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New and little-known species of *Meligethes* Stephens, 1830 from China (Coleoptera: Nitidulidae)

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Abstract. The genus *Meligethes* Stephens, 1830 (Coleoptera: Nitidulidae, Meligethinae) comprises several anthophagous species attacking a wide range of wild and cultivated flowering plants. We describe four new species from China (*Meligethes chlorocupreus* sp. nov., *M. difficiloides* sp. nov., and *M. abditus* sp. nov., members of the *M. difficilis*-group; *M. bocaki* sp. nov., a member of the *M. planiusculus*-group), and provide distributional or ecological data on other Chinese species – *Meligethes* sp. cf. *praetermissus* Easton, 1957 and *M. kasparyani* Kirejtshuk, 1984. An updated provisional check-list of Chinese *Meligethes* of about 60 species is presented.

Key words. Coleoptera, Nitidulidae, *Meligethes*, new species, China, host-plants, check-list

Introduction

Meligethes Stephens, 1830 is the largest genus of Nitidulidae; it includes some 600 pollen-eating species, whose larval stages are associated with flowers of several families (in systematic order according to CRONQUIST (1988): Aizoaceae-Mesembryanthemaceae, Sterculiaceae, Cistaceae, Brassicaceae, Capparaceae, Rosaceae, Fabaceae, ?Proteaceae, Boraginaceae, Rubiaceae, Verbenaceae, Lamiaceae, Campanulaceae, Asteraceae, and ?Poaceae). Most species are distributed in the Palaearctic and Afrotropical regions, with more than 200 and probably more than 300 species, respectively. A world-wide revision of the genus is in progress (AUDISIO, in prep.).

All known western Palaearctic species (147 total) have been recently revised by AUDISIO (1993), while the eastern Palaearctic species have been recently revised by KIREJTSHUK (1992).

With the addition of species from Middle Asia, the Arabian Peninsula, and a few others recently described or re-evaluated at a specific rank, again from western Palaearctic areas, the total number of species from the whole Palaearctic region s.l. is ca 240 (JELÍNEK & AUDISIO, in prep.). In this number are included also species from areas such as southern Arabian Peninsula and southern China, intergrading with the Afrotropical and Oriental faunas, respectively. A few other new eastern Palaearctic species, all belonging to the *M. atratus*-group in the subgenus *Meligethes* s. str. (*M. atratus* and *M. denticulatus* groups of the previous authors; see KIREJTSHUK (1992)) are to be described from China and neighbouring countries in an upcoming paper dealing with this group (AUDISIO & JELÍNEK, in prep.).

The present study deals with Chinese species belonging to different and unrelated species complexes whose descriptions are not scheduled in the near future within other taxonomic revisions of monophyletic species-groups or subgenera. Taxonomic comments, or new distributional and ecological data for other species, are also included. An updated provisional check-list of the poorly known Chinese *Meligethes*, including at most 60 species, is also presented.

Material

Undetermined material was borrowed from several European institutions and private collections:

BMNH The Natural History Museum, London, United Kingdom;
CAR collection P. Audisio, Roma, Italy;
CSN collection M. Stevanović, Niš, Serbia;
MHNP Muséum National d'Histoire Naturelle, Paris, France;
NHMB Naturhistorisches Museum, Basel, Switzerland;
NHMW Naturhistorisches Museum, Wien, Austria;
NMPC National Museum, Praha, Czech Republic.

Additional material and most of the bionomical records were obtained from intensive field work during several entomological trips to China between 1996 and 2004 by J. Cooter (mostly in CAR, CSN and NMPC).

Taxonomy

Meligethes sp. cf. *praetermissus* Easton, 1957

(Figs. 13-14)

Material examined. CHINA: ZHEJIANG, Anji County, Long Wang Mts. Nature Reserve (= Long Wang Shan Nature Reserve), 1200 m, 13.v.1996, on ?*Cardamine* sp. (Brassicaceae), J. Cooter leg., det. P. Audisio, 15 ♂♂ 17 ♀♀ (CAR, NMPC).

These specimens are similar in general habitus and shape of the male genitalia (Figs. 13-14) to *M. praetermissus* Easton, 1957, known from Japan and Eastern Siberia (EASTON 1957; KIREJTSHUK 1992). They differ markedly in having body coloration entirely metallic brown, with yellowish legs and antennae (*M. praetermissus* is usually brown with faint bluish reflec-

tions), and dorsal punctures coarser and deeper (relatively sparse and shallow in *M. praetermissus*). We tentatively refer to the above material from SE China as *M. praetermissus*. The material was collected on unidentified Brassicaceae with white flowers and long, acute, and elliptic leaves, probably in *Cardamine* or related genera (J. COOTER, pers. observ.).

Meligethes chlorocupreus sp. nov.

(Figs. 11-12, 22, 26)

Type material. HOLOTYPE: ♂, **CHINA**: southern SICHUAN, 30 km NW Muli (Bowa), 28° 07´N, 101° 05´E, mixed forest, 3500 m a.s.l., 1/2.vii.1998, J. Turna leg. (NMPC). PARATYPE: ♂, **CHINA**: YUNNAN, Weibao Mts. (= Weibaoshan), 25° 12´N, 100° 24´E, 2800-3000 m a.s.l., 30.vi.1992, V. Kubáň leg. (NHMB).

Diagnosis. Medium-sized (length 2.2-2.6 mm), blackish with yellowish to orange legs and antennae (antennal club orange-brown), and relatively short golden pubescence. General appearance (Fig. 26) similar to *M. atrovirens* Jelínek, 1982, but with pronotal surface slightly more convex, with deeper and coarser pronotal punctures, and regularly arcuately emarginate anterior margin of clypeus. Metasternum in male with a subtriangular and barely distinct impression; last ventral sternum in male with a raised and shining tubercle in the middle of posterior edge. Front tibiae as in Fig. 22. Male genitalia as in Figs. 11-12.

Description. Male holotype. Length 2.56 mm; breadth (at widest point of elytra) 1.35 mm. Moderately elongate and convex (Fig. 26); blackish, with short golden pubescence. Legs yellowish to orange. Antennae yellowish to orange, with slightly darker club.

Head with dorsal punctures slightly larger than eye facets, rather strongly impressed, separated by less than one diameter, surface between them smooth; front margin of clypeus completely and distinctly bordered, widely arcuately emarginate with obtusely pointed lateral angles. Fronto-geneal furrows distinct and complete. Antennae of normal size for group (Fig. 26), third antennomere slender, slightly shorter than second; antennal club medium-sized.

Pronotum 1.70 times as wide as long, broadest at posterior fourth (Fig. 26), narrowed anteriorly; sides narrowly bordered, not explanate; with posterior angles obtuse but distinct. Base slightly sinuate near scutellum; punctures markedly larger, coarser, and deeper than on head, separated from each other by nearly half a diameter, surface between them smooth and shining.

Scutellum medium-sized, densely punctate throughout; surface between punctures with faint trace of microreticulation. Elytra 1.12 times as long as wide, broadest at basal second fifth, scarcely wider than pronotum (1.10 times); humeri feebly raised, humeral striae indistinct; elytral punctures distinctly finer and shallower than on pronotum, surface between them smooth, without microscopic reticulation.

Ventral surface black with fine short pubescence. Prosternal antennal furrows strongly impressed. Prosternal process rather long and sub-parallel, nearly as wide as antennal club, with slightly wider and obtusely rounded apex; punctures similar to those on head, surface between them rather shining. Mesosternum with hind margin straight. Metasternum rather flat, without tubercles, with a wide but shallow and indistinct subtriangular impression on posterior half; punctures and the spaces between as on frons, but sparser. Caudal marginal

line of hind coxal cavity following closely to posterior edge of cavity and turning back prior to outer end. Last visible abdominal sternite with distinctly raised and shining tubercle in middle of posterior margin.

Front tibiae (Fig. 22) similar to *M. atrovirens*, with outer edges finely crenulate from basal third, with a subapical group of 2-3 larger and sharper teeth; front tarsi as wide as antennal club; hind tibiae moderately narrow, with inner edges regularly arcuate, not sinuate (Fig. 26); tarsal claws simple.

Genitalia. Tegmen (Fig. 11) with characteristic Y-shaped median excision deep and narrow; aedeagus elongate (Fig. 12), narrowed from distal fifth, with apex broadly rounded.

Female. Unknown.

Variability. Length 2.20-2.56 mm. Teeth on outer edges of front tibiae are slightly variable, but those of the male paratype exhibit the same pattern as the holotype. The paratype from Yunnan exhibits a greenish-violet metallic lustre on dorsum (only dark green reflections were seen in the holotype).

Differential diagnosis. *Meligethes chlorocupreus* sp. nov. is probably closely related to *M. atrovirens* from northern Turkey and Caucasus region (JELÍNEK 1982, AUDISIO 1993), but is distinguishable by the shape of male genitalia, deep pronotal punctures (resembling *M. buyssoni* Brisout, 1882 from Europe), regularly arcuate emarginate anterior margin of clypeus, and last ventral sternite in male with a distinctly raised and shining tubercle in the middle of posterior margin. We have studied female specimens from the same regions of China of a second new species of the *M. difficilis*-group. These specimens exhibit a strong dark green metallic reflection, and are apparently related to *M. atrovirens* (likely being more closely related to *M. tilmani* Easton, 1968 from the Himalaya). Description of this new species will be completed once male specimens become available. However, this new species is distinct from *M. chlorocupreus* sp. nov. by its smaller size, markedly finer and shallower dorsal punctures, less convex body, more strongly incised anterior margin of clypeus, and smaller subapical teeth on outer edge of front tibiae.

Etymology. Specific epithet *chlorocupreus* (= showing green and cupric reflections, in Latin) refers to its characteristic dark green dorsal colour, which is shared by few species within the *M. difficilis* group.

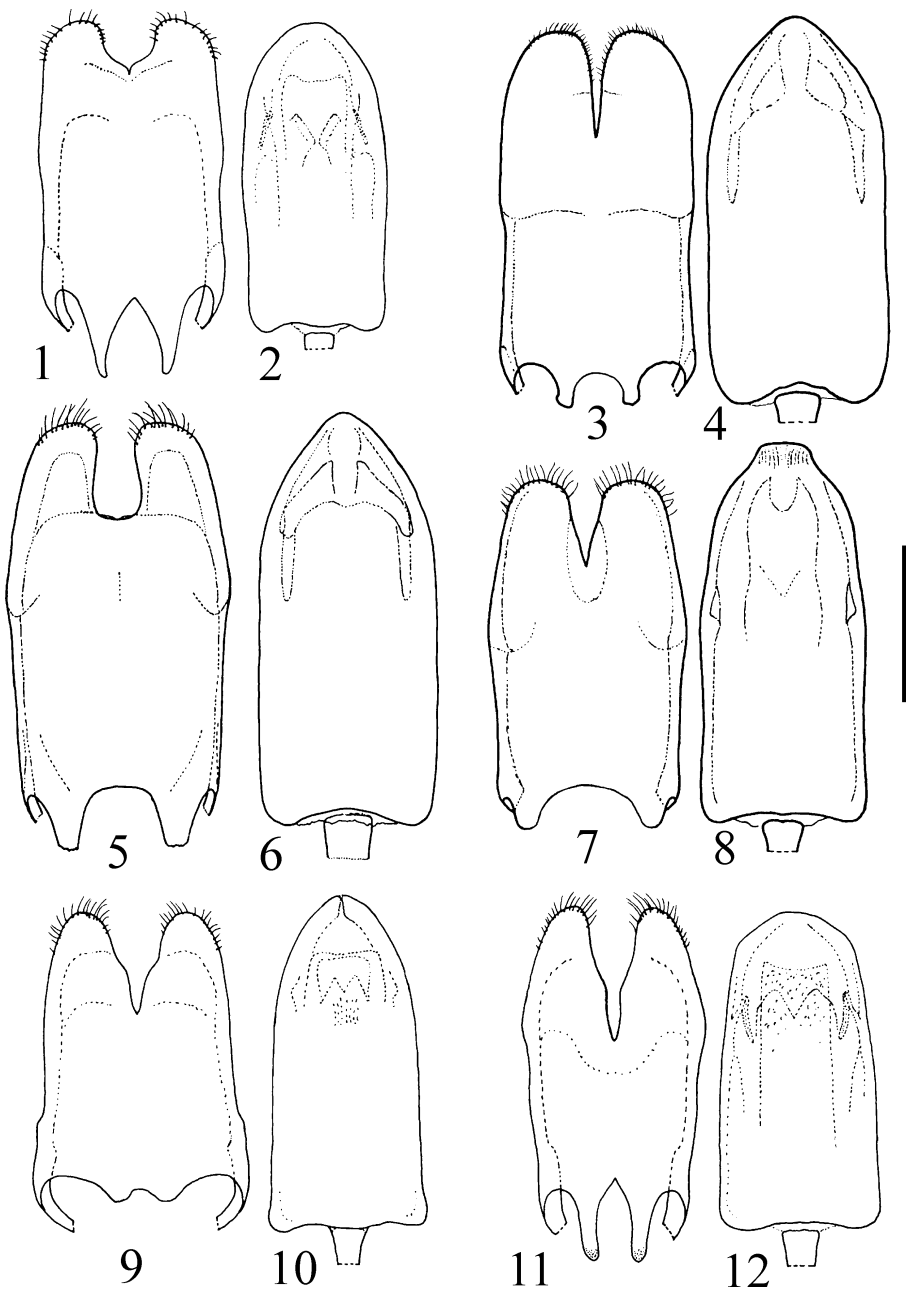
Bionomy. The biology of this species is not definitively understood, however it is likely associated with Lamiaceae, possibly *Lamium* or related genera, because the closely related *M. atrovirens* and several other species of the *M. difficilis*-group are known from these host plants (AUDISIO 1993). Specimens were collected from late June to July by sweeping in montane mixed forests from 2800 m to nearly 3500 m a.s.l.

Distribution. Known to occur in southern China (from Yunnan to southern Sichuan).

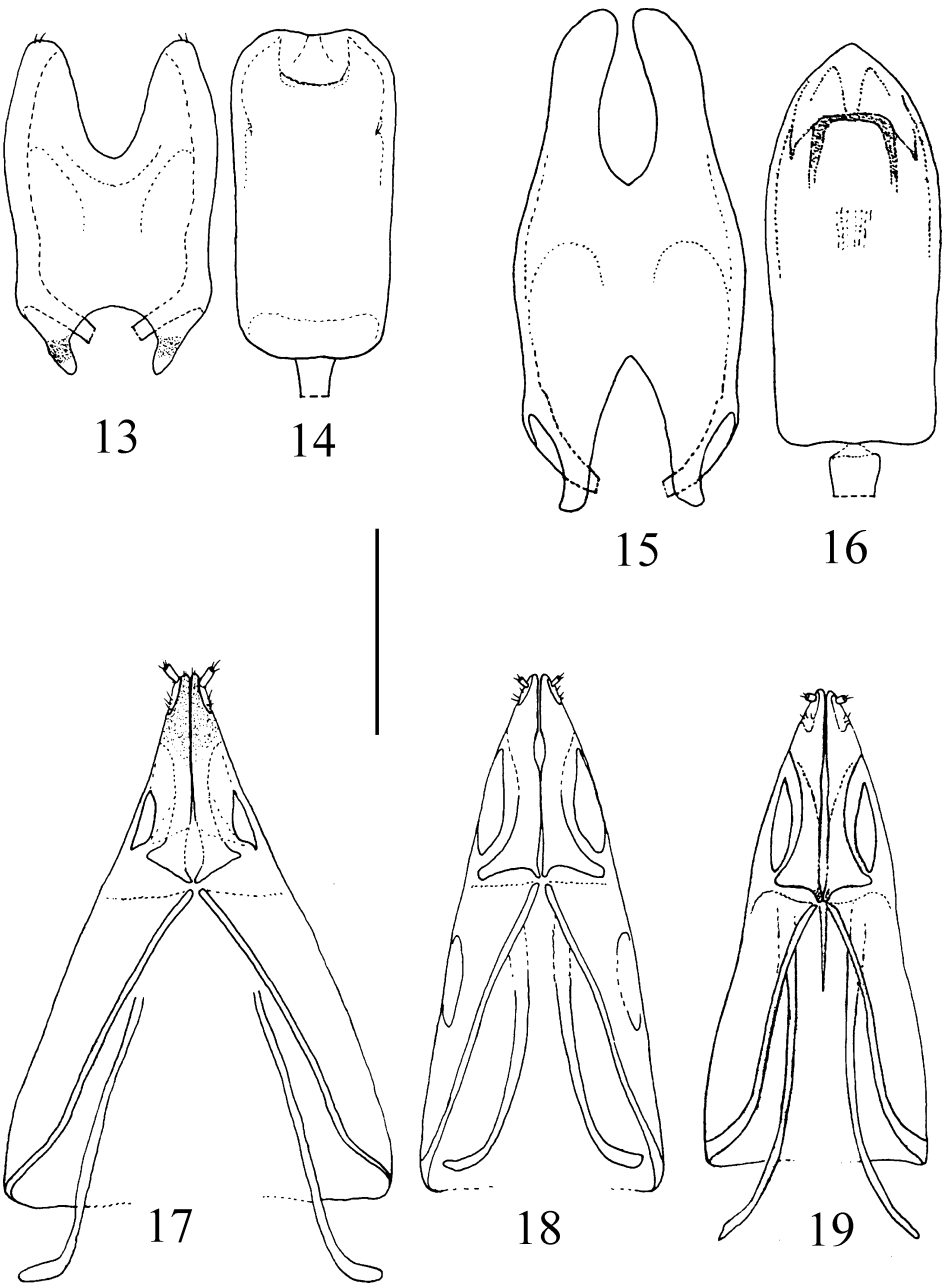
Meligethes difficiloides sp. nov.

(Figs. 1-2, 17, 20, 24)

Type material. HOLOTYPE: ♂, **CHINA**: YUNNAN, 10 km SW Lijiang, 5.vii.1994, Schillhammer leg. (NHMW). PARATYPES: **CHINA**: YUNNAN, Weibao Mts. (= Weibaoshan), 25° 12´N, 100° 24´E, 2800-3000 m a.s.l., 29/30.vi.1992, V. Kubáň leg., 3 ♂♂ 1 ♀ (NHMB, CAR). SHAANXI, Qin Ling Mts. (= Oin Ling Shan), road Baoji-Taibai, pass 35 km S of Baoji (= Gochzhen), 21/23.vi.1998, O. Šafránek & M. Trýzna leg., 7 ♂♂ 7 ♀♀ (NMPC, CAR).



Figs. 1-12. Tegmen and aedeagus (dorsal aspect) of *Meligethes* Stephens, 1830. 1-2 – *M. difficiloides* sp. nov., ♂ paratype from Yunnan, Weibao Mts. 3-4 – *M. dieckmanni* Audisio & Jelínek, 1984, ♂ from Turkey, Kars province, Göle. 5-6 – *M. difficilis* (Heer, 1841), ♂ from Italy, Rome. 7-8 – *M. atrovirens* Jelínek, 1982, ♂ from Turkey, Giresun province, Kümbet. 9-10 – *M. abditus* sp. nov., ♂ paratype from Beijing principality, Xiaolongmen. 11-12 – *M. chlorocupreus* sp. nov., ♂ paratype from Yunnan, Weibao Mts. Scale bar = 0.20 mm.



Figs. 13-19. 13-16 – tegmen and aedeagus (dorsal aspect) of *Meligethes* Stephens, 1830. 13-14 – *M.* sp. cf. *praetermissus*, ♂ from China, Zhejiang Province, Long Wan Shan nature reserve; 15-16 – *M. bocaki* sp. nov., ♂ paratype from Yunnan, Luo Shui. 17-19 – ovipositor (ventral aspect). 17 – *M. difficiloides* sp. nov., ♀ paratype from Yunnan, Weibao Mts.; 18 – *M. abditus* sp. nov., ♀ paratype from Beijing principality, Xiaolongmen; 19 – *M. bocaki* sp. nov., ♀ paratype from Yunnan Province, Luo Shui. Scale bar = 0.20 mm.

Diagnosis. Medium-sized (length 2.5-2.6 mm), blackish-brown with yellowish to orange legs and antennae (antennal club orange-brown), and relatively short golden pubescence. General appearance (Fig. 24) similar to shortened specimens of the Euroasiatic *M. difficilis* (Heer, 1841), but with pronotal surface slightly more convex, with slightly deeper and coarser pronotal punctures, and truncate anterior margin of clypeus. Metasternum in male with shallow triangular impression in posterior two thirds, with two moderately raised and wide prominences in the middle, each separated from the other by nearly the same distance separating the mesocoxae. Last ventral sternite in male with a distinct emargination in the middle of posterior margin, which is slightly raised and markedly shining. Front tibiae as in Fig. 20, similar to those of *M. difficilis*, but slightly narrower. Male genitalia as in Figs. 1-2. Ovipositor as in Fig. 17.

Description. Male holotype. Length 2.50 mm; breadth (at widest point of elytra) 1.38 mm. Scarcely elongate and rather convex (Fig. 24); blackish-brown, with short golden pubescence. Legs yellowish to orange. Antennae yellowish to orange, with slightly darker club.

Head with dorsal punctures slightly larger than eye facets, strongly impressed, separated by less than one diameter, surface between them smooth; front margin of clypeus completely and distinctly bordered, distinctly truncate and with obtusely pointed lateral angles. Frontogeneal furrows distinct and complete. Antennae of normal size for the species group (Fig. 24), third antennomere slender, slightly shorter than second; antennal club medium-sized.

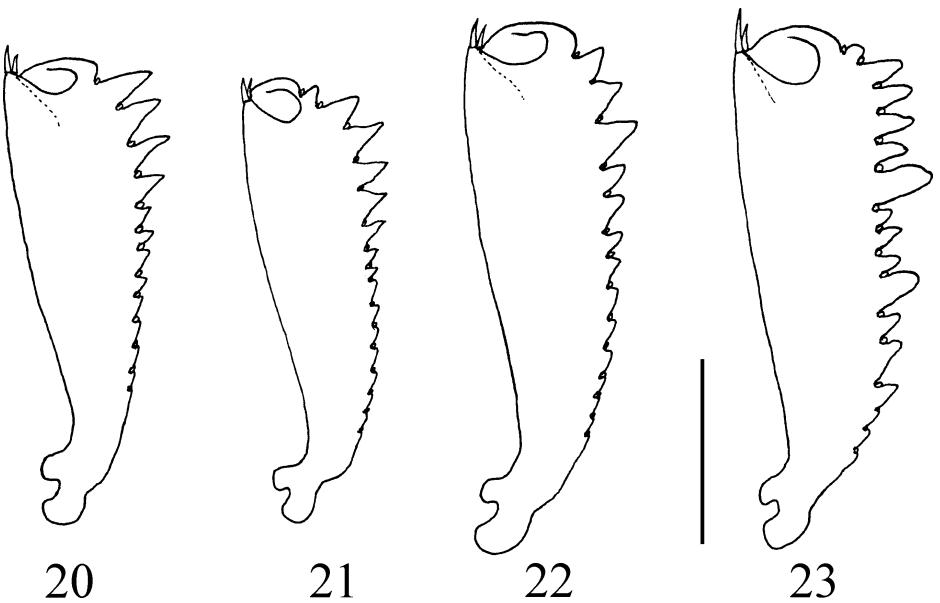
Pronotum 1.85 times as wide as long, broadest at posterior fourth (Fig. 24), narrowed anteriorly; sides narrowly bordered, not explanate; with posterior angles obtuse but distinct. Base slightly sinuate near scutellum; punctures larger, coarser, and deeper than on head, separated by less than one diameter, surface between them smooth and shining.

Scutellum medium-sized, densely punctate throughout; surface between punctures with faint trace of microreticulation. Elytra 1.05 times as long as wide, broadest at basal second fifth, distinctly wider than pronotum (1.18 times); humeri feebly raised, humeral striae indistinct; elytral punctures as on pronotum, surface between them smooth, without microreticulation.

Ventral surface blackish-brown, with fine short pubescence. Prosternal antennal furrows strongly impressed. Prosternal process rather long and sub-parallel, slightly wider than antennal club, with slightly wider and obtusely rounded apex; punctures similar to those on head, surface between them rather shining. Mesosternum with hind margin straight. Metasternum with shallow triangular impression in posterior two thirds, in the middle with two moderately raised and wide prominences separated by nearly the same distance separating the mesocoxae; punctures and the spaces between as on frons, but sparser. Caudal marginal line of hind coxal cavity following closely to posterior edge of cavity and turning back prior to outer end. Last visible abdominal sternite in male with distinct emargination in the middle of posterior margin, which is slightly raised and markedly shining.

Front tibiae (Fig. 20) similar to those of *M. difficilis*, but narrower, with outer edges finely crenulate from basal third, with a subapical group of 3-5 larger and sharper teeth; front tarsi as wide as antennal club; hind tibiae moderately narrow, with inner edges regularly arcuate, not sinuate (Fig. 24); tarsal claws simple.

Genitalia. Tegmen (Fig. 1) with characteristic calyx-shaped median excision moderately deep and rather wide; aedeagus elongate (Fig. 2), narrowed from distal fifth, with apex broadly pointed.



Figs. 20-23. Right front tibiae of *Meligethes* Stephens, 1830. 20 – *M. difficiloides* sp. nov., ♂ paratype from Yunnan, Weibao Mts.; 21 – *M. abditus* sp. nov., ♂ holotype from Beijing principality, Xiaolongmen; 22 – *M. chlorocupreus* sp. nov., ♂ paratype from Yunnan, Weibao Mts.; 23 – *M. bocaki* sp. nov., ♂ paratype from Yunnan, Luo Shui (23). Scale bar = 0.20 mm.

Female. Metasternum almost simple. Front tarsi narrower, distinctly narrower than antennal club. Ovipositor as in Fig. 17, with weakly pointed and moderately darkened apex, and long subapical styli.

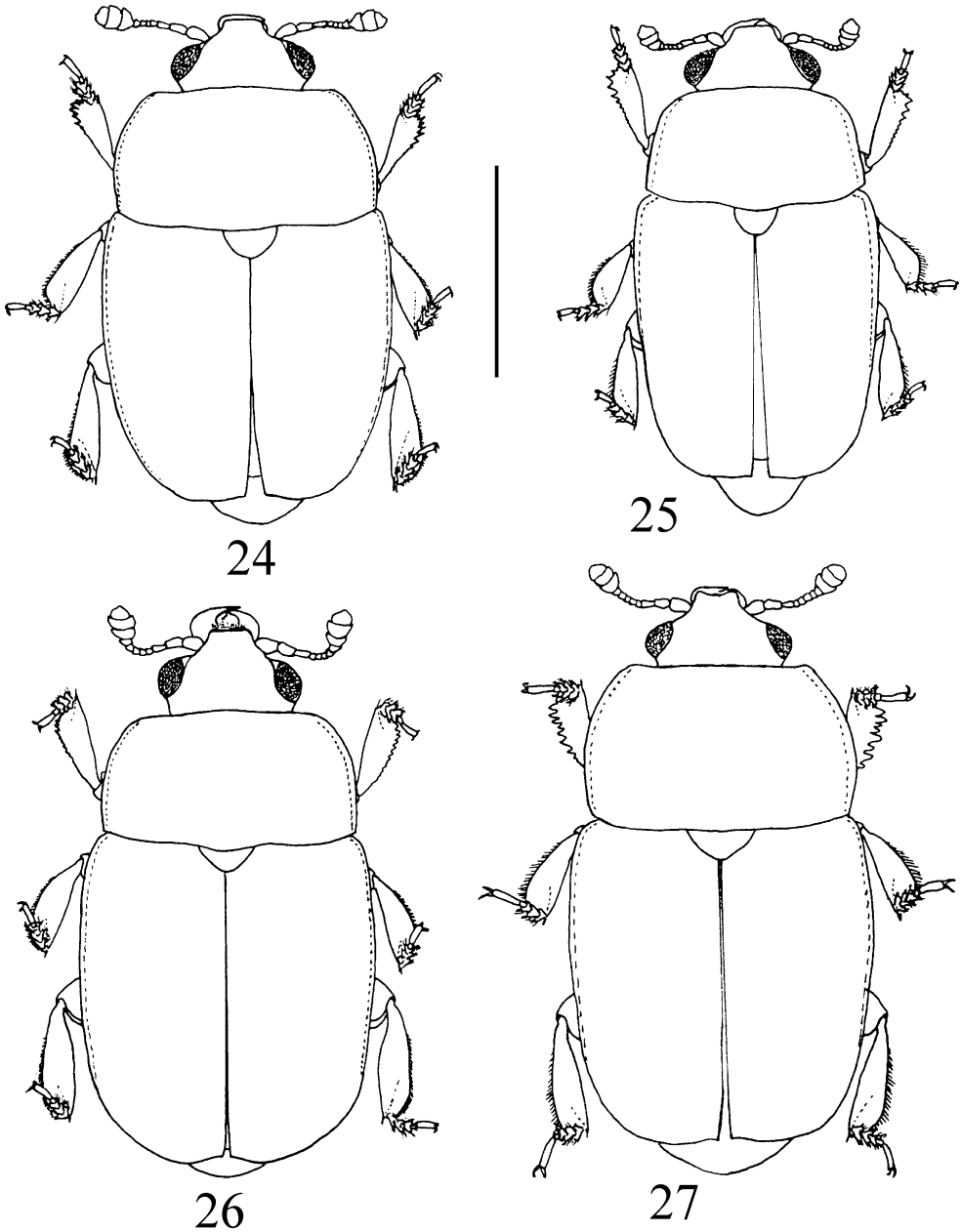
Variability. Length 2.50-2.60 mm. Teeth on outer edges of front tibiae are slightly variable, but of the pattern described and figured.

Differential diagnosis. This species is probably closely related to *M. difficilis*, which is widespread from North Africa and western Europe in the west to the eastern Siberia and Japan in the east (KIREJTSHUK 1992, AUDISIO 1993), but is distinguishable from *M. difficilis* and from the closely related Anatolian-Caucasian *M. dieckmanni* Audisio & Jelínek, 1984 (Figs. 3-4) by the shape of male and female genitalia, shorter elytra, deeper pronotal punctures, truncate anterior margin of clypeus, and last ventral sternite in male with shining emargination in the middle of posterior margin.

Etymology. This new species is named *difficiloides* (= similar to *difficilis* in Latin) to emphasize its external similarity to *M. difficilis*.

Bionomy. The biology of this species is not definitively understood, however it is likely associated with Lamiaceae, probably *Lamium* or related genera, because the closely related *M. difficilis* and *M. dieckmanni* and several other species of the *M. difficilis*-group are known to be associated with these host plants (AUDISIO 1993). Specimens were collected from late June to July by sweeping in montane mixed forests above 2000 m a.s.l.

Distribution. Known to occur in central and southern China (from Yunnan to central Shaanxi).



Figs. 24-27. Body outlines of *Meligethes* Stephens, 1830. 24 – *M. difficiloides* sp. nov., ♂ paratype from Yunnan, Weibao Mts.; 25 – *M. abditus* sp. nov., ♂ holotype from Beijing principality, Xiaolongmen; 26 – *M. chlorocupreus* sp. nov., ♂ holotype from Yunnan, Weibao Mts.; 27 – *M. bocaki* sp. nov., ♂ paratype from Yunnan, Luo Shui. Scale bar = 1 mm.

Meligethes abditus sp. nov.

(Figs. 9-10, 18, 21, 25)

Type material. HOLOTYPE: ♂, **CHINA**, BEIJING Principality, Dongling Mts., Xiaolongmen, 39°97´N, 115°43´E, 1500 m a.s.l., 17.vi.2001, on Labiates, J. Cooter & P. Hlaváč leg. (CAR). PARATYPES: same data as holotype, 2 ♂♂ 2 ♀♀ (CAR, NMPC, CSN).

Diagnosis. Medium-sized (length 2.1-2.5 mm), orange-brown with orange to pale brown legs and antennae, yellowish and translucent narrowly flattened lateral sides of pronotum and elytra and relatively developed golden pubescence. General appearance (Fig. 25) similar to *M. kasparyani* Kirejtshuk, 1984 from the Primorje Territory, but with pronotal sides slightly more widely flattened, elytra more narrowed at sides, truncate anterior margin of clypeus, very distinct male and female genitalia, and much longer and darker teeth on outer sides of middle and hind tibiae. Metasternum in male with a moderately deep and wide longitudinal impression in posterior two thirds, almost simple in female; last ventral sternite simple in both sexes, without incision or raised tubercles. Front tibiae as in Fig. 21. Male genitalia as in Figs. 9-10. Ovipositor as in Fig. 18.

Description. Male holotype. Length 2.42 mm; breadth (at widest point of elytra) 1.22 mm. Elongate and convex (Fig. 25); reddish-brown, with short golden pubescence and with yellowish, translucid, flattened lateral sides of pronotum and elytra. Legs orange to orange-brown. Antennae yellowish to orange, with slightly darker club.

Head with dorsal punctures slightly larger than eye facets, rather strongly impressed, separated by nearly one diameter, surface between them smooth; anterior margin of clypeus completely and indistinctly bordered, truncate, with obtusely pointed lateral angles. Frontogeneal furrows distinct and complete. Antennae of normal size for the species group (Fig. 25), third antennomere slender, slightly shorter than second; antennal club middle-sized.

Pronotum nearly 1.90 times as wide as long, broadest at posterior fourth (Fig. 25), narrowed anteriorly; sides narrowly bordered and flattened; with posterior angles obtuse but distinct. Base slightly sinuate near scutellum; punctures markedly larger, coarser, and deeper than on head, separated from each other by little more than half a diameter, surface between them smooth and shining.

Scutellum medium-sized, densely punctate throughout its entire surface; surface between punctures with faint trace of microreticulation. Elytra 1.12 times as long as wide, broadest at basal two-fifths, scarcely wider than pronotum (1.10 times), slightly narrowed at sides; humeri feebly raised, humeral striae indistinct; elytral punctures distinctly finer and shallower than on pronotum, surface between them smooth, without microreticulation.

Ventral surface orange-brown with fine short pubescence. Prosternal antennal furrows strongly impressed. Prosternal process rather long and sub-parallel, slightly wider than antennal club, with slightly wider and obtusely rounded apex; punctures similar to those on head, surface between them rather shining. Mesosternum with hind margin straight. Metasternum without tubercles, with a wide, sub-parallel, and moderately deep longitudinal impression on posterior two-thirds; punctures and the spaces between as on frons, but sparser. Caudal marginal line of hind coxal cavity following closely to posterior edge of cavity and turning back

prior to outer end. Last visible abdominal sternum simple in both sexes, without incision or tubercles.

Front tibiae (Fig. 21) with outer edges finely crenulate from basal third, with a subapical group of 3-5 larger and sharper teeth; front tarsi slightly narrower than antennal club; hind tibiae moderately narrow, with inner edges regularly arcuate, not sinuate (Fig. 25); tarsal claws simple. Middle and hind tibiae with outer edges bearing series of peculiarly long and dark spines (Fig. 25).

Genitalia. Tegmen (Fig. 9) with characteristic Y-shaped median excision rather deep and wide; aedeagus elongate (Fig. 10), narrowed from distal fifth, with apex moderately pointed, formed by a couple of partly mobile sclerites, converging distally.

Female. Metasternum almost simple. Front tarsi distinctly narrower than in male. Ovipositor as in Fig. 18, with moderately pointed and not darkened apex, and rather short subapical styli.

Variability. Length 2.14-2.50 mm. Teeth on outer edges of front tibiae are slightly variable, but of the pattern described and figured.

Differential diagnosis. This species is probably closely related to *M. kasparyani* from the Primorje Territory (KIREJTSHUK 1992). It is distinguishable by differently shaped male and female genitalia, pronotal sides more distinctly flattened, elytra more narrowed at sides, truncate anterior edge of clypeus and much longer and darker spines on outer sides of middle and hind tibiae. The shape of this new species is strongly reminiscent of small specimens of the southern Italian endemic *Meligethes paschalis* Spornraft, 1975, which, on the other hand, has entirely different male and female genitalia (AUDISIO 1993).

Etymology. Specific epithet *abditus* (= hidden, in Latin) referes to the fact that the few type specimens were sorted out from a long series of specimens of the rather similar and syntopic *M. kasparyani*.

Bionomy. As discussed above, the known specimens were all collected by tapping flowering *Lamium* sp. (probably the eastern Palaearctic *L. barbatum* Siebold & Zucc., Lamiaceae) heads into a sweep net (J. COOTER, pers. observ.), in company with a long series of specimens of the related *M. kasparyani*, known to use the species as local host-plant in eastern Siberia (KIREJTSHUK 1992). *Lamium barbatum* is also widespread in north-eastern China and it is rather likely that this new *Meligethes* uses the same host plant. Specimens were found by sweeping at the edges of mixed secondary woodland and overgrown abandoned walnut orchards at nearly 1500 m a.s.l. Active at least in late June.

Distribution. Known to occur only at the type locality in north-eastern China.

Meligethes kasparyani Kirejtshuk, 1984

(Fig. 28)

Material examined. CHINA: BEIJING Principality, Dongling Mts., Xiaolongmen, 39°97´N, 115°43´E, 1500 m a.s.l., 17.vi.2001, on Labiates, J. Cooter & P. Hlaváč leg., 15 ♂♂ 12 ♀♀ (CAR, NMPC, CSN). New species for China.

This species (Fig. 28) was described from material from eastern Russia, Primorje Territory (KIREJTSHUK 1984), and it was hitherto only known from that region (KIREJTSHUK 1992). As

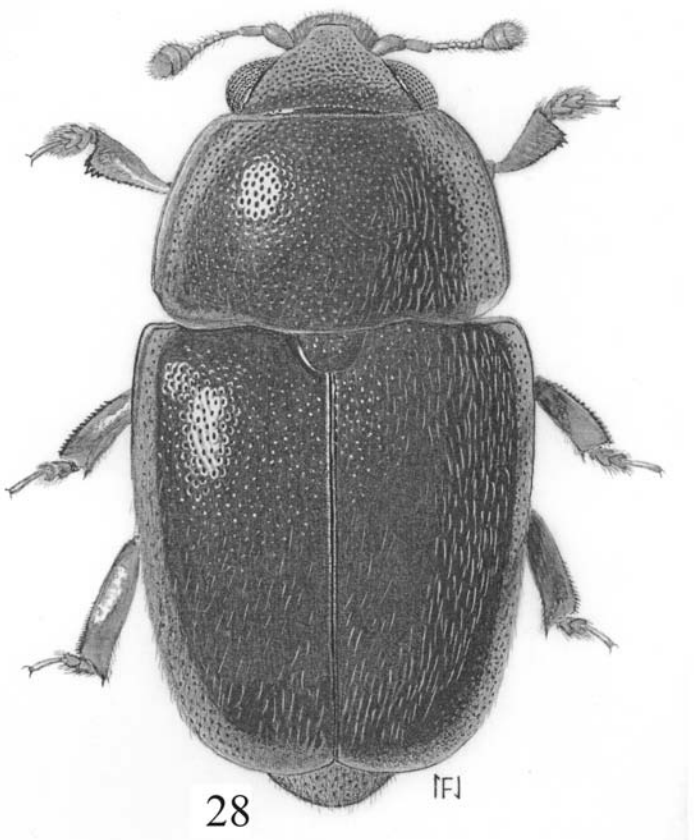


Fig. 28. Habitus of *M. kasparyani* Kirejtshuk, 1984. ♂ from Beijing principality, Xiaolongmen. Length: 2.6 mm.

recorded above, its known larval host-plant is *Lamium barbatum* Siebold & Zucc. (Lamiaceae) (KIREJTSHUK 1992).

***Meligethes bocaki* sp. nov.**

(Figs. 15-16, 19, 23, 27)

Type material. HOLOTYPE: ♂, **CHINA**: YUNNAN, 30 km N of Lijiang, 3000 m a.s.l., 3.vii.1990, L. & M. Bocák leg. (NHMB). PARATYPES: same data as holotype, 5 ♂♂ 2 ♀♀ (NHMB, CAR, NMPC). YUNNAN, Lugu Lake, Luo Shui, 27°45´N, 100°45´E, 8/9.vii.1992, E. Jendek leg., 3 ♂♂ 3 ♀♀ (NHMB, CAR). YUNNAN, Weibao Mts., 25°12´N, 100°24´E, 2800-3000 m a.s.l., 29/30.vi.1992, V. Kubáň leg., 1 ♂ 1 ♀ (NHMB, CAR). YUNNAN, Haba Mts. (= Habashan), SE slope, 27°20´N, 100°11´E, 10/13.vii.1992, V. Kubáň leg., 1 ♂ (NHMB). YUNNAN, in the neighbouring of Baoshan, 5/8.vi.1993, E. Jendek & O. Šauša leg., 1 ♂ 1 ♀ (NHMW). SICHUAN (NW), Maowen, 31°30´N, 103°50´E, 1000 m a.s.l., 10/18.vii.1990, J. Kolibáč leg., 3 ♂♂ 9 ♀♀ (NHMB, CAR).

Diagnosis. Medium-sized (length 2.0-2.9 mm), black with blackish legs and antennae, and moderately developed silvery pubescence. General appearance (Fig. 27) rather similar to *M. tristis* Sturm, 1845 from Europe, but with pronotal sides more widely flattened, elytra more arcuated at sides, and very distinct male genitalia. Metasternum in male with indistinct, shining, and rather narrow longitudinal impression in posterior two thirds, flat and almost simple in female; last ventral sternum simple in both sexes, without incision or raised tubercles. Front tibiae as in Fig. 23. Male genitalia as in Figs. 15-16. Ovipositor as in Fig. 19.

Description. Male holotype. Length 2.50 mm; breadth (at widest point of elytra) 1.26 mm. Moderately elongate and convex (Fig. 27); black, with short silvery pubescence, and with blackish legs and antennae.

Head with dorsal punctures slightly larger than eye facets, rather strongly impressed, separated by little less than one diameter, surface between them smooth; anterior margin of clypeus completely but indistinctly bordered, regularly and deeply arcuately emarginate, with rather pointed lateral angles and indistinct median gibbosity, typical in members of the *M. planiusculus* species-group. Fronto-geneal furrows absent. Antennae of normal size for the species group (Fig. 27), third antennomere slender, slightly shorter than second; antennal club small.

Pronotum 1.80 times as wide as long, broadest at posterior fourth (Fig. 27), narrowed anteriorly; sides narrowly bordered and flattened; with posterior angles obtuse but distinct. Base slightly sinuate near scutellum; punctures slightly larger and deeper than on head, separated from each other by slightly less than half a diameter, surface between them smooth and shining.

Scutellum medium-sized, densely punctate throughout; surface between punctures showing a faint trace of microreticulation. The combined elytra nearly as long as wide, broadest at basal two-fifths, distinctly wider than pronotum (1.1 times), slightly narrowed at sides; humeri feebly raised, humeral striae indistinct; elytral punctures nearly as on pronotum, surface between them smooth, with traces of microreticulation only in distal portion.

Ventral surface black with fine short pubescence. Prosternal antennal furrows strongly impressed. Prosternal process rather long and narrowed in the middle, slightly wider than antennal club, with wider and obtusely rounded apex; punctures similar to those on pronotum, surface between them rather shining. Mesosternum with hind margin straight. Metasternum without tubercles, with a wide, sub-parallel, and shallow longitudinal impression on its posterior two-thirds; punctures and spaces between as on elytra, but sparser. Caudal marginal line of hind coxal cavity following closely to posterior edge of cavity, turning back prior to outer end. Last visible abdominal sternum simple in both sexes, without incision or tubercles.

Front tibiae (Fig. 23) with outer edges finely crenulate from basal fourth, with an irregular, uneven, and asymmetrical group of 4-6 much larger and sharper teeth alternating with smaller ones; front tarsi slightly narrower than antennal club; hind tibiae rather narrow, with inner edges regularly curved, not sinuate (Fig. 27); tarsal claws simple. Middle and hind tibiae with outer edges bearing series of rather long and dark spines (Fig. 27).

Genitalia. Tegmen (Fig. 15) with characteristic elliptic median excision, deep and wide; aedeagus elongate (Fig. 16), narrowed from distal fifth, with apex moderately pointed distally.

Female. Metasternum simple. Front tarsi distinctly narrower than in male. Ovipositor as in Fig. 19, with moderately pointed and not darkened apex and rather short subapical styli.

Variability. Length 2.00-2.92 mm. Teeth on outer edges of front tibiae are very variable, but of the general pattern described and figured. Male genitalia appear to be slightly variable in some of the different populations examined, especially in the depth and width of the median excision separating distal portions of parameres, but closely resembling the pattern figured.
Differential diagnosis. This species is probably closely related to the European *M. tristis* and its allies, including *M. subtristis* Easton, 1957 from Central Asia, and the Euro-Anatolian-central Asiatic *M. buduensis* Ganglbauer, 1899. It is distinguishable mainly by its very peculiarly shaped male genitalia.
Etymology. This new species is dedicated to our Czech colleague L. Bocák (Olomouc), who provided us with some interesting material.
Bionomy. The biology of this species is not definitely understood, however it is likely associated with Boraginaceae, maybe *Echium*, *Onosma*, or related genera, because the closely related European species *M. tristis* and *M. buduensis* and several other species of the *M. planiusculus*-group are associated with these plants (AUDISIO 1993). Specimens were collected from late June to July by sweeping in mountain mixed forests from 1000 m to nearly 3000 m a.s.l.
Distribution. Known to occur in southern China (Yunnan and Sichuan provinces).

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Appendix

Check-list of *Meligethes* s. l. from China and neighbouring countries

Species currently known for certain from China (including Taiwan) are in bold

1.	***M. abditus*** sp. nov.	NE China
2.	*M. accentus* Kirejtshuk, 1978	Middle Asia, Tadzhikistan
3.	***M. aeneus*** (Fabricius, 1775)	Holarctic Region
4.	***M. affinis*** Jelínek, 1982	S China
5.	***M. ancestor*** Kirejtshuk, 1980	N China
6.	*M. angustitarsus* (Kirejtshuk, 1977)	Middle Asia
7.	*M. assamensis* Kirejtshuk, 1980	N India, Assam
8.	*M. astacus* Easton, 1957	Japan
9.	*M. atratus* (Olivier, 1790)	Europe, Siberia, Altai Mts.
10.	***M. audisioi*** Jelínek, 1997	China, Tibet
11.	***M. auricomus*** Rebmann, 1956	S China
12.	***M. auripilis*** Reitter, 1889	S China
13.	*M. bactrianus* Jelínek, 1982	Middle Asia
14.	*M. binotatus* Grouvelle, 1908	India
15.	***M. bocaki*** sp. nov.	S China
16.	*M. bourdilloni* Easton, 1968	Nepal
17.	***M. brevipilus*** Kirejtshuk, 1980	S China
18.	*M. brunnicornis* Sturm, 1845	Europe, Middle Asia, Altai Mts.
19.	*M. castanescens* Grouvelle, 1903	N India
20.	***M. chinensis*** Kirejtshuk, 1979	N China
21.	***M. chlorocupreus*** sp. nov.	S China
22.	*M. cinereus* Jelínek, 1978	Bhutan
23.	***M. circularis*** J. Sahlberg, 1903	E Siberia, Mongolia, N Korea, NE China
24.	***M. conjungens*** Grouvelle, 1910	China, Yunnan
25.	*M. coracinus* Sturm, 1845	Europe, Siberia, Mongolia, Altai Mts.
26.	***M. cyaneus*** Easton, 1957	E China, Japan
27.	***M. denticulatus*** (Heer, 1841)	Palaearctic Region
28.	*M. devillei* Grouvelle, 1912	S Europe, Middle Asia, Altai Mts.
29.	*M. difficilis* (Heer, 1841)	Europe, Middle Asia, Siberia, Altai Mts.
30.	***M. difficiloides*** sp. nov.	S China
31.	*M. dilutipes* Easton, 1957	Middle Asia
32.	*M. diversus* Schilsky, 1893	Turkey, Caucasus, Middle Asia
33.	*M. ferrugineus* Reitter, 1873	N India
34.	***M. flavicollis*** Reitter, 1873	E Siberia, Japan, E China, N Korea
35.	***M. flavimanus*** Stephens, 1830	Palaearctic Region
36.	*M. gagathinus* Erichson, 1845	Europe,W Siberia, Altai Mts.
37.	*M. griseus* Jelínek, 1978	Bhutan

38. *M. gurjevae* Kirejtshuk, 1984	Mongolia
39. *M. hammondi* Kirejtshuk, 1980	N China
40. *M. haroldi* Reitter, 1877	Japan, E Siberia
41. *M. himalayaensis* Kirejtshuk, 1980	N India
42. *M. hoffmanni* Reitter, 1871	S Palaearctic Region
43. *M. initialis* Kirejtshuk, 1979	China
44. *M. intermedius* Kirejtshuk, 1979	Middle Asia, Kazakhstan
45. *M. intermixtus* Kirejtshuk, 1979	Middle Asia, Kyrgyzstan
46. *M. kasparyani* Kirejtshuk, 1984	SE Siberia, NE China
47. *M. klapperichi* Easton, 1957	Middle Asia
48. *M. kvaki* Kirejtshuk, 1977	Middle Asia
49. *M. lloydi* Easton, 1968	Nepal
50. *M. lutra* Solsky, 1876	Middle Asia
51. *M. maurus* Sturm, 1845	Europe, W Siberia, Altai Mts.
52. *M. melleus* Grouvelle, 1908	N Burma
53. *M. mikado* Reitter, 1884	Japan, E Siberia, NE China, N Korea
54. *M. mirator* Kirejtshuk, 1979	Russian Far East
55. *M. mixtus* Grouvelle, 1908	India
56. *M. morosus* Erichson, 1845	Europe, Siberia, Japan, N China
57. *M. mus* Reitter, 1884	Japan
58. *M. nakanei* Easton, 1957	E Siberia, Japan, N China
59. *M. nepalensis* Easton, 1968	Nepal
60. *M. nigrescens* Stephens, 1830	Palaearctic Region
61. *M. nitidicollis* Reitter, 1873	Japan, E Siberia
62. *M. ochropus* Sturm, 1845	Europe, Siberia
63. *M. pamirensis* Kirejtshuk, 1979	Middle Asia, Tadzhikistan
64. *M. pectoralis* Rebmann, 1956	SE China
65. *M. pedicularius* (Gyllenhal, 1808)	Europe, Siberia, Altai Mts.
66. *M. persicus* Faldermann, 1837	Europe, Siberia, N China
67. *M. pharetra* Easton, 1957	Middle Asia
68. *M. placidus* Easton, 1957	E Siberia, Mongolia, N Korea, Japan
69. *M. potanini* Kirejtshuk, 1979	N China
70. *M. praetermissus* Easton, 1957	Japan, E Siberia, E China
71. *M. primoriensis* Kirejtshuk, 1987	SE Siberia
72. *M. privus* Kirejtshuk, 1977	Middle Asia, ?Anatolia
73. *M. rebmanni* Easton, 1957	Middle Asia
74. *M. reitteri* Schilsky, 1894	Europe, W Siberia, Altai Mts.
75. *M. rosenhaueri* Reitter, 1871	E Europe, Middle Asia
76. *M. rubricollis* Grouvelle, 1903	N India
77. *M. rufithorax* Grouvelle, 1894	N India
78. *M. schilskyi* Reitter, 1896	Middle Asia
79. *M. semenovi* Kirejtshuk, 1979	SE Siberia, E China
80. *M. serripes* (Gyllenhal, 1872)	Europe, Siberia, Altai Mts.

81. *M. shimoyamai* Hisamatsu, 1964	Japan
82. *M. shirakii* Hisamatsu, 1956	S Japan, E China
83. *M. shirozui* Hisamatsu, 1965	Taiwan
84. *M. simillimus* Kirejtshuk, 1984	Russian Far East, NE China
85. *M. strejceki* Jelínek, 1982	Middle Asia
86. *M. subater* Kirejtshuk, 1980	N China
87. *M. submetallicus* Sainte-Claire Deville, 1908	S Europe, Middle Asia
88. *M. subrugosus* (Gyllenhal, 1808)	Europe, Siberia, N China, Japan
89. *M. subtristis* Easton, 1957	Middle Asia
90. *M. sulcatus* C. Brisout de Barneville, 1863	Europe, Siberia, Altai Mts.
91. *M. tatjanae* Kirejtshuk, 1982	Middle Asia
92. *M. tilmani* Easton, 1968	Nepal, Tibet
93. *M. torquatus* Jelínek, 1997	Taiwan
94. *M. transmissus* Kirejtshuk, 1988	China
95. *M. vietnamensis* Kirejtshuk, 1979	Vietnam
96. *M. violaceus* Reitter, 1873	E China, Japan
97. *M. viridescens* (Fabricius, 1787)	Europe, N Africa, W Siberia, Altai Mts.
98. *M. vulpes* Solsky, 1876	Middle Asia, S China
99. *M. wagneri* Rebmann, 1956	S China