and first (visible) sternite, as well as legs clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, as well as venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Perak. Known from a single locality.

Bionomics. The holotype was collected between 6 and 12 May; adults obviously visit flowers.

Etymology. The new species honours my friend and colleague, Dr. Kirill V. Makarov

(Moscow Pedagogical State University, Russia), a master of microphotography who rendered his invaluable help in taking the bulk of the pictures presented in this paper.

28. *Clytellus perhentianus* Miroshnikov, sp. n.
(Figs 65, 262, 265, 269, 270)

Material. Holotype ♂ (NHMW), W Malaysia, Terengganu, Pulau Perhentian Besar, 19.VII.1993, H. Forster leg.

Diagnosis. The new species is very similar to *C. mononychus* and *C. makarovi* sp. n., but differs from them by less convex eyes and the antennal tubercles clearly more strongly elongated upward. In addition, it is distinguished from *C. mononychus* by a better parallel-sided apical part of the pronotum, a less bright (same as in *C. makarovi* sp.n.) setation of the body, from *C. makarovi* sp. n. by structure of the elytra in the area of the depression being about the same as in *C. mononychus*.

Description. Body length 4.95 mm, humeral width 1.2 mm. Black; antennae, base of tubercle on pronotum, apex of elytra, epipleura, almost all (visible) sternites and legs reddish-brown; most of venter dark reddish-brown; dorsum almost entirely shiny; elytra with a metallic cupreous lustre.

Head with a barely convex frons; antennomere 2, 1.36 times as long as isthmus between antennal cavities; antennae freely reaching behind inside apical one-quarter of elytra; antennomere 1, 1.20 or 1.07 times as long as 3rd and 6th, respectively, 1.15 times as long as antennomere 4 or 5; antennomere 2, 1.58 times as long as wide; last antennomere 1.85 times as long as penultimate one.

Pronotum 1.67 times as long as wide at apex, 2.33 times as long as width at base; apex 1.39 times as broad as base, the very base 1.25 times as broad as constriction in front of base; relatively strongly convex; disk with a longitudinal keel-shaped tubercle broadly rounded at apex; area of constrict-

tion in front of base with longitudinally elongated, rough punctures on sides; longitudinal groove at bottom of this constriction well-expressed; remaining surface smooth, with only individual, partly clear, small punctures; partly with microsculpture especially well-expressed in area of tubercle.

Elytra 2.70 times as long as width at base, in apical half 1.09 times as broad as base; a sharp depression before middle, thereby surface of each elytron, starting almost from suture, abruptly sloping down towards lateral margin (Fig. 270); surface behind depression barely convex; each elytron at base with a weak, but well-expressed, longitudinal, narrow elevation dorsally covered by microsculpture creating a scabrous texture; basal one-third generally with a heterogeneous, predominantly rough puncturation; area of depression on sides with a coarse sculpture in the form of longitudinal grooves which cover coalescing, coarse, oblong-oval punctures and, at bottom, show a slight impression and individual punctures.

Prosternum with an obliterated sculpture; its profile straight; prosternal process at apex slightly narrower than between procoxae; mesosternal process clearly narrower than prosternal process between procoxae; metepisterna with a poorly-visible denticle at apex; first (visible) sternite 1.41 times as long as all following (visible) sternites combined.

Last tarsomere with one claw.

Setation mainly as follows: head partly, base of pronotum in the form of a fascia, apex of elytra, partly prosternum, most of mesosternum, almost complete metasternum and first (visible) sternite, as well as legs clothed with more or less dense, recumbent, white setae; head, antennae, partly pronotum, venter and legs clothed with similar, but sparser setae; head, partly antennae, pronotum on sides at apex, as well as elytra, venter and, partly, legs covered by more or less long, sparse, on elytra mainly more robust, erect or suberect, light setae.

Distribution (Maps 1, 3 and Table). Western Malaysia: Terengganu, Perhentian Island. Known from a single locality only.

Bionomics. The holotype was collected in the second half of July; adults obviously visit flowers.

Remarks. The taxonomic status of this new species is not yet entirely clear. That it is only a form of *C. mononychus* cannot be excluded. However, this can be verified only upon an examination of additional material of *C. perhentianus* sp. n. Yet the diagnostic characters of this new taxon mentioned above, as well as its remote provenance seem to rather be evidence of a full-species status of *C. perhentianus* sp. n. In addition, the presence in the group of one-clawed *Clytellus* of yet another species, *C. makarovi* sp. n., which differs very well from *C. mononychus*, seems to be promising enough for possibly some more undescribed immediate allies to be found.

Etymology. The name of the new species is derived from Perhentian Island off the northeastern coast of western Malaysia, the *terra typica*.

Key to species of *Clytellus*

1. Last tarsomere with one claw (Fig. 85); pronotum smooth and shiny almost all over, disk with a longitudinal keel-shaped tubercle (Figs 61, 62, 263–266); elytra at base with neither an evident tuberculiform elevation nor a crest (Figs 61, 62, 266); prosternum of male as in female, without coarse deep puncturation (Figs 79, 261) 2
- Last tarsomere with two claws which can only be partly fused at base (Figs 83, 84); pronotum either smooth almost all over, often shiny or mostly with a coarse sculpture, disk can bear a very strong tubercle or longitudinal, long, keel-shaped elevation, as in Figs 150, 151, 179, area of constriction in front of base often with

- evident longitudinal grooves, as e.g. in Figs 57a, 70, 71, 76; elytra at base with a highly varied sculpture, each elytron can be with a large tuberculiform elevation or well-developed crest, as well as bearing a very coarse puncturation, as e.g. in Figs 55, 56, 59, 60; prosternum of male as in female, sculpture either obliterated or with a coarse, rather rough and deep puncturation (e.g., Figs 80, 144, 149, 156, 216) 4
2. Each elytron in area of depression abruptly sloping down almost from suture towards lateral margin (Figs 270–272); setation upon head, at base of pronotum and on venter either bright white with silver tint or mainly greyish-white without silver tint 3
 - Each elytron in area of depression about half of its width on inner side with a relatively plain surface, subhorizontal, only slightly elevated near suture while only remaining part abruptly sloping down towards lateral margin (Fig. 273); setation upon head, at base of pronotum and on venter mainly greyish-white without silver tint *C. makarovi* sp. n.
 3. Antennal tubercles slenderer and more strongly elongated upwards, surface lateral to tubercle steeper; eyes less convex, lower margin of eye (in front view) more remote from base of mandibles (Fig. 269); setation upon head, at base of pronotum (in the form of a narrow fascia) and on venter greyish-white without silver tint *C. perhentianus* sp. n.
 - Antennal tubercles less strongly elongated upwards, facies more robust, surface lateral to tubercle usually slightly flatter; eyes more convex, lower margin of eye (in front view) closer to base of mandibles (Figs 267, 268); setation upon head, at base of pronotum (in the form of a wider fascia) and on venter bright white with silver tint *C. mononychus* Holzschuh
 4. Most or a considerable part of pronotum bearing a coarse sculpture (in the form of grains, wrinkles, folds or a cellular surface), as e.g. in Figs 59, 60, 89, 91, 92, 113, 120, 135–139, 142; each elytron at base with an evident crest of different size and shape (e.g., Figs 59, 60, 90, 114–116, 121, 122, 132–135, 143), if it is weakly developed, as in Fig. 90, then base of pronotum with a very strong fascia of dense light setae (Figs 89, 91, 92); at least basal one-third of elytra with a coarse or very coarse puncturation, devoid of a fascia formed by microsculpture; claws of normal structure or partly fused at base (Fig. 84); prosternum in male as in female, without coarse deep puncturation, as e.g. in Figs 105, 106 5
 - Pronotum almost entirely or mostly smooth, only disk can be with a very strong tubercle or longitudinal, long, keel-shaped elevation, as in Figs 150, 151, 179, area of constriction in front of base often with evident longitudinal grooves, as e.g. in Figs 57a, 70, 71, 76; basal part of elytra with a highly varied sculpture, from smooth with a delicate and sparse puncturation, sometimes even almost without the latter, to very coarse with well-developed contrasting fragments of microsculpture; in this or that form, each elytron at base can have a very peculiar tuberculiform elevation, as in Figs 191, 192, if with a crest, then weakly developed, located on the background of a wide fascia of microsculpture (Fig. 146); claws of normal structure, not fused at base; prosternum in male either with more or less coarse, at least individual punctures (e.g., Figs 80, 144, 149, 156, 201, 216) or, as in female, with an obliterated sculpture 10
 5. Each elytron at base with a crest of different size and shape, but not as in Figs 59, 98–102; elytra behind crests less convex

- (e.g., Figs 60, 113, 134, 135, 143); claws partly fused at base (Fig. 84) or normal in structure..... 6
- Each elytron at base with a very strong crest in the form of a shark's dorsal fin, as in Figs 59, 98–102; elytra behind crests very strongly convex (Figs 59); claws of normal structure, not fused at base (Fig. 83) *C. methocoides* Westwood
6. Base of pronotum either without fascia of dense light setae or, if with a fascia, then it is evidently narrower and widely interrupted on dorsal side, as in Fig. 140, without longitudinal groove at the very margin; elytra with a well-developed crest and, if with a metallic lustre, then noticeably weaker, without evident coarse puncturation at apex, but with a fascia of light setae there (e.g., Figs 107, 117, 123, 140); claws partly fused at base, as in Fig. 84 7
- Base of pronotum with a very strong, axially barely interrupted fascia of dense light setae, as in Figs 91, 92 (thereby scutellum clothed with the same dense setae as fascia), where, at the very base, with a well-expressed longitudinal groove; elytra with a poorly developed crest at base, an clearly metallic greenish-blue lustre and an obviously coarse puncturation at apex, but without fascia of light setae there (Figs 86, 88); claws of normal structure, not fused at base *C. elongatus* Pic
7. Base of pronotum without fascia of light setae; coarse puncturation of elytra more abundant (e.g., Figs 107, 114–117, 120, 121, 136–139); elytra almost entirely black, either only apex partly clearly lighter or both basal part and apex brown-red 8
- Base of pronotum with a fascia of light setae (Figs 140, 142); coarse puncturation of elytra less abundant (Figs 140, 143); elytra almost entirely black, only apex partly clearly lighter *C. dembickyi* sp. n.
8. Base of pronotum on sides without long longitudinal folds (Figs 113, 135); elytra almost entirely black or brownish-black, either only apex clearly lighter or both basal part and apex brown-red 9
- Base of pronotum on sides with long longitudinal folds (Fig. 60); elytra black or brownish-black, both basal part and apex brown-red (Figs 60, 117, 118) *C. canaliculatus* Holzschuh
9. Pronotum clearly more coarsely granulated, grains being well-developed or at least evident at its very base as well (Figs 107, 109, 111, 113); crest at base of each elytron more oblique and at least slightly shorter and higher, as in Figs 113–116 *C. laosicus* Gressitt et Rondon
- Pronotum clearly less coarsely granulated, granulations being either absent at all or poorly visible at its very base (Figs 135–139); crest at base of each elytron less oblique and at least slightly more strongly elongated and lower, as in Figs 132–135 *C. serratulus* Holzschuh
10. Pronotum on disk without large tubercle, at most with a long keel-shaped elevation, as in Figs 150, 151, area of constriction in front of base smooth or with longitudinal grooves, base either without or with a fascia of dense light setae; elytra varied sculptured, but can only be partly similar to those shown in Figs 178, 182; body from small to large 11
- Pronotum on disk with a very strong, microsculptured tubercle, area of constriction in front of base with deep longitudinal grooves, base with a well-developed fascia of dense light setae poorly interrupted at midline (Figs 76, 179, 182); elytra with a peculiar sculpture, as in Figs 178, 182; body large (length about 7.0 mm) *C. monilis* Holzschuh
11. Pronotum predominantly or partly almost

- dull, disk with a more or less clear, longitudinal, keel-shaped elevation (Figs 150, 151); at least apical part clothed with abundant, contrasting, white setae present at least partly on dorsal side (Figs 147, 148); base of elytra with a coarse puncturation partly located against the background of a broad, continuous, contrasting fascia formed by microsculpture, thereby apex of elytra with a fascia of dense, recumbent, light setae (Figs 141, 145–148); prosternum in male with a coarse deep puncturation (Figs 144, 149) 12
- Pronotum almost entirely or mostly clearly to strongly shiny, with neither a longitudinal keel-shaped elevation on disk nor abundant white setae in apical part, at least so on its dorsal side; a varied sculpture at base of elytra, coarse punctures can be present, including background of a more or less strongly developed surface formed by microsculpture, thereby apex of elytra without or with a fascia of dense, recumbent, light setae; prosternum in male as in female, either with an obliterated sculpture (e.g. Fig. 224) or a coarse deep puncturation 13
12. Pronotum on disk with a well-expressed, longitudinal, keel-shaped elevation, beset with numerous white setae predominating on sides of apical part (Figs 147, 150); prosternum in male with a less coarse puncturation and sparser (maybe partly abraded) light setae (Fig. 149); at least clava of femora brownish-red; body length 4.9 mm *C. gressitti* sp. n.
- Pronotum on disk with a less strongly expressed, longitudinal, keel-shaped, but in any case quite noticeable elevation, with numerous white setae both in apical part (where present almost all over disk surface) and at base (Figs 148, 151); prosternum in male with a coarser puncturation and denser light setae (Fig. 144); body length 5.75–6.5 mm *C. olesteroides* Pascoe
13. Pronotum with a very well-developed or at least clearly expressed constriction in apical one-third (e.g. Figs 67–69); profile of prosternum's apical part usually clearly curved (e.g. Figs 57c, 63, 66), rarely almost straight, prosternum in male either with an abundant coarse puncturation (e.g. Figs 80, 216) or at least with individual coarse punctures (Fig. 201) 14
- Pronotum in apical one-third without constriction (e.g. Figs 71, 72), at most with a barely visible constriction (e.g. Fig. 75); profile of prosternum in apical part usually straight (e.g. Figs 70, 73, 74), can only be barely curved, prosternum in male as in female, either with an obliterate sculpture (e.g. Fig. 224) or with a coarse deep puncturation 19
14. Pronotum in area of constriction in front of base with longitudinal grooves (e.g., Figs 67, 71, 163, 164) well-developed at least on sides (Fig. 57a); base of elytra with a coarse puncturation, this either partly being located against background of a wide and contrasting fascia interrupted medially at suture and formed by microsculpture (e.g., Figs 55, 56, 158, 159) or partly surrounded by small, but clear fragments of microsculpture (Fig. 163); apex of elytra clothed only with sparse or more abundant (but not too dense), erect or suberect, light setae, without clearly expressed fascia of dense, recumbent, light setae (Figs 55, 153, 155, 160) 15
- Pronotum in area of constriction in front of base without longitudinal grooves, smooth like almost all remaining surface (e.g. Figs 68, 69); if base of elytra also with a coarse puncturation, then this much smaller, without evidently expressed fragments of microsculpture

- (e.g., Figs 214, 215, 220, 189–192); elytra with a well-developed apical fascia of dense, recumbent, light setae (e.g., Figs 185, 186, 193, 195–198, 202, 206, 208, 209, 212) 16
15. Pronotum at base with a wide fascia of dense light setae, in area of constriction in front of base with deep longitudinal grooves both on sides and dorsally (Figs 163, 164); each elytron at base with a clearly less strongly developed tuberculiform elevation, without well-developed area of microsculpture (Fig. 164) *C. vivesi* sp. n.
- Pronotum at base without fascia of light setae, in area of constriction in front of base with deep longitudinal grooves, predominantly on sides, as well as on dorsal side sometimes with short grooves partly fused at midline (Figs 55, 57, 155, 158, 159); each elytron at base with a clearly more strongly tuberculiform elevation (Fig. 56) and a well-developed fascia formed by microsculpture (Figs 55, 56, 155, 158, 159) *C. shibatai* Hayashi
16. Each elytron at base with a well-expressed tuberculiform elevation and a clear coarse puncturation, at least so along suture (Figs 214, 215); fascia of light setae at base of pronotum developed only on sides (Figs 221, 222) 17
- Each elytron at base with neither a well-expressed tuberculiform elevation (Figs 202, 212) nor a coarse puncturation, at most with small clear punctures, predominantly so along suture (Figs 199, 200, 202, 210, 211); fascia of light setae at base of pronotum usually (if not abraded) covering partly dorsal side as well (e.g., Figs 199, 200, 210, 211) 18
17. Puncturation at base of elytra clearly less sparse and mostly less coarse (Figs 213, 214); tooth at base of mandibles much better developed (Fig. 217); at least clava of femora and, partly, tarsi brownish-red, antennae dark reddish-brown (Fig. 213) *C. belokobylskiji* sp. n.
- Puncturation at base of elytra more abundant and mostly clearly coarser (Figs 215, 219, 220); tooth at base of mandibles visibly less strongly developed (Fig. 218); antennae and legs almost entirely black (Fig. 219) *C. lobanovi* sp. n.
18. Base of elytra on each side at least along suture with a row of a few clear punctures and usually also with very sparse, at most individual, delicate punctures dispersed over disk surface (Figs 199, 200, 202); prosternum in male only with individual, rather rough punctures (Fig. 201); on the average, body larger (length 5.5–8 mm) *C. westwoodii* Pascoe
- Puncturation at base of elytra barely visible, it can be clearer on each side mainly along suture, but even then very delicate (Figs 210–212); prosternum in male with an abundant coarser puncturation (Fig. 80); on the average, body smaller (length 4.85–5.5 mm) *C. malayanus* Hayashi, stat. n.
19. Pronotum in area of constriction in front of base with deep longitudinal grooves both on sides and dorsally (Figs 70, 71, 161, 165, 168); body length not less than 4.3 mm; elytra at base with a very coarse to coarse puncturation (Figs 176, 177, 181, 183) which can partly be located against background of fragments of microsculpture (Figs 176, 177); elytra without fascia of dense white setae at apex, either only with sparse, erect, light setae like over remaining surface (Figs 181, 184) or with a fascia (Figs 161, 165, 168) 20
- Pronotum in area of constriction in front of base without deep longitudinal grooves (e.g., Figs 72, 240–242, 248), at least so on dorsal side, if at least very gentle short grooves present on dorsal side, as in Fig. 75, then body size small

- (length 4.05 mm); elytra at base variously sculptured, but with neither a very coarse puncturation nor evident fragments of microsculpture; elytra at apex with a fascia of dense light setae (e.g., Figs 226, 228, 230, 245, 246, 252) 21
20. Elytra at base with a less coarse puncturation, without evident fragments of microsculpture (Figs 181, 183, 184), apex without fascia of dense light setae (Figs 181, 184); dorsum generally with a moderate shine, elytra with a less sharp metallic lustre (Fig. 184) *C. tatiana* sp. n.
- Elytra at base with a very coarse puncturation, this in basal one-third partly located against the background of microsculpture in the middle of disk (Figs 176, 177), at apex with a fascia of dense light setae (Figs 161, 165, 168); dorsum generally more shiny, elytra with a bright metallic lustre (e.g. Fig. 161) *C. viridipennis* Hayashi
21. Each elytron at base without evident crest-shaped elevation, disk smooth, punctured to this or that extent, but not coarsely so (e.g., Figs 223, 227, 232, 234, 235, 240–242, 248, 251); prosternum in male either with a more or less coarse and deep puncturation, at least with individual deep punctures (Figs 233, 243, 244) or, like in female, without coarse puncturation 22
- Each elytron at base with a large, longitudinal, crest-shaped elevation (but not a crest proper) scabrous dorsally due to microsculpture and small roughness (Figs 189–192); prosternum in male as in female, without coarse deep puncturation 27
22. Pronotum in area of constriction in front of base with neither any grooves nor folds, smooth like almost all remaining surface (e.g., Figs 72, 73, 229, 240–242); puncturation of elytra not forming a pattern even similar to one in Figs 225, 227; prosternum in male more or less coarsely and deeply punctured (Figs 233, 243, 244), at least with individual punctures; sutural angle of elytra can be acute (Figs 228, 230, 231) 23
- Pronotum in area of constriction in front of base on sides with evident longitudinal grooves, dorsal side also with very delicate, short, longitudinal grooves (Figs 74, 75); some elytral puncturation at disk base and in area of depression generally forming a peculiar pattern, as in Figs 225, 227; prosternum in male without coarse deep puncturation (Fig. 224); sutural angle of elytra narrowly rounded (Figs 226, 227) *C. barclayi* sp. n.
23. Pronotum at base with a clearly wider fascia of dense light setae (e.g., Figs 236, 240–242, 245, 247, 249), at least so on sides; both elytra and pronotum with a clear and strong metallic lustre usually of green and blue tones (Figs 236, 238, 245, 246); prosternum in male with a more abundant and coarse puncturation, and a much better developed field it occupies (Figs 243, 244) 24
- Pronotum at base with a clearly narrower fascia of dense light setae (e.g., Figs 228, 230, 235, 248, 250); only elytra can be with a more or less evident metallic shine while pronotum with normal shine (Figs 228, 230, 252); prosternum in male with clearly less abundant or only individual coarse punctures, and a much smaller field they occupy (Fig. 233) 25
24. Fascia of dense light setae at base of pronotum better developed, covering dorsal side visibly more strongly, sometimes only narrowly interrupted or considerably rarefied at midline (Figs 236, 240, 241); prosternum in male with wider fragments of light setae framing fields with a coarse deep puncturation

- and thus forming a peculiar pattern, as in Fig. 243 *C. celebensis* Gestro
- Fascia of dense light setae at base of pronotum less strongly developed, visibly more weakly covering to not covering dorsal side (Figs 238, 242, 246); prosternum in male with narrower fragments of light setae framing fields with a coarse deep puncturation and thus forming a peculiar pattern, as in Fig. 244 *C. benguetanus* Schultze
 - 25. Elytra clearly more strongly elongated, 2.68–2.79 times as long as width at base, less shiny (Figs 230, 234, 252); their sutural angle more or less acute (Fig. 231) or rounded (Fig. 252) while puncturation in basal one-third can be difficult to see, almost untraceable (Fig. 248) 26
 - Elytra clearly shorter, only 2.5 times as long as width at base, more shiny (Figs 228, 232); their sutural angle more or less acute while puncturation in basal one-third clearly visible *C. fulgidus* Holzschuh - 26. Sutural angle of elytra more or less acute (Figs 230, 231); basal one-third of elytra on disk with a very sparse, but pretty clear and small puncturation (Figs 234, 235); pronotum clothed with individual, erect, light setae at apex *C. kubani* sp. n.
 - Sutural angle of elytra rounded (Fig. 252); almost entire basal one-third of elytra on disk without clear puncturation (Fig. 248); pronotum, predominantly on sides, clothed with sparse, but abundant, erect, light setae (Fig. 248) *C. kasatkini* sp. n. - 27. Elytra barely more strongly elongated, 2.6 times as long as width at base (Fig. 185); humeri almost straight (Fig. 188); body length 4.75 mm (see also Remarks to this species) *C. kiyoyamai* Hayashi
 - Elytra barely shorter, 2.5 times as long

as width at base (Fig. 186); humeri less straight (Fig. 190); body length 5.5 mm (see also Remarks to this species) *C. kareli* Holzschuh

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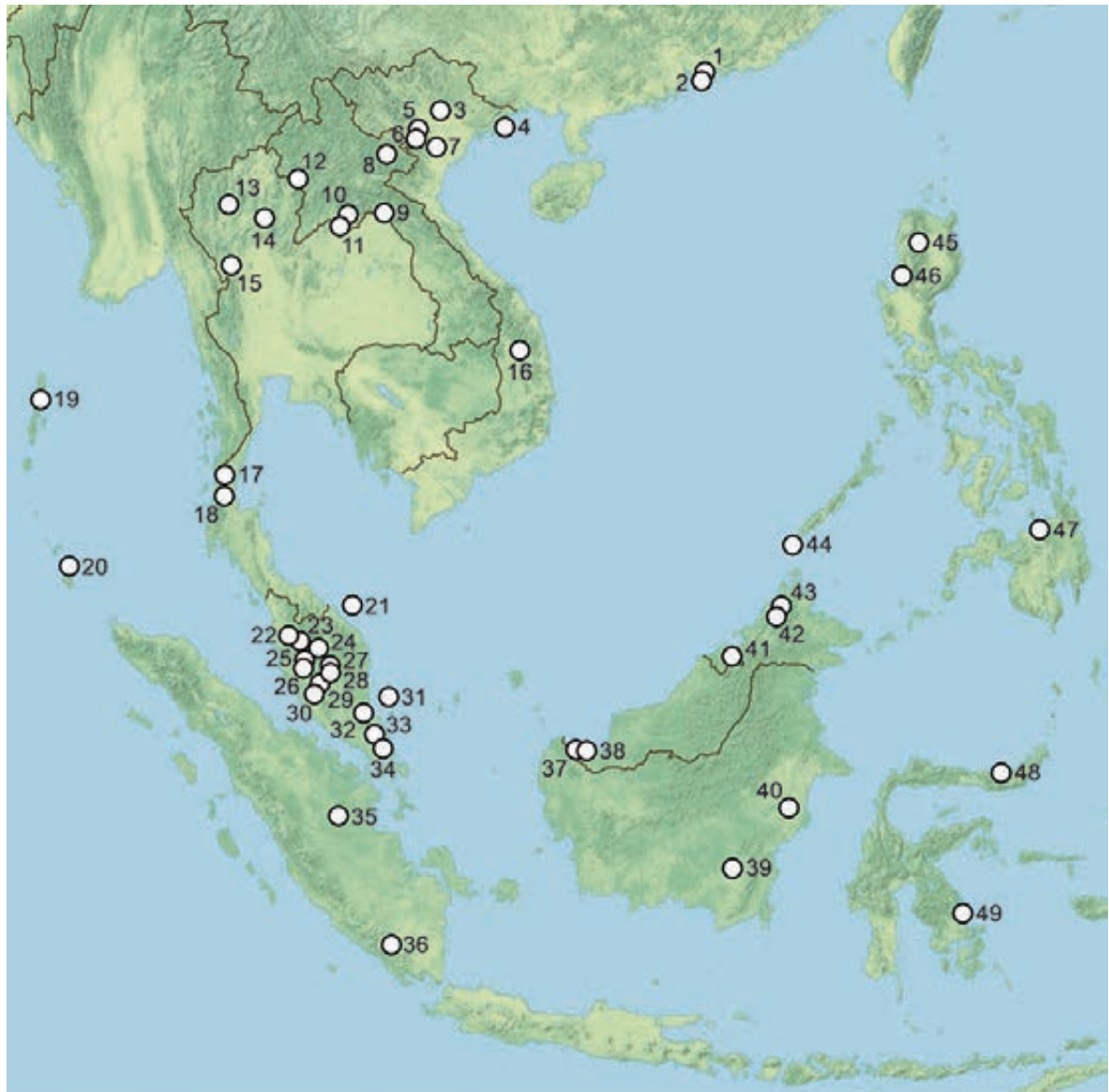
РЕЗЮМЕ

Предлагается обзор видов ориентального рода *Clytellus* Westwood, 1853. Описаны как новые *C. dembickyi* sp. n. (южный Вьетнам), *C. gressitti* sp. n. (западная Малайзия), *C. vivesi* sp. n. (Бруней), *C. tatiana* sp. n. (западная Малайзия), *C. belokobylskiji* sp. n., *C. lobanovi* sp. n. (оба северный Вьетнам), *C. barclayi* sp. n. (восточная Малайзия), *C. kubani* sp. n. (западная Малайзия и Сингапур), *C. kasatkini* sp. n. (Индонезия, Суматра), *C. makarovi* sp. n. и *C. perhentianus* sp. n. (оба западная Малайзия). *Clytellus malayanus* Hayashi, 1977, stat. n., описанный в качестве подвида *C. westwoodii* Pascoe, 1857, рассматривается как самостоятельный вид. Предполагается, что *C. kareli* Holzschuh, 2003 является синонимом *C. kiyoyamai* Hayashi, 1977. Для всех 28 видов рода, включая новые, даны подробные диагнозы. Для ранее известных видов приведены детальные описания, а для некоторых из них значительно расширен ареал и указаны разнообразные новые сведения. У ряда видов выявлены прежде не известные самец или самка, характеризующиеся разными наружными половыми признаками. Предложена таблица для определения всех видов, как и даны карты их распространения. Рассмотрено систематическое положение рода и установлена новая монотипическая подтриба *Clytellina* subtribus n. Даны диагноз и описание рода. Детально обсуждаются его отличия от многочисленных родов номинативной подтрибы *Tillomorpha*. Указана подробная библиография. Представлено большое количество цветных иллюстраций.

Table. Localities and the corresponding *Clytellus* species.

No	Locality	Species	No	Locality	Species
1	C: Hong Kong, Ngau Ngak Shan, 22°24'54"N, 114°14'53"E	<i>C. methocoides</i>	25	MW: Pahang, Tanah Rata, 4°28'N, 101°23'E,	<i>C. shibatai</i> <i>C. mononychus</i> <i>C. malayanus</i>
2	C: Hong Kong, Victoria Peak, 22°16'32"N, 114°08'39"E	<i>C. methocoides</i>	26	MW: Perak, Banjaran Titi Wangsa Mts, Ringlet, 4°23'44"N, 101°23'21"E	<i>C. shibatai</i>
3	V: Vinh Phu Prov., 70 km NW of Hanoi, Tam Dao, 21°27'N, 105°39'E	<i>C. lobanovi</i> sp. n.	27	MW: Pahang, Banjaran Benom Mts, 10–15 km SSE Kampong Ulu Dong, 3°55'13"N, 102°01'08"E	<i>C. mononychus</i> <i>C. gressitti</i> sp. n.
4	V: Bai Thu Long Archipelago, Dongkho Island, 20°59' N, 107°46'E	<i>C. methocoides</i>	28	MW: Pahang, Benom Mts, 15 km E Kampong Dong, 3°53'19"N, 2°01'17"E	<i>C. mononychus</i> <i>C. kubani</i> sp. n.
5	V: Hoa Binh Prov., Mai Chau Distr., Pa Co, 20°45'N, 104°54'E	<i>C. methocoides</i>	29	MW: Pahang, Gap, 3°41'29"N, 101°44'58"E	<i>C. viridipennis</i>
6	V: Hoa Binh Prov., Mai Chau Distr., Hang Kia, 20°44'N, 104°53'E	<i>C. belokobylskiji</i> sp. n.	30	MW: Selangor, Kuala Kubu, 3°34'N, 101°39'E	<i>C. viridipennis</i>
7	V: Hoa Binh Prov., Yen Thuy Distr., Da Phuc, 20°18'N, 105°35'E	<i>C. elongatus</i>	31	MW: Pahang, Pulau Tioman, road Kampong Tekek – Kampong Juara, 2°48'N, 104°11'E	<i>C. mononychus</i>
8	L: Houa Phan Prov., Ban Saluei, Phou Pane Mt, 20°12'N, 103°59'E	<i>C. methocoides</i>	32	MW: Pahang, Endau Rompin N.P., Gunung Beremban, 2°34'47"N, 103°17'38"E	<i>C. malayanus</i> <i>C. westwoodii</i>
9	L: Borikhane Prov., Paksane, 18°20'51"N, 103°56'20"E	<i>C. laosicus</i> <i>C. serratulus</i>	33	MW: Johor, 15 km NW of Kota Tinggi, Muntahak Mt, 1°49'07"N, 103°52'27"E	<i>C. tatiatae</i> sp. n.
10	L: Vientiane Prov., Tha Ngone, 18°07'45"N, 102°37'33"E	<i>C. laosicus</i> <i>C. serratulus</i>	34	S: 1°21'N, 103°49'E	<i>C. kubani</i> sp. n. <i>C. westwoodii</i>
11	L: Vientiane Prov., Nong Thevada, 17°58'45"N, 102°30'28"E	<i>C. laosicus</i>	35	IS: Riau Prov., Bukit Tigapuluh N.P., 0°50'S, 102°26'E	<i>C. westwoodii</i>
12	T: Nan Prov., Ban Wan, 19°33'N, 101°10'E	<i>C. serratulus</i>	36	IS: Prov., Bukit Barisan Selatan N.P., 5 km SW Liwa, 5°06'17"S, 104°05'27"E	<i>C. kasatkini</i> sp.n.
13	T: Chiang Mai Prov., Hang Dong, 18°41'13"N, 98°55'06"E	<i>C. serratulus</i>	37	ME: Sarawak, Kuching, 1°25'N, 110°20'E	<i>C. westwoodii</i>
14	T: Phrae Prov., 18°09'N, 100°08'E	<i>C. canaliculatus</i>	38	ME: Sarawak, Kuap (= Quop), 1°25'01"N, 110°22'01"E	<i>C. westwoodii</i> <i>C. barclayi</i> sp. n.
15	T: Tak Prov., Lansang N.P., 16°48'N, 98°57'E	<i>C. canaliculatus</i>	39	IB: Kalimantan Selatan, 40 km E Kandangan, Loksado, 2°30'S, 115°12'E	<i>C. westwoodii</i>
16	V: Gia Lai Prov., Buon Luoi, 14°06'N, 108°18'E	<i>C. dembickyi</i> sp. n.	40	IB: Kalimantan Timur, Bukit Soeharto, 0°30'36"S, 117°0'36"E	<i>C. westwoodii</i>
17	T: Ranong, 9°58'N, 98°38'E	<i>C. fulgidus</i>	41	B: Temburong, Kuala Belalong Field Studies Centre, 4°26'59"N, 115°10'21"E	<i>C. vivisi</i> sp. n.
18	T: Ranong Prov., Ban Na env., 9°34'N, 98°43'E	<i>C. kareli</i>	42	ME: Sabah, Trus Madi Mt, 5°33'N, 116°31'E	<i>C. monilis</i>
19	I: Andaman Islands, 12°30'N, 92°52'E	<i>C. olesteroides</i>	43	ME: Sabah, Kinabalu Mt, Poring, 6°02'N, 116°43'E	<i>C. westwoodii</i>
20	I: Nicorbar Islands, 7°01'N, 93°44'E	<i>C. olesteroides</i>	44	P: Balabac, Dalawan Bay, 7°53'39"N, 117°04'30"E	<i>C. westwoodii</i>
21	MW: Terengganu, Pulau Perhentian Besar, 5°54'06"N, 102°44'56"E	<i>C. perhentianus</i> sp. n.	45	P: Luzon, Balbalan, 17°26'29"N, 121°12'7"E	<i>C. benguetanus</i>
22	MW: Perak, Bukit Larut (= Maxwell Hill), 4°51'43"N, 100°47'59"E	<i>C. kiyoyamai</i> <i>C. shibatai</i>	46	P: Benguet, Baguio, 16°25'N, 120°36'E	<i>C. benguetanus</i>
23	MW: Perak, Banjaran Titi Wangsa Mts, Korbu Mt, 4°40'39"N, 101°16'55"E	<i>C. makarovi</i> sp. n.	47	P: Bukidnon, Impasug-ong, 8°25'N, 125°07'E	<i>C. benguetanus</i>
24	MW: Kelantan, Banjaran Titi Wangsa Mts, Ladang Pandrak env., 4°37'07"N, 101°31'16"E	<i>C. shibatai</i>	48	ISW: Dumoga-Bone N.P., 0°33'20"N, 123°50'24"E	<i>C. selebensis</i>
			49	ISW: Kendari, 3°58'12"S, 122°35'60"E	<i>C. selebensis</i>

Note. Abbreviations of countries and regions: C – China; V – Vietnam; L – Laos; T – Thailand; I – India; MW – western Malaysia; ME – eastern Malaysia; S – Singapore; IS – Sumatra, Indonesia; IB – Borneo, Indonesia; ISW – Sulawesi, Indonesia; B – Brunei; P – Philippines (NB: coordinates of localities 14, 19, 20 and 34 are approximate).

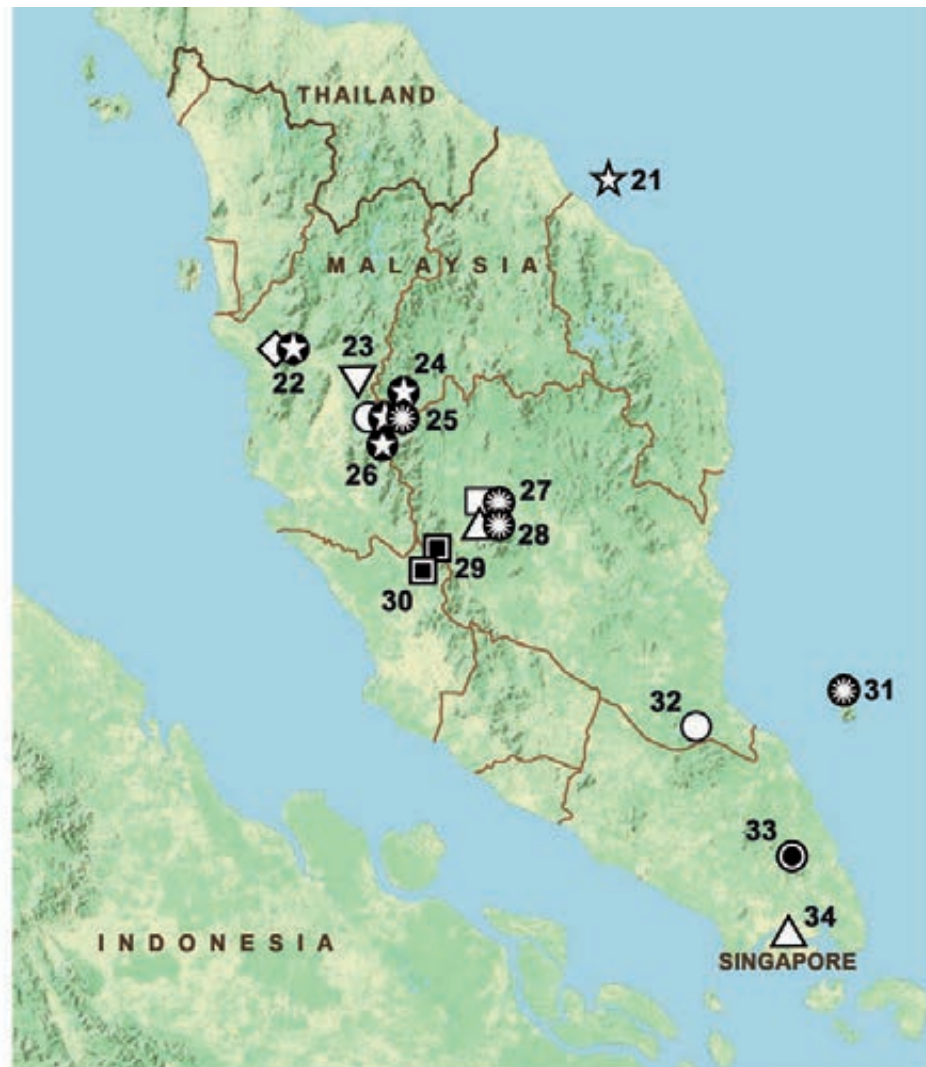


Map 1. Geographical distribution of the genus *Clytellus* Westwood and related species (NB: the locality numbers correspond to the numbers and names of localities in Table).



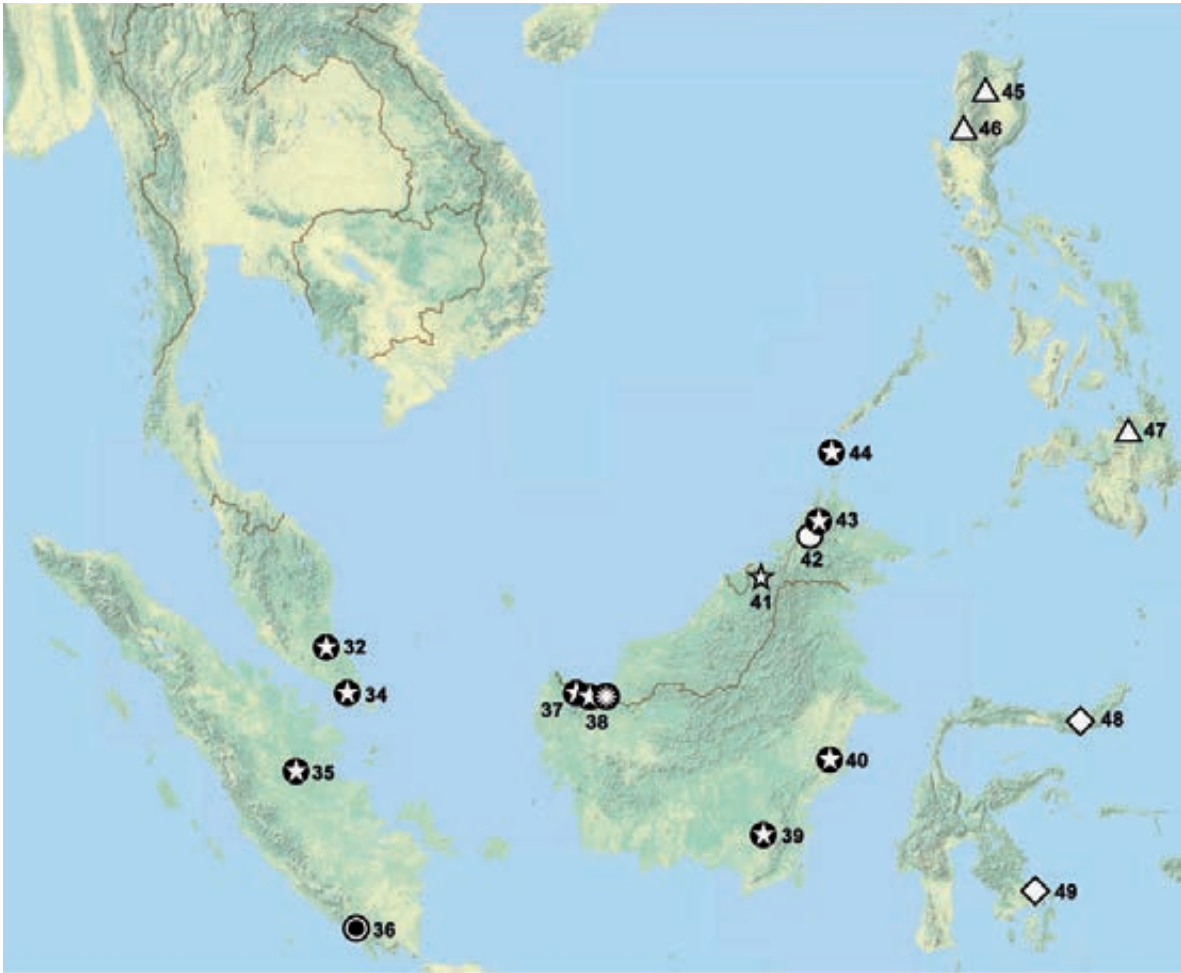
Map 2. Geographical distribution of the genus *Clytellus* Westwood and related species in South of China, Indochina (except western Malaysia), Andaman and Nikobar Islands.

★ – *C. methocoides* Westwood; ■ – *C. elongatus* Pic; ☉ – *C. laosicus* Gressitt et Rondon; ○ – *C. serratulus* Holzschuh; ☆ – *C. canaliculatus* Holzschuh; ● – *C. dembickyi* sp. n.; ◇ – *C. belokobylskiji* sp. n.; ▽ – *C. lobanovi* sp. n.; ⊗ – *C. kareli* Holzschuh; △ – *C. fulgidus* Holzschuh; □ – *C. olesteroides* Pascoe (NB: the locality numbers correspond to the numbers and names of localities in Table).



Map 3. Geographical distribution of the genus *Clytellus* Westwood and related species in western Malaysia and Singapore.

□ – *C. gressitti* sp. n.; ⬤ – *C. shibatai* Hayashi; ◼ – *C. viridipennis* Hayashi; ● – *C. tatiana* sp. n.; ◇ – *C. kiyoyamai* Hayashi; ○ – *C. malayanus* Hayashi, stat. n.; △ – *C. kubani* sp. n.; ☀ – *C. mononychus* Holzschuh; ▽ – *C. makarovi* sp. n.; ☆ – *C. perhentianus* sp. n. (NB: the locality numbers correspond to the numbers and names of localities in Table).



Map 4. Geographical distribution of the genus *Clytellus* Westwood and related species in Malaysia, Singapore, Indonesia, Brunei and Philippines.

★ – *C. westwoodii* Pascoe; ● – *C. kasatkini* sp. n.; ☼ – *C. barclayi* sp. n.; ☆ – *C. vivesi* sp. n.; ○ – *C. monilis* Holzschuh; △ – *C. benguetanus* Schultze; ◇ – *C. selebensis* Gestro (NB: the locality numbers correspond to the numbers and names of localities in Table).



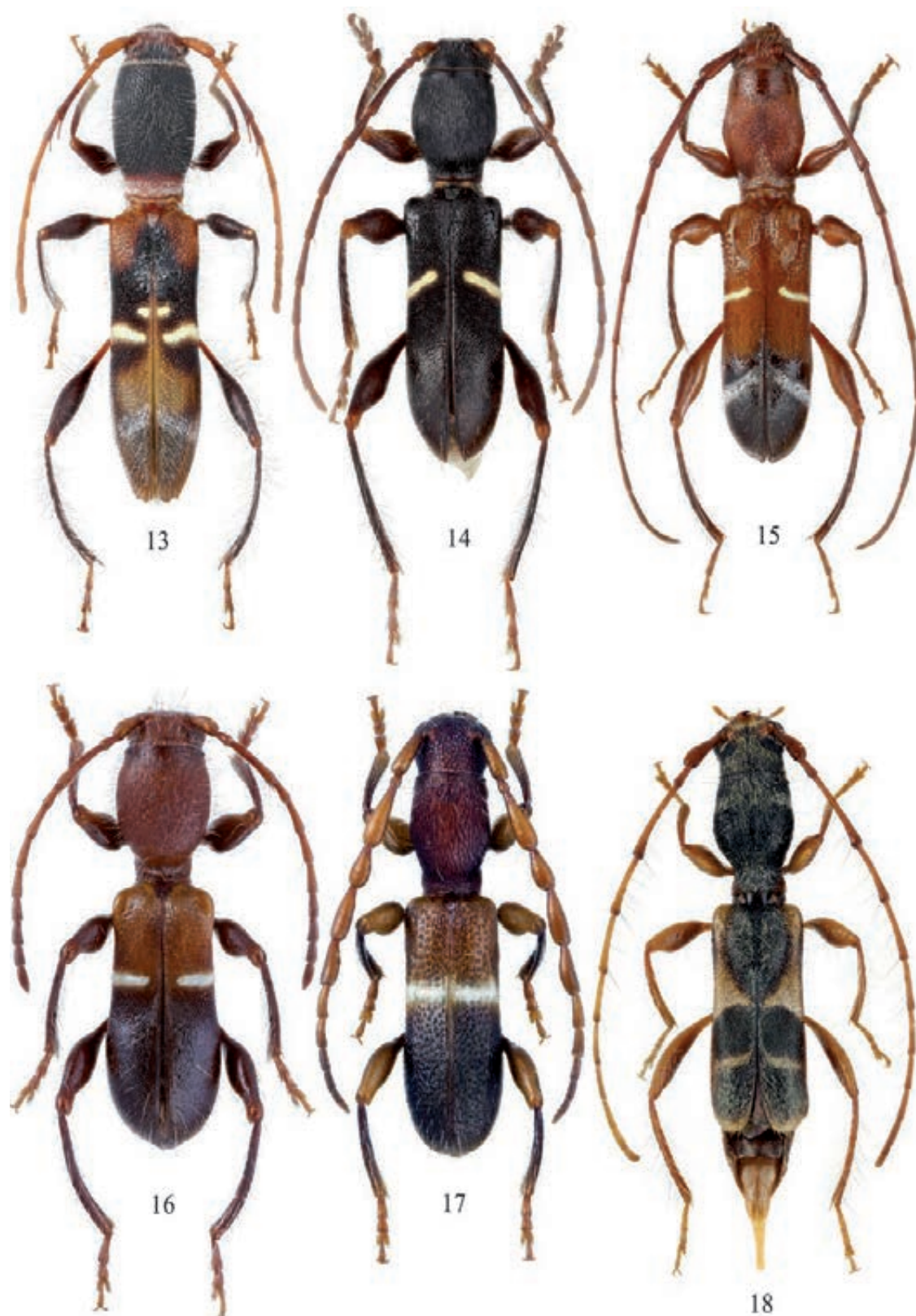
Figs 1–6. *Tillomorpha* Blanchard in Gay, habitus.

1–3 – *T. lineoligera* Blanchard in Gay, male; 4–6 – *T. myrmicaria* Fairmaire et Germain, male; 1, 4 – dorsal view; 2, 5 – lateral view; 3, 6 – ventral view.



Figs 7–12. Tillomorphina Lacordaire, habitus.

7–9 – *Lamproclytus elegans* Fisher, male; 10–12 – *Pentanodes dietzii* Schaeffer, male; 7, 10 – dorsal view; 8, 11 – lateral view; 9, 12 – ventral view.



Figs 13–18. Tillomorpha Lacordaire, habitus.
13 – *Euderces longicollis* (Linsley), male; 14 – *E. picipes* (Fabricius), male; 15 – *E. pini* (Olivier), male;
16 – *E. reichei* LeConte, male; 17 – *Tetranodus rugipennis* Chemsak, male; 18 – *Epropetes atlantica* Martins, female.



Figs 19–24. *Tillomorphina* Lacordaire, habitus.

19–21 – *Epipodocarpus andinus* Bosq, male (dorsal, lateral and ventral views, respectively); 22 – *Pseudomyrmecion ramalium* Bedel, male; 23 – *Cleroclytus banghaasi* (Reitter), male; 24 – *Tillomorphites robustus* Vitali, holotype (after Vitali, 2011, reproduced courtesy of Francesco Vitali).



Figs 25–30. *Tillomorpha* Lacordaire, habitus.
25, 26 – *Epipedocera undulata* (Hope), male (dorsal and ventral views, respectively); 27, 30 – *Halme cleriformis* Pascoe, male and female, respectively; 28, 29 – *Centroclytus* sp. (Borneo), female (dorsal and lateral views, respectively).



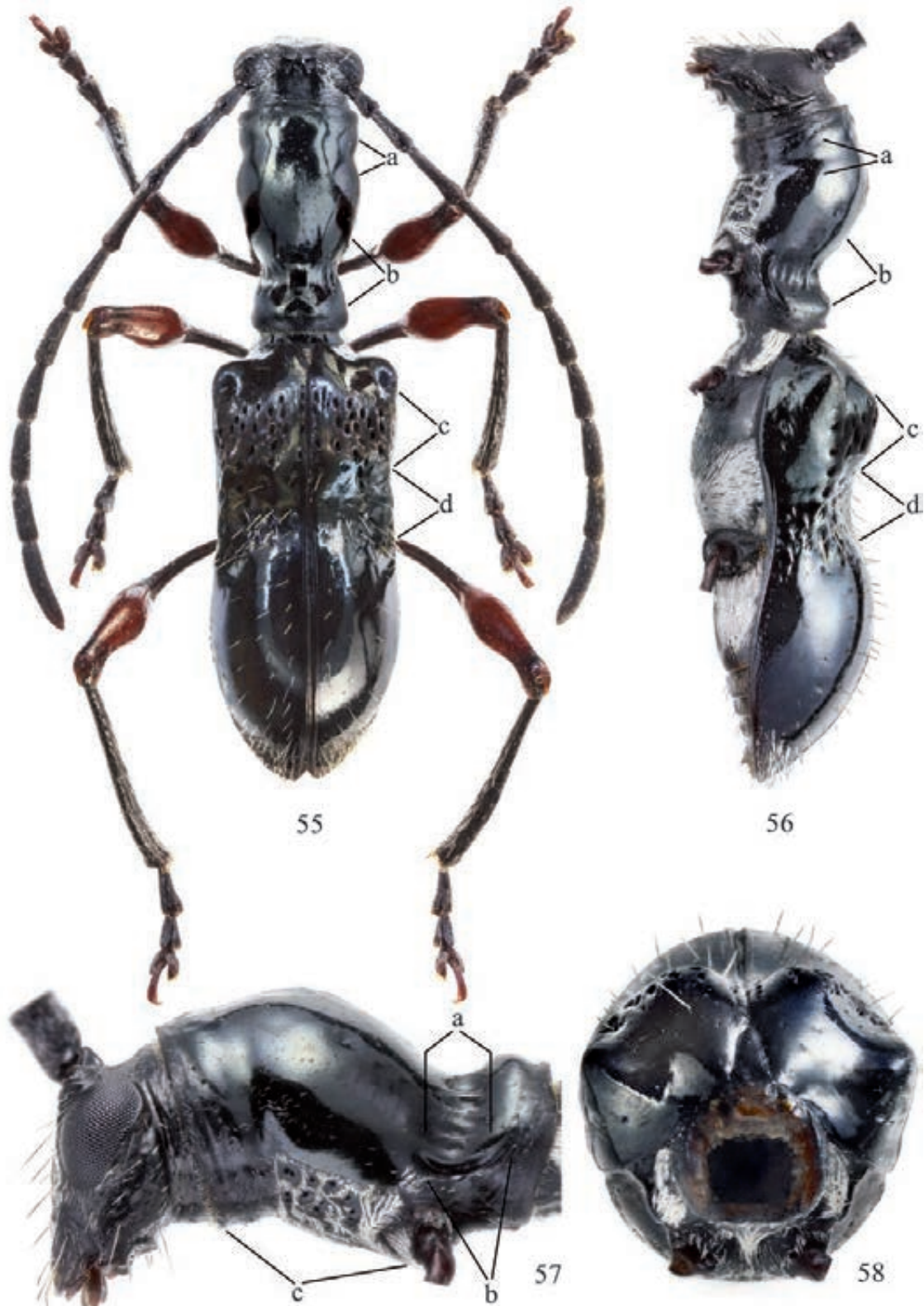
Figs 31–42. Tillomorpha Lacordaire, male, details.

31, 35 – *Tillomorpha lineoligera* Blanchard in Gay; 32, 36 – *T. myrmicaria* Fairmaire et Germain; 33 – *Euderces longicollis* (Linsley); 34, 41 – *Pseudomyrmecion ramalium* Bedel; 37 – *Pentanodes dietzii* Schaeffer; 38 – *Tetranodus rugipennis* Chemsak; 39 – *Epipodocarpus andinus* Bosq; 40 – *Euderces pini* (Olivier); 42 – *Cleroclytus banghaasi* (Reitter); 31–34 – head, frontal view; 35–42 – head and prothorax, lateral view.



Figs 43–54. *Tillomorpha* Lacordaire, details.

43 – *Tillomorpha lineoligera* Blanchard in Gay, male; 44 – *T. myrmicaria* Fairmaire et Germain, male; 45, 50 – *Epropetes atlantica* Martins, female; 46, 49 – *Euderces pini* (Olivier), male; 47 – *E. longicollis* (Linsley), male; 48, 54 – *Centroclytus* sp. (from Borneo), female; 51 – *Pseudomyrmecion ramalium* Bedel, male; 52 – *Cleroclytus banghaasi* (Reitter), male; 53 – *Halme cleriformis* Pascoe, male; 43–48 – pro- and mesosterna; 49–54 – left metepisternum.



Figs 55–58. *Clytellus shibatai* Hayashi, male.

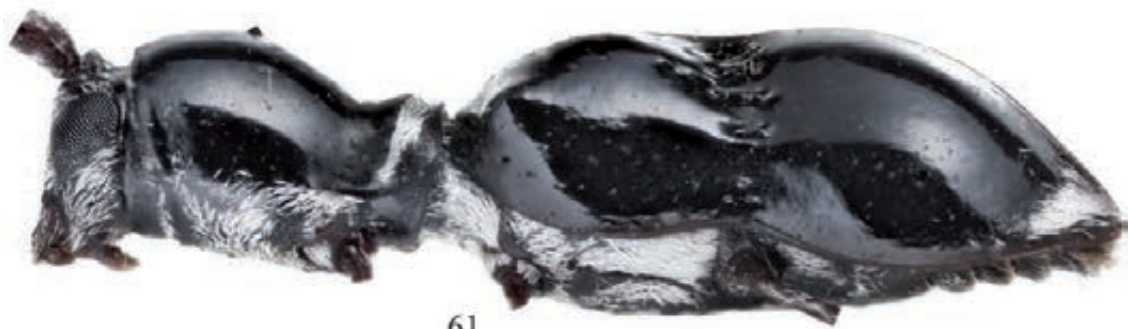
55, 56 – habitus, dorsal and lateral views, respectively (a – constriction in apical one-third of pronotum, b – constriction in front of pronotum base, c – fascia of microsculpture in basal one-third of elytra, d – depression of elytra); 57 – head and prothorax, lateral view (a – area of constriction in front of pronotum base with longitudinal grooves, b – longitudinal groove at bottom of constriction in front of pronotum base, c – curved profile of prosternum); 58 – body cross-section.



59



60



61



62

Figs 59–62. *Clytellus* Westwood, male, habitus, lateral view.
59 – *C. methocoides* Westwood (from Laos); 60 – *C. canaliculatus* Holzschuh; 61 – *C. mononychus* Holzschuh;
62 – *C. makarovi* sp. n., holotype.



Figs 63–76. *Clytellus* Westwood, details.

63, 68 – *C. westwoodii* Pascoe, female (63 – from Philippines, 68 – holotype); 64 – *C. lobanovi* sp. n., holotype male; 65 – *C. perhentianus* sp. n., holotype male; 66, 69 – *C. malayanus* Hayashi, stat. n., male; 70, 71 – *C. tataniae* sp. n., holotype female; 67 – *C. shibatai* Hayashi, male (see also Fig. 57); 72, 73 – *C. kubani* sp. n., holotype male; 74, 75 – *C. barclayi* sp. n., holotype male; 76 – *C. monilis* Holzschuh, holotype female; 63, 66, 70, 73, 74 – head and prothorax, lateral view; 64, 65 – head, frontal view; 67–69, 71, 72, 75, 76 – pronotum.



Figs 77–85. *Clytellus* Westwood.

77 – *C. methocoides* Westwood, male, habitus, ventral view (a – 1st visible sternite, b – visible sternites 2–5; NB: specimen with a strongly abraded ventral setation); 78 – *C. elongatus* Pic, male; 79 – *C. mononychus* Holzschuh, male; 80, 81 – *C. malayanus* Hayashi, stat. n., male and female, respectively; 82 – *C. shibatai* Hayashi, male, left metepisternum (a – denticle at apex); 83 – *C. methocoides*, male, claws not fused at base; 84 – *C. dembickyi* sp. n., holotype female, claws partly fused at base; 85 – *C. mononychus*, male, one claw; 78, 79 – pro- and mesosterna; 80, 81 – prosternum.



Figs 86–92. *Clytellus elongatus* Pic.

86, 92 – holotype female; 87 – labels of the holotype; 88–91 – male; 89 – head and prothorax, lateral view; 90 – basal part of elytra, lateral view; 91, 92 – pronotum and basal part of elytra, dorsal view.

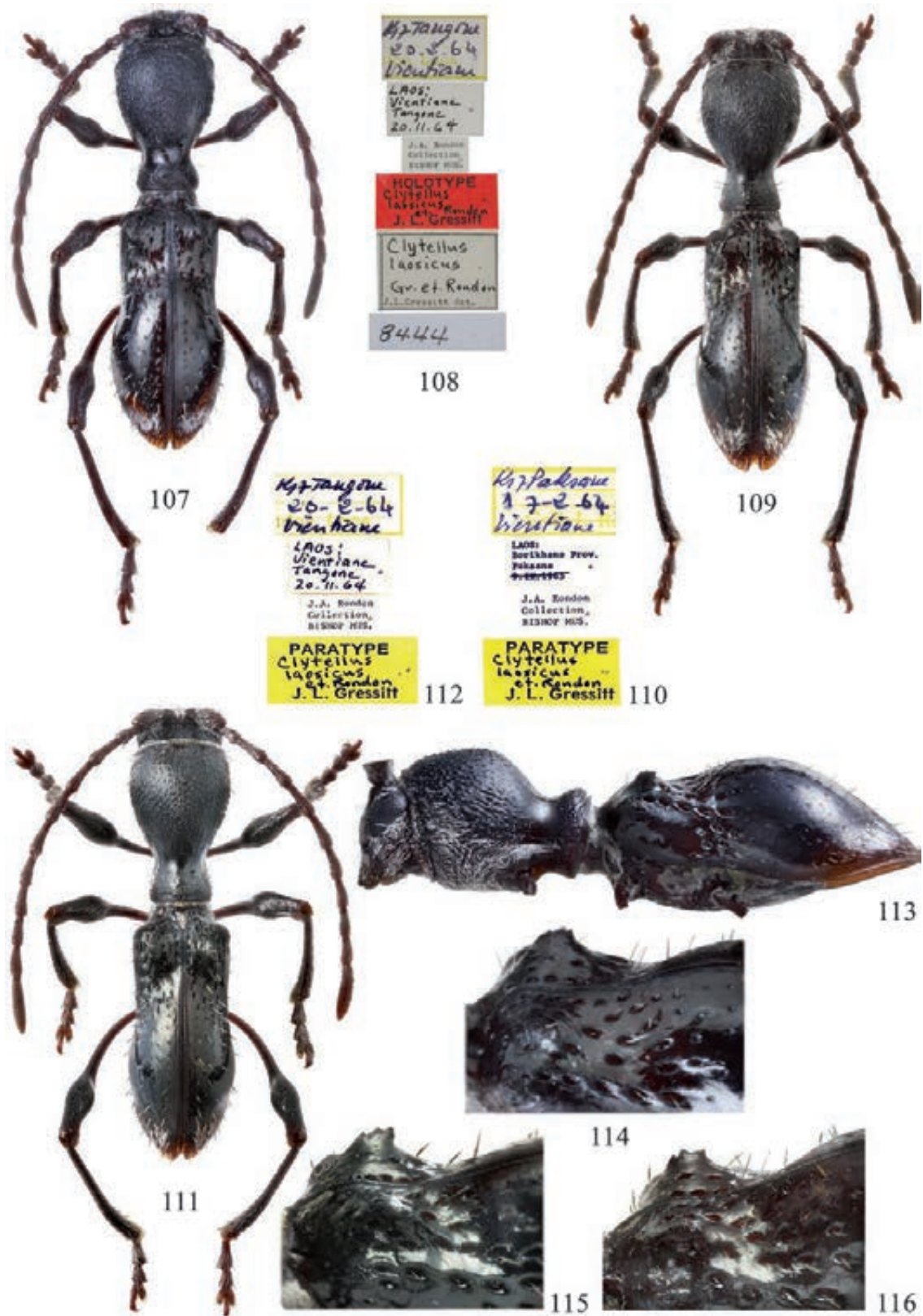


Figs 93–97. *Clytellus methocoides* Westwood.
 93 – holotype female; 94 – labels of the holotype; 95 – male (from China); 96 – female (from Laos); 97 – female (from Vietnam); 93, 95–97 – habitus.

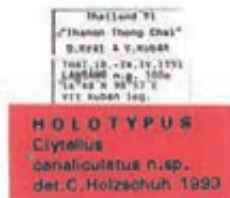


Figs 98–106. *Clytellus methocoides* Westwood.

98, 99, 104, 106 – female (from Laos) (98 – photograph by Vítězslav Kubáň); 100, 101 – female (from Vietnam); 102 – male (from China); 103, 105 – male (from Laos); 98, 101 – habitus, lateral view; 99, 100, 102 – elytra, lateral view; 103, 104 – pronotum and basal part of elytra, dorsal view; 105, 106 – prosternum.



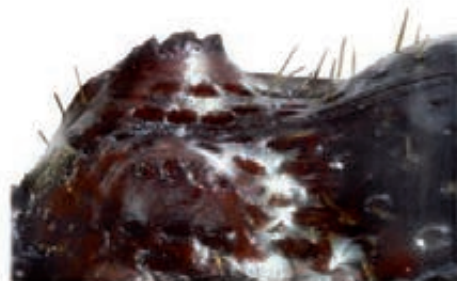
Figs 107–116. *Clytellus laosicus* Gressitt et Rondon, male.
 107, 113, 114 – holotype; 108 – labels of the holotype; 109, 116 – paratype (from Paksane, Laos); 110 – labels of the paratype; 111, 115 – paratype (from Tangone, Laos); 112 – labels of the paratype; 107, 109, 111 – habitus, dorsal view; 113 – habitus, lateral view; 114–116 – basal part of elytra, lateral view.



119



121



122

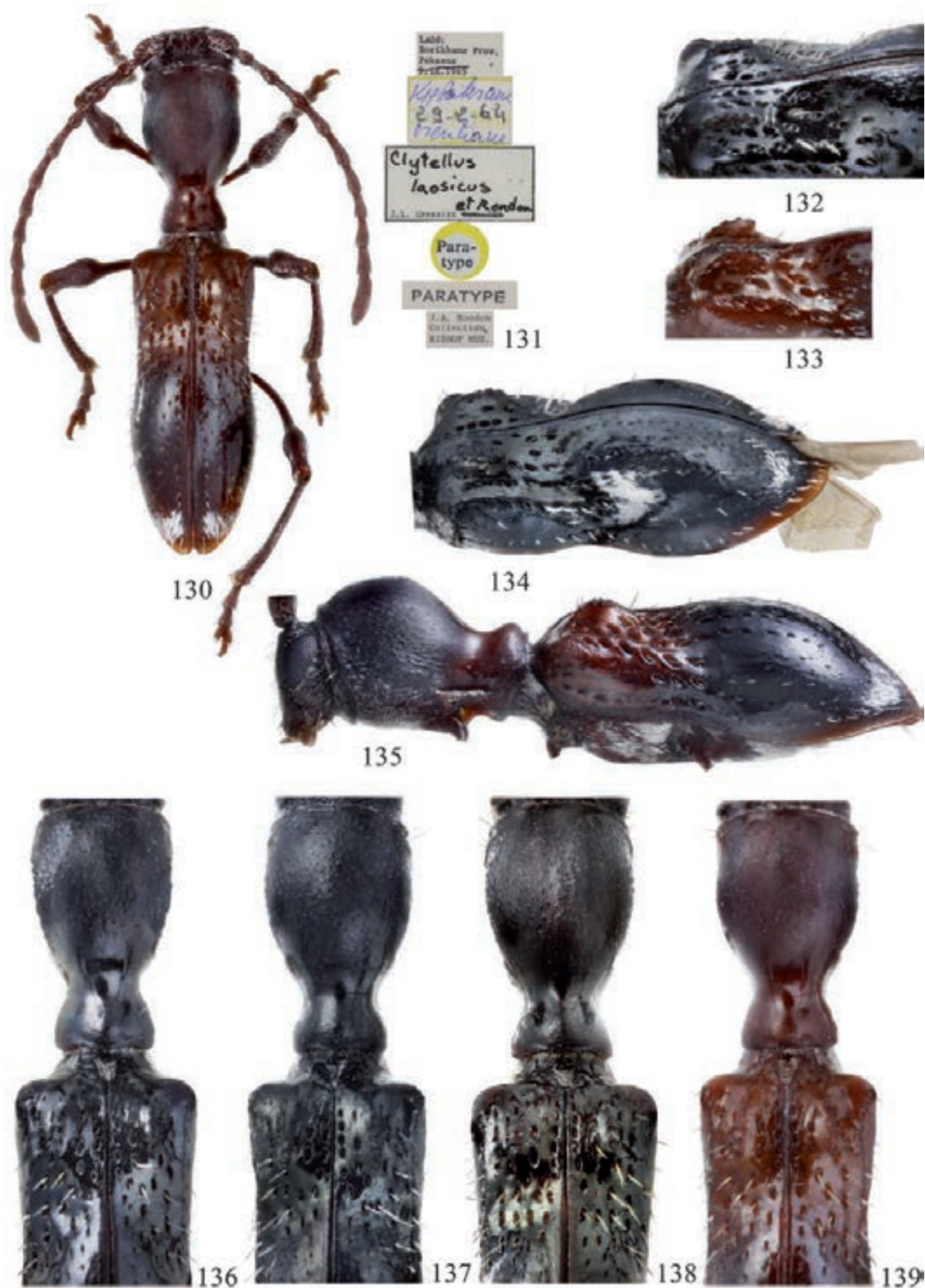
Figs 117–122. *Clytellus canaliculatus* Holzschuh.

117, 121 – holotype male; 118, 120, 122 – male (from “Siam, Prae”); 119 – labels of the holotype; 120 – pronotum and basal part of elytra, dorsal view; 121, 122 – basal part of elytra, lateral view.



Figs 123–129. *Clytellus serratulus* Holzschuh.

123 – holotype male; 124 – labels of the holotype; 125 – female (from Thailand); 126 – female (from Laos, paratype of *C. laosicus* Gressitt et Rondon; 127 – labels of the paratype); 128 – female (from Laos, “allotype” of *C. laosicus* Gressitt et Rondon; 129 – labels of the “allotype”); 123, 125, 126, 128 – habitus.

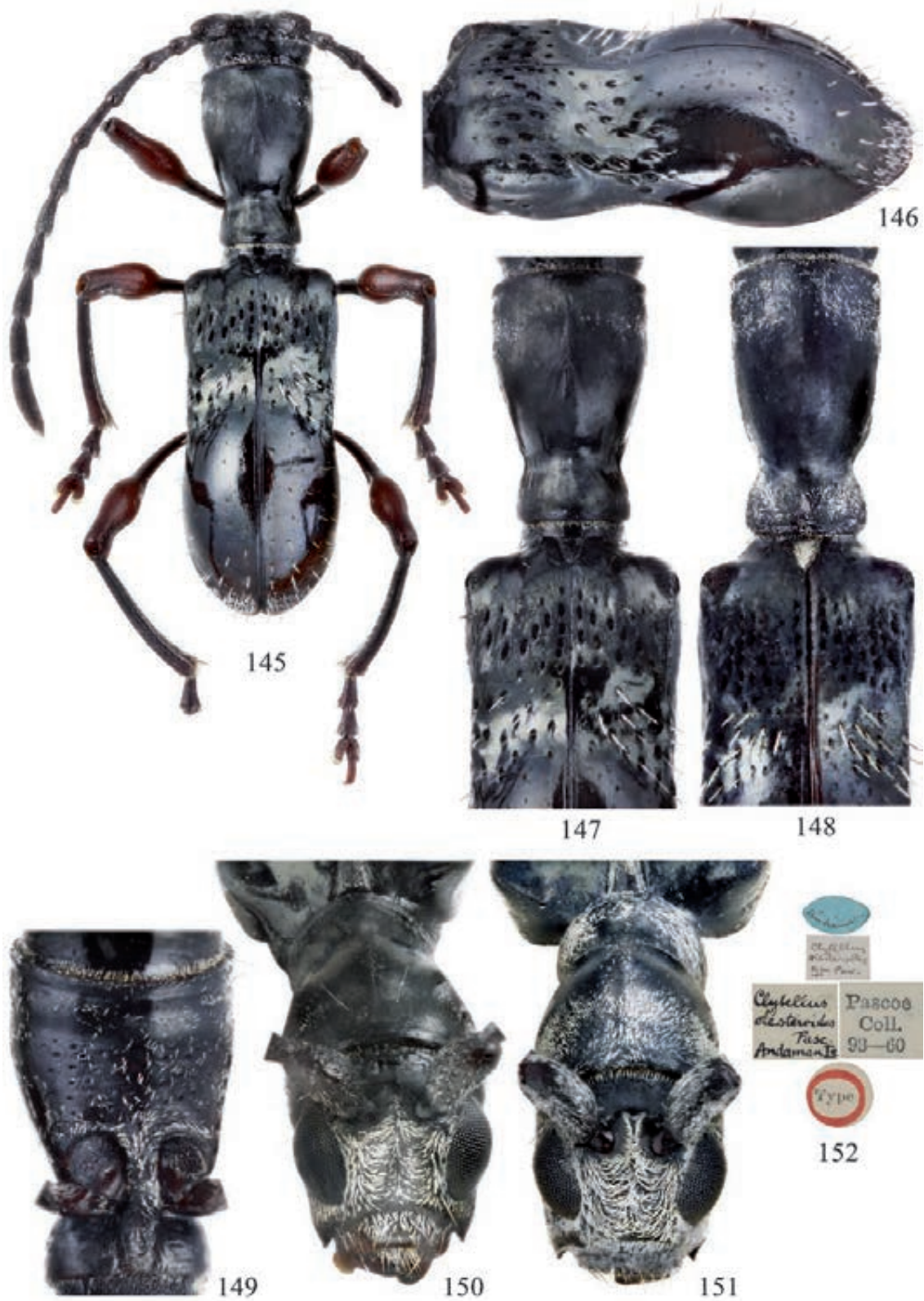


Figs 130–139. *Clytellus serratulus* Holzschuh.

130, 133, 139 – female (from Laos, paratype of *C. laosicus* Gressitt et Rondon; 131 – labels of the paratype); 132, 136 – holotype male; 134, 137 – female (from Thailand); 135 – female (from Laos, “allotype” of *C. laosicus* Gressitt et Rondon); 138 – (from Laos, paratype of *C. laosicus* Gressitt et Rondon; habitus and labels see in Figs 126, 127); 130 – habitus, dorsal view; 132, 133 – basal part of elytra, lateral view; 134 – elytra, lateral view; 135 – habitus, lateral view; 136–139 – pronotum and basal part of elytra, dorsal view.



Figs 140–144. *Clytellus* Westwood.
140, 142, 143 – *C. dembickyi* sp. n., holotype female; 141, 144 – *C. olesteroides* Pascoe, male; 142 – head and prothorax, lateral view; 143 – elytra, lateral view; 144 – prosternum.



Figs 145–152. *Clytellus* Westwood.

145–147, 149, 150 – *C. gressitti* sp. n., holotype male; 148, 151 – *C. olesteroides* Pascoe, male (151 – holotype; 152 – labels of the holotype); 146 – elytra, lateral view; 147, 148 – pronotum and basal part of elytra, dorsal view; 149 – prosternum; 150, 151 – head and pronotum, frontodorsal view.



Figs 153–159. *Clytellus shibatai* Hayashi.
 153 – holotype male (photograph by Eduard Vives); 154 – labels of the holotype (photograph by Nobuo Ohbayashi);
 155, 157, 159 – female; 156, 158 – male; 156, 157 – prosternum; 158, 159 – pronotum and basal part of elytra.

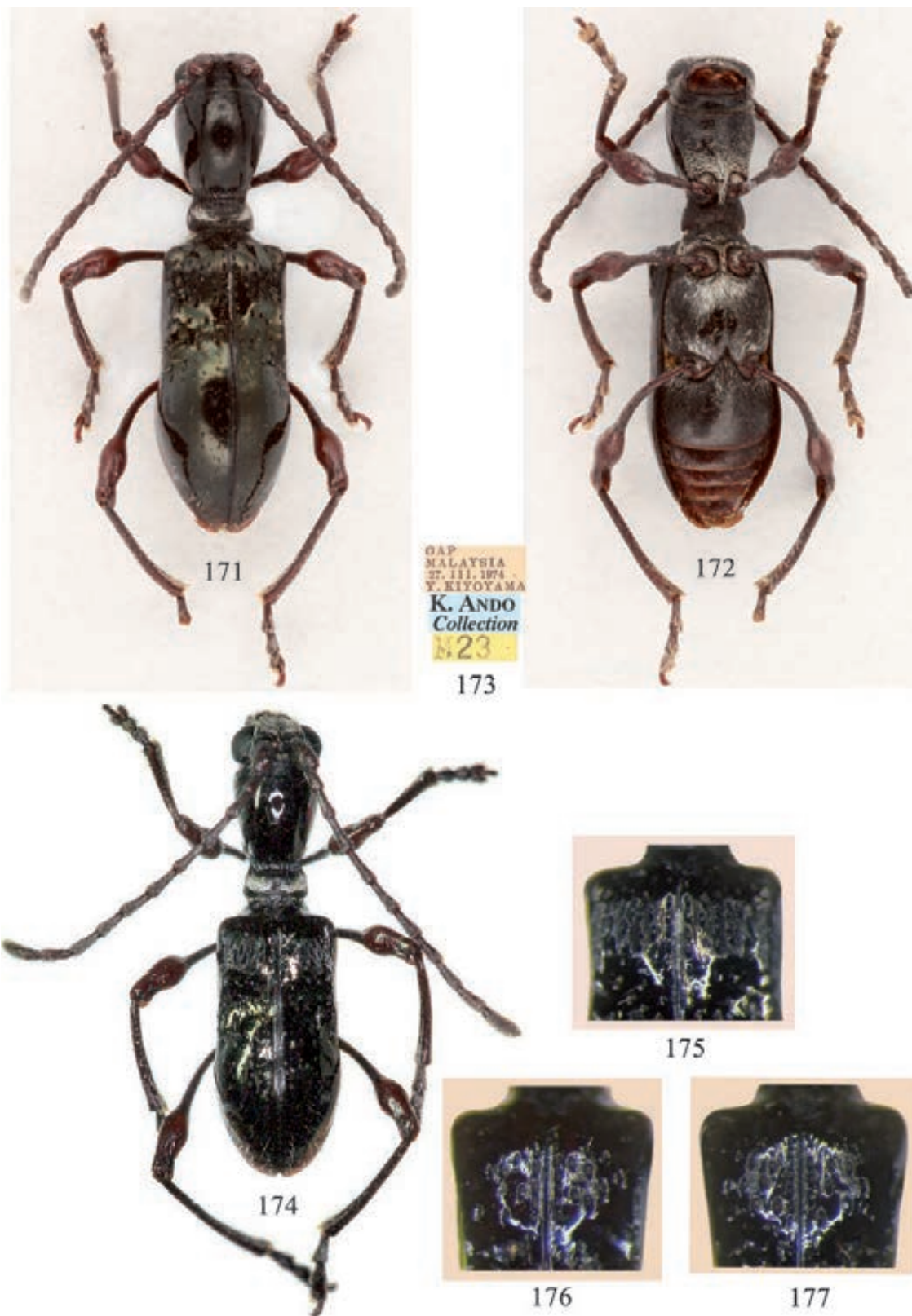


Figs 160–164. *Clytellus* Westwood.

160, 163, 164 – *C. vivesi* sp. n., holotype female; 161, 162 – *C. viridipennis* Hayashi, holotype male and its labels, respectively (photographs by Shigehiko Shiyake); 163 – pronotum and basal part of elytra, dorsal view; 164 – head and prothorax, lateral view.



Figs 165–170. *Clytellus viridipennis* Hayashi (photographs by Nobuo Ohbayashi).
 165, 166 – paratype male, habitus, dorsal and ventral views, respectively; 167 – labels of the paratype; 168, 169 – female, habitus, dorsal and ventral views, respectively; 170 – labels.



Figs 171–177. *Clytellus* Westwood.

171, 172, 175 – *Clytellus* sp., male (EUM; photographs by Nobuo Ohbayashi); 173 – labels of this specimen, photograph by Nobuo Ohbayashi); 174 – *Clytellus* sp., male (OMNH; photograph by Eduard Vives); 176, 177 – *C. viridipennis* Hayashi (176 – paratype male; 177 – female; photographs by Nobuo Ohbayashi); 171, 174 – habitus, dorsal view; 172 – habitus, ventral view; 175–177 – basal part of elytra, dorsal view.



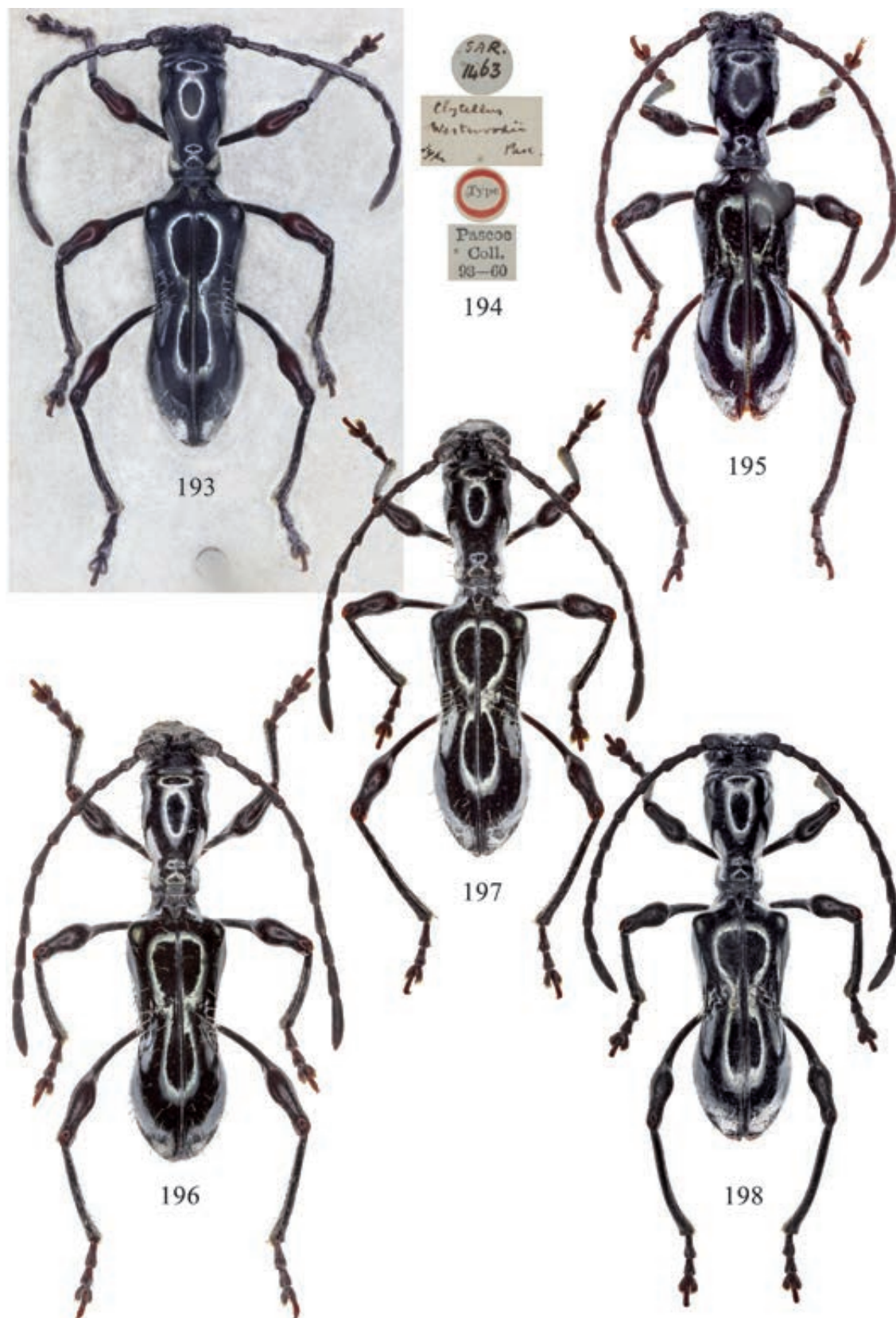
Figs 178–184. *Clytellus* Westwood.

178, 179, 182 – *C. monilis* Holzschuh holotype female; 180 – labels of the holotype; 181, 183, 184 – *C. tatianae* sp. n., holotype female; 178, 184 – habitus; 179 – head and prothorax, lateral view; 181 – elytra, lateral view; 182, 183 – pronotum and basal part of elytra, dorsal view.



Figs 185–192. *Clytellus* Westwood.

185, 189, 191 – *C. kiyoyamai* Hayashi, holotype male (photographs by Kiyoshi Ando; 188 – labels of the holotype, photograph by Kiyoshi Ando); 186, 190, 192 – *C. kareli* Holzschuh, holotype female (187 – labels of the holotype); 185, 186 – habitus; 189–192 – basal part of elytra (189, 190 – dorsal view; 191, 192 – lateral view).



Figs 193–198. *Clytellus westwoodii* Pascoe.
 193 – holotype female; 194 – labels of the holotype; 195 – female (from the Philippines); 196 – male; 197 – female (both from South Kalimantan, Indonesia); 198 – female (from western Malaysia); 193, 195–198 – habitus.

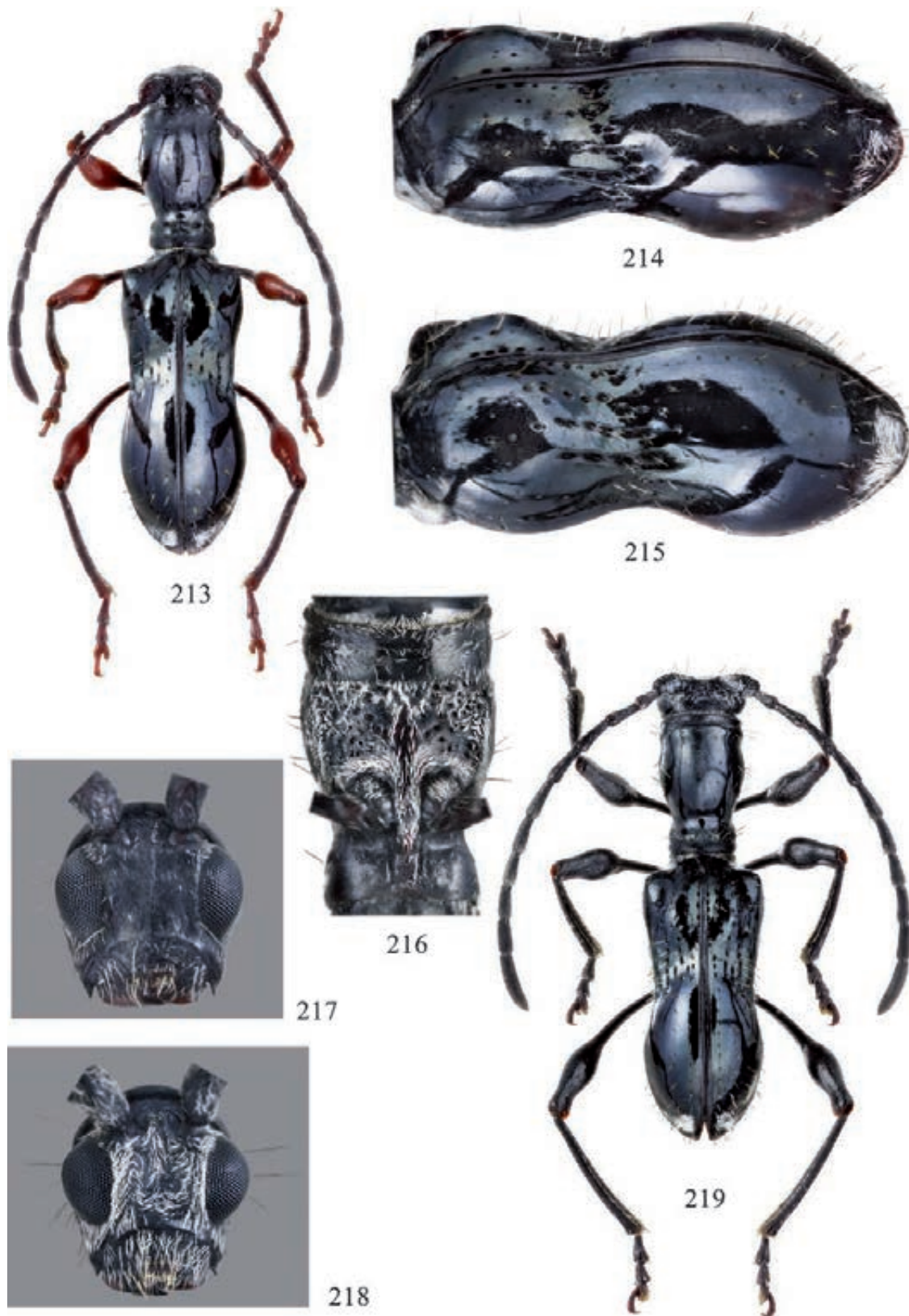


Figs 199–205. *Clytellus westwoodii* Pascoe, details.

199 – holotype female; 200, 201, 204 – male (from South Kalimantan, Indonesia); 202, 203 – female (from South Kalimantan, Indonesia); 205 – female (from central Sumatra); 199, 200 – pronotum and basal part of elytra, dorsal view; 201, 203 – prosternum; 202 – elytra, lateral view; 204, 205 – head and prothorax, lateral view.



Figs 206–212. *Clytellus malayanus* Hayashi, stat. n.
 206 – holotype female; 207 – labels of the holotype (both photographs by Eduard Vives); 208, 211, 212 – male; 209, 210 – female; 206, 208, 209 – habitus; 210, 211 – pronotum and basal part of elytra, dorsal view; 212 – elytra, lateral view.



Figs 213–219. *Clytellus* Westwood.

213, 214, 217 – *C. belokobylskiji* sp. n., holotype female; 215, 216, 218, 219 – *C. lobanovi* sp. n., holotype male; 213, 219 – habitus; 214, 215 – elytra, lateral view; 216 – prosternum; 217, 218 – head, frontal view.



Figs 220–227. *Clytellus* Westwood.

220, 221 – *C. lobanovi* sp. n., holotype male; 222 – *C. belokobylskiji* sp. n., holotype female; 223–227 – *C. barclayi* sp. n., holotype male; 220, 223 – pronotum and basal part of elytra, dorsal view; 221, 222 – head and prothorax, lateral view; 224 – prosternum; 225 – basal part of elytra, dorsal view (NB: brown marker emphasizing some puncturation forming a w-shaped pattern); 226 – habitus; 227 – elytra, lateral view.



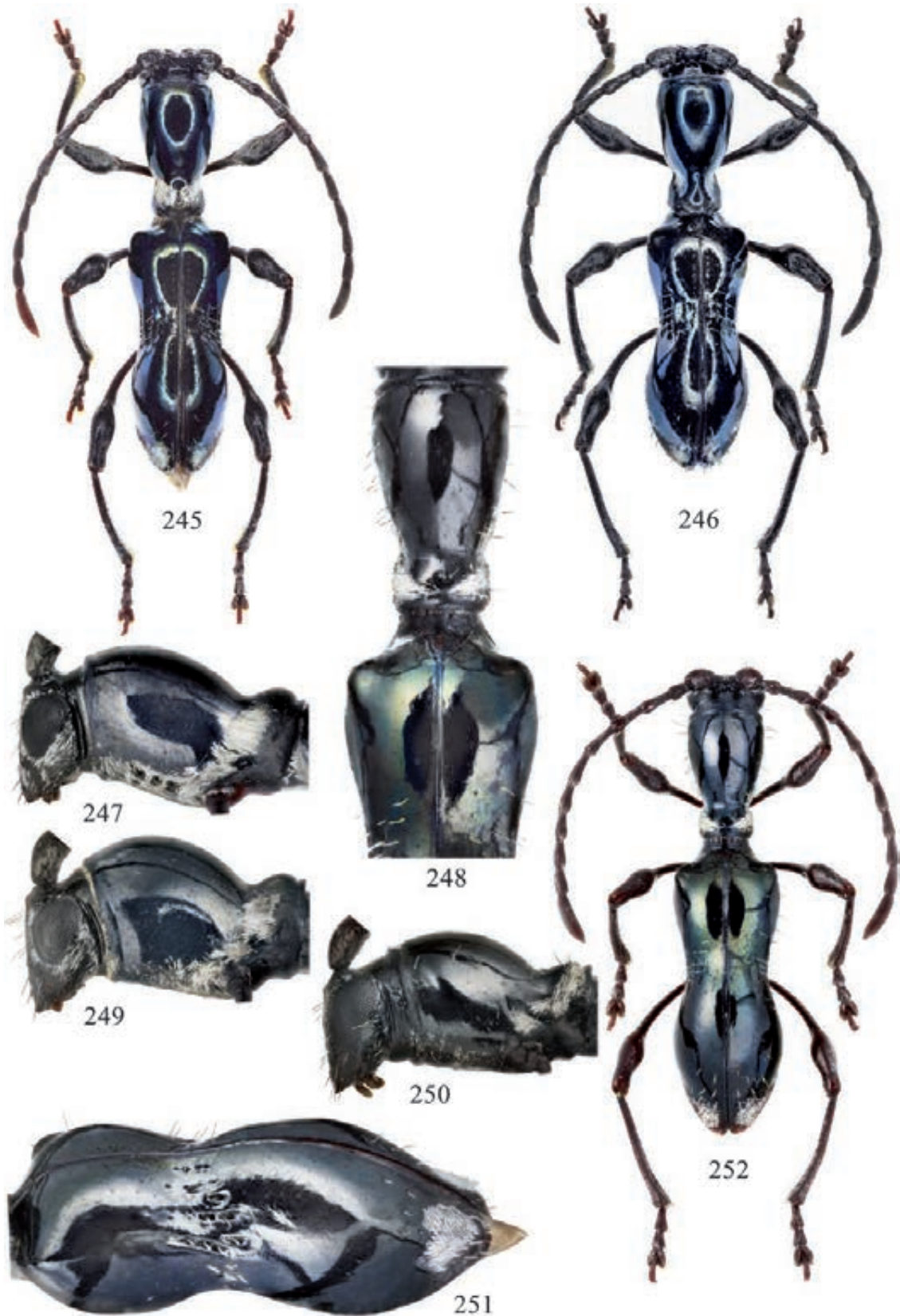
Figs 228–235. *Clytellus* Westwood.

228, 232 – *C. fulgidus* Holzschuh, holotype male; 229 – labels of the holotype; 230, 231, 233–235 – *C. kubani* sp. n., holotype male; 228, 230 – habitus; 231 – apex of elytra, dorsal view; 232, 234 – elytra, lateral view; 233 – prosternum; 235 – pronotum and basal part of elytra, dorsal view.



Figs 236–244. *Clytellus* Westwood.

236 – *C. selebensis* Gestro, holotype male; 237 – labels of the holotype; 238 – *C. benguetanus* Schultze, holotype male; 239 – labels of the holotype; 240, 241, 243 – *C. selebensis*, male; 242, 244 – *C. benguetanus*, male; 236, 238 – habitus; 240–242 – pronotum and basal part of elytra; 243, 244 – prosternum.

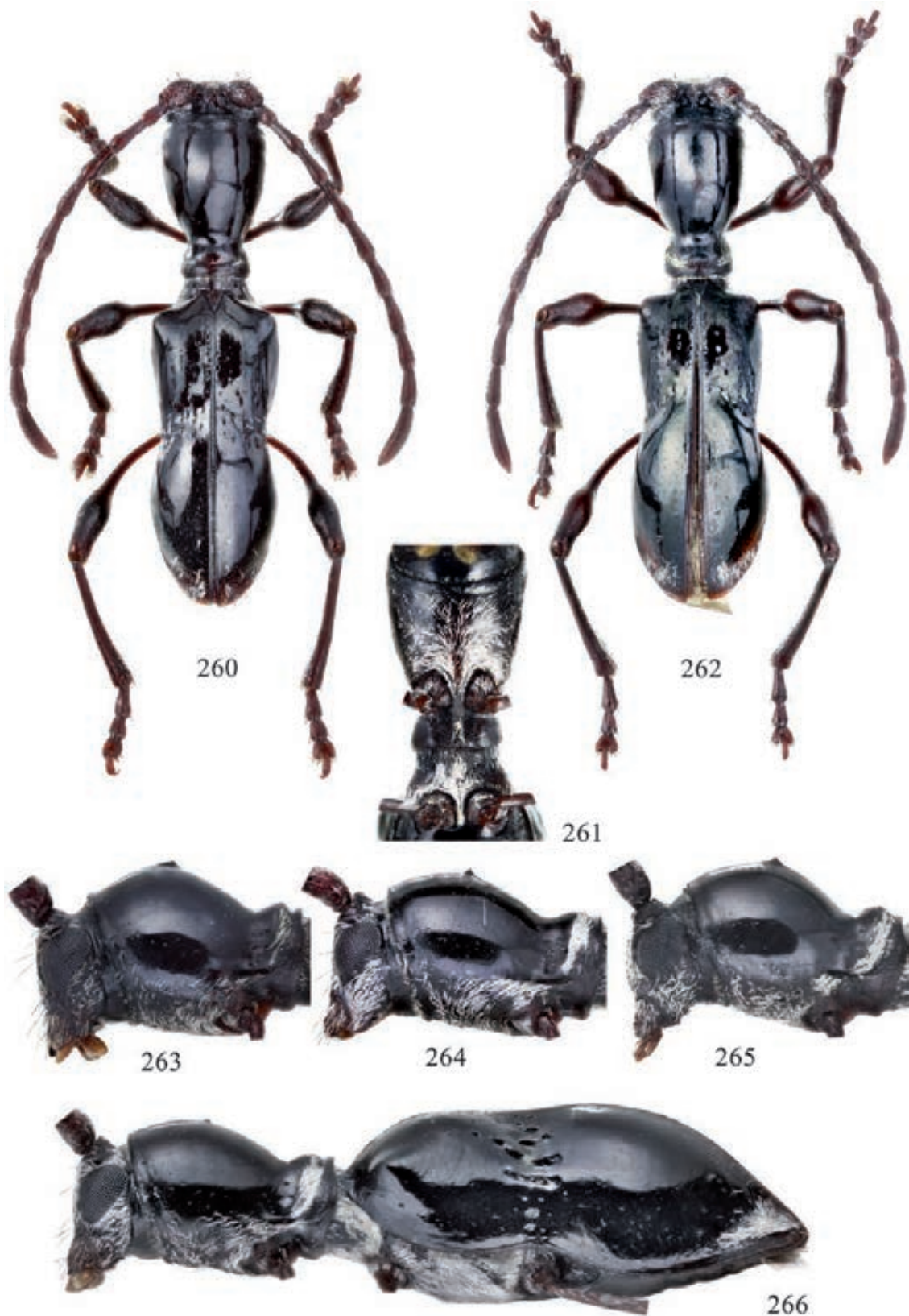


Figs 245–252. *Clytellus* Westwood.

245, 247, 251 – *C. selebensis* Gestro, male; 246, 249 – *C. benguetanus* Schultze (246 – male; 249 – female); 248, 250, 252 – *C. kasatkini* sp. n., holotype female; 245, 246, 252 – habitus; 247, 249, 250 – head and prothorax, lateral view; 248 – pronotum and basal part of elytra; 251 – elytra, lateral view.



Figs 253–259. *Clytellus mononychus* Holzschuh.
 253 – paratype male (cAM); 254 – labels of the paratype; 255, 259 – paratype female (cCH); 256 – labels of the paratype; 257, 258 – male (cPV); 253, 255, 257 – habitus; 258, 259 – pronotum and basal part of elytra.



Figs 260–266. *Clytellus* Westwood.

260, 261, 263 – *C. makarovi* sp. n., holotype male; 262, 265 – *C. perhentianus* sp. n., holotype male; 264, 266 – *C. mononychus* Holzschuh, male (264 – cPV; 266 – paratype, cAM); 260, 262, 266 – habitus (260, 262 – dorsal view; 266 – lateral view); 261 – prosternum; 263–265 – head and prothorax, lateral view.



Figs 267–273. *Clytellus* Westwood.

267, 268, 271, 272 – *C. mononychus* Holzschuh (267 – paratype male, cAM; 268, 271 – male, cPV; 272 – paratype female, cCH); 269, 270 – *C. perhentianus* sp. n., holotype male; 273 – *C. makarovi* sp. n., holotype male; 267–269 – head, frontal view; 270–273 – elytra, frontodorsal view.

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To the reader's attention

Corrections of the misprints and omissions found in the present work have been published elsewhere (Miroshnikov, 2014*), but are repeated below:

page	column	line	As printed	Correct form
18	left	36	bettles	beetles
23	right	11	metatibae	metatibiae
30	left	6–7	four species	five species
53	right	8	the the type	the type
75	right	4–5	antennomere 4	antennomere 3
75	right	6	antennomere 3	antennomere 4
75	right	13	antennomere 4	antennomere 3
75	right	14	antennomere 3	antennomere 4
92	left	18	fig 1	fig. 1
123	–	2	from Sichuan	from Yunnan
140	left	32	Figs 55–84	Figs 55–85
226	–	3	photograph b	photograph by

Agastophysis meiyingae sp. n. is described again as new to fully comply with the provisions of the International Code of Zoological Nomenclature (1999), because, due to an inadvertent omission of the Material section on page 27, right column (see below**), the availability of that name has been jeopardized.

*Miroshnikov A.I. 2014. A new species of the genus *Agastophysis* Miroshnikov, 2014 (Coleoptera: Cerambycidae) from China and corrigenda to the author's publications of 2013 and 2014. – *Russian Entomological Journal*. Vol. 23. No. 3. Pp. 195–197.

**Missing text fragment: Material. Holotype ♂ [IZAS, IOZ(E) 1905118], China, Xizang Prov., Shannan distr., Naidong, 1981, leg. Xin-Nian Li & Bao-Hai Wang.

Advances in studies on Asian cerambycids

