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## Contribution to the knowledge of the subfamily Scarabaeinae (Coleoptera) from China with nomenclatural notes

### К познанию подсемейства Scarabaeinae (Coleoptera) из Китая с номенклатурными замечаниями

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**Key words:** Coleoptera, Scarabaeinae, new species and subspecies, new synonymy, new records, new combinations, checklist, China.

**Ключевые слова:** Coleoptera, Scarabaeinae, новые виды и подвиды, новая синонимия, новые комбинации, аннотированный список, Китай.

**Abstract.** Information about 160 species of the subfamily Scarabaeinae in China is given in the paper. New taxa are described: *Onthophagus (Indachorius) pumilus* Kabakov, **sp. n.**, *Onthophagus (Paraphanaeomorphus) jeannelianus shokhini* Kabakov, **subsp. n.**, *Onthophagus (s. lato) amycoides* Kabakov, **sp. n.**, *Tiniocellus averyanovi* Kabakov, **sp. n.** New synonymy is established: *Copris (Microcopris) propinquus* Felsche, 1910 = *Copris minutissimus* Kryzhanovskij et Medvedev, 1966, **syn. n.**, *Onthophagus (Paraphanaeomorphus) carinensis* Boucomont, 1914 = *Onthophagus (s. str.) missor* Balthasar, 1938, **syn. n.**, synonymy of subgenera *Onthophagus* Latreille, 1802: *Matashia* Matsumara, 1938 = *Phanaeomorphus* Balthasar, 1963, **syn. n.** = *Strandius* Balthasar, 1963, **syn. n.**

Synonymy of two subgenera of the genus *Onthophagus* is confirmed: *Relictonthophagus* Kabakov, 1979 = *Parentius* Zunino, 1979, **syn. reconfirm.** *Onthophagus (Matashia) cernyi* Balthasar, 1935 is resurrected from synonyms of *Onthophagus ater* Waterhouse, 1875. *Sisyphus denticrus* Fairmaire, 1886 and *Sisyphus denticrus* Fairmaire, 1886 are resurrected from synonymy of *Sisyphus neglectus* Gory, 1833.

*Copris (s. str.) davidis* (Deyrolle, 1878) **comb. n.** is transferred from the genus *Catharsius* Hope, 1837.

First for the Palearctic fauna the taxons *Onthophagus (Indachorius) arai* Masumoto, 1989, *Onthophagus (Paraphanaeomorphus) acuticornis* Endroedi, 1973 are set.

**Резюме.** В статье приводятся сведения по 160 видам подсемейства Scarabaeinae из Китайской Народной Республики. Описаны новые таксоны: *Onthophagus (Indachorius) pumilus* Кабаков, **sp. n.**, *Onthophagus (Paraphanaeomorphus) jeannelianus shokhini* Кабаков, **subsp. n.**, *Onthophagus (s. lato) amycoides* Кабаков, **sp. n.**, *Tiniocellus averyanovi* Кабаков, **sp. n.** Установлена синонимия названий: *Copris (Microcopris) propinquus* Felsche, 1910 = *Copris minutissimus* Kryzhanovskij et Medvedev, 1966, **syn. n.**, *Onthophagus (Paraphanaeomorphus) carinensis* Boucomont, 1914 = *Onthophagus (s. str.) missor* Balthasar, 1938, **syn. n.**, синонимия подродов *Onthophagus* Latreille, 1802: *Matashia* Matsumara, 1938 = *Phanaeomorphus* Balthasar, 1963, **syn. n.** = *Strandius* Balthasar, 1963, **syn. n.**

Подтверждена синонимия подродов *Onthophagus*: *Relictonthophagus* Кабаков, 1979 = *Parentius* Zunino, 1979, **syn. reconfirm.** Восстановлен *Onthophagus (Matashia) cernyi* Balthasar, 1935 (из синонимов *Onthophagus ater* Waterhouse, 1875). *Sisyphus denticrus* Fairmaire, 1886 и *Sisyphus denticrus* Fairmaire, 1886 восстановлены из синонимов *Sisyphus neglectus* Gory, 1833

Приводится новая комбинация: *Copris (s. str.) davidis* (Deyrolle, 1878) **comb. n.** (ранее рассматривался в роде *Catharsius* Hope, 1837).

Впервые для фауны Палеарктики приводятся следующие таксоны: *Onthophagus (Indachorius) arai* Masumoto, 1989, *Onthophagus (Paraphanaeomorphus) acuticornis* Endrödi, 1973.

## Introduction

The current paper arose from the work initiated by O.N. Kabakov, one of the co-authors, who died in 2009. Finished by the second co-author I.V. Shokhin, it summarizes information on distribution and bionomics of the dung beetles from the subfamily Scarabaeinae (Coleoptera: Scarabaeidae) collected mainly in eastern and southern China. The material assembled by present study comes from three major sources. The oldest source of the material is the Chinese-Soviet expeditions conducted in 1956–1957. The list of dung beetle species collected during these expeditions was previously published by Kryzhanovsky and Medvedev [1966]. We reexamined some specimens from the Chinese-Soviet expeditions deposited in Zoological Institute (Saint Petersburg, Russia) and provide taxonomically updated information on those species in the current paper. The second bulk of the material comes from the numerous fieldtrips organized by various Czech entomologist, mainly D. Král and R. Červenka, in 1990–2002. The third bulk of the material was collected during various fieldtrips in 2002–2004 by S.V. Murzin, I.V. Shokhin, A.A. Gorodinsky, I.A. Belousov, I.I. Kabak and M.G. Volkovitsh. Holotypes of all new species are deposited in Zoological Institute RAS (Saint Petersburg, Russia).

The material examined in the present study is kept in the following collections:

MS – collection of I.V. Shokhin (Rostov-on-Don, Russia);

K – collection of O.N. Kabakov (Zoological Institute of Russian Academy of Science, Saint Petersburg, Russia);

C – collections of Czech entomologists (Prague, Czech Republic, no more detailed data are available);

SCh – collections of Chinese-Soviet expedition (Zoological Institute of Russian Academy of Sciences, Saint Petersburg, Russia);

Z – other collection materials from Zoological Institute of Russian Academy of Sciences (Saint Petersburg, Russia).

### Genus *Parachorius* Harold, 1873

*Parachorius thomsoni* Harold, 1873

**Material.** Yunnan: 1♀, Jingdong, 1170 m, 22.06.1956 (SCh); 1♀, Davayshan near Binban, 1900 m, 23.06.1956 (SCh).

*Parachorius fungorum* Kryzhanovskij et Medvedev, 1966

**Material.** Yunnan: 2♀ (holotype and paratype), Davayshan near Binban, 1900 m, 23.06.1956 (SCh); 2♂, 2♀, Baoshan env., 2000 m, 10.07.1998, A. Gorodinski (K).

### Genus *Paragymnopleurus* Shipp, 1897

*Paragymnopleurus sinuatus assamensis*  
(Waterhouse, 1890)

**Material.** Yunnan: 36♂, 43♀, Lung-ling (= Longshan) env., 1600 m, 04.1956; Jindong env., 1200–1400 m, 03–06.1956–1957; SW Jinping (= Qiubei), 370–500 m, 04–05.1956; Puerh env., 1100 m, 05.1956; W Geijiu, 600 m, 05.1956; Mantszy, 1350 m, 06.1956; Ganlanba, 540 m, 04.1957; Xiaomonian, 850 m, 05.1957 (SCh).

*Paragymnopleurus sinuatus szechouanicus*  
(Balthasar, 1934)

**Material.** S Sichuan: 1♂, Xichang env., 1700 m, 17.07.2001, A. Gorodinski (K); 2♂, 5♀, Xichang env., 1700 m, 15–17.08.2002, I. Shokhin (MS).

*Paragymnopleurus melanarius* (Harold, 1867)

**Material.** Yunnan: 1♀, Hekou near Nanqih River, 200 m, 13.06.1956 (SCh).

### Genus *Sisyphus* Latreille, 1807

*Sisyphus neglectus* species-group

Haaf [1955] combined all three species as *Sisyphus neglectus* Gory, 1833 on the base of similar structure of parameres of aedeagus. Diagnoses of the species are given below in the key.

#### Key to species of *Sisyphus neglectus* species-group

- 1(4). Frontoclypeal suture represented by short rudiments in front of eyes.
- 2(3). Punctuation of pronotum sparse (punctures separated by ca. 1 puncture diameter), simple, oculate; punctures becoming slightly bigger basally; body entirely black. 5–6 mm. India, Southern China ..... *Sisyphus neglectus*
- 3(2). Punctuation of pronotum very dense (punctures touch each other); punctures almost not becoming bigger basally; body black, head and pronotum with bronze lusture. 6–7.8 mm.

Myanmar, Southern China .....  
..... *Sisyphus denticrus* Fairmaire, 1886, **bona sp.**

- 4(1). Frontoclypeal suture distinct, bent backward; punctuation of pronotum sparse, simple (punctures not oculate); head bronze-copper, pronotum and elytra black. 5–6 mm. Laos, Vietnam ..... *Sisyphus laoticus* Arrow, 1927, **bona sp.**

*Sisyphus denticrus* Fairmaire, 1886, **bona species**

**Material.** S Sichuan: 1♂, Xichang, 1500 m, 15–17.08.2002, I. Shokhin (MS). N Yunnan: 1♂, 1♀, 15 km NE Xiaguan Ezhai Lake, 2200 m, 20.05.2002, M. Volkovitsh (K).

*Sisyphus neglectus* Gory, 1833

**Material.** S Yunnan: 1♂, 1♀, 30 km SW Jinping, 500 m, 24.04.1956 (SCh).

*Sisyphus popovi* Kryzhanovskij et Medvedev, 1966

**Material.** W Yunnan: 1♀ (holotype), 30 km SW Mangshi (= Luxi), 1200 m, 18.05.1956 (SCh).

*Sisyphus schaefferi morio* Arrow, 1909

**Material.** S Gansu: 1♀, Wenxian, 1200 m, 16–18.06.2002, I. Shokhin (MS).

### Genus *Copris* Geoffroi, 1762

*Copris davidis* (Deyrolle, 1878), **comb. n.**  
(transferred from *Catharsius* Hope, 1837)

**Material.** Sichuan: 1♂, 60 km W of Daiy, Xilingshan Mts., 1400 m, 8–11.05.2006, I. Shokhin (MS). W Yunnan: 1♂, 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Copris punctatus* Gillet, 1910

**Material.** S Sichuan: 1♂, 1♀, Xichang, 1500–1600 m, 15–17.08.2002, I. Shokhin (MS).

*Copris sinicus* Hope, 1842

**Material.** Sichuan: 1♀, valley 5 km N Wenchuan, 1800 m, 8.08.2002, I. Shokhin (MS). Yunnan: 10♂, 40♀, Jindong, Pu'er, Xiaomonian, Damonlun, Chali, Ganlanba, 540–1200 m, 03–05.1955–1957 (SCh).

*Copris carinicus* Gillet, 1910

**Material.** Yunnan: 5♂, 12♀, Jindong, Pu'er, Simao-Chali, Chali, Damonlun, Ganlanba, Hekou, SW Jinping, 300–1600 m, 03–06.1955–1958 (SCh).

*Copris repertus* Walker, 1858

**Material.** Yunnan: 2♂, 1♀, Jinggu, 930 m, 23.04.1955 (SCh); 1♂, 1♀, W Baoshan, 800 m, 8.05.1955 (SCh); 2♂, Lunling env., 1050 m, 25.06.1956 (SCh).

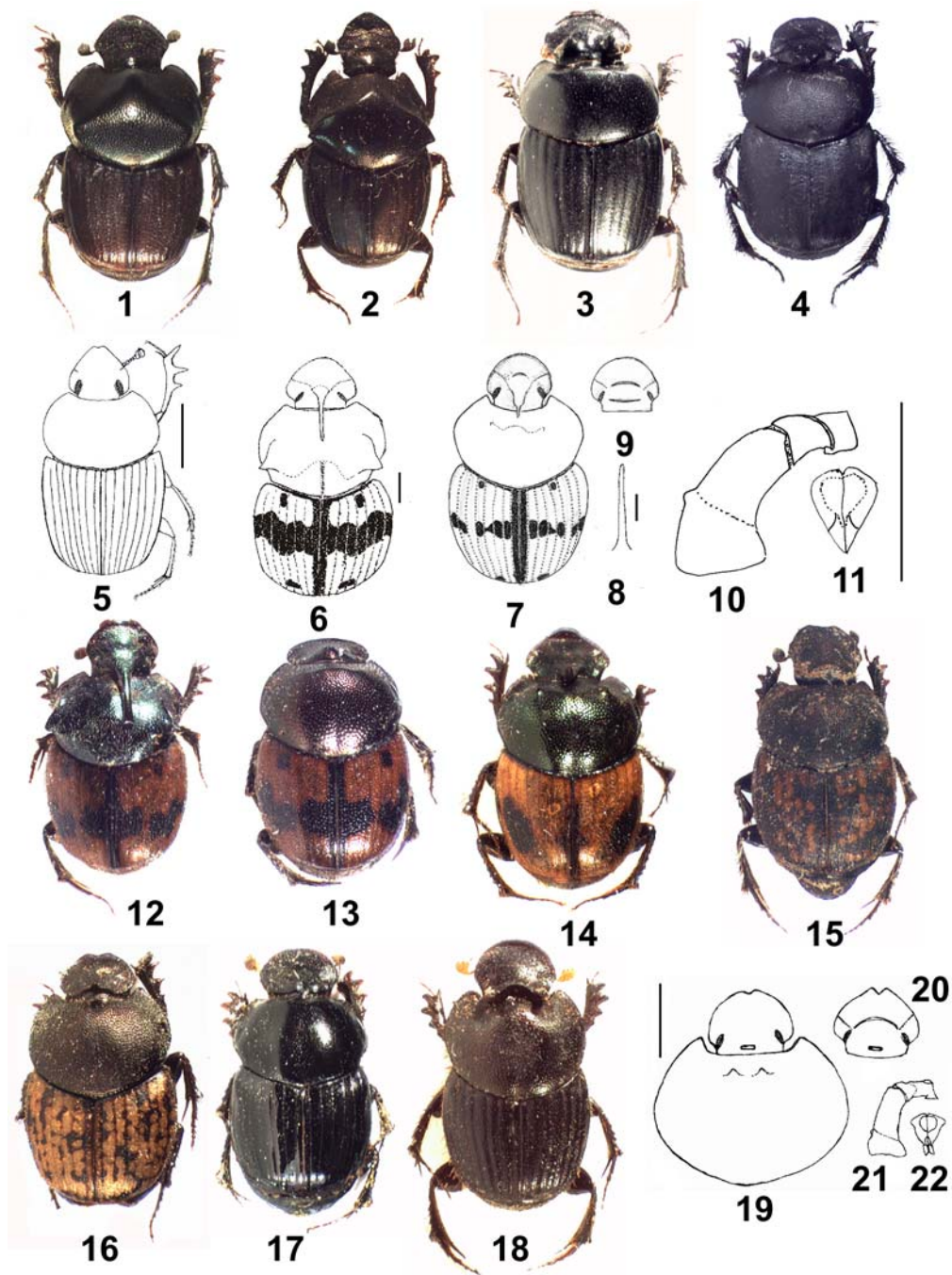
*Copris obenbergeri* Balthasar, 1933

**Material.** Sichuan: 1♀, right bank of Niuzhihe River, E Pusiun Vill., 2200–2800 m, 15.06.2000, I. Belousov, I. Kabak, G. Davidian (K); 1♂, Songpan env., 1000 m, 20–30.06.2005, V. Patrikeev (K). Yunnan: 1♀, 20 km N Lijiang, 2500 m, 30.05.2002, M. Volkovitsh (K); 2♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Copris magicus* Harold, 1881

**Material.** Sichuan: 1♂, 3♀, 60 km NW Chengdu, Qing Cheng Hou Shan Mts., 1400 m, 2–4.05.2006, I. Shokhin (MS). Yunnan: 3♂, 5♀, Binban,



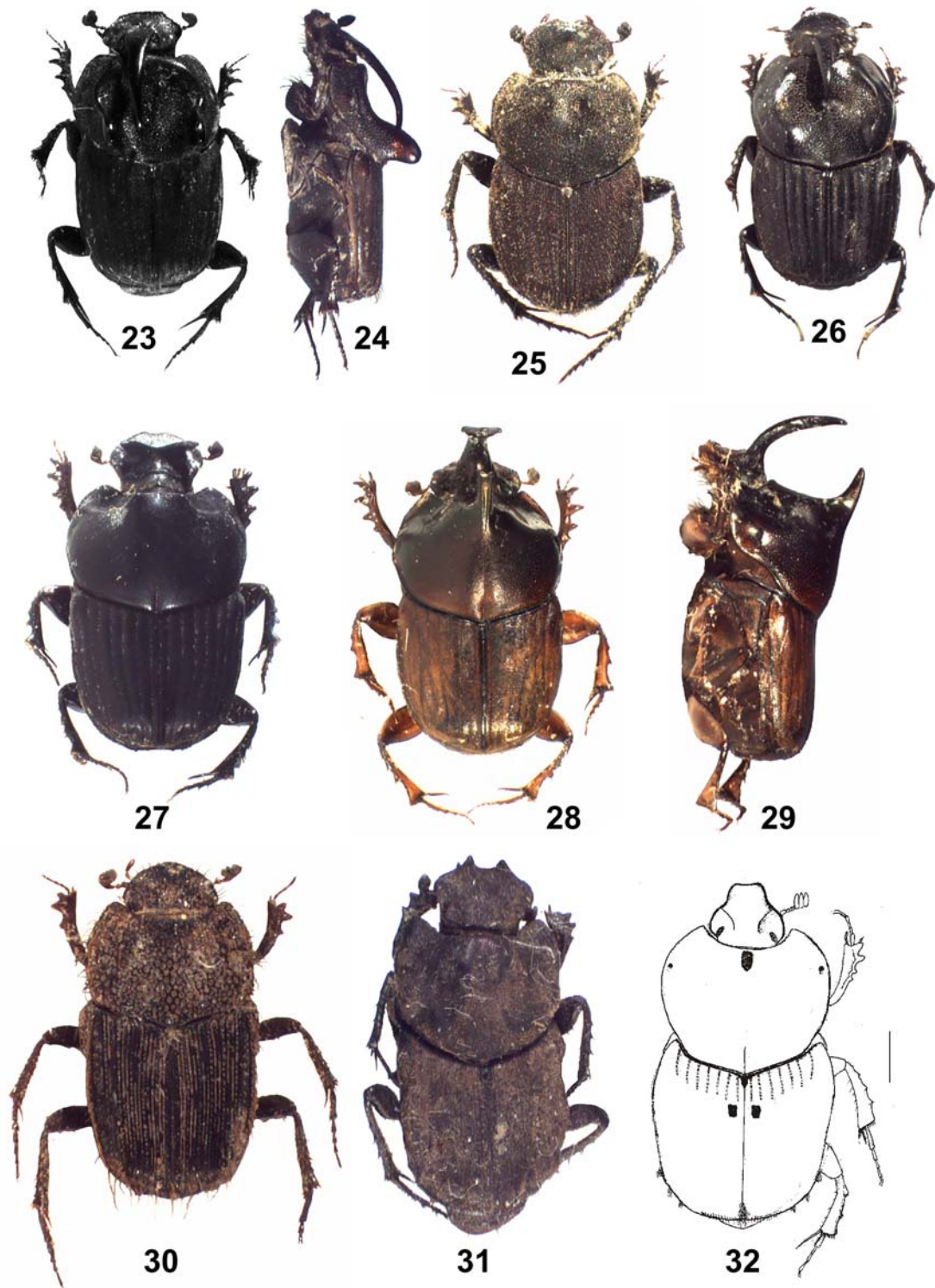


Figs 1–22. *Onthophagus*, habitus, details of structure.

1 – *Onthophagus (Matashia) sycophanta* Fairmaire, 1887; 2 – *Onthophagus (Matashia) gagates* Hope, 1831; 3 – *Onthophagus (Colobonthophagus) tragus* (Fabricius, 1792); 4 – *Onthophagus (Altonthophagus) kozlovi* Kabakov, 1990; 5 – *Onthophagus (Indachorius) pumilus* Kabakov, **sp. n.**; 6–13 – *Onthophagus (Paraphanaeomorphus) jeannelianus shokhini* Kabakov, **subsp. n.**: 6, 7, 12, 13 – habitus; 6, 12 – f. major; 7 – f. media; 13 – f. minor; 8 – parietal keel of male, f. major; 9 – head of female; 10, 11 – aedeagus laterally and dorsally; 14 – *Onthophagus (Paraphanaeomorphus) carinensis* Boucomont, 1914; 15 – *Onthophagus (Palaeonthophagus) nikolajevi* Kabakov, 2006; 16 – *Onthophagus (Palaeonthophagus) gorodinskii* Kabakov, 2008; 17 – *Onthophagus (Serrophorus) laevis lampromelas* Fairmaire, 1891; 18 – *Onthophagus (s. lato) orientalis* Harold, 1868; 19–22 – *Onthophagus (s. lato) amycoides* Kabakov, **sp. n.**: 19 – head and pronotum of male; 20 – head of female; 21, 22 – aedeagus laterally and dorsally. Scale bare 1 mm.

Рис. 1–22. *Onthophagus*, внешний вид, детали строения.

1 – *Onthophagus (Matashia) sycophanta* Fairmaire, 1887; 2 – *Onthophagus (Matashia) gagates* Hope, 1831; 3 – *Onthophagus (Colobonthophagus) tragus* (Fabricius, 1792); 4 – *Onthophagus (Altonthophagus) kozlovi* Kabakov, 1990; 5 – *Onthophagus (Indachorius) pumilus* Kabakov, **sp. n.**; 6–13 – *Onthophagus (Paraphanaeomorphus) jeannelianus shokhini* Kabakov, **subsp. n.**: 6, 7, 12, 13 – общий вид; 6, 12 – f. major; 7 – f. media; 13 – f. minor; 8 – теменной киль самца, f. major; 9 – голова самки; 10, 11 – гениталии, вид сбоку и вид спереди соответственно; 14 – *Onthophagus (Paraphanaeomorphus) carinensis* Boucomont, 1914; 15 – *Onthophagus (Palaeonthophagus) nikolajevi* Kabakov, 2006; 16 – *Onthophagus (Palaeonthophagus) gorodinskii* Kabakov, 2008; 17 – *Onthophagus (Serrophorus) laevis lampromelas* Fairmaire, 1891; 18 – *Onthophagus (s. lato) orientalis* Harold, 1868; 19–22 – *Onthophagus (s. lato) amycoides* Kabakov, **sp. n.**: 19 – голова и переднеспинка самца; 20 – голова самки; 21, 22 – гениталии; 21 – вид сбоку; 22 – вид спереди. Масштабная линейка 1 мм.



Figs 23–32. Oniticellini, habitus (24, 29 – laterally, other – dorsally). Scale bare 1 mm.

Рис. 23–32. Онитицеллини, внешний вид (24, 29 – вид сбоку, остальные – вид сверху). Масштабная линейка 1 мм.

23, 24 – *Liatongus incurvicornis* (Fairmaire, 1887); 25 – *Liatongus appositicornis* Král, Rejsek, 1999; 26 – *Liatongus denticornis* (Fairmaire, 1887); 27 – *Liatongus bucerus* (Fairmaire, 1891); 28, 29 – *Liatongus vertagus* (Fabricius, 1798); 30 – *Drepanocerus integriceps* Janssens, 1953; 31 – *Sinodrepanus besucheti* Simonis, 1985; 32 – *Tiniocellus averyanovi* Kabakov, *sp. n.*

1350–1500 m, 17–27.06.1956 (SCh); 6♂, 3♀, Jinping env., 1500–1700 m, 11–21.05.1956 (SCh); 3♂, 2♀, mountains 60 km E Tengcheng, 2300 m, 14–19.05.2006, I. Shokhin (MS).

*Copris laevigatus* Gillet, 1927

**Material.** Yunnan: 3♂, 2♀, W Yunnan, mountains 60 km E Tengcheng, 2200 m, 19–22.05.2006, I. Shokhin (MS).

*Copris ochus* Motschulsky, 1860

**Material.** S Gansu: 2♂, S Wenxian, Siangdan, on light, 20.06.2006, I. Belousov, I. Kabak (K).

*Copris angusticornis* Arrow, 1933

**Material.** Yunnan: 1♂, Binban env., 1500 m, 19.06.1956 (SCh).

*Copris bengalensis* Gillet, 1911

**Material.** Yunnan: >60 specimens, Mangshi (= Luxi), 900 m, 18.05.1955 (SCh).

*Copris confucius* Harold, 1877

**Material.** Yunnan: >60 specimens, Chali, 620 m, 14–22.04.1957 (SCh).

*Copris corpulentus* Gillet, 1910

**Material.** Yunnan: 17♂, 18♀, Binban env., Jinggu, Pu'er, Jindong, Xiaomonian, Lung-ling (= Longshan), SW Jinping, Santaishan, 500–1600 m, 04–06.1955–1957 (SCh).

*Copris delicatus* Arrow, 1931

**Material.** Yunnan: 1♂, Davayshan near Binban, 1500 m, 17.06.1956 (SCh).

**Genus *Paracopris* Balthasar, 1939**

*Paracopris punctulatus* (Wiedemann, 1823)

**Material.** Yunnan: 32♂, 25♀, Mojiang (= Jiulian), 50 km SW Mojiang (= Jiulian), Jinggu, Simao-Chali, Xiaomonian, Chali, Ganlanba, Damonlun, 570–1300 m, 03–04.1955, 1957 (SCh).

*Paracopris cariniceps* (Felsche, 1910)

**Material.** S Sichuan: 2♂, Xichang env., 1500–1600 m, 15–17.08.2002, I. Shokhin (MS).

**Genus *Microcopris* Balthasar, 1958**

*Microcopris vitalisi* (Gillet, 1921)

= *Copris propinquus* (non Felsche: Kryzhanovskij et Medvedev, 1966).

**Material.** Sichuan: 1♀, valley 5 km N Wenchuan, 1800 m, 8.08.2002, I. Shokhin (MS). S Yunnan: 1♂, 2♀, Jindong env., 1170–1700 m, 15.05–19.06.1956 (SCh); 3♂, 2♀, SW Jinping, 500 m, 2.05.1956 (SCh); 1♂, 1♀, Baoshan env., 1800 m, 11.07.2006, I. Shokhin (MS).

*Microcopris reflexus* (Fabricius, 1787)

**Material.** Yunnan: 239 specimens, 02–05.1955–1957 (SCh).

*Microcopris propinquus* (Felsche, 1910)

= *Copris minutissimus* Kryzhanovskij et Medvedev, 1966, **syn. n.**

**Material.** Sichuan: 1♂, 1♀, Dujiangyan env., 1600 m, 23.07.2001, A. Gorodinski (K). Yunnan: 1♀, 30 km SW Jinping, 480 m, 21.04.1956 (SCh).

**Taxonomic note.** Synonymy is based on the original descriptions and known distribution.

**Genus *Synopsis* Bates, 1868**

*Synopsis davidis* Fairmaire, 1878

**Material.** Sichuan: 1♂, Wenchuan, 1500–1700 m, 7.06.2002, I. Shokhin (MS).

*Synopsis simplex* Scharp, 1875

**Material.** S Yunnan: 1♀, Hekou, near Nanqih River, 200 m, 7.04.1956 (SCh).

*Synopsis birmanicus* Gillet, 1907

**Material.** S Yunnan: 1♂, 1♀, beetwen Chali and Damonlun, 600 m, 28–29.04.1957 (SCh).

*Synopsis naxiorum* Kral, Rejsek, 2000

**Material.** Yunnan: 1♂ (paratype), Hutiau, gorge Jinsha, 2000 m, 18–22.07.1992, D. Kral (C).

*Synopsis yunnanus* Arrow, 1933

**Material.** W Yunnan: 1♂, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS); 1♀, mountains 20 km SW Baoshan, 2400 m, 23–25.05.2006, I. Shokhin (MS).

**Genus *Heliocopris* Hope, 1837**

*Heliocopris bucephalus* (Fabricius, 1775)

**Material.** W Yunnan: 1♀, valley of Salween River, W Baoshan, 1000 m, 8.05.1955 (SCh).

**Genus *Catharsius* Hope, 1837**

*Catharsius molossus* (Linne, 1758)

**Material.** S Sichuan: 1♂, 1♀, Xichang, 1200–1600 m, 1–3.06.2002, I. Shokhin (MS). Yunnan: 22♂, 41♀, this species is marked almost in all points, h = 400–2000 m, 05–08.1955–1957 (SCh).

**Genus *Onthophagus* Latreille, 1802**

Subgenus *Onthophagus* s. str.

*Onthophagus* (s. str.) *bivertex* Heyden, 1887

**Material.** Gansu: 1♀, Ponggartang, 1500 m, 30.06.1992, M. Bok (C); 1♂, Wenxian, 1200 m, 16–18.06.2002, I. Shokhin (MS). Sichuan: 1♂, near Yaan, 1800 m, 8.07.2002, A. Gorodinski (K). N Yunnan: 2♀, Xiaguan env., 2400 m, 20.07.2002, I. Shokhin (MS).

Subgenus *Gibbonthophagus* Balthasar, 1963

*Onthophagus* (*Gibbonthophagus*) *atripennis* Waterhouse, 1875

**Material.** Sichuan: 2♂, 2♀, Emeishan Mts., 1000 m, 4–20.05.1984, V. Kuban (C); 1♂, near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K); 1♀, E Songpan, Minshan Mts. env., 1000 m, 1–10.06.2004, V. Patrikeev (K).

*Onthophagus* (*Gibbonthophagus*) *viduus* Harold, 1874

**Material.** Heilongjian: 1♂, Bamianchan, 500 m, 16.07–18.08.1905, Yakovlev (Z). Liaoning: 1♀, Shenyang env., 200 m, 30.05.1905, Bortkevitch (Z). S Gansu: 1♂, Wudu, Minshan Mts. env., 2000 m, 10.06.2005, V. Patrikeev



(K). N Sichuan: 1♀, near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K).

*Onthophagus (Gibbonthophagus) solivagus* Harold, 1886

**Material.** Shanxi: 1♂, Haozhenzi, 1250–2000 m, 1.06.1999, S. Murzin (K).

**Note.** The species is transferred from the subgenus *Matashia* Matsumara, 1938.

*Onthophagus (Gibbonthophagus) luridipennis*  
Boheman, 1858

**Material.** Yunnan: >60 specimens, Jindong, Xiaomonian, Mojiang (= Jiulian), Simao, Jinping, Ganlanba, 400–1200 m, 03–05.1955–1957 (SCH).

*Onthophagus (Gibbonthophagus) rectecornutus*  
Lansberge, 1883

**Material.** Yunnan: >40 specimens, Jindong, Xiaomonian, Mojiang (= Jiulian), Simao, Jinping, Damonlun, 400–1200 m, 03–06.1955–1957 (SCH).

*Onthophagus (Gibbonthophagus) balthasari*  
Všetečka, 1939

**Material.** Yunnan: 2♂, 3♀, Ganlanba, 650 m, 15.05.1956 (SCH); 1♂, 3♀, Puerh, 1400 m, 3.05.1957 (SCH); 1♂, 2♀, W Dali, 1600 m, 12.05–1.06.1993, R. Červenka (C); 5♂, 7♀, Daju, 50 km N Lijang, 2000 m, 27–28.06.1982, E. Jendek (C).

*Onthophagus (Gibbonthophagus) limbatus* (Herbst, 1789)

**Material.** S Yunnan: 11♂, 8♀, Jindong env., 1200 m, 21.04–3.05.1957 (SCH).

*Onthophagus (Gibbonthophagus) kleinei* Balthasar, 1935

**Material.** N Sichuan: 1♀, Songpan-Nanping, Kungani pass, 3000 m, 20.06.2002, A. Gorodinski.

*Onthophagus (Gibbonthophagus) proletarius* Harold, 1875

**Material.** Yunnan: 5♂, 6♀, Chali, 540 m, 10.04.1950 (SCH); Jinping, 600–800 m, 04–05.1957 (SCH).

*Onthophagus (Gibbonthophagus) susterai* Balthasar, 1952  
*Onthophagus (Gibbonthophagus) susterai* Balthasar, 1952

**Material.** Fujian: 1♂ (holotype), ? Kuatun, 2300 m, 30.06.1938, J. Klapperich.

*Onthophagus (Gibbonthophagus) dubernardi*  
Boucumont, 1914

**Material.** N Sichuan: 1♂, Tonghua, 20 km W Wenchuan, 1800 m, 20.08.2002, I. Shokhin (MS). Yunnan: 2♂, 1♀, Jinping env., 500–1000 m, 20.04.1956 (SCH); 1♂, Haba Mts., Bailakou pass, 3450 m, 10.07.2002, I. Shokhin (MS); 2♀, Baoshan env., 2500 m, 3.08.2002, I. Shokhin (MS).

*Onthophagus (Gibbonthophagus) duporti* Boucumont,  
1914

**Material.** Yunnan: 3♂, 2♀, Jinping env., 370 m, 15.04.1956 (SCH).

*Onthophagus (Gibbonthophagus) gracilipes* Boucumont,  
1914

**Material.** Yunnan: 1♀, Szemao env., 1300 m, 10.04.1956 (SCH).

**Note.** The species is considered in the subgenus

*Matashia* Matsumara, 1938 [Löbl et al., 2006].

*Onthophagus (Gibbonthophagus) dissentaneus* Balthasar, 1964

**Material.** S Gansu: 1♀, Yantunghe River, 1600 m, 19.07.2004, I. Belousov, I. Kabak (K). Yunnan: 1♀, Heishui, 1500 m, 1–19.07.1992, E. Jendek (C).

*Onthophagus (Gibbonthophagus) incollaris* Kabakov, 2008

**Material.** Yunnan: 1♂ (holotype), Damonlun, 700 m, 12.04.1957 (SCH).

Subgenus *Matashia* Matsumara, 1938

= *Phanaeomorphus* Balthasar, 1963, **syn. n.**

= *Strandius* Balthasar, 1963, **syn. n.**

Baltasar [1935] described the subgenus *Phanaeomorphus* without designation of the type species. According to Code [ICZN, 1999] (article 13.3) *Phanaeomorphus* Baltasar, 1938 is nomen nudum. Later Baltasar [1963] designated the type species *Onthophagus sycophanta* Fairmaire, 1887 for *Phanaeomorphus*, thus *Phanaeomorphus* Baltasar, 1963 is available name. Matsumara [1938] described the subgenus *Matashia* with the type species *O. yubarinus* Matsumara, 1938 (now it is a junior synonym of *O. fodiens* Waterhouse, 1875 [Kabakov, 2006]). Since *O. fodiens* and *O. sycophanta* belong to one subgenus, a new synonymy is established: *Matashia* Matsumara, 1938 = *Phanaeomorphus* Balthasar, 1963, **syn. n.** Kavakov [1979] synonymized *Strandius* with *Phanaeomorphus*, however later Löbl et al. [2006: 172, 173] separated these two subgenera. Here we consider that the arguments for synonymy of *Strandius* and *Phanaeomorphus*, summarized in Kabakov [1979], are robust. Therefore, based on the fact *Matashia* = *Phanaeomorphus*, we treat *Strandius* as a junior synonym of *Matashia* as well.

*Onthophagus (Matashia) sycophanta* Fairmaire, 1887  
(Color plate 3: Fig. 1)

**Material.** Shanxi: 1♂, Haozhenzi, 1350–2000 m, 1.06.1999, S. Murzin (C). Shaanxi: 1♂, 2♀, Tschingling Mts., Taibeichang Nature Reserve, 2000 m, 10.08.2005, V. Patrikeev (K). S Gansu: 1♀, Wudu, Minshan Mts. env., 2000 m, 10–20.06.2005, V. Patrikeev (K). Sichuan: 1♂, 2♀, Songpan, 2000 m, 10–12.07.1990, J. Kolibač (C); 1♂, 1♀, Gongca Shan, 1600–2000 m, 2.07.1994, B. Brezina (C); 2♂, 3♀, Wenchuan, 1500–1600 m, 19–23.07.2002, I. Shokhin (MS); 5♂, 4♀, E Songpan, Minshan Mts. env., 1000 m, 1–10.06.2004, V. Patrikeev (K); 5♂, 1♂, 3♀, near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K); 4♀, Juijaigow, Minshan Mts. env., 2000 m, 15–17.07.2005, V. Patrikeev (K). Yunnan: 1♂, Puezh env., 1100 m, 12.05.1951 (SCH); 2♀, W Quxian, 2500 m, 10.06.1951 (SCH); 2♂, 1♀, Lunan, 1700 m, 21–26.06.1956 (SCH); 3♂, 5♀, Yulongshan Mts., 2000–3500 m, 7–12.07.1990, D. Kral (C); 2♀, Lijiang, 1800 m, 23.06–21.07.1992, E. Endek (C); 3♂, 4♀, Baoshan env., 1200 m, 10.07.1992 (C); 23 specimens, Heishui, Donghuan, 1–13.05.1993, R. Červenka (C); 1♂, Kunming, Xi Shan, 16–17.05.1993, R. Červenka (C); 1♂, 1♀, Dali, 2100–2300 m, 28.05.1999, A. Gorodinski (K); 1♂, Lijiang, 2200 m, 29.05.2002, M. Volkovitch (K); 2♂, 2♀, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS); 1♂, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS); 4♂, 5♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Onthophagus (Matashia) fodiens* Waterhouse, 1875

**Material.** Quinhai: 2♂, 1♀, Sining env., 1500 m, 30.04.1990, D. Kral (C). Sichuan: 1♂, 1♀, Emeishan Mts., 1000–2000 m, 29.06.1955 (SCH); 1♀, Emeishan Mts., 1000 m, 4–20.05.1989, V. Kuban (C).

*Onthophagus (Matashia) gagates* Hope, 1831  
(Color plate 3: Fig. 2)

**Material.** S Sichuan: 1♀, Luhun Shan Mts., 40 km S Xichang, 3000 m, 20.07.2001, A. Gorodinski (K). Yunnan: 3♀, Yulongshan Mts., Baishui Vill., 2000 m, 7–12.07.1990, D. Kral (C); 2♂, 3♀, Lijiang, 1800 m, 20.06–21.07.1992, E. Endek (C); 1♂, 1♀, N Lijiang, Yade Dragon, 3600 m, 12.06.1998, A. Gorodinski (K); 2♂, 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Onthophagus (Matashia) cernyi* Balthasar, 1935, **bona sp.**

**Material.** Fujian: 1♂, ? Kuatun, ?, 2300 m, 11.05.1938, J. Klapperich (K). Sichuan: 3♂, 1♀, Wenchuan, 1000 m, 19.07.2002, 1600 m, 7.06.2002, I. Shokhin (MS); 1♂, near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K); 2♂, 70 km NW Chengdu, Dajianguan env., 14.07.2005, A. Gorodinski (K); 1♀, 70 km NW Chengdu, Chin Tsen San, 19.07.2005, A. Gorodinski (K). Yunnan: 1♀, Xiaoguan, 1800 m, 05.1955 (SCh).

**Note.** Löbl et al. [2006] treated *O. cernyi* as a junior synonym of *O. ater* Waterhouse, 1875. But *O. ater* is different species, which is distributed only on Japanese Islands.

*Onthophagus (Matashia) zavreli* Balthasar, 1935

**Material.** Sichuan: 1♂, Emeishan Mts., 580 m, 24.06.1955, Huan Ke-Zhen (SCh); 1♀, Nanping, 1400–1800 m, 06.2002, I. Shokhin (MS). W Yunnan: 1♀, Baoshan env., 2000 m, 10.07.1998, A. Gorodinski (K); 7♂, 4♀, Baoshan env., 2000–2500 m, 2–3.08.2002, I. Shokhin (MS).

*Onthophagus (Matashia) schaefernai* Balthasar, 1935

**Material.** Sichuan: 1♂, Guanxian, 1000 m, 8.07.1992, R. Dunda (C); 2♂, 3♀, Nanping, 1400–1800 m, 06.2002, I. Shokhin (MS); 2♂, 3♀, Wenchuan, 1500–1600 m, 19.08.2002, I. Shokhin (MS); 1♀, Wenchuan, 1800 m, 23.08.2002, I. Shokhin (MS); 1♂, near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K); 3♂, 4♀, Juijaigow, Minshan Mts. env., 2000 m, 15–17.07.2005, V. Patrikeev (K). Yunnan: 2♀, E Dali, 2100 m, 19–21.05.1993, R. Červenka (C); 2♂, 1♀, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS).

*Onthophagus (Matashia) strandi* Balthasar, 1935

**Material.** Fujian: 1♂, 1♀, ? Kuatun, ?, 2300 m, 30.05.1938, J. Klapperich (K).

*Onthophagus (Matashia) procurvus* Balthasar, 1935

**Material.** Sichuan: 3♂, 2♀, Wolong National Nature Reserve, 500–1700 m, 20.05.1994, Kurbatov (K); 1♂, SSW Jimi Vill., 2200–2600 m, 25.06.2000, I. Belousov, I. Kabak, G. Davidian (K); 1♂, 1♀, W Ulaoshan Mts., Bolo env., 2200–2300 m, 27.07.2000, I. Belousov, I. Kabak, G. Davidian (K). Yunnan: 2♀, W Lijiang, 2400–2700 m, 3.07.2000, I. Belousov, S. Korolev (K); 1♂, 1♀, 15 km W Dexin Ming Yong glacier, 3500 m, 7.04.2002, T. Veretschagina (K).

*Onthophagus (Matashia) japonicus* Harold, 1874

**Material.** Shanxi: 1♂, Shan near Lintong, 31 km E Xian, 1000–1200 m, 23–25.08.1995, Wrase (C).

*Onthophagus (Matashia) pseudojaponicus fukiensis*  
Balthasar, 1942

**Material.** Fujian: 1♂, 1♀, ? Kuatun, ?, 2300 m, 1.04–24.04.1938, J. Klapperich (K).

*Onthophagus (Matashia) potanini* Kabakov, 1979

**Material.** Liaoning: 2♀ (holotype and paratype), Tsunqalo, Taoguan,

8.08.1893, Potanin (Z). Shaanxi: 13♂, 7♀, Tschingling Mts., Taibeichang Nature Reserve, 2000 m, 15.08.2005, V. Patrikeev (K). N Sichuan: 1♂, Wenchuan, 1600 m, 7.06.2002, I. Shokhin (MS); 1♂, Songpan env., 1500 m, 1.07.2004, V. Patrikeev (K); Juizhaigow, 1.06.2005, A. Gorodinski (K); 2♂, 1♂, near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K); 2♂, 14♀, 60 km NE Songpan, Minshan Mts. env., 1000 m, 1–10.07.2005, V. Patrikeev (K); 2♂, 1♀, Juijaigow, Minshan Mts. env., 2000 m, 15–17.07.2005, V. Patrikeev (K).

Subgenus *Colobonthophagus* Balthasar, 1963

*Onthophagus (Colobonthophagus) tragus* (Fabricius, 1792)  
(Color plate 3: Fig. 3)

**Material.** Fujian: 2♀, Foochow env., Kushan, 700 m, 20.05.1957, 8.09.1957, M.S. Yang (C). Yunnan: 2♂, Sen, 1000 m, 8.07.1957, M.S. Yang (C); 7 specimens, Dajui, 2050 m, 27.06.1992, E. Jendek (C); 1♂, 50 km N Lijiang, 2000 m, 27–28.06.1992, E. Jendek (C); 2♂, 1♀, Juinsha River, 2050 m, 15.06.1993, Bolm (C); 1♂, 10 km S Binchuan, 1500 m, 8.06.2002, M. Volkovitch (K).

*Onthophagus (Colobonthophagus) lunatus* Harold, 1868

**Material.** 1♂, 1♀, Hongkong, 10.1958, S. Eda (K).

*Onthophagus (Colobonthophagus) armatus* Blanchard, 1853

= *Onthophagus pseudoarmatus* Balthasar, 1944

**Material.** 2♂, 2♀, E Fujian, Minhou, 500 m, 11.07.1991, R. Červenka (C).

*Onthophagus (Colobonthophagus) tragoides* Boucomont, 1914

**Material.** 36 specimens, S Yunnan, Jindong, Jinping, Ganlanba, Jinggu, Chali, 300–1000 m, 02–06.1955–1957 (SCh).

Subgenus *Altonthophagus* Kabakov, 1990

*Onthophagus (Altonthophagus) uniformis* Heyden, 1886

**Material.** Heilongjiang: 3♂, 4♀, Harbin env., Acheng, 300 m, 5.06.1960, K. Iljin (K). Liaoning: 2♂, 3♀, Fusun env., 500 m, 1.07.1960, K. Iljin (K). Gansu: 1♂, 1♀, Lunxi, 1200 m, 06.1898, Potanin (Z).

*Onthophagus (Altonthophagus) turpidus* Reitter, 1887

**Material.** Qinghai: 1♂, 1♀, Hwang Ho River, Jerku, 3400 m, 08.1900, Potanin (Z); 1♂, 1♀, 40 km S Huangyuan, 2500 m, 6.07.1990, M. Nikodym (C). Gansu: 2♂, 1♀, Lugu, 2500 m, 11.07.1990, M. Nikodym (C); 1♂, Doycanghamo, 4200 m, 12.07.1990, M. Nikodym (C). Sichuan: 5♂, 7♀, Kanding, Tagu, 3500 m, 27.07.1992, J. Schneider (C); 1♀, Litang, 3000 m, 3.07.1994, S. Kalab (C); 1♂, 1♀, Panmashan Mts., 4200–4900 m, 12–14.07.1994, D. Kral (C); 1♀, Manimango, 4000 m, 21.06.1997, Gorbachev (C); 1♂, Kanding env., 3000 m, 23.09.1998, Klenikov (C); 6♂, 5♀, pass between Songpan and Juijaigow, 3000 m, 10–15.07.2005, V. Patrikeev (K).

*Onthophagus (Altonthophagus) inelegans* Balthasar, 1935

**Material.** S Gansu: 1♀, SE Guarign, 3900 m, 15.07.2004, I. Belousov (K). Sichuan: 1♀, Sabde env., 3000 m, 1–3.08.1992, R. Dunda (C); 1♂, NW Yuanbaoshan Mts., Lianhegou River, 3500–3600 m, 26.06.2000, I. Belousov, I. Kabak (K). Yunnan: 4♂, 4♀, Yulongshan Mts., Baishui Vill., 2800–3500 m, 7–12.07.1990, D. Kral (C); 2♂, 3♀, E Zhongdian, 3300 m, 4–5.06.1993, R. Červenka (C); 1♀, Lampin env., Na Shan Mts., 2600 m, 15.07.2000, V. Patrikeev (K); 2♂, 30 km N Lijiang, 3100 m, 1.06.2002, M. Volkovitch (K).

*Onthophagus (Altonthophagus) sibiricus* Harold, 1877

**Material.** Xinjiang: >20 specimens, 70 km S Urumqi, 6 km N of Xi-Bayangou, 2500–3000 m, 27–29.06.2006, I. Shokhin (MS); 4♂, 1♀, SSW Shungan, 18.07.2006, I. Kabak (K).



*Onthophagus (Altonthophagus) kozlovi* Kabakov, 1990  
(Color plate 3: Fig. 4)

**Material.** N China: 1♂ (holotype), 2♀ (paratypes), foothills of Sining Mts., 2600 m, 14–15.05.1890, Grum-Grzhimailo (Z). Gansu: 1♂, Xiahe, 3000 m, 17.07.1990, M. Nikodym (C). Shaanxi: 1♀, Tschingling (= Qinling) Mts., Taibeichang (= Taibai Shan) Nature Reserve, 2000 m, 10.08.2005, V. Patrikeev (K). Qinghai: 1♂, 1♀, Qinghai-Xizang, upper Mekong River (Qok-Qu), 3650 m, 08.1890, Kozlov (Z); 40 km S Huangyuan, 2500 m, 6–8.07.1990, M. Nikodym (C). Xizang: 1♀, E Tibet, W Kanglissu Shan Mts., Nakaerh-Choshul, 4800–5200 m, 9–12.06.1995, A. Wizeconca (C); 1♂, 1♀, E Tibet, Mts. N Nyingchi, 3500–4600 m, 19–20.06.1996, R. Businsky (C). Sichuan: 1♂, 1♀, 5 km N Wenchuan, 1800 m, 24.06.2002, I. Shokhin (MS); 1♂, Kanding Distr., Tagu, 3500 m, 27.07.2002, J. Shneider (C).

*Onthophagus (Altonthophagus) kukunorensis*  
Kabakov, 1990

**Material.** China: 1♂ (holotype), 28 specimens (paratypes), south bank of lake Kukunor, 23.07.1890, Grum-Grzhimailo (Z). N Gansu: 1♂, NNW Kaba Vill., 3050 m, 17–18.06.2006, I. Belousov, I. Kabak (K).

*Onthophagus (Altonthophagus) turpidoides* Kabakov, 2008

**Material.** N Yunnan: 1♂ (holotype), 6♂, 8♀ (paratypes), Zhongdian, 3300 m, 4–8.07.2002, I. Shokhin (MS). Qinghai: 3♂, 1♀ (paratypes), 40 km S Huangyuan, 2500 m, 6–8.07.1990, M. Nikodym (C). Sichuan: 1♂, 4♀ (paratypes), Sabde env., 3000 m, 1–3.08.1992, R. Dunda (C); 2♂, 4♀ (paratypes), Kanding Distr., Tagu, 3500 m, 27.07.2002, J. Shneider (C). Shaanxi: 2♂, 6♀, Tschingling Mts., Taibeichang Nature Reserve, 2000 m, 10.08.2005, V. Patrikeev (K).

*Onthophagus (Altonthophagus) cervenkai* Kabakov, 2008

**Material.** Gansu: 1♂ (holotype), 6♀ (paratypes), Xiahe, 2600 m, 17–18.07.1990, M. Nikodym (C). Qinghai: 2♂, 2♀ (paratypes), 40 km S Huangyuan, 2500 m, 6–8.07.1990, M. Nikodym (C). Shaanxi: 1♂, 1♀ (paratypes), Tachinping (= Qinling) Mts., Taileshan (= Taibai Shan) Nature Reserve, 2000 m, 5–15.08.2005, V. Patrikeev (K). Sichuan: 1♀ (paratype), Nanping, 1200 m, A. Gorodinski (K). China: 1♀ (paratype), N foothills of Sining Mts., 2600 m, 14.05.1890, Grum-Grzhimailo (Z).

Subgenus *Onthophagiellus* Balthasar, 1963

*Onthophagus (Onthophagiellus) crassicollis* Boucomont, 1913

**Material.** Yunnan: 1♂, Jindong, 1800 m, 5.05.1957 (Sch).

*Onthophagus (Onthophagiellus) unguiculatus* Kabakov, 1994

**Material.** Yunnan: 1♂ (holotype), Xiaomonian env., 940 m, 4.05.1957 (Sch).

*Onthophagus (Onthophagiellus) popovi* Kabakov, 1994

**Material.** Yunnan: 1♂ (holotype), 1♀, Damonlun, 700 m, 11.04.1957 (Sch).

Subgenus *Indachorius* Balthasar, 1941

*Onthophagus (Indachorius) magnini* Paulian, 1933

**Material.** Yunnan: 1♂, Jui-li (= Ruili), 1040 m, 8.06.1956 (Sch).

*Onthophagus (Indachorius) arai* Masumoto, 1989

**Material.** Sichuan: 1♂, valley 5 km N Wenchuan, 1800 m, 24.06.2002, I. Shokhin (MS).

**Note.** The species is first time recorded for Palearctic fauna.

*Onthophagus (Indachorius) pumilus* Kabakov, **sp. n.**  
(Color plate 3: Fig. 5)

**Material.** Holotype ♀: China, W Yunnan, S Weidong, left bank of Mecong, 1700 m, 5.06.2006, I. Belousov, I. Kabak. Paratypes: 2♀, China, W Yunnan, SSW Liuku, 2300–2600 m, 17.05.2006, I. Belousov, I. Kabak.

**Description.** Body oval, weakly convex, glabrous, head and pronotum deep black with weak copper shine, elytra shine, black. Mouthparts, gula, tarsus and flagellum of antennae yellow-reddish, club of antennae yellowish. Head dorsally flat, without ridges or horns. Clypeus with two short sinuate at middle teeth; it is sharply, almost rectilinearly widened to slightly projected and widely rounded genae. Surface of head finely shagreened, with sparse and fine weakly depressed simple punctures. Eyes not complete crossed basal process of genae; dorsal lobes of eyes wide, with 10 facets in diameter; ventral lobes of eyes rounded, slightly larger than antennal clubs.

Pronotum simple, evenly convex, without detached frontal slope, anterior angles weakly projected, narrowly rounded, posterior angles obtuse; lateral margins of pronotum widely rounded (without prebasal sinuate), basal margin not bordered. Surface of pronotum glabrous, not shagreened, with sparse even punctation (distance between punctures 1.5–2 times as diameter of punctures).

Elytra with fine, deep, simple and unpunctured striae, 7<sup>th</sup> stria is straight and parallel to 6<sup>th</sup>. Elytral intervals weakly convex, with lines of small punctures near striae; other part of intervals glabrous and shiny, with weakly visible sparse punctures.

Pygidium bordered in base, shiny, not shagreened, with sparse (distance between punctures 3 times as their diameter) simple punctures; punctures larger, than on head and pronotum. Prohypomera with rudiment of fossa (depression), bordered behind with narrow keel-shaped line.

Metaventricle with deep longitudinal medial groove, nitidous and with sparse fine punctures.

Profemora with sparse fine punctures on outer surface, meso- and metafemora without punctation, smooth and nitidous. Protibia with three outer teeth, are finely serrated in basal half, meso- and metatibia thin, slightly widened apicad, meso- and metatibial apex with fringe of unequal setae. Basal metatarsomer long and thin, but shorter than the others together, metatibial apical spur little bit shorter than basal metatarsomer.

Length of body 3.5–4 mm.

**Diagnosis.** The species clearly belongs to the subgenus *Indachorius* Balthasar, 1941, but it is completely unique on characters: practically glabrous body, unarmed head and dark colouring.

Subgenus *Micronthophagus* Balthasar, 1963

*Onthophagus (Micronthophagus) vigilans*  
Boucomont, 1921

**Material.** Yunnan: >60 specimens, Jindong, 1170 m, 26.05.1956 (Sch).

Subgenus *Relictonthophagus* Kabakov, 1979

= *Parentius* Zunino, 1979 (syn. according to Kabakov, 1979), **syn. reconfirm.**

The name *Parentinus* has been considered the senior synonym of *Relictonthophagus* based on the fact that it appeared published in the same year but earlier than the name *Relictonthophagus* [Ziani, 2001]. Ziani [2001] mentions that in the whole issue where Kabakov's work is published there are two statements followed by

the dates: “сдано в набор [manuscript transferred to print assemblage] 16.III.1979” and “подписано к печати [approved for publication] 16.VI.1979” but neither of them is the actual date of the publication. He further concludes that Kabakov’s work lacks the actual publication date and therefore according to Article 21.3.2. of the Code [ICZN, 1999] the publication date deemed to be 31.XII.1979. Here, we argue against such conclusion as it is based on erroneous translation of Russian “подписано к печати [approved for publication]” which indeed, in the journals and books published in the USSR, means the actual date of the publication. Therefore, 16.VI.1979 must be considered as the date of publication for the name *Reliconthophagus*. The name *Parentinus* was published one month later VII.1979 [Zunino, 1979]. Therefore, the valid name for the subgenus is *Reliconthophagus*, while *Parentinus* is its junior objective synonym.

*Onthophagus (Reliconthophagus) punctator* Reitter, 1892

**Material.** Hubei: 1♂, 2♀, 60 km NE Peking, Qinglongqiao, 2.07.1990, S. Beevat (C). Shanxi: 1♂, 1♀, 30 km E Xian, Shan near Lintong, 1000–1200 m, 22–25.08.1995, Wrase (C). N Sichuan: 1♀, Nanping, 1400–1800 m, 19.05.2002, I. Shokhin (MS).

Subgenus *Paraphanaeomorphus* Balthasar, 1959  
*Onthophagus (Paraphanaeomorphus) acuticornis* Endroedi, 1973

**Material.** 1♂, 1♀, E Fujian, Minbou, 500 m, 11.07.1991, R. Červenka (C).  
**Note.** New record for Palearctic.

*Onthophagus (Paraphanaeomorphus) trituber*  
(Wiedemann, 1823)

**Material.** Yunnan: 4♂, 3♀, Chali, Jinping, Ganlanba, 300–600 m, 04–05.1955, 06.1957 (SCH).

*Onthophagus (Paraphanaeomorphus) trituber jacobsoni*  
Kabakov, 2006

**Material.** Liaoning: 1♂ (holotype), Bamiancheng Mts., Shenyang env., 16.07–18.08.1905 (Z); 3♀ (paratypes), Qendatun, W Maymakay, Shenyang env., 8.09.1905, Bortkevich (Z); 1♀, “China”.

*Onthophagus (Paraphanaeomorphus) jeannelianus*  
*shokhini* Kabakov, **subsp. n.**  
(Color plate 3: Figs 6–13)

**Material.** Holotype ♂ f. major: China, S Sichuan, Xichang, 1500–1600 m, 1–3.07.2002, S. Murzin, I. Shokhin. Paratypes: 5♂, 3♀ with the same label; 4♂, 4♀, W Yunnan, Baoshan env., 2500 m, 2–3.08.2002, S. Murzin, I. Shokhin (MS); 4♂, 3♀, China, N Yunnan, Dali, 2100–2300 m, 28–30.07.2002, S. Murzin, I. Shokhin (MS); 3♂, 2♀, China, W Yunnan, Baoshan env., 2000 m, 23.06.2007, A. Gorodinski (K); 8♂, 12♀, China, S Sichuan, Xichang env., 1600 m, 1.07.2005, A. Gorodinski (K); 1♂, China, Central Sichuan, near Jan, 3.07.2007, A. Gorodinski (K).

**Description.** Male (forma major) (Figs 6, 12). Head and pronotum metallic copper, elytra orange-yellow with sharp symmetric cruciform black figure of black juxtasutural interval and transverse stripe behind middle of elytra. This stripe consist of merged quadrangular, sometimes separated spots. Additionally elytra has narrow black strip along base, small juxtasutural transverse black spot in base of 5<sup>th</sup> interval and juxtasutural transverse spot at apex of elytra. Epipleuron of elytra yellow. Pygidium completely or partly yellow. Body ventrally black, with metallic shine. Mouthparts, gula and antennae orange-yellow, club yellowish, tarsi and partly tibiae and femora reddish. Body dorsally covered with short light setae, except for group of long setae, that

border of unpunctured plate near posterior angles. Pygidium and ventral side of body covered with long light hairs.

Clypeus rounded, with simple large sparse punctures; genae with the same punctation; head horn with fine punctation. Eyes completely divided, their dorsal lobes wide (to 9 facet in diameter). Frontal keel is almost smoothed, parietal keel is transformed in long, recurved horn with widened base at level of anterior margin of eyes (Fig. 8).

Pronotum with long, flattened anterior slope limited from sides by angulate protrusions; anterior part of pronotum with short median keel, basal margin not bordered. Anterior slope with fine simple punctures, basal half of pronotum with large and rather dense simple punctures (their diameter subequal to spaces between punctures).

Elytra with weakly pressed striae and flat interstriae. Seventh striae almost stright and parallel to sixth. Punctation of interstriae consists of irregular simple (finer than on pronotum) punctures.

Base of pygidium bordered and covered with not dense coarse (large and deep) punctures.

Ventral side with different punctures, more large and dense on sides of metaventrite. Outer surface of femora with finer punctation.

Aedeagus laterally see on Fig. 10, dorsally Fig. 11.

Length of a body 4.5–6 mm.

Female. Head (Fig. 9) with two ridges: shorter frontoclypeal ridge which is visibly curved forward and longer parietal, slightly curved backward ridge, located at level of basal margin of eyes. Clypeus with dense, merged in transverse wrinkles punctures. Pronotum with low flattened anterior slope, which is bordered by weak semicircular elevation from above. Punctation of pronotum coarsely than at male.

**Variability.** Males of forma media (Fig. 7) have parietal straight and short horn with widened base, and it is located at level of anterior margin of eyes. Forma minor (Fig. 13) has very short simple ridge.

Pronotum of forma media has strong anterior slope, bordered by longitudinal short keels from sides. Forma minor has obtuse anterior slope. Little females have a simple pronotum.

**Diagnosis.** The subspecies differ by the following characters: 90% specimens of *O. (P.) jeannelianus shokhini* **subsp. n.** have orange-yellow colour of pygidium and ventral side of body; apex of parietal horn of male is rounded. *O. (P.) jeannelianus jeannelianus* has black with metal shine colour of pygidium and ventral side of body (only some specimens have yellow ventral side and pygidium); parietal horn weakly widened and bifurcated on apex.

*Onthophagus (Paraphanaeomorphus) carinensis* Boucomont, 1914  
(Color plate 3: Fig. 14)

= *Onthophagus* (s.str.) *missor* Balthasar, 1938, **syn. n.**

**Material.** S Sichuan: 1♀, Xichang, 1300–1600 m, 1–7.07.2002, I. Shokhin (MS); 3♂, Xichang, 1500–1600 m, 15–17.08.2002, I. Shokhin (MS); 1♂, 1♀, Xichang env., 1500 m, 1.07.2005, A. Gorodinski (K). Yunnan: 2♀, Yipinglang, 1800–2000 m, 17–20.06.1994, V. Kuban (C); 3♂, 4♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

**Taxonomic note.** *Onthophagus* (s. str.) *missor* Balthasar, 1938 described on 1 female from Yunnan is a junior synonym of *Onthophagus (Paraphanaeomorphus) carinensis*.

*Onthophagus (Paraphanaeomorphus) vaulogeri* Boucomont, 1923

**Material.** Yunnan: 1♂, 2♀, Jindong, 1200 m, 05.1957 (SCH).

Subgenus *Palaeonthophagus* Zunino, 1979*Onthophagus (Palaeonthophagus) marginalis marginalis* (Gebler, 1817)

**Material.** Heilongjiang: 25 specimens, Liaoning, Hebei, Beijing, Shanxi, 300–1500 m, 04–09.1948–1957 (Z). N Sichuan: 3♂, 2♀, Nanping, 1400–1600 m, 13.05.2002, I. Shokhin (MS); 2♀, Jiuzhaigow, 1600 m, 1.06.2005, A. Gorodinski (K).

*Onthophagus (Palaeonthophagus) nikolajevi* Kabakov, 2006 (Color plate 3: Fig. 15)

**Material.** Gansu: 1♂ (holotype), 1♀ (paratype), Potanin (Z). Sichuan: 1♂, 3♀, Nanping, 1400–1800 m, 06.2002, I. Shokhin (MS); 1♀, near Yaan, 1800 m, 8.07.2002, A. Gorodinski (K).

**Note.** The species is similar to very small specimens of *O. (P.) nuchicornis* (Linnaeus, 1758) from Europe and Russia, but differs by a structure of head of male and female, considerably more dense and partly oculate punctation of pronotum, and structure of parameres.

*Onthophagus (Palaeonthophagus) clitellifer* Reitter, 1894

**Material.** Inner Mongolia: 3♀, Alashan desert, Dynshanrin, 3.03.1909, Kozlov (Z). Heilongjiang: 1♂, 1♀, Harbin env., 1–23. [without month] 1911, Emelyanov (Z). Qinghai: 1♀, E Nanshan Mts. (= Cilian Shan Mts.), Tan Fanza, 23.07.1908, Kozlov (Z).

*Onthophagus (Palaeonthophagus) gorodinski* Kabakov, 2008 (Color plate 3: Fig. 16)

**Material.** N Sichuan: 1♂ (holotype), 17♂ and 20♀ (paratypes), Nanping, 1700 m, 5–15.07.2002, A. Gorodinski (K); 1♂, Wenchuan, 1500–1600 m, 7.06.2002, I. Shokhin (MS); 3♂, Wenchuan, 1500–1600 m, 19.08.2002, I. Shokhin (MS); 1♂, 2♀, near Wenchuan, 1600 m, 16.07.2005, A. Gorodinski (K).

**Note.** The species is close to *O. (P.) similis* (Scriba, 1790) from Europe, but differs by considerably more dense punctation of pronotum and pygidium, structure of aedeagus, short parietal ridge on females head.

*Onthophagus (Palaeonthophagus) gibbulus* (Pallas, 1781)

**Material.** Xinjiang: >20 specimens, 70 km S Urumqi, 6 km N Xi-Bagangou, 2500–3000 m, 27–29.06.2006, I. Shokhin (MS). Inner Mongolia: 3♂, 4♀, Ordos desert, Potanin (Z). Gansu: 1♀, W Inchuan, 06.1893, Potanin (Z). N Sichuan: 1♀, Nanping, 1800 m, 06.2002, I. Shokhin (MS); 1♂, near Pingwu, 1400 m, 1.06.2005, A. Gorodinski (K).

*Onthophagus (Palaeonthophagus) olsoufieffi* Boucomont, 1924

**Material.** Beijing: 1♂, 1♀, Yanglingyan, 600 m, 9.09.1990, V. Kuban (C).

*Onthophagus (Palaeonthophagus) scabriusculus* Harold, 1873

**Material.** Inner Mongolia: 1♂, 1♀, Lindun env., 1000 m, 15.07.1960, K. Iljin (K).

Subgenus *Sinonthophagus* Kabakov, 2006*Onthophagus (Sinonthophagus) rugulosus* Harold, 1886

**Material.** N Sichuan: 1♀, Nanping, 1400–1600 m, 13.05.2002, I. Shokhin (MS). Liaoning: 1♂, 1♀, Shenyang env., 800 m, 07.1905, Bortkevich (Z). Yunnan: 1♀, Xiaomian, 900 m, 4.05.1957 (SCh).

*Onthophagus (Sinonthophagus) productus* Arrow, 1907

**Material.** 1♂, NW Yunnan, Shan Mts., N Lampin, 2600 m, 15.07.2000, A. Gorodinski (K).

*Onthophagus (Sinonthophagus) poephagus* Kabakov, 1979

**Material.** 1♂ (holotype), 1♂ and 1♀ (paratypes), NE China, Xiao-ren-he River valley, 1700 m, 23.07.1893, Potanin (Z).

Subgenus *Serrophorus* Balthasar, 1963*Onthophagus (Serrophorus) seniculus* (Fabricius, 1781)

**Material.** Yunnan: 3♂, 2♀, Jindong, Chali, Ganlanba, 500–1600 m, 05–06.1956 (SCh); 1♂, N Lijiang, Yade Dragon Mts., 3000 m, 12.06.1998, A. Gorodinski (K); 2♂, Baoshan env., 2000 m, 11.07.1998, A. Gorodinski (K).

*Onthophagus (Serrophorus) laevis asiaticus* Boucomont, 1919

**Material.** Yunnan: 1♂, 2♀, NNE Kunming, 17 km NE Dongchyan, 3400–3600 m, 7.12.1990, D. Kral (C); 1♂, 1♀, Yulongshan Mts., Baishui Vill., 2500–3500 m, 7–12.07.1991, D. Kral (C); 12 specimens, Kunming-XiShan, 3000 m, 16–17.05.1993, R. Červenka (C); 1♂, 1♀, Yulongshan Mts., 3000–3200 m, 25.04.2001, I. Belousov, S. Korolev (C).

*Onthophagus (Serrophorus) laevis lampromelas* Fairmaire, 1891 (Color plate 3: Fig. 17)

**Material.** Sichuan: 1♂, 2♀, right bank of Niuzhike, E Pusiun Vill., 2200–2800 m, 15.06.2000, I. Belousov, I. Kabak, G. Davidian (K). Yunnan: 2♂, 4♀, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS); 1♂, 2♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

Subgenus *Macronthophagus* Ochi, 2003*Onthophagus (Macronthophagus) manipurensis* Arrow, 1907

**Material.** Yunnan: 1♂, Davayshan, 1350 m, 03–05.1955–1957 (SCh).

Subgenus *Sunenaga* Ochi, 2003*Onthophagus (Sunenaga) anguliceps* Boucomont, 1914

**Material.** Yunnan: 1♀, Lung-ling (= Longshan), 1470 m, 18.05.1955 (SCh).

Subgenus *Parascatonomus* Paulian, 1932

Here, we consider *Parascatonomus* in the rank of the subgenus following the studies of Tarasov and Kabakov [2010], and Tarasov and Solodovnikov [2011].

*Onthophagus (Parascatonomus) rudis* (Sharp, 1875)

**Material.** Yunnan: 1♂, 1♀, Pu'er env., 600 m, 15.06.1956 (SCh); 1♀, Binban env., 1400 m, 5.06.1956 (SCh).

*Onthophagus (Parascatonomus) horni* (Balthasar, 1935)

**Material.** Sichuan: 1♀, Emeishan Mts., 1500 m, 14.06.1956 (SCh); 1♂, 1♀, Moxi-Hailongou, 1200–1900 m, 7.07.1994, D. Kral, J. Farcač (C).

*Onthophagus (Parascatonomus) kuatunensis* (Balthasar, 1942)

**Material.** S Sichuan: 1♀, Xichang, 1500–1600 m, 15–17.08.2002, I. Shokhin (MS). N Yunnan: 1♂, 2♀, Dali, 2300 m, 28–30.07.2002, I. Shokhin (MS).



*Onthophagus (Parascatonomus) naviculifer* (Boucomont, 1920)

**Material.** Yunnan: 2♂, 2♀, 100 km W Kunming, Diaolin Nature Reserve, 22.05.–2.06.1993, E. Jendek, O. Saus (C).

*Onthophagus (Parascatonomus) laotianus* (Boucomont, 1919)

**Material.** Yunnan: 1♀, Jinping env., 1700 m, 15.05.1956 (SCh).

*Onthophagus (Parascatonomus) panfilovi* Kabakov, 1992

**Material.** Yunnan: 1♂ (holotype), S Geijiu, 600 m, 17.05.1956 (SCh); 1♂, Jindong, 1200 m, 3.07.1956 (SCh).

*Onthophagus (Parascatonomus) tricornis* (Wiedeman, 1823)

**Material.** Yunnan: 1♀, Hekou, Nanqih River, 250 m, 7.06.1956 (SCh).

*Onthophagus (Parascatonomus) discedens* (Sharp, 1875)

**Material.** Yunnan: 1♂, Jinping env., 500 m, 2.05.1956 (SCh).

Subgenus *Pseudonthophagus* Balthasar, 1959

We consider *Pseudonthophagus* in the rank of the subgenus following the studies of Tarasov and Kabakov [2010], and Tarasov and Solodovnikov [2011].

*Onthophagus (Pseudonthophagus) mulleri* (Lansberge, 1883)

= *penicillatus* (non Harold, 1879: Kabakov, Yanushev, 1983 (misidentification)).

**Material.** Yunnan: 1♀, Szemao env., 1300 m, 05.1957 (SCh).

**Note.** Earlier [Löbl et al., 2006] the species was false considered to be in *Serrophorus*.

*Onthophagus s. lato**Onthophagus (s. lato) orientalis* Harold, 1868

(Color plate 3: Fig. 18)

**Material.** S Sichuan: 1♂, Xichang, 1500–1600 m, 1–3.08.2002, I. Shokhin (MS). Yunnan: 40 specimens, Binban env., Jindong env., Mangshi (= Luxi), Jinping env., 500–1600 m, 03–06.1955–1957 (SCh).

*Onthophagus (s. lato) brutus* Arrow, 1931

**Material.** Yunnan: 1♂, 2♀, Jindong env., 400–600 m, 04.1957 (SCh).

*Onthophagus (s. lato) zimmermanni* Balthasar, 1960

**Material.** Sichuan: 1♂, 1♀, Emeishan, 1000–1500 m, 15.06.1955 (SCh). W Yunnan: 1♂, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Onthophagus (s. lato) purpurascens* Boucomont, 1914

**Material.** Yunnan: 6♂, 8♀, Chali env., Simao, Jinping env., Ganlanba, 500–800 m, 04–06.1955–1957 (SCh).

*Onthophagus (s. lato) coracinooides* Kabakov, 1994

**Material.** Yunnan: 1♂ (paratype), Puerh, 1400 m, 3.04.1955 (SCh); 1♂, 1♀ (paratypes), Mengzi, 1350 m, 2.06.1956 (SCh); 2♂, 1♀ (paratypes), Jindong env., 2000 m, 22.04.1957 (SCh).

*Onthophagus (s. lato) tricolor* Boucomont, 1914

**Material.** 1♀, Hongkong S.A.R., Hongkong env., 05.1906 Dohrn (Z).  
*Onthophagus (s. lato) boucomontianus* Balthasar, 1935

**Material.** Fujian: 1♂, 1♀, ? Kuantun, ?, 2300 m, 12–16.05.1936, J. Klapperich (K).

*Onthophagus (s. lato) kulti* Balthasar, 1953

**Material.** Fujian: 1♂, Minhou, 500 m, 11.07.1991, R. Červenka (C).

*Onthophagus (s. lato) sulci* Balthasar, 1935

**Material.** Fujian: 1♂, 1♀, ? Kuantun (Z).

*Onthophagus (s. lato) tabidus* Balthasar, 1935

**Material.** Central Sichuan: 1♀, near Yaan, 1200 m, 8.07.2002, A. Gorodinski (K).

*Onthophagus (s. lato) pseudobrutus* Kabakov, 1994

**Material.** Yunnan: 1♂ (holotype), Jinjiang env., 900 m, 27.05.1956 (SCh); 1♀ (paratype), Binban env., 700 m, 29.06.1956 (SCh).

*Onthophagus (s. lato) amycooides* Kabakov, **sp. n.**

(Color plate 3: Figs 19–22)

**Material.** Holotype ♂: “China, Sichuan: near Pingwu, 1400 m, 1.08.2005, A. Gorodinski”. Paratypes: 3♂, 4♀ with the same label.

**Description.** Male (holotype). Head and pronotum weakly shiny, black with strong bronze tint, elytra mat, coal-black with reddish spot on humeri, elytral suture and narrow rim on apex; mouthparts, gula, tarsi and basal antennomeres reddish, club of antennae ochreous. Dorsal side of body almost glabrous, except for sparse light hairs on lateral sides of striae and sparse, short yellowish setae on pygidium.

Head together with genae widely rounded, margin of clypeus with weak sinuation in middle. Eyes narrow, 6–7 facets in diameter. Fronto-clypeal ridge is smoothed, parietal ridge has shape of transverse tubercle at level of basal margin of eyes. Head completely with small deep simple and dense (especially on clypeus) punctures.

Pronotum weakly transverse, with short acute anterior angles and widely rounded (without prebasal sinuations) sides. Anterior slope has two acute tubercles, base not bordered. Punctuation with very dense (contacting) ring-shaped, large, superficial punctures; punctuation on anterior slope more sparse and fine.

Elytra has wide, flat striae of small ring-shaped punctures and densely shagreened interstriae, covered with irregular nitidous tubercles.

Pygidium with dense contacting punctures, bordered in base.

Ventral side of body covered with long grey-yellowish hairs.

Aedeagus laterally see on Fig. 21, dorsally Fig. 22.

Length of body 4.5 mm.

Female is clearly differs by the structure of clypeus with deep bordered at sides by sharp tooth-shaped processes sinuation. Head (Fig. 20) has weak curved forward fronto-clypeal ridge and shiny tubercle of place of parietal ridge. Pronotum apically has two very weak connivent tubercles, covered with ring-shaped punctures (like male). Apical part of elytra has more visible yellowish-grey hairs. Pygidium and ventral side are the same as in male.

Length of body 5 mm.

**Diagnosis.** The species is similar to *Onthophagus (s. lato) amicus* Gillet, 1925 from India [Arrow, 1931] and

differs by punctuation of pronotum and structure of male genitalia.

**Genus *Caccobius* Thomson, 1863**

Subgenus *Caccobius* s. str.

*Caccobius* (s. str.) *brevis* Waterhouse, 1875

**Material.** N Sichuan: 1♂, 1♀, Nanping, 1800 m, 13.06.2002, I. Shokhin (MS). Shanxi: 1♂, 1♀, near Lintong, 1000 m, 23.08.1995, D. Kral (C).

*Caccobius* (s. str.) *gonoderus* (Fairmaire, 1888)

**Material.** N Sichuan: 3♀, Nanping, 1200 m, 06.2002, I. Shokhin (MS); 2♂, 8♀, Wenchuan, 1500–1600 m, 7.06.2002, 19.08.2002, I. Shokhin (MS); 1♂, 1♀, Tonghua, 20 km W Wenchuan, 1800 m, 19.08.2002, 2–3.08.2002, I. Shokhin (MS); 1♂, 1♀, 60 km E Songpan, Minshan Mts. env., 1000 m, 1–10.07.2005, V. Patrikeev (K). Yunnan: 1♂, Yulong Mts., 3200 m, 24–26.05.1992, Bolm (C); 1♀, Heichui env., 1800 m, 28.05.1993, R. Červenka (C); 2♂, 2♀, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS); 4♂, 3♀, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS); 2♂, 7♀, Baoshan env., 2300 m, 2–3.08.2002, I. Shokhin (MS).

*Caccobius* (s. str.) *imitans* Balthasar, 1933

**Material.** Sichuan: 1♀, Kanding env., 1200 m, 06.1992 (C); 1♂, Emeishan Mts., 1900 m, 20.05.2001, I. Belousov, S. Korolev (K); 1♂, N Lunan Shan, NE Dechang, 1600–2400 m, 27.04.2002, M. Volkovitsh (K); 1♀, Songpan-Nanping, Kungani pass, 3600 m, 12.06.2002, A. Gorodinski (K); 1♀, valley 5 km N Wenchuan, 1800 m, 24.06.2002, I. Shokhin (MS); 3♂, 1♀, 60 km E Songpan, Minshan Mts. env., 1000 m, 1–10.07.2005, V. Patrikeev (K); 1♂, Juijaigow, Minshan Mts. env., 2000 m, 15–17.07.2005, V. Patrikeev (K). Yunnan: 2♂, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS); 1♂, 1♀, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS); 1♂, 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS). Tibet: 2♂, 1♀, Tsekou, 1900 m, 1909, T. Monbeig (K).

Subgenus *Caccophilus* Jekel, 1872

*Caccophilus* (*Caccophilus*) *boucomonti* Balthasar, 1935

**Material.** S Gansu: 2♀, Wenxian, 4300 m, 16–18.06.2002, I. Shokhin (MS). Shaanxi: 1♂, Haozhenzi, 1300–2000 m, 1.06.1999, S. Murzin (K). Sichuan: 1♂, WSW Lixian, 2200–2700 m, 9.07.2000, I. Belousov, I. Kabak, G. Davidian (K); Nanping, 1600 m, 06.2002, I. Shokhin (MS); 1♀, 2♀, valley 5 km N Wenchuan, 1800 m, 24.06.2002, I. Shokhin (MS); 1♂, Maoxian, 1800 m, 12.08.2002, I. Shokhin (MS); 3♂, 40 km N Wenchuan, 1800 m, 13.06–12.08.2002, I. Shokhin (MS). Yunnan: 1♂, Yulong Mts., 3200 m, 24–26.05.1992, Bolm (C); 3♂, 1♀, Habashan Mts., 3800–4600 m, 15.07.1992, D. Kral (C); 1♀, Lijiang, 2210 m, 29.05.2002, M. Volkovitsh (K); 2♀, 10 km W Shigu, Yangtze River, 31.05.2002, M. Volkovitsh (K); 5♂, 3♀, Zhongdian, 3300 m, 4–8.07.2002, I. Shokhin (MS).

*Caccophilus* (*Caccophilus*) *christophi* Harold, 1879

**Material.** Liaoning: 2♂, 3♀, Shenyang env., 800 m, 07.1905, Bortkevitch (Z). Shanxi: 1♂, Linong, 800 m, 15.08.1992, R. Červenka (C). Hebei: 1♀, Baodin env., 600 m, 20.06.2002, Dunda (C). Sichuan: 1♂, Wenchuan, 1500 m, 7.06.2002, I. Shokhin (MS); 1♂, 56 km NW Lixian, 2800 m, 10.06.2002, A. Gorodinski (K); 5♂, Nanping env., 1400–1800 m, 15.06.2002, I. Shokhin (MS); 1♂, 1♀, 40 km N Wenchuan, 1800 m, 23.08.2002, I. Shokhin (MS); 2♂, 1♀, Maoxian, 40 km N Wenchuan, 1800 m, 29.08.2002, I. Shokhin (MS); 1♂, NE Danba, Guanyongshang, 2200 m, 8.06.2004, I. Belousov (K). Yunnan: 1♂, Zhongdian, 3300 m, 4.07.2002, I. Shokhin (MS).

**Note.** Form of the species (similar to *C. sordidus*) with variegated elytra is distributed in high mountains of Sichuan and North Yunnan. This alpine form additionally differs from *C. sordidus* by more deep triangular situation, which is bordered by tooth-shaped processes of anterior clypeal margin at males and females.

The considered here form is similar by colour to *C. (C.) boucomonti*, but differs by smaller body (its length is only 4–6 mm), and also by visibly obtuse anterior angles

of pronotum.

We don't discuss taxonomic status of this forms.

*Caccobius* (*Caccophilus*) *kelleri* (Olsoufieff, 1907)

**Material.** Heilongjiang: 1♂, 1♀, Harbin env., 300 m, 07.1905 (Z). Liaoning: 1♀, Shenyang env., 700 m, 10.07.1905, Bortkevitch (Z).

*Caccobius* (*Caccophilus*) *sordidus* Harold, 1886

**Material.** Gansu: 1♀, Kangzhuang, 1800 m, 7.07.1992, R. Červenka (C). N Sichuan: 1♂, 3♀, Nanping, 1600 m, 06.2002, I. Shokhin (MS); 1♂, 1♀, Wenchuan, 1600 m, 7.06.2002, I. Shokhin (MS); 2♂, 4♀, 50 km NW Lixian, 2800 m, 10.06.2002, A. Gorodinski (K); 2♂, 2♀, Nanping, 1800 m, 18.07.2002, A. Gorodinski (K); 1♂, Tonghua, 20 km W Wenchuan, 1800 m, 20.08.2002, I. Shokhin (MS).

*Caccobius* (*Caccophilus*) *masumotoi* Cambefort, 1990  
= *Caccobius yunnanicus* Kabakov, 1994

**Material.** Yunnan: 1♂, Chali, 340 m, 11.03.1957 (SCH); 1♂, 2♀, Puerh env., 600 m, 15–16.03.1957 (SCH); 1♀, Ganlanba, 400 m, 16.04.1957 (SCH).

*Caccobius* (*Caccophilus*) *unicornis* (Fabricius, 1798)

**Material.** Beijing: 2♂, 3♀, 60 km NE Peking, Qinglongoiao, 27.07.1990, S. Bečvet (C). Gansu: 1♂, 2♀, Xiahe, 3000 m, 17.07.1990, M. Nikodym (C). Shanxi: 2♂, 1♀, Hus Shan Mts., 2000 m, 27.07.1990, Dunda (C). Sichuan: 2♂, 3♀, Balang, 1000–2000 m, 10.06.1992, R. Červenka (C); 1♂, 1♀, Wenchuan, 1700 m, 7.06.2002, I. Shokhin (MS).

**Genus *Cleptocaccobius* Cambefort, 1984**

*Cleptocaccobius simplex* (Boucomont, 1923)

**Material.** Yunnan: 1♂, 2♀, Lijiang, 1800 m, 23.06–21.07.1992, E. Jendek (C).

**Genus *Liatongus* Reitter, 1892**

*Liatongus davidi* (Boucomont, 1919)

**Material.** N Sichuan: 3♂, Nanping env., 1700 m, 5.07.2001, A. Gorodinski (K); 18♂, 15♀, Nanping, 1800 m, 06.2002, I. Shokhin (MS); 1♂, 1♀, Nanping env., 1800 m, 15.07.2002, A. Gorodinski (K); 1♂, 1♀, Moxi-Hailongou, 1200–1900 m, 1–7.07 [without year], D. Kral, J. Farkač (C).

*Liatongus phanaeoides* (Westwood, 1840)

**Material.** Yunnan: 2♂, 2♀, Baoshan env., 2500 m, 15.07.2000, A. Gorodinski (K); 1♂, N Lijiang, 2800 m, 29.05.2002, M. Volkovitsh (K); 2♂, 1♀, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS).

*Liatongus incurvicornis* (Fairmaire, 1887)

(Color plate 4: Figs 23, 24)

**Material.** Sichuan: 1♂, Quxian env., 1000 m, 20.08.1989, Tomas (Z); 3♂, 1♀, Nanping env., 1800 m, 06.2002, I. Shokhin (MS); 3♂, Wenchuan, 1600 m, 7.06.2002, 5 km N Wenchuan, 1800 m, 19.08.2002, I. Shokhin (MS); 2♂, 1♀, Tonghua, 20 km W Wenchuan, 9.08.2002, I. Shokhin (MS). Yunnan: 1♂, Lijiang env., 2600 m, 30.06–2.07.1990, L. et M. Pocak (C); 1♂, 1♀, Old Dali city env., 2300 m, 8.06.1998, A. Gorodinski (K); 7♂, 3♀, Zhongdian, 3300 m, 4–8.07.2002, I. Shokhin (MS); 1♂, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS); 1♂, 1♀, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS); 1♂, 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Liatongus imitator* Balthasar, 1938

**Material.** N Sichuan: 1♂, 1♀, Nanping env., 1800 m, 06.2002, I. Shokhin (MS). S Gansu: 1♂, 1♀, Yantanghe River, 1600 m, 19.07.2001, I. Belousov, I. Kabak (K).

*Liatongus minutus* (Motschulsky, 1860)

**Material.** S Gansu: 1♂, 1♀, Yantanghe River, 1600 m, 19.07.2004, I. Belousov, I. Kabak (K). Sichuan: 51♀, Nanping env., 1800 m, 06.2002, I. Shokhin (MS); 3♂, 6♀, Wenchuan, 1600 m, 7.06.2002, I. Shokhin (MS); 1♂, Wenchuan env., 1400 m, 8.06.2002, A. Gorodinski (K); 3♂, 3♀, 60 km E Songpan, Minshan Mts. env., 1000 m, 1–10.07.2002, V. Patrikeev (K); 1♀, Monggo-gou, 2800 m, 53 km NW Lixian, 9.07.2002, I. Shokhin (MS); 3♂, 3♀, Tonghua, 20 km W Wenchuan, 1300 m, 20.08.2002, I. Shokhin (MS). N Yunnan: 1♀, Haba Mts., Bailakou pass, 3450 m, 10.07.2002, I. Shokhin (MS).

*Liatongus medius* (Fairmaire, 1887)

**Material.** S Gansu: 1♂, Yantanghe River, 1600 m, 19.07.2004, I. Belousov, I. Kabak (K). N Sichuan: 1♂, Nanping env., 1800 m, 06.2002, I. Shokhin (MS); 2♂, 1♀, Wenchuan, 1500–1600 m, 7.06.2002, I. Shokhin (MS); 1♀, Tonghua, 20 km W Wenchuan, 1300 m, 20.08.2002, I. Shokhin (MS).

*Liatongus endroedii* Balthasar, 1956

**Material.** Sichuan: 1♂, 1♀, Xiangchend, 2700 m, 29.06.1996, J. Farkac, P. Kafarek (C).

*Liatongus ankorifer* Král et Rejsek, 1999

**Material.** Yunnan: 1♂, 1♀ (paratypes), Hutiao gorge Jinsha River, 18–27.05.1992, D. Kral (C).

*Liatongus appositicornis* Král et Rejsek, 1999  
(Color plate 4: Fig. 25)

**Material.** S Gansu: 1♂, Wenxian, 4300 m, 16–18.06.2002, I. Shokhin (MS); 1♀, Wenxian, 1200 m, 16–18.06.2002, I. Shokhin (MS). Sichuan: 2♂, 2♀, Wenchuan, 1500 m, 7.06.2002, I. Shokhin (MS); 2♀, Monggo-gou, 2800 m, 9.07.2002, I. Shokhin (MS); 1♂, 5 km N Wenchuan, 1800 m, 8.08.2002, I. Shokhin (MS); 1♂, Wenchuan, 1500–1600 m, 19.08.2002, I. Shokhin (MS).

*Liatongus denticornis* (Fairmaire, 1887)  
(Color plate 4: Fig. 26)

**Material.** Yunnan: 1♂, 1♀, N Lijiang, Yade Dragon Mts., 3600 m, 18.05.1998, A. Gorodinski; 3♂, 3♀, Haba Mts., Bailakou pass, 3450 m, 10.07.2002, I. Shokhin (MS); 2♂, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS); 1♂, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Liatongus bucerus* (Fairmaire, 1891)  
(Color plate 4: Fig. 27)

**Material.** Sichuan: 1♂, 1♀, Zihag env., 1900–2000 m, 25–30.06.1994, J. Kalab (C); 4♂, 3♀, 60 km E Songpan, Minshan Mts. env., 1000 m, 1–10.07.2004, V. Patrikeev (K). Yunnan: 1♂, 1♀, N Lijiang, Yade Dragon, 3600 m, 12.06.1998, A. Gorodinski (K); 1♂, Xiaguan env., 2400 m, 28–29.07.2002, I. Shokhin (MS); 8♂, 1♀, Dali, 2100–2300 m, 28–30.07.2002, I. Shokhin (MS); 1♂, 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Liatongus gagatinus* (Hope, 1831)

**Material.** Yunnan: 2♂, 7♀, W Baoshan, 1000 m, 15.05.1956 (SCH); 10♂, 12♀, Jinping env., 1000–1700 m, 11–27.05.1956 (SCH); 1♂, 4♀, Jindong env., 1200–2000 m, 22.04–9.05.1957 (SCH); 1♂, 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Liatongus tridentatus* (Boucomont, 1919)

**Material.** S Yunnan: 2♀, Szemao (= Simao), 1200 m, 11.05.1955 (SCH); 1♂, 1♀, 30 km SW Jinping, 500 m, 2.05.1956 (SCH); 1♀, Damonlun, 700 m, 10–12.04.1957 (SCH); 4♂, 16♀, Ganlanba, 540–600 m, 16.04.1957 (SCH); 1♂, Xiaomonian, 900 m, 4.05.1957 (SCH).

*Liatongus vertagus* (Fabricius, 1798)  
(Color plate 4: Fig 28, 29)

**Material.** Yunnan: 23♂, 20♀, Puerh env., 1400–1600 m, 3–21.04.1955 (SCH); 10♂, 13♀, SW Jinping, 370–420 m, 17–22 [without month] 1956 (SCH); 21♂, 24♀, Jindong env., 1200–1250 m, 6.03–21.04.1957 (SCH); 24♂, 21♀, road Szemao-Chali, 3.04.1957 (SCH); 22♂, 32♀, Xiaomonian, 850 m, 21.04.1957 (SCH); 2♂, Xiaguan env., 2000 m, 28–29.07.2002, I. Shokhin (MS); 1♀, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS); 1♂, mountains W Zhongdian (= Shangri-la), 3800–4300 m, 26.05–14.06.2006, I. Shokhin, S. Murzin (MS); 4♂, 9♀, Yunlong city env., 2500 m, 15.06.2007, A. Gorodinski (K).

*Liatongus affinis* (Arrow, 1908)

**Material.** Yunnan: 4♂, 5♀, Jindong env., 1200–1250 m, 21.05–19.06.1956 (SCH); 1♂, Jinping env., 1000 m, 22.05.1956 (SCH); 1♂, Mangshi (= Luxi), 1000 m, 3.06.1956 (SCH); 1♂, Binban env., 500–800 m, 28.06.1956 (SCH); 4♀, Zhongdian env., 3400 m, 5.07.2000, A. Gorodinski (K).

**Genus *Oniticellus* Serville, 1825**  
*Oniticellus cinctus* (Fabricius, 1775)

**Material.** Yunnan: 33 specimens, NE Yuanjiang, Jinggu, Jindong, Xiaomonian, Chali, Damonlun, SW Jinping, 370–1200 m, 03–05.1955–1957 (SCH).

**Genus *Drepanocerus* Kirby, 1828**  
*Drepanocerus sinicus* Harold, 1868

**Material.** Yunnan: 1♀, 50 km SW Mojiang (= Jiulian), 1000 m, 30.03.1955 (SCH); 1♂, Puerh env., 1600 m, 19.04.1955 (SCH); 3♂, 5♀, Jindong, 1200 m, 4–6.08.1956 (SCH); 1♂, 1♀, Jinping, 400 m, 5.08.1956 (SCH).

*Drepanocerus runicus* Arrow, 1909

**Material.** S Yunnan: 1♂, 4♀, 30 km SW Jinping, 370 m, 22.04.1956 (SCH).

*Drepanocerus integriceps* Janssens, 1953  
(Color plate 4: Fig. 30)

**Material.** N Sichuan: 1♂, Wenchuan, 1500–1600 m, 7.06.2002, I. Shokhin (MS); 4♀, Nanping env., 1800 m, 15.06.2002, I. Shokhin (MS); 2♂, Tonghua, 20 km W Wenchuan, 1200 m, 8.08.2002, I. Shokhin (MS).

*Drepanocerus liuchungloi* Kryzhanovskij et Medvedev,  
1966

**Material.** S Yunnan: 1♀ (holotype), Damonlun, 40 km SE Chali, 640 m, 28.04.1957 (SCH).

**Genus *Sinodrepanus* Simonis, 1985**  
*Sinodrepanus rex* (Boucomont, 1912)  
= *Drepanocerus arrowi* Balthasar, 1932

**Material.** Sichuan: 2♀, Dujlangyan env., 1600 m, 28.07.2001, A. Gorodinski (K). N Yunnan: 1♂, 1♀, Xiaguan env., 1500–1600 m, 15–17.07.2002, I. Shokhin (MS). China: 1♂, 1♀, Thibet, Tsekou, 1902, R.P.S. Dubernard (Z).



*Sinodrepanus rosannae* Simonis, 1985

**Material.** Fujian: 1♂, ? Kuatun, ?, 2300 m, 4.04.1938, J. Klapperich (Z).

*Sinodrepanus falsus* (Sharp, 1875)

**Material.** Sichuan: 1♂, valley 5 km N Wenchuan, 1800 m, 8.08.2002, I. Shokhin (MS).

**Note.** The species is recorded for China and Palearctic fauna for the first time.

*Sinodrepanus besucheti* Simonis, 1985  
(Color plate 4: Fig. 31)

**Material.** Fujian: 2♂, 1♀, ? Kuatun, ?, 2300 m, 18.04–9.05.1938, J. Klapperich (Z). Sichuan: 4♀, Wenchuan, 1500–1600 m, 7.06.2002, 19.08.2002, I. Shokhin (MS); 3♀, Juijaigow, 1.06.2005, A. Gorodinski (K); near Pingwu, 1400 m, 1.07.2005, A. Gorodinski (K); 1♂, 1♀, 70 km NW Chengdu, Chin Tsen San, 19.07.2005, A. Gorodinski (K).

**Genus *Tiniocellus* Péringuey, 1902**  
*Tiniocellus averyanovi* Kabakov, sp. n.  
(Color plate 4: Fig. 32)

**Material.** Holotype, ♀: Northern Vietnam, Laocai Prov., N Sapa, 1300 m, China – Vietnam border, 04.2002, L. Averyanov (K).

**Description.** Holotype. Body elongate oval, dorsally flattened, velvet-mat, head and pronotum darker than body. Outer margins of head have thick greenish-black roll-shaped border with metallic shine. Pronotum with black elongate spot near anterior margin and black punctures near lateral pits. Scutellum black and shiny. Elytra mat, light yellow with two sutural black spots in anterior 1/3. Base and suture of elytra with narrow blackening. Antennae red with dark club. Ventral side of body shiny, ochre-yellow; prosternum apically and border of mesocoxal cavity black.

Head glabrous dorsally, pronotum and elytra covered with very short, recumbent hairs; apex of elytra with brush of long light hairs near sutural angle. Pygidium with sparse short hairs. Sides of abdominal ventrites with brushes of light long hairs.

Head weakly transverse. Anterior margin of clypeus strictly obtuse, with concave sides, it is separate from genae by weak keel-shaped curled lines. Genae widely rounded. Surface of head completely flat and smooth, without ridges, horns and punctation. Eyes completely and widely divided, their dorsal lobes narrow oval (8 facets in widest part); ventral lobes of eyes rounded, little bit more than antennal clubs.

Pronotum disc-shaped, with equal length and width. Anterior angles almost triangular projected, with narrowly rounded apex, prebasal emarginations is weak. Sides of pronotum rounded and with thin border, base not bordered. Surface of pronotum with weak medial groove in basal thirds, almost without punctation, with sparse setae, lateral sides with long hairs (cilia).

Scutellum blackish, narrow with acute apex.

Elytra 1.2 times as long as pronotum, widest before middle (in anterior third), with slightly visible, weakly depressed in base striae. Interstriae flat, without punctures but with dense hairs.

Pygidium triangular, with widely rounded apex, unbordered in base, shiny, with microscopic tubercles, other surface mat and with not dense hairs.

Ventral side of body shiny, finely shagreen, prosternum with keel in middle. Prohypomera with keel-shaped transverse sutures, directed from coxae to lateral margin. Mesoventrite with sharp median keel, covered with dense microscopic tubercles. Metaventrite flat, with distinct median line reaching posterior margin. Surface of metaventrite punctured with small punctures and line of more coarse punctures along metacoxa. Episterna of metaventrite sharply narrowed backward, finely shagreened, without punctures.

Abdominal ventrites densely shagreened and covered with sparse punctures.

Ventral side of profemora with coarse and sparse punctures. Meso- and metafemora shagreened ventrally and have very sparse and fine punctation. Apical part of metatibia has very short equal setae. Apical spur of metatibia very long, straight, visibly longer than basal metatarsomer.

Length of body 12.5 mm.

**Diagnosis.** The new species is similar to very rare species *T. sarawacus* (Gillet, 1926) from Borneo and Malay Peninsula, but differs by number and location of dark spots on body and very weakly expressed elytral striae. The new species is found far to the north from the range of *T. sarawacus*, on the Vietnam-Chinese border and probably is relict of an ancient fauna as *Ailuro-poda melanoleuca*.

**Bionomics.** The species is found in a subtropical wood.

**Genus *Onitis* Fabricius, 1798**  
*Onitis falcatus* (Wulfen, 1786)

**Material.** 44♂, 40♀, Central and Southern Yunnan, 400–2000 m, 04–05.1955–1957 (SCh).

*Onitis exavatus* Arrow, 1931

**Material.** 1♂, W Yunnan, Baoshan env., 2500 m, 2–3.08.2002, I. Shokhin (MS).

*Onitis subopacus* Arrow, 1931

**Material.** 58♂, 44♀, Central and Southern Yunnan, 400–1600 m, 03–05.1955–1957 (SCh).

*Onitis feae* Felsche, 1907

**Material.** Yunnan: 4♂, 2♀, Fo-hai (= Menghai), 1200 m, 24.02.1957 (SCh); 1♂, 2♀, Jindong, 1200 m, 2–6.03.1957 (SCh).

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