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Glischrochilus (Librodor) forcipatus (Fairmaire, 1889) rediscovered (Coleoptera: Nitidulidae)

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Abstract

Glischrochilus (Librodor) forcipatus (Fairmaire, 1889) has been known from the single holotype which could not be dissected, so that the status of the species remained doubtful. New specimens of *G. forcipatus*, recently collected after ca. 120 years, are redescribed and compared with related species *G. (L.) japonius* (Motschulsky, 1857), *G. (L.) jelineki* Lasoń, 2009 and *G. (L.) parvipustulatus* (Kolbe, 1886). Validity of *G. forcipatus* is confirmed and key for identification of the similar species is given.

Key words: Coleoptera, Nitidulidae, *Glischrochilus*, taxonomy, redescription, China, Palaearctic region

Introduction

Librodor forcipatus Fairmaire, 1889 was described from the Sichuan province of China. The number of type specimens was not indicated by Fairmaire (1889), but the original description suggests that it was based on the single specimen, deposited in the Muséum national d'histoire naturelle, Paris. The species was transferred to genus *Glischrochilus* Reitter, 1873 by Grouvelle (1913) and later examined and redescribed by Jelínek (1975). As stated already in the original description, *Glischrochilus forcipatus* is similar to the common and widely distributed *G. japonius* (Motschulsky, 1857) and it was considered as a possible synonym of the latter by Kirejtshuk (1992). Recently one of us (AL) received four specimens of *Glischrochilus* from the Sichuan province, which appeared to be conspecific with the holotype of *G. forcipatus* and which enabled us to examine the male genitalia and other details for the first time.

Glischrochilus forcipatus belongs to the informal *G. japonius*-complex of the subgenus *Librodor* Reitter, 1884, tentatively proposed for the purpose of this paper and including the Far Eastern species *G. japonius*, *G. jelineki* Lasoń, 2009 and *G. parvipustulatus* (Kolbe, 1886). Species of this complex are characterized by a large body size, dorsum with more or less developed pubescence, temples behind eyes more or less obtusely angulate and prominent (dorsal view), with oval concavity opposing anterior pronotal corners (posterolateral view), labrum heavily sclerotized, subtruncate or with 1–3 more or less developed small protuberances, base of pronotum completely bordered, shallowly concave besides posterior angles, which are not projecting posteriorly. Pubescence of dorsum is well developed in *G. parvipustulatus*, but only rudimentary and indistinct in other species, sometimes apparently more or less sore. It is possible that some of these characters are rather correlated with the large body size and may not indicate the relationship between the examined species.

Characteristic feature of *G. japonius* complex is further sexual dimorphism in the size/shape of mandibles. Male mandibles are subject of allometric variation and with their size is correlated the width of head capsule as well as the distance between anterior pronotal angles and hence the ratio distance between posterior pronotal angles: distance between anterior pronotal angles (PWP/PWA index). Perhaps also the shape of labrum and relative length of scapus are subjects of allometric variation. These characters are therefore of a low diagnostic value. The allometric variation is known in males of *G. japonius* and *G. parvipustulatus*; it may occur also in *G. jelineki* and *G. forcipatus*, which are, however, currently known only in three or five specimens respectively.

Material and methods

Beetles were studied under binocular microscope MBS-10, for measurements as well as line drawings was used ocular micrometer. For dissection of genitalia the collection specimens had been softened in the 5% ammonia solution and dissected. Dissected genitalia were rinsed with distilled water, transferred in propylalcohol and then embedded in Euparal on a carton pinned below the mounted specimen. The photographs of all specimens were taken with a Canon EOS 550D digital camera with Canon MP-E 65 mm objective. Images of the same specimen at different focal planes were combined using Helicon Focus 5.1.19 software.

Following abbreviations are used throughout the paper for morphological terms: EL—length of elytra; EW—maximum combined width of elytra; PL—length of pronotum; PWA—width of pronotum between anterior angles; PWM—maximum width of pronotum; PWP—width of pronotum between posterior angles; SCL—length of scape; SCW—width of scape; TI1L—length of protibia; TI1W—width of protibia at the base of prominent subapical angle.

Material studied is deposited in the following institutional collections: ALBC—coll. Andrzej Lasoń, Białystok, Poland; MNHN—Muséum national d'histoire naturelle, Paris; NHMB—Natural History Museum, Basel, Switzerland; NMPC—National Museum, Prague, Czech Republic; USMB—Upper Silesian Museum, Bytom, Poland.

Adults of the following *Glischrochilus* species were studied for comparative purposes of this study:

Glischrochilus japonius: **CHINA**: ANHUI PROV.: 1 spec., Tianzhushan, 30.75N 116.45E, 11–14.v.2004, J. Turna lgt. (NMPC). GUIZHOU PROV.: 6 spec., Fanjing Shan-Kuaichang, 20 km NW Jiangkou, 1995 m, 27.v–3.vi.1996, E. Jendek & O. Šauša lgt. (NMPC); 1 spec., Qianling Mts., 1200 m, 20–21.vi.2004, S. Murzin lgt. (ALBC). GUANGXI A.O.: 2 spec., Mao'Er Shan, 500 m, vi.2009, M. Häckel & R. Sehnal lgt. (NMPC). HUBEI PROV.: 1 spec., Muyuping, 31.45N 116.4E, 1300 m, 20–21.vi.2003, J. Turna lgt.; 2 spec., road Xingshan – Badong, saddle 5 km N Gaucho, 31.2N 110.5E, 1500 m, 22.vi–17.vii.2003, J. Turna lgt.; 1 spec., Xingshan-Gaoyang, 25.v.2008, J. Turna lgt. (all NMPC). SHAANXI PROV.: 1 spec., Lueyang, 8–14.vi.1996, E. Kučera lgt.; 1 spec., dtto, 30°07'N, 106°05'E, 18–24.vi.1997; 4 spec., dtto, 4–6.vi.2004; 1 spec., Zhongchuan, 3–5.vi.2005, E. Kučera lgt. (all NMPC). SHANXI PROV.: 1 spec., Yongji, 9–18.v.2006, E. Kučera lgt. (NMPC). SICHUAN PROV.: 4 spec., Qingcheng Hou Shan Mts., 70 km W of Chengdu, 1500 m, 4.vi.2004, S. Murzin lgt. (ALBC); 9 spec., dtto, 9–14.vii.2004, S. Murzin lgt. (ALBC, USMB); 7 spec., dtto, 15–22.v.2005, M., S. & V. Murzin lgt. (ALBC, USMB); 1 spec., dtto, 1400 m, 11–13.vii.2005, S. Murzin lgt. (NMPC); 1 spec., (SW) Moximian, 1300 m, 1.vi.1997, M. Krajčík lgt. (NMPC). YUNNAN PROV.: 2 spec. NW Malipo, 23°10'–13'N, 104°37'–40'E, 1200–1700 m, 10–13.v.1995, L. & R. Businský lgt.; 2 spec., Shilin, 60 km SE Kunming, 3–4.vii.1990, D. Král lgt. (all NMPC). **INDIA**: SIKKIM: 1 spec., Boxapull – Diukchu, 9.ix.1977, B. Bhakta lgt. (NHMB). DARJEELING DISTR.: 2 spec., Kalimpong, 500 m, 18.iv.1985, Ch.J.Rai lgt.; 1 spec., Kalimpong, Upper Bombusti, 1000 m, 5.v.1985, lgt.; 1 spec., Pedong, 1300 m, 20.iv.1986, B. Bhakta lgt. (all NHMB). ASSAM: 1 spec., Umrongso, 25°27'N 92°43'E, 700 m, 3–8.vi.2002, M. Trýzna & P. Benda lgt. (NMPC). **JAPAN**: IBARAKI PREF.: 4 spec., Tsukuba, 1–15.vii.2002, P. Jałoszyński lgt. (ALBC, USMB); 3 spec., dtto, 3.viii.2002 (ALBC). KYŌTO PREF.: 1 spec., Kyōto, 23.v.1978, W. Suzuki lgt. (NMPC). ŌITA PREF.: 1 spec., Beppu, Mt. Yufuduka, 1000 m, 19–23.v.2005, T. Masuda lgt. (ALBC). **KOREA**: 9 spec., Bi Sum Dae, Mt. Sorak Park, 21.viii.1979, G. Minet lgt. (NHMB). **LAOS**: LOUANGNAMTHA PROV.: 1 spec., 15 km NW Louang Namtha, 21°07.5'N 101°21.0'E, 650–850 m, 13–24.v.1997, E. Jendek & O. Šauša lgt. **NEPAL**: 1 spec., Chitwan, Rapti river, Sauraha vill. env., 27.58N 84.5E, v.2010, M. Häckel & S. Březina lgt.; 29 spec., Birethanti-Gorapani, 4–9.iv.1992, I. Jeniš lgt. (all NMPC). For further material see Jelínek (1975).

Glischrochilus jelineki: **CHINA**: SHAANXI PROV.: ♂ (holotype), Taibaishan NP, 1350 m, 10.vi.1999, M. Murzin lgt. (NMPC). HUBEI PROV.: 2♀♀ (paratypes), Dahongshan, 31.5N 113.0E, 30.iv–1.v.2005, J. Turna lgt. (ALBC, NMPC).

Glischrochilus parvipustulatus: **CHINA**: HUBEI PROV.: 1 spec., Dabie Shan, Wujiashan forest park, 31.1N 115.8E, 17–18.vi.2003, J. Turna lgt.; 1 spec., dtto, 7–10.v.2004 (all NMPC). ZHEJIANG PROV.: 1 spec., Lin'an county, W Tianmu Shan, N end of Tianmu vill., 30°19.61'N, 119° 26.15'E, 27.vi.2009, J. Cooter lgt. and coll. **KOREA**: 9 spec., Bi Sum Dae, Mt. Sorak Park, 21.viii.1979, G. Minet lgt. (NHMB). **LAOS**: HOUA PHAN PROV.: 2 spec., Ban Saluei vill. – Phou Pane Mt., 20°12'–13.5'N 103°59.5'–104°01'E, 1340–1870 m, 15.iv–15.v.2008, Lao collectors; LOUANGNAMTHA PROV.: 1 spec., 15 km NW Louang Namtha, 21°07.5N 101°21.0E, 650–850 m, 13–24.v.1997, E. Jendek & O.Šauša lgt. (all NMPC).

Systematics

Glischrochilus (Librodor) forcipatus (Fairmaire, 1889)

(Figs 1, 5, 9)

Librodor forcipatus Fairmaire, 1889: 12.

Glischrochilus forcipatus: Grouvelle 1913: 188.

Glischrochilus (Librodor) forcipatus: Jelínek 1975: 140.

Type locality. “Mou-Pin” [China, Sichuan province, Baoxing, ca. 30°23'N, 102°50'E].

Material studied. CHINA: SICHUAN PROV.: 1 spec., “Mou-Pin” (MNHN) [Holotype, examined by senior author (JJ) in 1975]; 3 spec., Qingcheng Hou Shan Mts., 70 km W Chengdu, 1435 m, 4.vi.2004, S. Murzin lgt. (ALBC, NMPC, USMB); 1 spec., Minshan Mts., 60 km E of Songpan, 1000 m, 1–10.vii.2004, V. Patrikeev lgt. (ALBC).

Redescription. Body oblong oval, convex, black, each elytron with two yellowish spots: three-branched basal spot situated at inner side of humeral bulge and transverse zigzag band at two thirds of elytral length, reaching neither suture nor lateral margin. Vestiture of very thin and short indistinct grey recumbent setae not reaching the base of the following ones. Setae at sides of pronotum and elytra markedly longer, oriented more or less mesad. Body length 8.5–13.0 mm, width 3.8–5.0 mm.

Head across eyes $\times 0.96$ – 0.98 width of anterior pronotal margin, outer margins of frons slightly dilated over antennal insertions and then slightly concave, converging anteriorly. Anterior margin of labrum transversely subtruncate, with 1–3 small rounded protuberances. Frons flat, punctures in the middle nearly equal in size to eye-facets, mostly separated by ca 1.5 diameters, becoming gradually larger and closer (separated by 1 diameter or less) posterolaterad. Temples in dorsal view bluntly obtuse, prominent, in posterolateral view with impunctate and strongly shining concavity opposing anterior corners of pronotum. Length of antennae $\times 0.94$ width of head across eyes. Scape 2.40–2.66 times longer than wide, almost as long as antennomeres II–IV combined. Antennomere III longer than neighbouring ones, 2.28 times longer than wide; IV and V subequal, 1.25 times longer than wide; VI and VII subequal, as long as wide; VIII as long as VII, 1.75–1.87 times wider than long, bell-shaped with prominent acute distal subapical angles. Length of antennal club $\times 1.52$ – 1.56 its width and $\times 0.28$ length of antenna.

Postmentum concave, shallow punctures somewhat smaller than eye-facets, separated by one diameter or more, interspaces densely microscopically wrinkled, dull. Genae behind eyes with coarse and deep punctures fairly equal in size to eye-facets and separated by 0.5–1 diameters; interspaces microscopically wrinkled, dull.

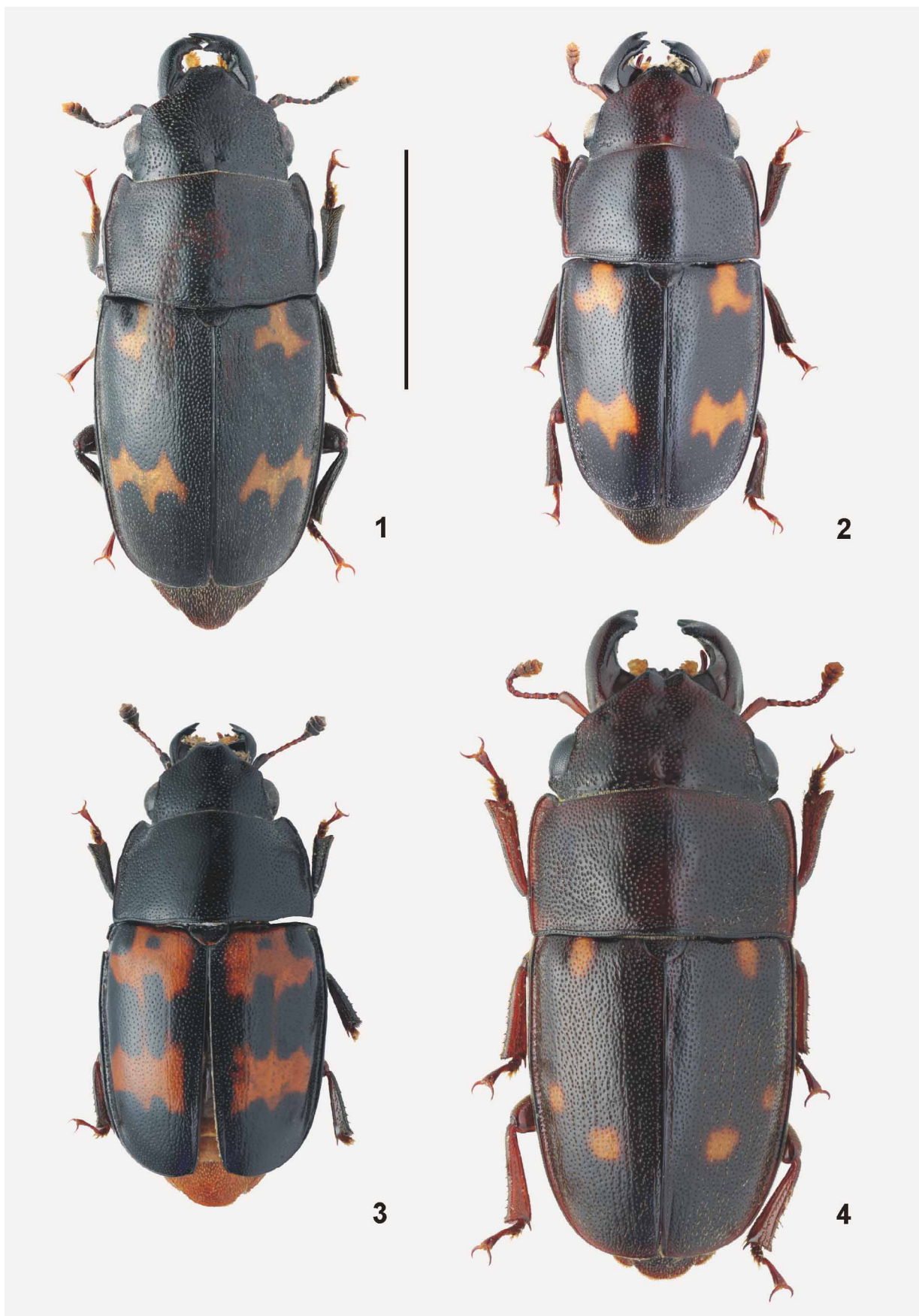
Pronotum widest before its midlength, PWM/PL = 1.56–1.60, PWP/PWA = 1.18–1.22. Anterior margin bluntly angulate in middle, not bordered. Posterior margin completely bordered, shallowly concave besides posterior angles, those obtuse, not prominent. Basal rim with simple series of dense punctures mostly separated by less than one diameter. Sides narrowly explanate-canaliculate, $\times 0.5$ width of antennal flagellum. Punctuation analogous to that of frons, with more or less distinct impunctate mediolongitudinal strip.

Tibiae slender, TI1L/TI1W = 4.3, with acute prominent outer apical angle. Protarsus $\times 0.77$ length of tibia, tarsomere V half the total length of tarsus. Tarsomeres I–III dilated, bilobed, $\times 0.5$ width of antennal club.

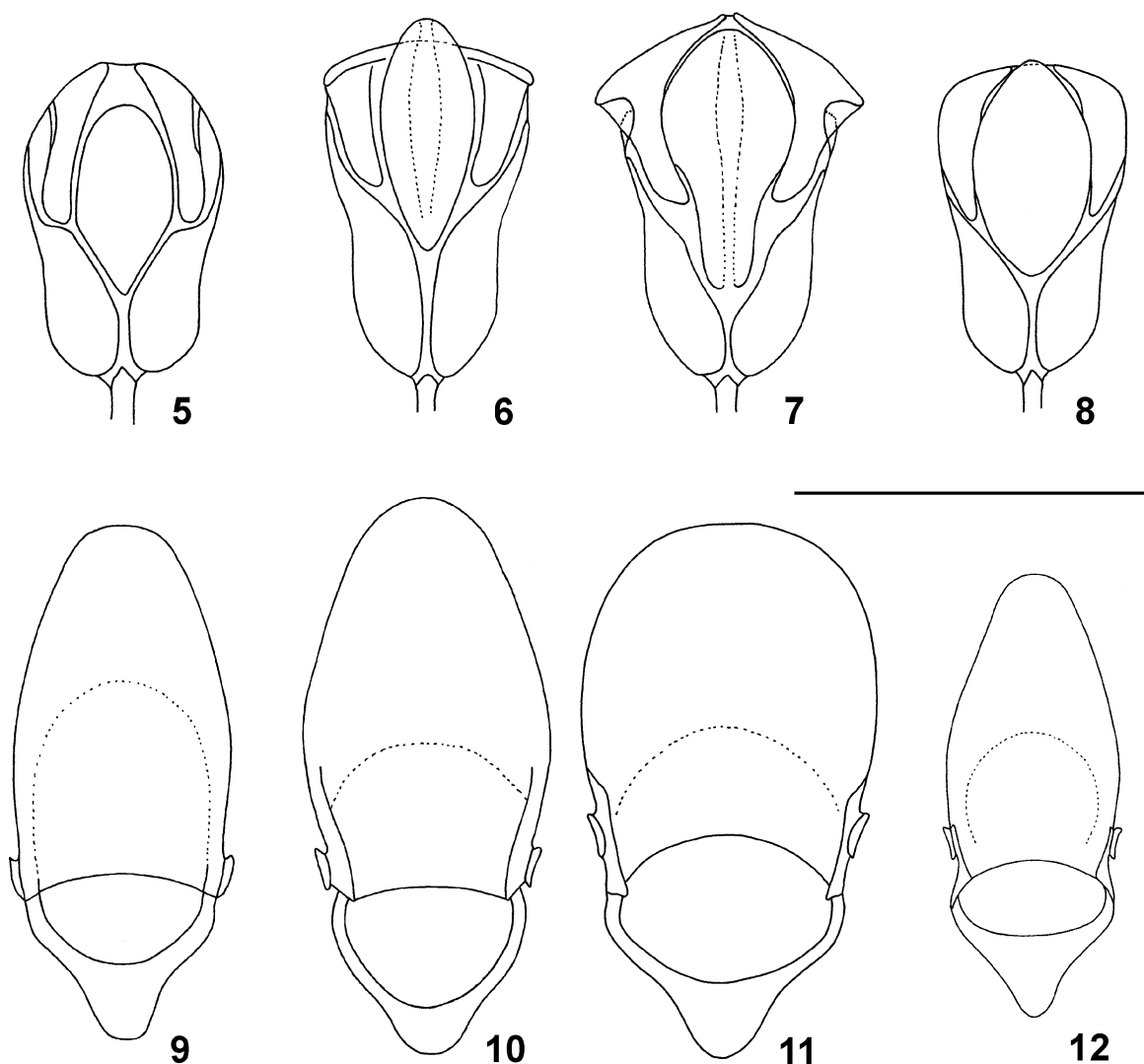
Elytra widest before their midlength, EL/EW = 1.11–1.13, moderately separately rounded apically. Humeral angles rectangular, fine sutural line distinct in apical third. Punctures generally smaller and closer than on pronotum, mostly separated by ca. 1 diameter.

Prosternum with bordered anterior margin, in front of intercoxal process transversely convex, neither punctate nor reticulate, with several transverse striae, at sides with irregularly dispersed punctures smaller than eye facets, and with several oblique wrinkles. Hypomera with irregularly dispersed indistinct, small and shallow punctures, densely microscopically wrinkled, dull. Prosternal process flat, rounded apically, slightly longitudinally impressed between procoxae; punctures markedly smaller than eye-facets, irregularly dispersed and separated by several diameters, interspaces smooth and shining.

Metasternum in the middle flat, impressed mediolongitudinal furrow behind its midlength not reaching posterior intercoxal margin of metasternum. Punctures equal in size to those of prosternal process, separated by more than one diameter, becoming markedly coarser and closer laterally; interspaces smooth and shining. Anterior intercoxal process depressed, impunctate. Caudal marginal lines of mesocoxal cavities arcuately interconnected in the middle, closely bordering mesocoxal cavities all along their length, their outermost recurrent portion very short,



FIGURES 1–4. Habitus of *Glischrochilus*. 1—*G. forcipatus* (Sichuan); 2—*G. japonius* (Hubei); 3—*G. jelineki* (paratype); 4—*G. parvipustulatus* (Hubei). Scale bar 5 mm.



FIGURES 5–12. Male genitalia of *Glischrochilus*. 5–8 median lobe of aedeagus; 9–12 tegmen. 5, 9—*G. forcipatus*; 6, 10—*G. japonius*; 7, 11—*G. jelineki*; 8, 12—*G. parvipustulatus*. Scale bar 0.5 mm.

indistinct. Punctuation of abdominal sterna analogous to that of metasternum. Caudalmarginal lines of metacoxal cavities closely bordering coxal cavities.

Male genitalia. Median lobe of aedeagus without distinct anterolateral subapical angles, dorsal valve of phallosome not reaching apex of aedeagus, completely regularly sclerotized/pigmented (Fig. 5). Lateral margins of tegmen in basal half subparallel, in distal half moderately converging distad, apex broadly and flatly rounded (Fig. 9).

Differential diagnosis. *Glischrochilus forcipatus* differs from the other species of *G. japonius* complex in its more slender body and legs, as well as in the peculiar form of male mandibles, which are rather narrow and straight in basal half and abruptly curved inwards at their midlength. Male genitalia resemble those of *G. parvipustulatus* and are markedly different from those of *G. japonius*. All species of the *G. japonius* complex can be distinguished according to the following key.

Distribution. So far known only from three mountainous localities in Sichuan province, China.

Key to identification of *Glischrochilus japonius* complex

- 1(2) Dorsum with well developed pubescence consisting of longer semirecumbent rusty setae reaching base of following ones. Body black-brown, each elytron with three small round yellow spots (Fig. 4). Length 7.7–11.5 mm. Male genitalia as figured

- in Figs. 8 and 12. Far East of Russia, Korea, China, Laos *G. parvipustulatus* (Kolbe, 1886)
- 2(1) Dorsum at most with inconspicuous rudimentary pubescence, thin recumbent setae not reaching base of following ones, often distinct only in lateral portions of pronotum and elytra. Body black, each elytron with two red spots of different shape.
- 3(4) Dorsum, at least in known specimens, glabrous (Fig. 3). Metasternum, abdominal ventrites and pygidium orange-red. Length of scape ca. $\times 2.15$ times its width. Length 8.0–9.8 mm. Male genitalia: median lobe of aedeagus with prominent lateral subapical angles (Fig. 7), tegmen broadly rounded (Fig. 11). China (Shaanxi, Hubei). *G. jelineki* Lasoń, 2009
- 4(3) Dorsum with short rudimentary setation. Metasternum, abdominal ventrites and pygidium brown-black. Length of scape at least $\times 2.40$ its width.
- 5(6) Pronotum 1.56–1.66 times wider than long, elytra 1.11–1.18 times longer than their combined width. Male mandibles more slender, in basal half straight, abruptly curved inwards at their midlength (Fig. 1). Length 8.5–13 mm. Male genitalia: lateral subapical angles of median lobe of aedeagus broadly rounded (Fig. 5), sides of tegmen less arcuate (Fig. 9). China (Sichuan) *G. forcipatus* (Fairmaire, 1889)
- 6(5) Pronotum 1.65–1.75 times wider than long, elytra 1.08–1.10 times longer than their combined width (Fig. 2). Male mandibles generally broader, regularly arcuate. Length 7.5–12.0 mm. Male genitalia: median lobe of aedeagus with lateral subapical angles obtusely angulate (Fig. 6), tegmen ovate, strongly narrowed distad (Fig. 10). Japan, Far East of Russia, Korea, China, NE India, Nepal, Vietnam, Laos, Sumatra *G. japonius* (Motschulsky, 1857)

Conclusions

Glischrochilus forcipatus is a distinct species, which differs from other species of *G. japonius* complex in having more elongate body with more elongate and slender legs (Table 1). Also the shape of male mandibles differs from those in other species. Median lobe of aedeagus with completely regularly sclerotized and pigmented dorsal valve of phallosome and rounded anterolateral subapical angles, resembles conditions in *G. parvipustulatus* (Fig. 8) and differs from both *G. japonius* and *G. jelineki*, in which the dorsal valve is desclerotized/depigmented along median axis and anterolateral subapical angles are distinctly angulate (Figs. 6–7).

TABLE 1. Variation of some characters in the *Glischrochilus japonius* complex. EL—length of elytra; EW—maximum combined width of elytra; PL—length of pronotum; PWA—width of pronotum between anterior angles; PWM—maximum width of pronotum; PWP—width of pronotum between posterior angles; SCL—length of scape; SCW—width of scape; TIIL—length of protibia; TI1W—width of protibia at the base of prominent subapical angle.

Character	<i>G. forcipatus</i>	<i>G. japonius</i>	<i>G. jelineki</i>	<i>G. parvipustulatus</i>
PWP/PWA	1.18–1.22	1.15–1.33	1.26–1.38	1.09–1.24
PWM/PL	1.56–1.60	1.65–1.70	1.66–1.74	1.67–1.80
EL/EW	1.11–1.13	1.08–1.10	1.07	1.05–1.13
TIIL/TI1W	4.32	4.06	3.82	3.94
SCL/SCW	2.40–2.66	2.61–2.80	2.14	2.15–2.94

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References

- Fairmaire, L. (1889) Coléoptères de l'intérieur de la Chine, 5e partie. *Annales de la Société Entomologique de France*, (6)9, 5–84.
- Grouvelle, A. (1913) Byturidae, Nitidulidae: 1. Cateretinae, 2. Meligethinae, 3. Carpophilinae, 4. Nitidulinae, 5. Cryptarchinae,

6. Cybocephalinae. In: Schenkling, S. (Ed.) *Coleopterorum Catalogus, Pars 56*. Berlin: W. Junk, 223 pp.
- Jelínek, J. (1975) Revision of the genus *Glischrochilus* Reitter from the Oriental region and China (Coleoptera, Nitidulidae). *Acta Entomologica Bohemoslovaca*, 72, 127–144 + 2 pls.
- Jelínek, J. & Audisio, P. (2007) Nitidulidae, pp. 459–491. In: Löbl, I. & Smetana, A. (Eds.) *Catalogue of Palaearctic Coleoptera, 4. Elateroidea – Derodontoidea – Bostrichoidea – Lymexyloidea – Cleroidea – Cucujoidea*. Stenstrup: Apollo Books, 935 pp.
- Kirejtshuk, A.G. (1992) 59, 61. Sem. Nitidulidae-Blestyanki [59, 61. Fam. Nitidulidae – sap beetles], pp. 114–209. In: Ler, P.A. (Ed.) *Opređitel' nasekomykh Dal'nego Vostoka SSSR v shesti tomakh. 3. Zhestkokrylye, ili zhuki, chast' 2*. [Key to the insects of the Far East of the USSR in six volumes. 3. Coleoptera, or beetles, pars 2] Sankt Peterburg: Nauka, 704 pp (in Russian).
- Lasoń, A. (2009) A new species of the genus *Glischrochilus* (Coleoptera: Nitidulidae: Cryptarchinae) from China. *Acta Entomologica Musei Nationalis Pragae*, 49, 505–510.