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## The species of the genus *Mulsanteus* GOZIS, 1875 of Southeast Asia (Insecta: Coleoptera: Elateridae)\*

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ABSTRACT. The known species of the genus *Mulsanteus* GOZIS, 1875 of Southeast Asia are revised, new species of this group are described and illustrated, and keys to species and overviews of their geographical distribution in the Oriental region, and in the territories of the Himalaya, as well as in the Wallacea, and in the Papuan sub-region are given. The following species are introduced as new to science: *Mulsanteus brignolii* n. sp., *M. cambodiensis* n. sp., *M. godawariensis* n. sp., *M. hartmanni* n. sp., *M. holzschuhi* n. sp., *M. hubeiensis* n. sp., *M. ingridae* n. sp., *M. irianjayensis* n. sp., *M. kubani* n. sp., *M. langtangensis* n. sp., *M. murensis* n. sp., *M. nepalensis* n. sp., *M. pedongensis* n. sp., *M. pejchai* n. sp., *M. platiai* n. sp., *M. portulinensis* n. sp., *M. pokharanus* n. sp., *M. riesei* n. sp., *M. sausiai* n. sp., *M. shaanxiensis* n. sp., *M. sikkimensis* n. sp., *M. weigeli* n. sp., and *M. wudangshanensis* n. sp. For the following species new name combinations are proposed: *Mulsanteus aemulus* (CANDÉZE, 1891) n. comb., *M. anchastinus* (CANDÉZE, 1881) n. comb., *M. antennatus* (CANDÉZE, 1896) n. comb., *M. bonifacyi* (FLEUTIAUX, 1918) n. comb., *M. borneoensis* (ÔHIRA, 1973) n. comb., *M. clavus* (CANDÉZE, 1891) n. comb., *M. germanus* (CANDÉZE, 1894) n. comb., *M. hirsutus* (CANDÉZE, 1875) n. comb., *M. hirticornis* (CANDÉZE, 1893) n. comb., *M. illotipes* (CANDÉZE, 1863) n. comb., *M. longicornis* (FLEUTIAUX, 1936) n. comb., *M. lucidus* (CANDÉZE, 1865) n. comb., *M. maceratus* (CANDÉZE, 1893) n. comb., *M. phillipsi* (VAN ZWALUWENBURG, 1936) n. comb., *M. rugosus* (FLEUTIAUX, 1918) n. comb., *M. touffus* (VATS & CHAUHAN, 1992) n. comb., and *M. tumidicollis* (SCHWARZ, 1901) n. comb. A analysis of the plesiomorph characteristics shows the genus *Elater* to be the sister-group of the *Mulsanteus godawariensis* basic-group. The following species are removed from the *Mulsanteus*-group, and transferred to the genera *Elater* LINNAEUS, 1758, and *Gamepenthis* FLEUTIAUX, 1928: *Elater vitalisi* (FLEUTIAUX, 1918) n. comb., *E. hoabinhus* (FLEUTIAUX, 1936) n. comb., and *Gamepenthis malaisei* (FLEUTIAUX, 1942) n. comb. *Elater phongsalyensis* n. sp. is described as new to sciences. *Ludius suturalis* CANDÉZE, 1889 is treated as species incertae sedis. The records of *Mulsanteus sausiai* n. sp. are the first of species of the genus *Mulsanteus* for the Chinese province Guangxi, those of *M. hubeiensis* n. sp. and *M. wudangshanensis* n. sp. are the first for the province Hubei, and the records of *M. shaanxiensis* n. sp. are the first for the province Shaanxi in China. The records of *M. weigeli* n. sp. from the Maluku islands Ternate and Bacan are the first of species of the

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genus *Mulsanteus* for the zoogeographic sub-region named Wallacea, and the records of *M. irianjayensis* n. sp. from the islands of Biak and Yapen, and from Nabire in Irian Jaya, are the first of species of this genus from the Papuan sub-region.

Key words: entomology, taxonomy, Coleoptera, Elateridae, *Mulsanteus*, new species, new records, revision, Southeast Asia.

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## 1. INTRODUCTION

This study represents the results of a revision of the *Mulsanteus*-species of the Oriental region including the Wallacea and the Papuan sub-region, as well as the territories of the Himalaya and Tibet. In this paper the Oriental region is divided into the Indo-Chinese sub-region, the Malayan sub-region, the Indian sub-region, the Ceylonese sub-region, and the Wallacea. The Chinese provinces Guangxi, Hubei and Shaanxi, as well as the territory of Hong Kong, are associated here to be parts of the Indo-Chinese sub-region, as their wet-warm, and summer-hot climate classifies them as to belong to the sub-tropical zone. The territory of the Himalaya, which includes Bhutan, and Nepal, as well as the North-Indian provinces Assam, Bengal, Darjeeling, and Sikkim, and the highland of Tibet, is a part of the Palaearctic region. The western part of New Guinea, Irian Jaya, is included into the Papuan sub-region.

The genus *Mulsanteus* has been established by GOZIS (1875) based on the type species *Trichophorus guillebelli* MULSANT & GODART, 1853. As the name *Trichophorus* was published by MULSANT & GODART (1853) in homonymy, pre-occupied for a group of the family Cerambycidae by SERVILLE (1838), and the work of GOZIS (1875) was little known, CANDÈZE (1863, 1865, 1875, 1881, 1889, 1891, 1893, 1894, 1896), FLEUTIAUX (1918), and SCHWARZ (1901) in the following period described new Southeast Asian species of the group under the genus *Ludius* BERTHOLD (1827). However, a part of these species has been later transferred by SCHWARZ (1906) into the genus *Trichophorus* MULSANT & GODART (1853), and FLEUTIAUX (1936) placed it into the genus *Neotrichophorus* YAKOBSON (1913). *Neotrichophorus* was established by YAKOBSON (1913) as the name *Trichophorus* was a nomen praeoccupatum, but not considering the fact, that an older name, *Mulsanteus*, had already been available at that time. SCHENKLING (1925-27), some years later, overtook the name combinations given by CANDÈZE (1863-1896) and FLEUTIAUX (1936), not considering those of SCHWARZ (1906), and placed the species under *Ludius* BERTHOLD (1827) and *Neotrichophorus* YAKOBSON (1913). KISHII (1983), MIWA (1934), NAKANE & KISHII (1957), and ÔHIRA (1966, 1973) published new species of the group from Japan, Borneo and Taiwan under the genus *Neotrichophorus* YAKOBSON (1913) as well. IABLOKOFF-KHNZORIAN (1974) described the genus *Nairus* based on the species *N. dux* from Armenia, but MARDJANIAN (1987) synonymised *Nairus* with *Neotrichophorus*. As the name *Trichophorus* had been published by MULSANT & GODART (1853) as a homonym, SÁNCHEZ-RUIZ (1996) re-established the next younger name, *Mulsanteus*, that was forgotten for a long time, and treated it as nomen oblitum.

Since that time, there was a need to re-name the known species of the group with new name combinations in accordance with the ICZN. Furthermore, as newly collected material of the genus *Mulsanteus* from Oriental region and from Himalaya became available in addition, a revision on the whole group of these species occurring in Southeast Asia became necessary.

As result of this revision, we propose new name combinations for 17 known Southeast Asian species of the genus *Mulsanteus*, for two of the genus *Elater*, and for one of the genus *Gamepenthes*. 22 further species of the genus *Mulsanteus* from Oriental region, and from Himalaya, as well as from the Wallacea and from the Papuan sub-

region are described as new to sciences. One species is treated in this paper as *incertae sedis*, because its systematic status could not be cleared.

Together 45 species of the genus *Mulsanteus* are known now from the Oriental region, from Papuan sub-region, from the Wallacea, and from Himalaya. These species are described, illustrated, and keyed below.

## 2. ABBREVIATIONS AND METHODS

### ABBREVIATIONS

The following abbreviations have been used in this study:

|      |   |
|------|---|
| CMH  | Coll. MERTLIK, Hradec Králové, Czech Republic         |
| CPG  | Coll. PLATIA, Gatteo, Italy                           |
| CRG  | Coll. RIESE, Genova, Italy                            |
| CSV  | Coll. SCHIMMEL, Vinningen, Germany                    |
| CTW  | Coll. TARNAWSKI, Wrocław, Poland                      |
| HNHM | Hungarian Natural History Museum, Budapest, Hungary   |
| ICZN | International Code for zoological nomenclature        |
| MTD  | Museum for Natural History, Dresden, Germany          |
| NMB  | Natural History Museum, Basel, Switzerland            |
| NME  | Natural History Museum, Erfurt, Germany               |
| NMW  | Natural Historical Museum, Vienna, Austria            |
| SMNS | Staatliches Museum für Naturkunde, Stuttgart, Germany |
| TICB | TAMMIN, Ins. Coll., Brno, Czech Republic              |

### METHODS

The examination of the collected material has been executed by using a binocular ZEISS, Stemi 2000-C with a micron insert. Photographs were taken with a NIKON E4500 camera with an addaption TV2/3" C 0.63x to the binocular.

Body length of the specimens has been measured from apical margin of frons up to apex of elytra, and body width along basis angles of pronotum, by using the micron insert of the binocular.

The examined specimens are fixed on white pastboard. The genitalia of the males have been pulled out of the abdomen, cleaned and fixed beside the body of the specimen by using water-soluble transparent glue.

Types of new species have been marked with red labels indicating the type status (Holotype or Paratype), and the names of the species and of the author.

Keys to species are given for those occurring in the Indo-Chinese sub-region, in the Malayan sub-region, in the Indian and Ceylonese sub-regions, as well as in the territories of the Himalaya. The given keys are built basing on the characteristics of males. Females of the genus *Mulsanteus* are very rare, and just known for the minority of the species. Their exact determination will only be possible, with studying the pertaining males at the same time (except for *M. pedongensis* which is easy to determine by its body measures and colour). The Sectioning of the zoogeographic regions and sub-regions is in accordance with the work of DE LATIN (1967).

For the construction of the sister-group of the genus *Mulsanteus*, body parts and characteristics of three closely related genera (*Aphanobius*, *Elater* and *Mulsanteus*) have been compared. The constitution of monophyletic basic-groups within the genus *Mulsanteus* is basing on hypothetical plesiomorphies, and by using the principle of parsimony.

### 3. SYSTEMATIC POSITION, DIAGNOSIS AND TAXONOMICAL REMARKS OF THE GENUS *MULSANTEUS*

#### Genus *Mulsanteus* Gozis, 1875

*Trichophorus* (Cerambycidae) SERVILLE, 1838.

*Trichophorus* (nomen praeoccupatum) Mulsant & Godart, 1853: 181 (nec Serville, 1838).

*Mulsanteus* Gozis, 1875: 50.

*Neotrichophorus* Yakobson, 1913: 741.

*Nairus* Iablokoff-Khinzorian, 1974: 52.

#### SYSTEMATIC POSITION AND DIAGNOSIS

The genus *Mulsanteus* belongs to the tribe Elaterini, Leach, 1815, and is delineated within this group by the following characteristics: Head inclined from centre to apex, frons convex, slightly raised above the base of antennae, and completely edged. Antennae are serrate from fourth antennomere on (fig. 92), second antennomere globular, as long or slightly shorter than the following, third antennomere sub-globular, truncate at apex, both together combined clearly shorter than each of the following antennomeres (fig. 93); antennae covered with long, and conspicuously protruding hairs (fig. 95) in most of the species (except the species of the *M. schaumi*-group, known from Turkey possessing semi-erected hairs on antennae). Metacoxal plates strongly narrowed outwards. Basal angles of pronotum truncate at apex, and bent downward (best visible from lateral view), apices with a tuft of long, spreading, and bristly hairs (fig. 94).

#### DIFFERENTIAL DIAGNOSIS

From other genera of the tribe Elaterini, the genus *Mulsanteus* may be easily distinguished by the mentioned characteristics of the basal angles of pronotum, and by the form and pubescence of the antennae.

#### TAXONOMICAL REMARKS

Dolin & Atamuradov (1994) published *Neotrichophorus (Mulsanteus) turanicus* (Reitter, 1887) for the fauna of Turkmenistan, and provided drawings of the characteristics of the abdominal segment of the larva of this species. These characteristics show conspicuous conformities to those of the species of the *Elater*-group, and therefore it can be established that the systematic position of the genus *Mulsanteus*, based on the characteristics of the adults as well as those of the larva, is well founded.

4. THE SPECIES OF THE GENUS *MULSANTEUS* OF THE INDO-CHINESE SUB-REGION

The material of the genus *Mulsanteus* from the Indo-Chinese sub-region used in this study has been collected in the environments of Cambodia, Laos, Myanmar, Thailand, Vietnam, in the Chinese provinces Guanxi, Shaanxi, Hubei, and Hong Kong, in Tibet and Taiwan.

## 4.1. KEY TO SPECIES

(*M. wudangshanensis* is not to be determined by the following key. For determination, see note in the differential diagnosis of the description)

1. Antennomeres 4-10 truncate at apex ..... 2.
- Antennomeres 4-10 convex to lamellate at apex ..... 6.
2. Body black ..... 3.
- Body brown ..... 4.
3. Punctures of pronotum with simple intersices ..... *M. riesei* n. sp.
- Punctures of pronotum with wrinkled interstices ..... *M. shirozui* (ÔHIRA, 1966)
4. Punctures of pronotum regularly rounded, interstices flat .....  
..... *M. anchastinus* (CANDÈZE, 1881)
- Punctures of pronotum oval to drop-shaped, interstices wrinkled at posterior third ... 5.
5. Antennae exceeding posterior angles of pronotum by the length of the last antennomere ..... *M. sausai* n. sp.
- Antennae exceeding basis posterior of pronotum by the length of the last two antennomeres ..... *M. foldvarii* PLATIA & SCHIMMEL, 2007
6. Elytra bicoloured ..... 7.
- Elytra unicoloured ..... 9.
7. Elytra black, base reddish-brown ..... *M. longicornis* (FLEUTIAUX, 1936)
- Elytra brown, apical half, or suture and apex black ..... 8.
8. Elytra brown, apical half black ..... *M. pejchai* n. sp.
- Elytra brown, along suture and apex black ..... *M. brignolii* n. sp.
9. Body black, antennae exceeding posterior angles of pronotum by the length of the last four antennomeres ..... *M. bonifacyi* (FLEUTIAUX, 1918)
- Body brown, antennae shorter ..... 10.
10. Antennae exceeding basis angles of pronotum by the length of the last three antennomeres ..... 11.
- Antennae exceeding basis angles of pronotum by the length of the last two antennomeres ..... 14.
11. Antennomeres 4-10 sub-lamellate at apex ..... 12.
- Antennomeres 4-10 convex at apex ..... 13.
12. Interstices of punctures of pronotum wrinkled ..... *M. clavus* (CANDÈZE, 1891)
- Interstices of punctures of pronotum simple, only at basis wrinkled .....  
..... *M. cambodiensis* n. sp.
13. Dark brown, antennae, and legs lighter brown .....  
..... *M. peregovitsi* PLATIA & SCHIMMEL, 2007

- . Black, elytra, legs and antennae chestnut-brown ..... *M. rugosus* (FLEUTIAUX, 1918)
- 14. Antennomeres 4-10 concave at apex ..... 15.
- . Antennomeres 4-10 sub-lamellate at apex ..... 16.
- 15. Body reddish-brown ..... *M. rubuginosus* (ÔHIRA, 1966)
- . Body blackish-brown, elytra chestnut-brown ..... *M. shaanxiensis* n. sp.
- 16. Interstices of punctures of pronotum wrinkled ..... *M. hubeiensis* n. sp.
- . Interstices of punctures of pronotum simple ..... *M. kubani* n. sp.

## 4.2. REVIEW OF SPECIES

***Mulsanteus anchastinus* (CANDÈZE, 1881) n. comb.**

(Fig. 1)

*Ludius anchastinus* CANDÈZE, 1881: 104.*Trichophorus anchastinus* (CANDÈZE, 1881): SCHWARZ, 1906: 259.*Neotrichophorus anchastinus* (CANDÈZE, 1881): SCHENKING, 1927: 432; LIU, 1932: 234; WU, 1937: 462; JIANG, 1993: 155.

## LOCUS TYPICUS

China: Moupin.

## NEW MATERIAL

China: Hong Kong, Tai Po, 1996, 1 spm., leg. G. de Rougemont.

## DISTRIBUTION

China: Moupin; Hong Kong.

***Mulsanteus bonifacyi* (FLEUTIAUX, 1918) n. comb.**

(Figs. 2-3)

*Ludius bonifacyi* FLEUTIAUX, 1918: 228; Schenkling, 1927: 428.*Neotrichophorus bonifacyi* (FLEUTIAUX, 1918): FLEUTIAUX, 1936: 295-296.

## LOCUS TYPICUS

Vietnam: Tonkin, Hagianh.

## NEW MATERIAL

Laos: Huaphanh province, Phou Pan Mts., 12.-17.V.2004, 1 spm., leg. Petr Kresel;  
Laos: Xamneva, Phu Pan, 1350-2700 m, IV.-V.2001, 1 spm., leg. T. Porion.

## DISTRIBUTION

Vietnam: Tonkin.

Laos: Huaphanh; Xamneva.

*Mulsanteus brignolii* n. sp.

(Figs. 4-5)

## LOCUS TYPICUS

Myanmar: Shan State.

## TYPE MATERIAL

**Holotypus** ♂ (CPG): Myanmar: Shan State, Pindaya e Angua Da, 22.V.1983, 1300 m, leg. M. Brignoli.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 9.4 mm, width: 2.4 mm. Black, pronotum reddish-brown with apices of posterior angles black; legs brown; elytra lighter brown, along suture and lateral margin, as well as apex black. Pubescence light-yellowish, long, semi-erect, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae with conspicuously long and protruding hairs.

## DESCRIPTION

Head with dense and simple puncturation, interstices of points half to once their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching the posterior angles of pronotum for the length of the last three antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length, but semi-globular, truncate at apex, and both combined are conspicuously shorter than fourth and each of the following antennomeres; those are extended and convex at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), prominently and regularly raised at centre, arcuate laterally, and with a relatively prominent dropping at basis. Posterior angles of pronotum slightly divergent, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any trace of furrow or mould. Puncturation of pronotum dense, coarse, simple, and rounded to drop-forming, interstices of points at the whole surface flat and shiny.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, and edged at basis, puncturation dense, fine and umbilicate; pubescence dense, fine, and just visible, inclined from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, without an inner tooth. Base of elytra slightly smaller than that of pronotum and slightly depressed at scutellum, margins raised shoulders prominent (winged species). Striae of elytra covered with fine and dense, simple puncturation, interstices



of striae finely punctured, shiny, and flat, not raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending parameres, sub-parallel, in middle conspicuously thick, apically slightly narrowed and bevelled. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. brignolii* is closely allied to *M. germanus*, but may be easily distinguished from this species by the reddish-brown pronotum, the regularly rounded apex of elytra, and by the form of aedeagus.

#### ETYMOLOGY

Named after the discoverer of the new species, Mr. M. BRIGNOLI.

#### DISTRIBUTION

Myanmar: Shan State.

### *Mulsanteus cambodiensis* n. sp.

(Figs. 6-7)

#### LOCUS TYPICUS

Cambodia: Mondolkiri.

#### TYPE MATERIAL

**Holotypus** ♂ (HNHM): Cambodia: Mondolkiri province, Seima biodiv. cons. area, road between Seima and O'Rang, 360 m, at light, 27.I.2006, leg. G. Csorba, L. Duval & G. Ronkay. **Paratypus** ♂ (CSV): Laos: Bolikhamsay province, Phou Khao Kouay NBCA, Tad Leuk waterfall, 280 m, at light, 11.-12.IV.1998, 1 spm., leg. O. Merkl & G. Csorba.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 12.8 mm, width: 3.1 mm. Black, elytra and legs chestnut-brown. Pubescence yellowish brown, long, semi-erect, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae with conspicuous long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum for the length of the last three antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined are conspicuously shorter than the fourth and each of the following antennomeres; those are extended and convex at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.08:1.00), prominently and regularly raised at centre, arcuate laterally, and with a relatively prominent dropping at basis. Posterior angles of pronotum straight, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any trace of furrow or mould. Puncturation of pronotum dense, coarse, umbilicate, and drop-forming, interstices of points at basis reduced to very small and shiny wrinkles.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, fine and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved and with an inner tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with rugosities and dense, simple puncturation, interstices of striae finely punctured, shiny, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending parameres, sub-parallel, in middle conspicuously thin, apically slightly narrowed. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

## DIFFERENTIAL DIAGNOSIS

*M. cambodiensis* is closely allied to *M. clavus*, but may be easily distinguished from this species by the shorter antennae, the darker colour, by the less dense puncturation of pronotum, and by the form of aedeagus.

## ETYMOLOGY

Named after the locus typicus.

## DISTRIBUTION

Cambodia: Mondolkiri.

***Mulsanteus clavus* (CANDÈZE, 1891) n. comb.**

(Figs. 8-9)

*Ludius clavus* CANDÈZE, 1891: 786-787; SCHENKLING, 1927: 428.

*Trichophorus clavus* (CANDÈZE, 1906): SCHWARZ, 1906: 259.

## LOCUS TYPICUS

Myanmar: Carin-Cheba.

## NEW MATERIAL

Myanmar: Downa Hills, 29.IV.1994, 1 spm., leg. S. Steinke; Thailand: Mae Hong Son district, Soppong, 10.-13.V.1993, 2 spm., leg. V. Kubáň; same location but 7.-12.V.1996, 2 spm., leg. J. Horák; same location but 23.-27.V.1990, 3 spm., leg. D. Hauck; Thailand: Loei province, Phu Pra Dung, 16.-17.V.1999, 1 spm., leg. M. Rina.

## DISTRIBUTION

Myanmar: Carin-Cheba; Downa Hills.

Thailand: Mae Hong Son; Loei.

***Mulsanteus foldvarii* PLATIA & SCHIMMEL, 2007**

(Figs. 10-11)

*Mulsanteus foldvarii* PLATIA & SCHIMMEL, 2007 (in press).

## LOCUS TYPICUS

Taiwan: Shanping, Kaoshiung Hsien.

***Mulsanteus hubeiensis* n. sp.**

(Figs. 12-13)

## LOCUS TYPICUS

China: Hubei.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): China: Hubei province, Mulinzi, 30 km north-east of Hefeng, 23.-24.V.2004, leg. J. Turna.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 12.7 mm, width: 3.3 mm. Chestnut-brown, legs and antennae reddish-brown. Pubescence yellowish brown, semi-erect, short, bristly and dense, on pronotum inclined

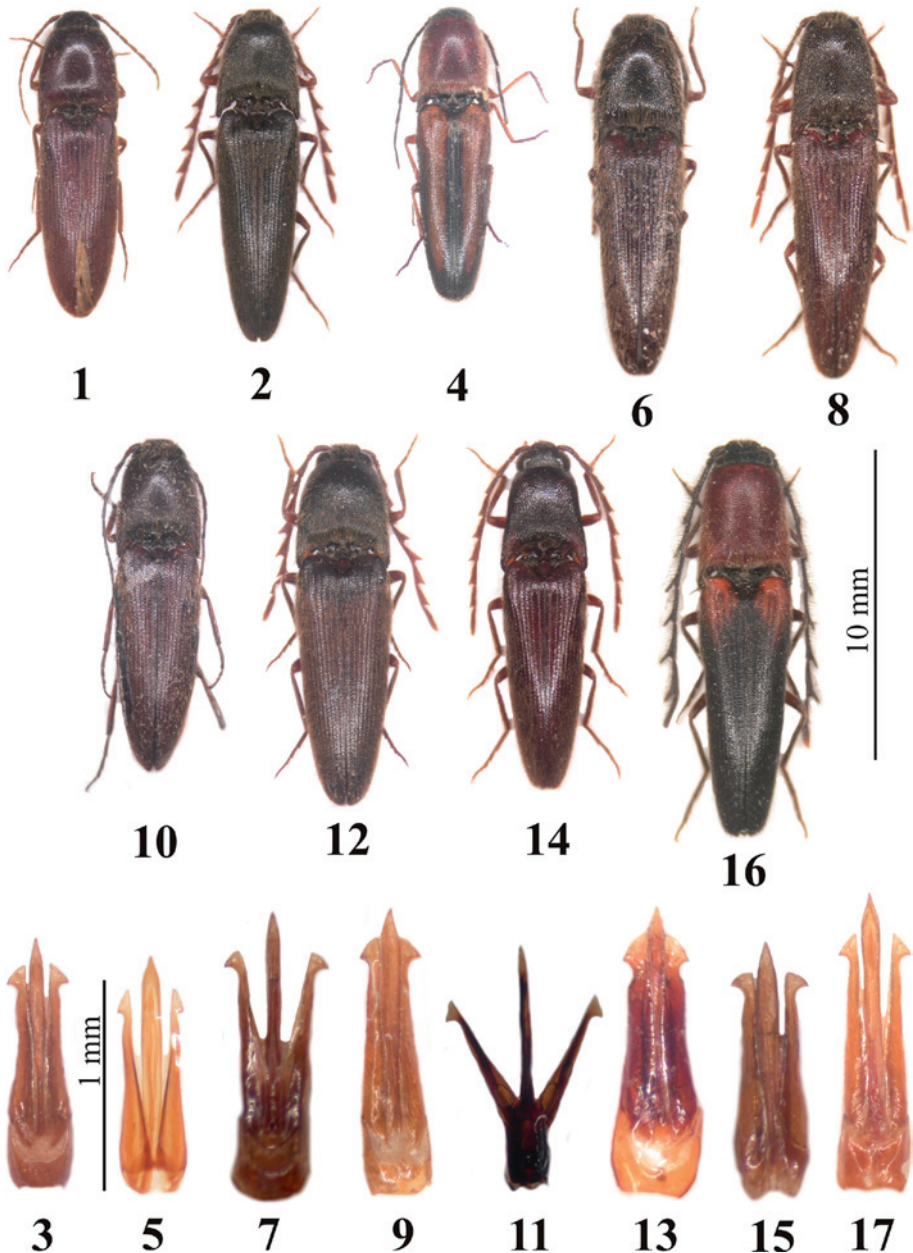


Plate 1 (figs. 1-17). 1. Habitus of *Mulsanteus ancastinus* (CANDÈZE, 1881) n. comb.; 2, 3. *M. bonifacyi* (FLEUTHAUX, 1918) n. comb.: 2 – habitus, 3 – aedeagus; 4, 5. *M. brignolii* n. sp.: 4 – habitus, 5 – aedeagus; 6, 7. *M. cambodiensis* n. sp.: 6 – habitus, 7 – aedeagus; 8, 9. *M. clavus* (CANDÈZE, 1891) n. comb.: 8 – habitus, 9 – aedeagus; 10, 11. *M. foldvarii* PLATIA & SCHIMMEL, 2007: 10 – habitus, 11 – aedeagus; 12, 13. *M. hubeiensis* n. sp.: 12 – habitus, 13 – aedeagus; 14, 15. *M. kubani* n. sp.: 14 – habitus, 15 – aedeagus; 16, 17. *M. longicornis* (FLEUTHAUX, 1936) n. comb.: 16 – habitus, 17 – aedeagus

to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae with moderate long and protruding hairs.

#### DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points less than half their diameter, and forming small wrinkles, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long and serrate from fourth antennomere on, outreaching posterior angles of pronotum for the length of the last two antennomeres; second antennomere short, globular, as long as wide; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined slightly shorter than fourth and each of the following antennomeres; those are extended and lamellate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), prominently and regularly raised at centre, arcuate laterally, and with a prominent dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any trace of furrow or mould. Puncturation of pronotum very dense, coarse, umbilicate, and sub-oval to drop-forming, interstices of points at the whole pronotum reduced to small and shiny wrinkles.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, fine and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, with a very small apical tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with rugosities and dense, simple puncturation, interstices of striae roughly punctured, shiny, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with little longer and more protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle slightly thickened, apically narrowed and triangular. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. hubeiensis* is closely allied to *M. sausai*, but may be easily distinguished from this species by the smaller body, the darker colour of legs and antennae, by the much

denser puncturation of pronotum, and by the form of aedeagus. From the similar *M. bonifacyi*, the new species may be easily distinguished by the lighter colour, and by the form of aedoeagus.

#### ETYMOLOGY

Named after one of the locus typicus.

#### DISTRIBUTION

China: Hubei.

### *Mulsanteus kubani* n. sp.

(Figs. 14-15)

#### LOCUS TYPICUS

Thailand: Chom Thong.

#### TYPE MATERIAL

**Holotypus** ♂ (CSV): Thailand: Mae Hong Son province, Ban Huai Po, 30.IV.-4.V.1991, 1 spm., leg. J. Horák. Cambodia: **Paratypes** 2 ♂♂ (CKB, NMB): Mondolkiri province, Seima biodiv. Cons. area, road between Seima and O'Rang, 300 m, at light, 30.I.2006, 1 spm., leg. G. Csorba, L. Duval & G. Ronkay; Huaphanh province, Phou Pan Mts., 30 km south of Xam Neua, 1500 m, 6.-17.V.2004, 1 spm., leg. Petr Kresel.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 11.5 mm, width: 3.0 mm. Black, elytra, legs and antennae chestnut-brown. Pubescence yellowish brown, semi-erect, short, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles.

#### DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum for the length of the last three antennomeres; second antennomere globular, short, only as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and convex at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), prominently and regularly raised at centre, arcuate laterally, and with a relatively prominent dropping at basis. Posterior angles of pronotum

convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any trace of furrow or mould. Punctuation of pronotum dense, coarse, umbilicate, and drop-forming, interstices of points at the whole surface reduced to very small and shiny wrinkles.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, punctuation dense, fine and umbilicate; pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved and with a very small inner tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with rugosities and dense, simple punctuation, interstices of striae finely punctured, shiny, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose punctuation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle slightly thickened, apically narrowed and sharpened. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. kubani* is closely allied to *M. sausiai*, but may be easily distinguished from this species by the shorter body, the darker colour, by the longer antennae, by the denser punctuation of pronotum, and by the form of aedeagus.

#### ETYMOLOGY

Named after one of the discoverers of the new species, Mr. V. KUBAŇ, Brno, Czech Republic.

#### DISTRIBUTION

Laos: Ban-Honai-Sai; Louang Namtha; Phongsaly; Louang Phrabang.

Thailand: Chom Thong.

#### ***Mulsanteus longicornis* (FLEUTIAUX, 1936) n. comb.**

(Figs. 16-17)

*Neotrichophorus longicornis* FLEUTIAUX, 1936: 295-296.

#### LOCUS TYPICUS

Vietnam: Tonkin.



## NEW MATERIAL

Vietnam: Vinh Phu province, Tam Dao, 6.-23.V.1990, 1 spm., B. Makovský; same location, but 16.-23.V.1991, 1 spm., leg. J. Strnad; same location, but 12.-24.V.1989, 1 spm., leg. J. Strnad; same location, but 17.-21.V.1990, 3 spm., leg. V. Kubán.

## DISTRIBUTION

Vietnam: Tonkin; Vinh Phu.

***Mulsanteus pejchai* n. sp.**

(Figs. 18-19)

## LOCUS TYPICUS

Laos: Hua Phan.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): Laos: Vientiane Municip., Phou Khao Khouay NBCA, Ban Van Hua, 800-1000 m, 5.-20.V.2005, leg. M. Pejcha. **Paratypus** ♂ (CRG): Laos: Hua Phan province, from Ban Saluei to Phu Pan, 1500-2000 m, 20.IV.-11.V.2001, leg. D. Hauck.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 10.6 mm, width: 2.8 mm. Black, elytra brown at posterior half. Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae with conspicuous long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last antennomere; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and convex at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.08:1.00), prominently and regularly raised at centre, especially at the posterior third, arcuate laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum straight, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with



a deep, but short mould in the posterior third. Punctuation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface reduced to very small and dull wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, punctuation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved and with an inner tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple punctuation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose punctuation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending parameres, sub-parallel, in middle slightly thickened, apically narrowed and sharpened. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.



Photo 1: Laos, primary Forest at Phue Pane Mts. Photo V. Kubàn, 2007

## DIFFERENTIAL DIAGNOSIS

*M. pejchai* is closely allied to *M. longicornis*, but may be easily distinguished from this species by the conspicuously raised basis of pronotum, shorter antennae, the lighter colour, by the denser puncturation of pronotum, and by the form of aedeagus.

## ETYMOLOGY

Named after the discoverer of the new species, Mr. M. PEJCHA, Brno, Czech Republic.

## DISTRIBUTION

Laos: Hua Phan.

***Mulsanteus peregovitsi* PLATIA & SCHIMMEL, 2007**

(Figs. 20-21)

*Mulsanteus peregovitsi* PLATIA & SCHIMMEL, 2007 (in press).

## LOCUS TYPICUS

Taiwan: Ilan County.

***Mulsanteus riesei* n. sp.**

(Figs. 22-23)

## LOCUS TYPICUS

Thailand: Loei.

## TYPE MATERIAL

**Holotypus** ♂ (CRG): Thailand: Loei province, Phu Ruan, 1100 m, 6.-9.V.1999, leg. D. Hauck. **Paratypes** 4 ♂♂, 1 ♀ (CRG, CSV, CTW): Same data as Holotypus.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, conspicuously raised, and moderately shiny species. Length: 13.7 mm, width: 3.6 mm. Black, elytra and legs blackish-brown, antennae reddish-brown, apices of antennomeres reddish. Pubescence yellowish brown, semi-erect, short, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at

apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined slightly shorter than fourth and each of the following antennomeres; those are extended and obtuse at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, raised, along median line slightly longer than wide at the posterior angles (length/width ratio 1.03:1.00), prominently and regularly raised at centre, arcuate laterally, and with a relatively prominent dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any trace of furrow or mould. Puncturation of pronotum fine and dense, coarse, umbilicate, and oval to drop-forming, interstices of points at the whole surface less than half their diameter, and simple.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, fine and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved and with a very small inner tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with rugosities and dense, simple puncturation, interstices of striae finely punctured, shiny, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle slightly thickened, apically narrowed and sharpened. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females slightly larger than males, their antennae are shorter, not reaching posterior angles of pronotum, for the length of the ultimate antennomere.

#### DIFFERENTIAL DIAGNOSIS

*M. riesei* is closely allied to *M. sausai*, but may be easily distinguished from this species by the finer puncturation of pronotum, the conspicuously raised body, and by the form of aedeagus.

#### ETYMOLOGY

Named after our dear friend Mr. S. RIESE, Genova.

#### DISTRIBUTION

Thailand: Loei.

***Mulsanteus rubuginosus* (ÔHIRA, 1966)**  
(Figs. 24-25)

- Neotrichophorus rubuginosus* ÔHIRA, 1966: 272.  
*Neotrichophorus rubuginosus* ÔHIRA, 1966: ÔHIRA, 1970: 214.  
*Neotrichophorus rubuginosus* ÔHIRA, 1966: 1972: 9; JIANG, 1993: 155.  
*Mulsanteus rubuginosus* (ÔHIRA, 1966): SUZUKI, 1999: 197.

LOCUS TYPICUS

Taiwan: Nanshanchi.

NEW MATERIAL

Taiwan: Sichiao, Chiayi Hsien, 9.-10.VI.1988, 1 spm., leg. K. Masumoto; Wushe, 10.VI.-9.VII.1997, 1 spm., leg. T. Spevar.

DISTRIBUTION

Taiwan: Nanshanchi; Chiayi; Wushe.

***Mulsanteus rugosus* (FLEUTIAUX, 1918) n. comb.**  
(Figs. 26-27)

- Ludius rugosus* FLEUTIAUX, 1918: 257; SCHENKLING, 1927: 428.  
*Neotrichophorus rugosus* (FLEUTIAUX, 1918): FLEUTIAUX, 1936: 195-196.

LOCUS TYPICUS

Cambodia: Pnom-Phen.

NEW MATERIAL

Thailand: Chom Thong, 24.-27.IV.1991, leg. J Horak; same location as Holotype but 25.IV.1991, 1 spm., S. Bily; Thailand: Bangkok, 11.I.1989, 1 spm., without further data; Laos: Ban-Honai-Sai, III.1984, 1 spm., without further data; Laos: Louang Namtha province, from Namtha to Muang Sing, 900-1200 m, 5.-31.V.1997, 1 spm., leg. V. Kuban; Laos: Phongsaly province, Phongsaly environment, 1500 m, 28.V.-20.VI.2003, 1 spm., leg. V. Kuban; Laos: Louang Phrabang province, 25 km east of Muang Ngoy, 1000 m, 23.IV.1999, 1 spm., leg. V. Kuban; same location but 6.-17.V.2004, 2 spm., leg. M. Brancucci.

DISTRIBUTION

Cambodia: Pnom Phen; Mondolkiri; Bolikhamsay; Huaphanh.  
 Thailand: Mae Hong Son.

***Mulsanteus sausiai* n. sp.**  
(Figs. 28-29)

LOCUS TYPICUS

Laos: Bolikhamsai.

## TYPE MATERIAL

**Holotypus** ♂ (CSB): Laos: Bolikhamsai province, Ban Nape – Kaew Nua pass, 18.IV.-1.V.1998, 600 m, leg. E. Jendek & O. Sauša. **Paratypes** 3 ♂♂, 2 ♀♀ (CRG, CSV): Thailand: Doi Saket, Chiang Mai, 12.X.1989, 1 spm., leg. Y. Maint; Thailand: Saraburi, III.1989, 1 spm., leg. S. Steinke; Myanmar: Shan Highland, Monghkok, 15.-20.VII.2006, 1 spm., leg. Li Jingke; China: Guangxi, Bai He-Na He County, 1.-11.VII.2006, 1 spm., leg. L. Jingke; Tibet: Cha Yu province, Xia-Cha-Yu, 1.-28.VII.2004, 1 spm., leg. L. Jingke (in the “Check-list of the geographical distribution of the *Mulsanteus*-species in Southeast Asia”, the later record is included into the part of Himalaya and Tibet, which is part of the Palaearctic region).

## DIAGNOSIS

**Holotypus** ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 13.5 mm, width: 3.7 mm. Chestnut-brown, legs and antennae light-brown. Pubescence yellowish brown, semi-erect, short, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last antennomere; second antennomere short, globular, slightly longer than wide; third antennomere slightly shorter than second antennomere, but semi-globular, truncate at apex, and both combined slightly shorter than fourth and each of the following antennomeres; those are extended and obtuse at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), prominently and regularly raised at centre, arcuate laterally, and with a relatively prominent dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any trace of furrow or mould. Puncturation of pronotum dense, coarse, umbilicate, and drop-forming, interstices of points at posterior third reduced to small and shiny wrinkles.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, fine and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, without any apical tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with rugosities and dense, simple puncturation, interstices of striae finely punctured, shiny, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle slightly thickened, apically narrowed and triangular. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females slightly larger than males, their antennae are shorter, not reaching basis angles of pronotum, for the length of the ultimate two antennomeres.

#### DIFFERENTIAL DIAGNOSIS

*M. sausiai* is closely allied to *M. kubani*, but may be easily distinguished from this species by the larger body, the chestnut-brown colour, by the shorter antennae, the less dense puncturation of pronotum, and by the form of aedeagus.

#### ETYMOLOGY

Named after one of the discoverers of the new species, our dear friend, Dr. O. SAUŠA, Bratislava, Slovakia.

#### DISTRIBUTION

Laos: Ban Nape; Bolikhamsai.

Myanmar: Shan Highland.

Thailand: Chiang Mai; Saraburi.

Tibet: Cha Yu.

China: Guangxi.

### *Mulsanteus shaanxiensis* n. sp.

(Figs. 30-31)

#### LOCUS TYPICUS

China: Shaanxi.

#### TYPE MATERIAL

**Holotypus** ♂ (CSV): China: Shaanxi province, Lueyang, 23.-26.VI.2004, leg. E. Kučera.

**Paratypus** ♂ (CMH): Same location as Holotypus but 26.V.1997, leg E. Kučera.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 12.6 mm, width: 3.2 mm. Blackish-brown, elytra, legs and antennae chestnut-brown. Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.



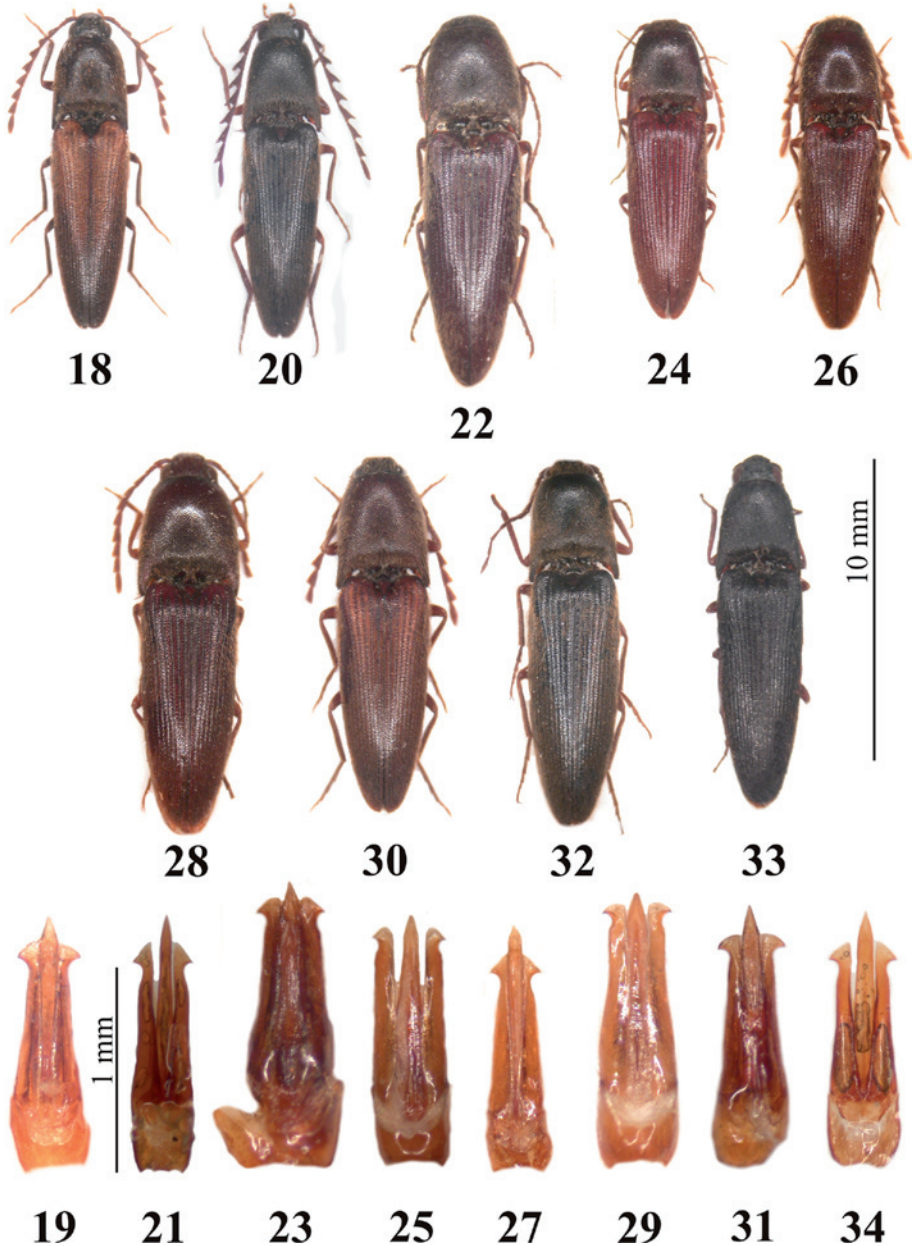


Plate 2 (figs. 18-34). 18, 19. *Mulsanteus pejchai* n. sp.: 18 – habitus, 19 – aedeagus; 20, 21. *M. peregovitsi* PLATIA & SCHIMMEL, 2007: 20 – habitus, 21 – aedeagus; 22, 23. *M. riesei* n. sp.: 22 – habitus, 23 – aedeagus; 24, 25. *M. rubuginosus* (ŌHIRA, 1966) n. comb.: 24 – habitus, 25 – aedeagus; 26, 27. *M. rugosus* (FLEUTIAUX, 1918) n. comb.: 26 – habitus, 27 – aedeagus; 28, 29. *M. sausiai* n. sp.: 28 – habitus, 29 – aedeagus; 30, 31. *M. shaanxiensis* n. sp.: 30 – habitus, 31 – aedeagus; 32. Habitus of *M. shirozui* (ŌHIRA, 1966) n. comb.: 33. 34. *M. wudangshanensis* n. sp.: 33 – habitus, 34 – aedeagus

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres, second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and convex at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), prominently and regularly raised at centre, especially at the posterior third, arcuate laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum slightly convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any mould or furrow. Puncturation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface reduced to very small and dull wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved and with an inner tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending paramere, sub-parallel, in middle thickened, apical slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

## DIFFERENTIAL DIAGNOSIS

*M. shaanxiensis* is closely allied to *M. langtangensis*, but may be easily distinguished from this species by the darker colour, by the longer antennae, and by the form of aedeagus.

## ETYMOLOGY

Named after the locus typicus.



## DISTRIBUTION

China: Shaanxi.

***Mulsanteus shirozui* (ÔHIRA, 1966)**

(Fig. 32)

*Neotrichophorus shirozui* ÔHIRA, 1966: 272-274; 1972: 9; Jiang, 1993: 155.

*Mulsanteus shirozui* (ÔHIRA, 1966): SUZUKI, 1999: 198.

## LOCUS TYPICUS

Taiwan: Sungkang.

## NEW MATERIAL

Taiwan: Hsinchu, Netwan, Litung-Shan, 17.-21.III.2004, 3 spm., leg. J. D. Bařtová.

## DISTRIBUTION

Taiwan: Sungkang; Hsinchu.

***Mulsanteus wudangshanensis* n. sp.**

(Figs. 33-34)

## LOCUS TYPICUS

China: Hubei.

## TYPE MATERIAL

**Holotypus** ♂ (CPG): China: Hubei province, Wudang shan, 20.-25.V.2005, without further data.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and moderately shiny species. Length: 12.1 mm, width: 3.0 mm. Black, antennae, legs, and scutellum chestnut-brown. Pubescence yellowish brown, semi-erect, short, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles.

## DESCRIPTION

Head with very dense and umbilicate puncturation, interstices of points less than half their diameter, and forming small wrinkles, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Second antennomere short, globular, as long as wide. The following antennomeres are lost.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.03:1.00), prominently and regularly raised at centre, arcuate

laterally, and with a prominent dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apical edge of posterior angles truncate, and bent downwards (best visible from lateral view). Pronotum with a flat mould at basis. Punctuation of pronotum very dense, coarse, umbilicate, and sub-oval to drop-forming, interstices of points at the whole pronotum reduced to small and shiny, conspicuously raised wrinkles.

Scutellum triangular, wedge-shaped, slightly convex and raised at base, laterally straight, and sharp at apex. Surface moderately flat, punctuation dense, fine and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, with a very small apical tooth. Base of elytra slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with rugosities and dense, simple punctuation, interstices of striae roughly punctured, shiny, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose punctuation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe conspicuously extending parameres, sub-parallel, in middle thickened, apical narrowed and triangular. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. wudangshanensis* is closely allied to *M. hubeiensis*, but may be easily distinguished from this species by the darker colour, by the denser punctuation of pronotum, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

China: Hubei.

### 5. THE SPECIES OF THE GENUS *MULSANTEUS* FROM HIMALAYA

Himalayan material of the genus *Mulsanteus* has been collected in Nepal and Bhutan, and in the North-Indian provinces Assam, Bengal, Darjeeling and Sikkim.

#### 5.1. KEY TO SPECIES

1. Pronotum and elytra black or blackish-brown ..... 2.
- . Pronotum and elytra chestnut-brown to reddish-brown or of different colour .... 5.

2. Body larger (15.4 mm) ..... *M. pedongensis* n. sp.  
 – Body shorter (11.0-12.5 mm) ..... 3.  
 3. Basis of pronotum step-resembling (visible in lateral view) .....  
 ..... *M. hartmanni* n. sp.  
 – Basis of pronotum sloping (visible in lateral view) ..... 4.  
 4. Pronotum regularly raised, its punctures very dense, interstices of points less than  
 half their diameter and wrinkled ..... *M. godawariensis* n. sp.  
 – Pronotum conspicuously raised, its punctures less dense, interstices of points once  
 their diameter and flat ..... *M. pokharanus* n. sp.  
 5. Pronotum and elytra chestnut-brown or reddish-brown ..... 6.  
 – Pronotum and elytra of different colour ..... 8.  
 6. Pronotum reddish-brown, elytra brownish-yellow ..... *M. langtangensis* n. sp.  
 – Pronotum and elytra chestnut-brown ..... 7.  
 7. Pronotum conspicuously raised, its punctures dense, points oval, their interstices  
 wrinkled ..... *M. nepalensis* n. sp.  
 – Pronotum less raised, disk flat, its punctures dense, points rounded, their interstices  
 wrinkled ..... *M. hirtellus* CANDÈZE (1863)  
 8. Pronotum black, elytra chestnut-brown ..... *M. ingridae* n. sp.  
 – Pronotum black or reddish-brown, elytra chestnut-brown, its apex black ..... 9.  
 9. Pronotum reddish-brown ..... *M. holzschuhi* n. sp.  
 – Pronotum black ..... 10.  
 10. Pronotum conspicuously raised, with a flat mould at posterior third, basis angles  
 straight ..... *M. sikkimensis* n. sp.  
 – Pronotum regularly raised, with a flat, just visible, and short mould at basis, basis  
 angles conspicuously divergent ..... *M. murenus* n. sp.

## 5.2. REVIEW OF SPECIES

***Mulsanteus godawariensis* n. sp.**

(Figs. 35-36)

## LOCUS TYPICUS

Nepal: Lalitpur.

## TYPE MATERIAL

**Holotypus** ♂ (CPG): Nepal: Kathmandu Vall., Lalitpur distr., Godawari, 2200-2700 m, 1.-7.VI.1996, leg. P. Čechovsky. **Paratypes** 5 ♂♂, 1 ♀ (CPG, CSV, MTD, NMB): Rasuwa distr., Langtang nat. park, Dhunche, Bharkhu-Syabru, 2000-2800 m, 6.-13.V.1996, 1 spm., leg. P. Čechovsky; Janakpur, Jiri, 1850 m, 20.-24.V.1980, 1 spm., leg. G. Sabatinelli; Annapurna Mts., Kali Gandaki Valley, Sirkung, 2550 m, 1.VI.2001, 1 spm., leg. J. Schmidt; Bhutan: Thimphu, 1972, 1 spm., without further data; Arun Valley, from Arunthan to Chichila, 1300-1950 m, 29.V.1983, 1 spm., leg. M. Brancucci; India: Darjeeling, Pudung, 900 m, 3.V.1985, 1 spm., leg. B. Bhakta.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.0 mm, width: 2.6 mm. Black, antennae, legs and elytra blackish-brown, the basis of the later chestnut-brown. Pubescence reddish-brown, semi-erect, long, fine and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with very dense and umbilicate puncturation, interstices of points less than half their diameter, and reduced to small wrinkles, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two and a half antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex, last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), regularly raised, disk flat, straight laterally, and with a relative prominent dropping at basis. Posterior angles of pronotum slightly convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a very flat, and short median mould at posterior fifth. Puncturation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points less than half their diameter, and at the whole surface reduced to small, and shiny wrinkles, forming raised rugosities.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base of elytra slightly smaller than that of pronotum, depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, thin, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females are slightly larger, their antennae are shorter than those of the males.

## DIFFERENTIAL DIAGNOSIS

*M. godawariensis* is closely allied to *M. ingridae*, but may be easily distinguished from this species by the darker colour of elytra, longer antennae, and by the form of aedeagus.

## ETYMOLOGY

Named after the locus typicus.

## DISTRIBUTION

Bhutan: Thimphu.

Nepal: Lalitpur; Rasuwa; Janakpur.

India : Darjeeling.

***Mulsanteus hartmanni* n. sp.**

(Figs. 37-38)

## LOCUS TYPICUS

Nepal: Karnali-Humla.

## TYPE MATERIAL

**Holotypus** ♂ (NME): Nepal: Karnali province, Humla distr., 6 km north-west of Simikot, Dandaphara, 2300 m, 18.VI.2001, leg. A. Weigel. **Paratypes** 5 ♂♂ (CSV, NMB, NME, SMNS): same location but 19.VI.2001, 2 spm., leg. M. Hartmann; same location but 19.VI.2001, 1 spm., leg. A. Kopetz; India: Darjeeling, Ralle, 16.IV.1987, 1 spm., leg. B. Bhakta. Sindhupalchok distr., south-west of Dolangsa, 2300 m, 16.VI.2000, 1 spm., leg. W. Schawaller; Bhutan: Thimphu, VIII.1975, 1 spm., without further data; Thimphu, Phuntsholing, 1680 m, 22.V.1972, 2 spm., Nat. Hist. Mus. Basel, Bhutan expedition.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 12.5 mm, width: 3.0 mm. Blackish-brown, antennae and legs chestnut-brown. Pubescence reddish-brown, semi-erect, long, fine and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points less than half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two

antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line clearly longer than wide at the posterior angles (length/width ratio 1.05:1.00), regularly raised, disk flat, straight laterally, and with a conspicuous step-resembling dropping at basis. Posterior angles of pronotum slightly divergent, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a very flat, just visible median mould at posterior fifth. Puncturation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface, but especially at basis, reduced to small, and shiny wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, thin, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females are slightly larger than the males, their pronotum is more subparallel than trapezoid.

#### DIFFERENTIAL DIAGNOSIS

*M. hartmanni* is closely allied to *M. murenus*, but may be easily distinguished from this species by the lighter colour of body, the shorter antennae, the longer pronotum, and its step-resembling dropping at basis, and by the form of aedeagus.

#### ETYMOLOGY

Named after one of the discoverers of the new species, Mr. M. HARTMANN, Naturkundemuseum, Erfurt.

#### DISTRIBUTION

Bhutan: Thimphu.

Nepal: Karnali; Sindhupalchok.

India: Darjeeling.

***Mulsanteus hirtellus* (CANDÈZE, 1863) n. comb.**

(Figs. 39-40)

*Ludius hirtellus* CANDÈZE, 1863: 303; FLEUTIAUX, 1918: 256; 1924: 146.

*Trichophorus hirtellus* (CANDÈZE, 1863): SCHWARZ, 1906: 259.

*Neotrichophorus hirtellus* (CANDÈZE, 1863): SCHENKLING, 1927: 433; FLEUTIAUX, 1936: 295; ÔHIRA, 1973: 37; 1978: 95.

LOCUS TYPICUS

Sri Lanka.

NEW MATERIAL

Nepal: Sagarmatha, Khumbu, Ratnanga Danda, Ringmo, 18.-20.V.2000, 2 spm., leg. J. Dalinod; Dana, 15.V.1984, 1 spm., leg. A. Hamet; Chitre ghar Kho, 26.-31.V.1984, 3 spm., leg. C. Holzschuh; Kopchepani, 20.V.1984, 3 spm., leg. C. Holzschuh; Ganesh Himal, Salankhu Khola Valley, Bhalche, 2000 m, 9.VI.2000, 1 spm., leg. Santa & Santé; Kali-Gandaki, Kopchepani, 1600 m, 18.VI.1986, 1 spm., leg. C. Holzschuh; same location but 1600-2000 m, 20.VI.1986, 8 spm., leg. C. Holzschuh; same location but 2500-2800 m, 21.-25.VI.1986, 9 spm., leg. C. Holzschuh; same location but 1500-1600 m, 21.V.1984, 3 spm., leg. B. Bhakta; Khumbu, Namche Bazar, 3200 m, 1979, 1 spm.,



Photo 2: Nepal, valley of Myagdi Khola, south of Dobang, 2000-2400 m. Photo W. Schawaller, 1995



leg. B. Bhakta; Piang-lake, Rara, 30.V.1977, 1 spm., leg. W. Wittmer; Parbat distr., from Kosma to Karkineta, 900-1600 m, 2.VII.1986, 1 spm., leg. C. Holzschuh; Basantapur, 2300 m, 30.V.-2.VI.1985, 1 spm., leg. M. Brancucci; Ghar Khola, Ghorepani, 2800-2000 m, 12.VI.1986, 1 spm., leg. C. Holzschuh; Darjeeling: Monshong Kaman, 20.-21.IV.1987, 1 spm., leg. B. Bhakta; Kalimpong, 1500 m, 14.VII.1984, 1 spm., leg. C. J. Rai; Tatopani, 1100-1400 m, 27.-28.VI.1986, 2 spm., leg. C. Holzschuh; Lolay, 980 m, 23.IV.1986, 3 spm., leg. B. Bhakta; Bhutan: Thimphu, Phuntsholing, 1680 m, 22.V.1972, 3 spm., Bhutan exped. Nat. Hist. Mus. Basel; Myagdi distr., Myagdi Khola, south of Dobang, 2000-2400 m, 21.V.1995, 8 spm., leg. J. Martens & W. Schawaller; Sankhua Sabha distr., between Pahakhola and Karnarang, 1800-1500 m, 4.VI.1988, 1 spm., leg. J. Martens & W. Schawaller; Solukhumbu distr., east above Kharikhola, 2100 m, 14.V.1997, 3 spm., leg. W. Schawaller; same distr., but above Gudel, 2000-2500 m, 22.V.1997, 1 spm., leg. W. Schawaller; same distr., but Jubing, 1700-2000 m, 14.V.1997, 1 spm., leg. W. Schawaller.

#### DISTRIBUTION

Sri Lanka.

India: Darjeeling.

Nepal: Sagarmatha; Burhanilkantha; Dana; Chitre; Kopchepani; Sankhua Sabha.

Bhutan: Thimphu.

#### DISCUSSION

SCHENKLING (1927) recorded this species as to be distributed in Sri Lanka, Bengal, Singapore, Java, Tonkin, Cambodia, and Cochin chine. All specimens of *M. hirtellus* we have studied so far have been collected from Sri Lanka and from the Himalaya exclusively. The presence of this species outside Sri Lanka, North-India, and Himalaya is doubtful.

### *Mulsanteus holzschuhi* n. sp.

(Figs. 41-42)

#### LOCUS TYPICUS

Nepal: Modi Pothana.

#### TYPE MATERIAL

**Holotypus** ♂ (CSV): Nepal: Modi Pothana, 7.-9.VI.1984, leg. C. Holzschuh. **Paratypes** 4 ♂♂ (CSV, NMB): Nepal: Kali Gandhaki Khola, Tatopani, 1100-1400 m, 1 spm., leg. B. Bhakta; Dhawalagiri, Myagdi district, from Hille to Ghorepani, 1600-2600 m, 10.VI.1986, 1 spm., leg. C. Holzschuh; Hong Goan, Hatya, 1500-2300 m, 1.VI.1980, 1 spm., leg. W. Wittmer; India: Darjeeling, Trista, 18.IV.1987, 1 spm., leg. B. Bhakta.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.0 mm, width: 2.6 mm. Black, pronotum and antennae reddish-brown, elytra light-brown, its apex blackish, legs chestnut-brown. Pubescence reddish-brown, semi-erect, long, fine



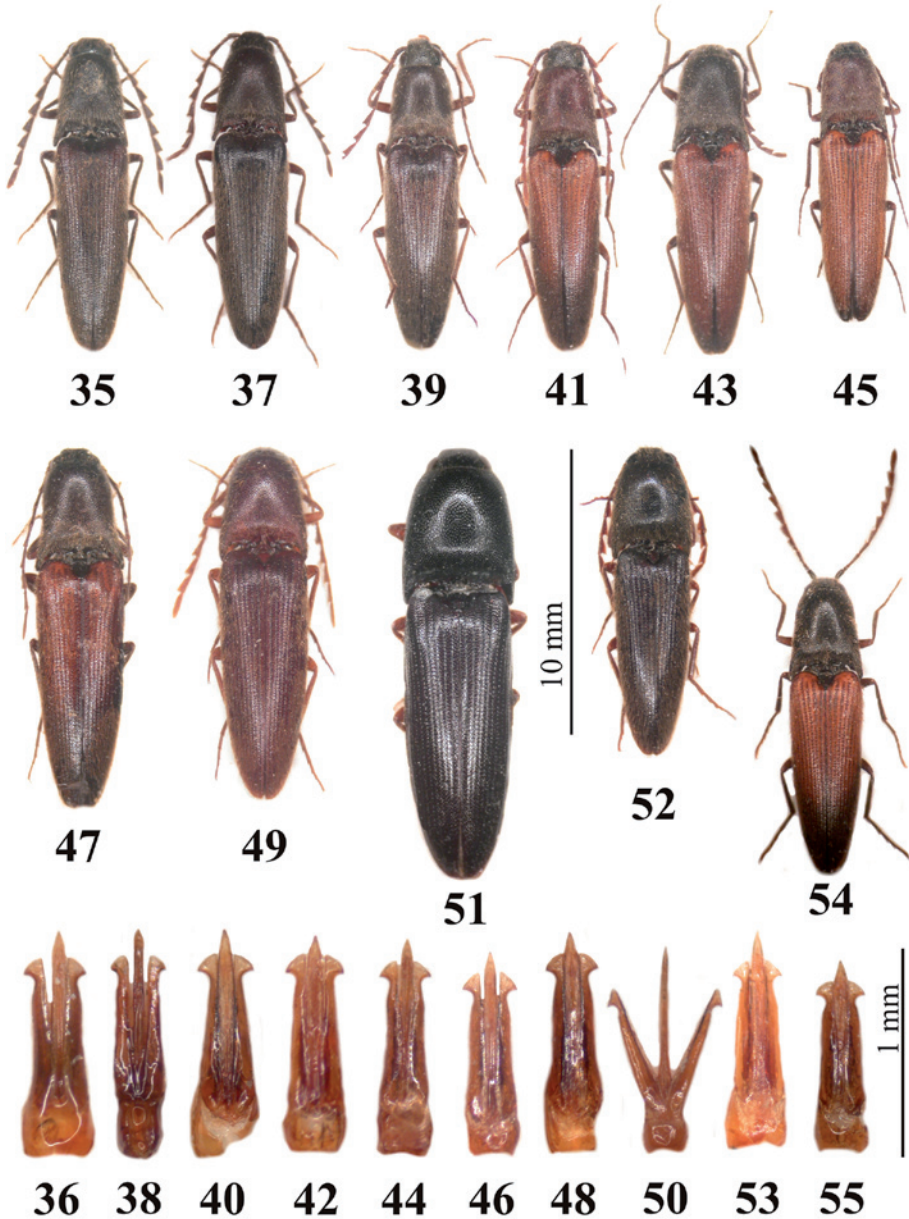


Plate 3 (figs. 35-55). 35, 36. *Mulsanteus godawariensis* n. sp.: 35 – habitus, 36 – aedeagus; 37, 38. *M. hartmanni* n. sp.: 37 – habitus, 38 – aedeagus; 39, 40. *M. hirtellus* (CANDÈZE, 1863) n. comb.: 39 – habitus, 40 – aedeagus; 41, 42. *M. holzschuhi* n. sp.: 41 – habitus, 42 – aedeagus; 43, 44. *M. ingridae* n. sp.: 43 – habitus, 44 – aedeagus; 45, 46. *M. langtangensis* n. sp.: 45 – habitus, 46 – aedeagus; 47, 48. *M. murenus* n. sp.: 47 – habitus, 48 – aedeagus; 49, 50. *M. nepalensis* n. sp.: 49 – habitus, 50 – aedeagus; 51. Habitus of *M. pedongensis* n. sp.; 52, 53. *M. pokharanus* n. sp.: 52 – habitus, 53 – aedeagus; 54, 55. *M. sikkimensis* n. sp.: 54 – habitus, 55 – aedeagus

and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

#### DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), regularly raised, disk flat, straight laterally, and with a flat dropping at basis. Posterior angles of pronotum straight, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a flat median mould at posterior third. Puncturation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface, but especially at basis, reduced to small, and shiny wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thickened, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. holzschuhi* is closely allied to *M. langtangensis*, but may be easily distinguished from this species by the blackish apex of elytra, by the shorter antennae, and by

the form of aedeagus. From the similar *M. murenus*, the new species may be easily distinguished by the shorter body, the shorter antennae, the straight posterior angles of pronotum, by the lighter colour, and the form of aedeagus.

## ETYMOLOGY

Named after the discoverer of the new species, Mr. C. HOLZSCHUH, Vienna, Austria.

## DISTRIBUTION

Nepal: Modi Pothana; Kali Gandhaki Khola; Dhawalagiri; Hong Goan.

India: Darjeeling.

***Mulsanteus ingridae* n. sp.**

(Figs. 43-44)

## LOCUS TYPICUS

Nepal: Kathmandu Valley.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): Nepal: Kathmandu Vall., Jamajok, 18.-19.V.1993, leg. R. & I. Schimmel; **Paratypes** 7 ♂♂ (CPG, CSV, CTW, SMNS): Same data as Holotypes, leg. R. & I. Schimmel; Sindhupalchok distr., south-west of Dolangsa, 2300 m, 16.VI.2000, 1 spm., leg. W. Schawaller; same district but Jubing, 1700-2000 m, 14.V.1997, 1 spm., leg. W. Schawaller; Solukhumbu distr., 2000-2500 m, 22.V.1997, 1 spm., leg. W. Schawaller.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.0 mm, width: 2.8 mm. Black, elytra chestnut-brown, legs and antennae blackish-brown. Pubescence reddish-brown, semi-erect, long, fine and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), regularly raised, disk flat, straight laterally, and with a flat dropping at basis. Posterior angles of pronotum slightly convex, divergent, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a flat median mould at posterior third. Punctuation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface reduced to small, and shiny wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, punctuation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple punctuation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose punctuation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thickened, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. ingriddae* is closely allied to *M. sikkimensis*, but may be easily distinguished from this species by the darker colour of elytra, legs and antennae, by the much denser punctuation of pronotum, and by the form of aedeagus.

#### ETYMOLOGY

Named after the dear wife of the first author. She has collected the majority of the specimens of the new species during the Nepal-expedition of R. & I. SCHIMMEL, in spring 1993.

#### DISTRIBUTION

Nepal: Kathmandu Valley.

### *Mulsanteus langtangensis* n. sp.

(Figs. 45-46)

#### LOCUS TYPICUS

Nepal: Rasuwa.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): Nepal: Bagmati, Rasuwa distr., Langtang nat. park, Dhunche, 1960-2200 m, 14.V.2001, leg. M. Pejcha. **Paratypes** 13 ♂♂ (CSV, CPG, CRG, CTW, NMB, SMNS): Same data as Holotypus, 4 spm., leg. M. Pejcha; same location as Holotypus but 22.V.-24.V.1999, 1 spm., leg. M. Pejcha; same location but 22.-24.V.1999, 1 spm., leg. J. Dalihod; Langtang nat. park, 2200-2600 m, 25.V.1999, 2 spm., leg. M. Pejcha; Kathmandu Vall., Burhanilkantha, 1440-1650 m, 16.VI.1983, 1 spm., leg. M. Brancucci; Balaju, 1400 m, 3.VI.1986, 1 spm., leg. C. Holzschuh; same location, 1300-1370 m, 23.V.1977, 1 spm., leg. M. Brancucci & W. Wittmer; Trisuli, 570-1200 m, 20.VI.1997, 1 spm., leg. R. & S. Grolí; Chandam Bari, 3350 m, 22.VI.1978, 1 spm., leg. B. Bhakta; Solukhumbu distr., 2000-2500 m, 22.V.1997, 1 spm., leg. W. Schawaller.

## DIAGNOSIS

*Holotypus* ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 10.0 mm, width: 2.4 mm. Black, pronotum, antennae, and legs reddish-brown, elytra brownish-yellow, its apex black. Pubescence yellowish, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with very dense and umbilicate puncturation, interstices of points less than half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last three antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), prominently and regularly raised, disk flat, straight laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum slightly convex, little divergent, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any median mould or furrow. Puncturation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface shiny, and reduced to small wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thickened, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. langtangensis* is closely allied to *M. sikkimensis*, but may be easily distinguished from this species by the shorter body, and the shorter antennae, by the lighter colour of elytra, legs and antennae, and by the form of aedeagus.

#### TAXONOMICAL REMARKS

Among the paratype-material there are two specimens that are different from all others by the dark-brown colour of elytra. Furthermore, all of the paratypes possess a black coloured pronotum, while that of the Holotype is reddish-brown. Concerning the questioned characteristics, the new species, *M. langtangensis*, seems to have a great spectrum of variability in colour, while its body stature and sizes are absolutely constant.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

Nepal: Rasuwa; Kathmandu Valley.

### *Mulsanteus murenus* n. sp.

(Figs. 47-48)

#### LOCUS TYPICUS

Nepal: Chichila-Mure.

#### TYPE MATERIAL

**Holotypus** ♂ (CSV): Nepal: From Chichila to Mure, 1900 m, 24.V.1980, leg. W. Wittmer. **Paratypes** 24 ♂♂, 3 ♀♀ (CPG, CTW, CRG, CSV, NMB): same location as holotypus but 1950 m, 31.V.1983, 4 spm., leg. M. Brancucci; same location, 1900 m,



24.V.1980, 1 spm., leg. W. Wittmer; Nepal: Sagarmatha, Khumbu, Ratnanga Danda, Ringmo, 18.-20.V.2000, 4 spm., leg. J. Dalinod; Basantapur, 2300 m, 30.V.-2.VI.1985, 3 spm., leg. M. Brancucci; Kaski district, Potana, 2100 m, 25.V.1990, 1 spm, leg. G. Sabatinelli; Mure, 2000 m, 2.-8.VI.1983, 1 spm., leg. M. Brancucci; Burhanilkhanth, 1440-1650 m, 16.VI.1983, 1 spm., leg. M. Brancucci; Darjeeling: Kurseong, 1620 m, 20.-29.VIII.1984, 2 spm., leg. B. Bhakta; Kalimpong, 1180 m, VII.-VIII.1983, 2 spm., leg. B. Bhakta; Rang, 26.IV.1987, 2 spm, leg. B. Bhakta; Monshong Maman, 20.-21.IV.1987, 1 spm., leg. B. Bhakta; Alghera, 18.IV.1984, 1 spm., leg. C. J. Rai; Arun Valley, from Chichila to Mure, 2000 m, 1.VI.1983, 1 spm., leg. M. Brancucci; Basantapur, 2000 m, 30.V.-2.VI.1985, 1 spm., leg. M. Brancucci; Bhutan: Nobding, 41 km oest of Wangdi, 2800 m, 1 spm., 1972, Bhutan exped. of the Natural Hist. Mus. Basel.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 12.7 mm, width: 3.2 mm. Black, antennae and legs reddish-brown, elytra chestnut-brown, its apex blackish. Pubescence reddish-brown, semi-erect, long, fine and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

#### DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last three antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), regularly raised, disk flat, straight laterally, and with a flat dropping at basis. Posterior angles of pronotum conspicuously divergent, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a very flat, just visible median mould at posterior fifth. Puncturation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface, but especially at basis, reduced to small, and shiny wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thickened, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females have a more raised pronotum, slightly longer elytra and shorter antennae than males.

#### DIFFERENTIAL DIAGNOSIS

*M. murenus* is closely allied to *M. holzschuhi*, but may be easily distinguished from this species by the longer body and antennae, by the conspicuously divergent basis angles of pronotum, by the darker colour, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

Nepal: Chichila-Mure; Sagarmatha, Khumbu; Kathmandu valley.

India: Darjeeling.

Bhutan: Nobding.

#### TAXONOMICAL REMARKS

The four Paratypes have blackish elytra, their elytra bases are just slightly lighter.

### *Mulsanteus nepalensis* n. sp.

(Figs. 49-50)

#### LOCUS TYPICUS

Nepal: Ganesh Himal.

#### TYPE MATERIAL

**Holotypus** ♂ (HNHM): Nepal: Ganesh Himal, Valley of Mailung Khola, 1150 m, 22.V.1995, leg. G. FÁBIÁN & L. RONKAY. **Paratypes** 22 ♂♂, 6 ♀♀ (HNHM, CSV, CPG, CMH, NME): Same data as Holotype, 3 spm., (HNHM, NMB, CMH, CPG, CSV, SMNS); same location as Holotype but Somathang, 3270 m, 15.VI.1993, 1 spm., leg.



M. HREBLAY & G. CSORBA; Nepal: Kathmandu, 8.-25.V.1993, 1 spm., leg. R. & I. SCHIMMEL; same location but 20.-24.VI.1993, 2 spm., leg. M. HREBLAY & G. CSORBA; same location but Lazimpat (at light), 7.VI.1980, 2 spm., leg. Sabatilelli & Migliaccio; same location, 1300 m, 22.V.1977, 1 spm., leg. M. Brancucci & W. Wittmer; same location, 24.V.-21.VI.1976, 1 spm., leg. Wittmer, Baroni & Urbani; Lamobagar Gola, 1400 m, 8.-14.VI.1983, 1 spm., leg. M. Brancucci; Nepal: Koshi, Chauki, 3000 m, 22.-24.VI.2001, NMB exped. 2001 to Nepal; same location but Dharan, 18.VI.1985, 1 spm., leg. M. Brancucci; Janakpur, from Kabra to Tamba, Koshi Khola, 1900-900 m, 1 spm., leg. C. J. Rai; Dhawlagiri, Kali Gandhaki Khola, from Tatopani to Kopchepani, 1100-1500 m, 17.VI.1986, 1 spm., leg. C. Holzschuh; Nepal: Godavari, 16.-17.V.1992, 2 spm., leg. I. JENIS; Nepal: Annapurna Region, Pokhara, Phewa Lake, 900 m, 25.IV.2000, 2 spm., leg. A. Skale; Arun Valley, Arunthan, 29.V.1983, 3 spm., leg. M. Brancucci; Trisuli, 570 m, 21.IV.1973, 1 spm., leg. J. Martens; same district, Lamobagar Gola, 1400 m, 9.-14.VI.1983, 1 spm., leg. M. Brancucci; Ilam distr., Sanishara, 5 km north of Siwalik mts., 270-300 m, 3.-5.IV.1988, 1 spm., leg. J. Martens & W. Schawaller; India: Darjeeling, Monsong, 1100-1300 m, 6.-7.V.1983, 1 spm., leg. B. Bhakta; Bhutan: Wangdi Phodrang, 1300 m, 6.-9.VI.1972, 1 spm., Bhutan exped., Natural Hist. Mus., Basel.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 10.3 mm, width: 2.6 mm. Reddish-brown. Pubescence yellowish, semi-erect, long, fine and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

#### DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points less than half their diameter, and wrinkled, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), regularly raised, straight laterally, and with a flat dropping at basis. Posterior angles of pronotum little bent, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any median mould or furrow. Puncturation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface, but especially at basis, reduced to small, and shiny wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thin, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. nepalensis* is closely allied to *M. hirtellus*, but may be easily distinguished from this species by the lighter colour of body, by the raised centre of pronotum, by its oval puncturation, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

Nepal: Ganesh Himal; Kathmandu Valley; Dhawalagiri; Arun Valley.

Bhutan: Wangdi Phodrang.

India: Darjeeling.

### *Mulsanteus pedongensis* n. sp.

(Fig. 51)

#### LOCUS TYPICUS

India: Darjeeling.

#### TYPE MATERIAL

**Holotypus** ♀ (CSV): India : Darjeeling distr., Pedong, 800-1500 m, 15.VIII.1978.

#### DIAGNOSIS

Holotypus ♀: Elongate, wedge-shaped, raised, and shiny species. Length: 15.4 mm, width: 4.0 mm. Black, legs and a very small line at lateral sides of elytra reddish-brown.

Pubescence reddish-brown, semi-erect, short, fine and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex.

#### DESCRIPTION

Head with very dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae lost.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.00:1.00), regularly, and conspicuously raised, arcuate laterally, and with a relative prominent dropping at basis. Posterior angles of pronotum slightly convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any median mould or furrow. Puncturation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface shiny, and covered with simple, and smaller points.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Males unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. pedongensis* is not comparable with any other *Mulsanteus*-species known so far. The new species may be easily recognized by its large size, the black colour of body, and by the conspicuously raised pronotum.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

India: Darjeeling.

***Mulsanteus pokharanus* n. sp.**

(Figs. 52-53)

## LOCUS TYPICUS

Nepal: Pokhara.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): Nepal: Pokhara, Chhoti Patan, 2.VI.1992, leg. J. Morawec.  
**Paratypes** 12 ♂♂, 10 ♀ (CPG, CRG, CSV, MTD): Syangia distr., 2-10 km east of Syangia, 1200-1600 m, 22.-26.VII.1995, 1 spm., leg. G. Csorba; Gorkha Distr., Gorkha Vill., 10.-11.V.1999, 1 spm., leg. Ahrens, Kulbe & Rulik; Janakpur, Dolakha, Tama Koshi Valley, Biganthi, 900 m, 13.V.2000, 1 spm., leg. J. Schmidt; India: Godavari, 1500 m, 21.-27.VI.1989, 1 spm., leg. M. Brancucci; Monigow, 1200-1900 m, 10.VI.1978, 1 spm., leg. B. Bhakta; Bagmati, Nuwakot, Gul Bhanjyang, 2300 m, 15.VI.1989, 1 spm., leg. M. Brancucci; Darjeeling, Sangsay, 5.-7.V.1990, 3 spm., leg. B. Bhakta; Payung Busti, 850 m, 25.-27.V.1986, 1 spm., leg. B. Bhakta; Jalpalguri distr., Doors, 11.-15.IV.1990, 1 spm., leg. B. Bhakta; Kalimpong, 5.VI.1989, 1 spm., leg. B. Bhakta; Reenok, 9.-13.V.1990, 1 spm., leg. B. Bhakta; Zambok, 1080 m, 20.III.1986, 1 spm., leg. B. Bhakta; India: Assam, Kaziranga wild life, Pan Bari Reserve forest, 12.-21.XI.1997, 2 spm., leg. V. Siniaey & V., S. & M. Murzin; India: Sikkim, from Diukchu to Gangtok, 11.IX.1997, 2 spm., leg. B. Bhakta; Drongri, 3000 m, 15.X.1977, 1 spm., leg. B. Bhakta; Diukchu, Gantok, 11.IX.1977, 1 spm., leg. B. Bhakta; Chongay, 1700 m, 20.IV.1985, 1 spm., leg. B. Bhakta; India: Utha Pradesh, Gangani, 1250 m, 15.-20.VI.1981, 1 spm., leg. M. Brancucci.

## DIAGNOSIS

**Holotypus** ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.8 mm, width: 3.1 mm. Blackish-brown, legs and antennae chestnut-brown. Pubescence reddish-brown, semi-erect, long, fine and dense, on pronotum inclined to lateral sides, in the posterior third inclined to basis, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex. Third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.03:1.00), regularly, and conspicuously raised, arcuate

laterally, and with a prominent dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any median mould or furrow. Puncturation of pronotum less dense, coarse, umbilicate, and regularly rounded, interstices of points once their diameter, shiny, and covered with fine, smaller, and simple points.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thin, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females are slightly larger and wider than males, their antennae is slimmer and shorter, just reaching the basis angles of pronotum.

#### DIFFERENTIAL DIAGNOSIS

*M. pokharanus* is closely allied to *M. nepalensis*, but may be easily distinguished from this species by the darker colour, the conspicuously raised pronotum, its double punctured surface, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

India: (Assam): Kaziranga.

India (Darjeeling): Sangsay.

India: (Sikkim): Diukchu.

India: Utha Pradesh.

Nepal: Pokhara, Syangia.

#### ***Mulsanteus sikkimensis* n. sp.**

(Figs. 54-55)

#### LOCUS TYPICUS

North-India: Sikkim.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): North-India: Sikkim, Gezing, 1670 m, 31.V.-3.VI.1999, leg. E. Kučera. **Paratypes** 4 ♂♂ (CSV): Same data as Holotypus, 2 spm., leg. E. Kučera; Sikkim, Khecheopari, lake, 1800 m, 15.-22.VI.2006, 1 spm., leg. E. Kučera; North-India: Bengal, Shingalila national park, Tonglu, 3070 m, 14.-19.VI.1999, 1 spm., leg. E. Kučera (in the “Check-list of the geographical distribution of the *Mulsanteus*-species in Southeast Asia”, the later record is included into the part of the Indian and Ceylonese sub-region, which is part of the Oriental region).

## DIAGNOSIS

*Holotypus* ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.0 mm, width: 2.8 mm. Black, elytra reddish-brown, its apex blackish-brown, legs chestnut-brown, antennae light-brown, and first antennomere black. Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides (singular hairs on centre protruding), on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.05:1.00), prominently and regularly raised, straight laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum straight, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a flat median mould at posterior third. Puncturation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface shiny, and reduced to small wrinkles, forming raised rugosities at posterior third.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe just extending parameres, sub-parallel, in middle thick, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. sikkimensis* is closely allied to *M. shaanxiensis*, but may be easily distinguished from this species by the shorter body, by the lighter colour of elytra and antennae, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

North-India: Sikkim, Gezing, Khecheopari.

North-India: Bengal, Shingalila.

### 6. THE SPECIES OF THE GENUS *MULSANTEUS* FROM THE MALAYAN SUB-REGION

The material of *Mulsanteus* from the Malayan sub-region includes species from Java, and Sumatra, from the Malayan peninsula (Perak, Pahang, and Kelantan), from Borneo, and from the Philippines.

#### 6.1 KEY TO SPECIES

1. Elytra black or blackish-brown ..... 2.
- . Elytra chestnut-brown or of different colour ..... 5.
2. Antennae black, tenth and eleventh antennomere yellow .....  
..... *M. antennatus* (CANDÈZE, 1896)
- . Antennae totally black ..... 3.
3. Elytra with longitudinal bands of fulvous, and coarser hairs .....  
..... *M. phillipsi* (VAN ZWALUWENBURG, 1936)
- . Elytra without longitudinal bands of coarser hairs ..... 4.
4. Legs yellow, tarsus black, disk of pronotum prominently raised .....  
..... *M. illotipes* (CANDÈZE, 1863)
- . Legs totally yellow, disk of pronotum flat ..... *M. lucidus* (CANDÈZE, 1865)
5. Elytra totally chestnut-brown to reddish ..... 6.
- . Elytra of different colour ..... 9.



6. Antennae extending basis angles of pronotum by the length of the ultimate five antennomeres ..... *M. hirticornis* (CANDÈZE, 1893)  
 – Antennae extending basis angles of pronotum by the length of the ultimate two to four antennomeres ..... 7.  
 7. Pronotum and elytra reddish ..... 8.  
 – Pronotum black, elytra chestnut-brown ..... *M. platiai* n. sp.  
 8. Antennae exceeding basis angles of pronotum by the length of the ultimate four antennomeres ..... *M. aemulus* (CANDÈZE, 1891)  
 – Antennae exceeding basis angles of pronotum by the length of the ultimate two antennomeres ..... *M. hirsutus* (CANDÈZE, 1875)  
 9. Pronotum bi-coloured, reddish, a triangular spot at its centre black .....  
 ..... *M. borneoensis* (ÔHIRA, 1973)  
 – Pronotum unicoloured ..... 10.  
 10. Pronotum reddish-brown; apical third of the reddish-brown elytra black .....  
 ..... *M. potulinensis* n. sp.  
 – Pronotum black; suture of the reddish-brown elytra black .....  
 ..... *M. germanus* (CANDÈZE, 1894)

## 6.2. REVIEW OF SPECIES

***Mulsanteus aemulus* (CANDÈZE, 1891) n. comb.**

(Figs. 56-57)

*Ludius aemulus* CANDÈZE, 1891: 246; SCHENKLING, 1927: 432.*Trichophorus aemulus* (CANDÈZE, 1891): SCHWARZ, 1906: 259.*Neotrichophorus aemulus* (CANDÈZE, 1891): VAN ZWALUWENBURG, 1959: 405.

## LOCUS TYPICUS

Indonesia: Java.

## NEW MATERIAL

Indonesia: Java, Blawan, Idjen-plateau, 900-1500 m, 11.XII.1940, 3 spm., leg. H. Lucht; Sumba, Pogobina, 17.IX.1949, 1 spm., leg. Bühler & Sutter; Rua, 31.VIII.1949, 1 spm. Leg. Bühler & Sutter.

## DISTRIBUTION

Indonesia: Java; Sumba.

***Mulsanteus antennatus* (CANDÈZE, 1896) n. comb.**

(Figs. 58-59)

*Ludius antennatus* CANDÈZE, 1896: 70; SCHENKLING, 1927: 428.*Neotrichophorus antennatus* (CANDÈZE, 1896): ÔHIRA, 1973: 117.

## LOCUS TYPICUS

Malaysia: Borneo.

## NEW MATERIAL

Malaysia: Sabah, Poring Spring, 650 m, 1998, 1 spm., without further data.

## DISTRIBUTION

Malaysia: Borneo.

***Mulsanteus borneoensis* (ÔHIRA, 1973) n. comb.**  
(Figs. 60-61)

*Neotrichophorus borneoensis* ÔHIRA, 1973: 117-118.

## LOCUS TYPICUS

Malaysia, Borneo.

## NEW MATERIAL

Malaysia: Borneo, Sabah, Crocker range, west of Apin Apin, II.2000, 1 spm., leg. M. Snizek; same location but V.1999, 1 spm., leg. M. Snizek.

## DISTRIBUTION

Malaysia: Borneo.



Photo 3: Borneo, Crocker range, Gunung Emas, 1600 m. Photo W. Schawaller, 2007

***Mulsanteus germanus* (CANDÈZE, 1894) n. comb.**  
(Figs. 62-63)

*Ludius germanus* CANDÈZE, 1894: 498; SCHENKLING, 1927: 432.

*Neotrichophorus germanus* (CANDÈZE, 1894): VAN ZWALUWENBURG, 1959: 405.

LOCUS TYPICUS

Indonesia: Sumatra.

NEW MATERIAL

Indonesia: Sumatra, Brastagi, Sikulikap, 1000 m, 5.IX.1992, 1 spm., without further data; Malaysia: Pahang, Cameron highlands, Tanah rata, 1600 m, 1.-10.II.2000, 1 spm, leg. P. Pacholatko; same location but Kampung Kuala, 26.III.-3.IV.2001, 1 spm, leg. M. Štrba.

DISTRIBUTION

Indonesia: Sumatra.

Malaysia: Pahang.

REMARKS

A variety form of *M. germanus*, recorded by FLEUTIAUX (1916), and also by SCHENKLING (1925) from Mindanao, Philippines, has not been studied. The occurrence of this species in the Philippines is questionable.

***Mulsanteus hirsutus* (CANDÈZE, 1875) n. comb.**  
(Figs. 64-65)

*Ludius hirsutus* CANDÈZE, 1875: 126.

*Trichophorus hirsutus* (CANDÈZE, 1875): SCHWARZ, 1906: 259.

*Neotrichophorus hirsutus* (CANDÈZE, 1875): SCHENKLING, 1927: 433; VAN ZWALUWENBURG, 1936: 426; 1959: 405; ÔHIRA, 1974: 52.

LOCUS TYPICUS

Philippines: Luzon.

NEW MATERIAL

Philippines: Luzon, Mt. Banahao, 1 spm., without further data.

DISTRIBUTION

Philippines.

***Mulsanteus hirticornis* (CANDÈZE, 1893) n. comb.**  
(Figs. 66-67)

*Ludius hirticornis* CANDÈZE, 1893: 57.

*Trichophorus hirticornis* (CANDÈZE, 1893): SCHWARZ, 1906: 259.

*Neotrichophorus hirticornis* (CANDÈZE, 1893): SCHENKLING, 1927: 433; VAN ZWALUWENBURG, 1959: 405.

## LOCUS TYPICUS

Indonesia: Java.

## NEW MATERIAL

Indonesia: Sumatra, VIII.1991, 1 spm., without further data; Malaysia: Perak, 25 km northeast of Ipoh, Banjaran, Titi Wangsa Mts., 1200 m, 1.-15.IV.2000, 1 spm., leg. P. Cechovski; same location, 29.III.-15.IV.2004, 2 spm., leg. P. Cechovski; same location, but 1.-15.IV.2002, 1 spm., leg. P. Cechovsky; Kelantan, Road between Karnpong Raja and Gua Musang, 1400-1700 m, 1.-28.IV.2006, 4 spm., leg. P. Cechovsky.

## DISTRIBUTION

Indonesia: Java, Sumatra.

Malaysia: Perak.

***Mulsanteus illotipes* (CANDÈZE, 1863) n. comb.**

(Figs. 68-69)

*Ludius illotipes* CANDÈZE, 1863: 302.

*Trichophorus illotipes* (CANDÈZE, 1863): SCHWARZ, 1906: 259.

*Neotrichophorus illotipes* (CANDÈZE, 1863): SCHENKLING, 1927: 433; VAN ZWALUWENBURG, 1959: 405.

## LOCUS TYPICUS

Java: Indonesia.

## NEW MATERIAL

Indonesia: Sumatra, Ketambe, Leuser nat. Park, 450 m., 26.II.-1.III.1991, 2 spm., leg. Bocák & Bocáková; Sumatra, Pajakumbuk, 10.V.1991, 1 spm., leg. R. Cermak; Sumatra south-west coast, Ranau lake, 1.-4.VI.2001, 10 spm., leg. Bolm.

## DISTRIBUTION

Indonesia: Java, Sumatra.

## REMARKS

The new records of this species are the first for Sumatra.

***Mulsanteus lucidus* (CANDÈZE, 1865) n. comb.**

(Figs. 70-71)

*Ludius lucidus* CANDÈZE, 1865: 55.

*Trichophorus lucidus* (CANDÈZE, 1865): SCHWARZ, 1906: 259.

*Neotrichophorus lucidus* (CANDÈZE, 1865): SCHENKLING, 1927: 433.

## LOCUS TYPICUS

Indonesia: Java.

## NEW MATERIAL

Java: K. O. Biwan, Idjen Plateau, 900-1500 m, 2.XII.1940, 4 spm., leg. H. Lucht;  
 Java: Bebe, 22.VI.1989, 2 spm., leg. L. Chua.

## DISTRIBUTION

Indonesia: Java.

## REMARKS

*Ludius lucidus* has been described by CANDÈZE, 1865, and transferred by SCHWARZ (1906) to the genus *Trichophorus*, and by SCHENKLING (1927) to the genus *Neotrichophorus*. However, VAN ZWALUWENBURG (1959) placed this species again under the genus *Elater* LINNAEUS, 1758 (the former group of *Ludius*), but without any remarks on the reason why he did. The characteristics of this species, especially the form of the posterior angles of pronotum, and the pubescence of antennae, classifies it to be a member of the genus *Mulsanteus*, and as to be systematically very near the *M. illotipes*. For this reason, we transfer *Ludius lucidus* to the genus *Mulsanteus*.

***Mulsanteus phillipsi* (VAN ZWALUWENBURG, 1936) n. comb.**

*Neotrichophorus phillipsi* VAN ZWALUWENBURG, 1936: 426-427; 1959: 406; ÔHIRA, 1973: 8; 1974: 51.

## LOCUS TYPICUS

Philippines: Mindanao.

## REMARKS

There are no new records of this species.

***Mulsanteus platiai* n. sp.**

(Figs. 72-73)

## LOCUS TYPICUS

Malaysia: Peninsula.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): Malaysia: Pahang, Cameron Highlands, Tanah Rata, 1600 m, 26.I.-10.II.2000, leg. J. Horák. **Paratypes** 7 ♂♂ (CPG, CRG, CSV, NMB, TICB): same data as holotype but 1500-1700 m, 1.-13.II.2003, 1 spm., leg. P. Pacholátko; same location but 1500-1800 m, 2.-26.III.2004, 1 spm., leg. P. Pacholátko; Pahang, Cameron highlands, 2.-9.IV.1997, 1 spm., leg. D. Hauck; Perak, Tanah Rata, 13.-16.III.1997, 2 spm., leg. O. Ďulík & I. Jeniš; Kelantan, Road between Karnpong Raja and Gua Musang, 1400-1700 m, 1.-28.IV.2006, 2 spm., leg. P. Cechovsky.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 9.5 mm, width: 2.3 mm. Black, pronotum reddish-brown, elytra, legs and antennae light-brown.

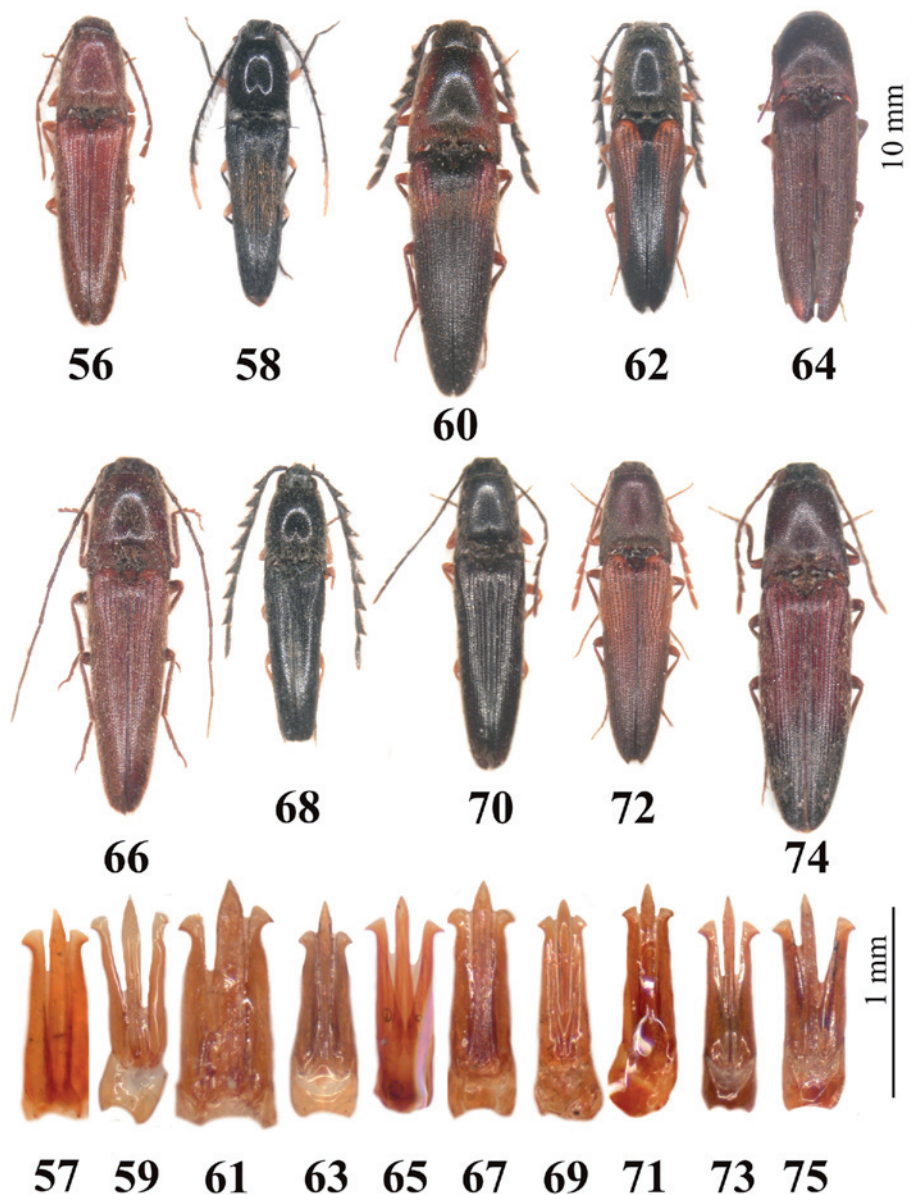


Plate 4 (figs. 56-73). 56, 57. *Mulsanteus aemulus* (CANDÈZE, 1891) n. comb.: 56 – habitus, 57 – aedeagus; 58, 59. *M. antennatus* (CANDÈZE, 1896) n. comb.: 58 – habitus, 59 – aedeagus; 60, 61. *M. borneoensis* (ÔHIRA, 1973) n. comb.: 60 – habitus, 61 – aedeagus; 62, 63. *M. germanus* (CANDÈZE, 1894) n. comb.: 62 – habitus, 63 – aedeagus; 64, 65. *M. hirsutus* (CANDÈZE, 1875) n. comb.: 64 – habitus, 65 – aedeagus; 66, 67. *M. hirticornis* (CANDÈZE, 1893) n. comb.: 66 – habitus, 67 – aedeagus; 68, 69. *M. illotipes* (CANDÈZE, 1863) n. comb.: 68 – habitus, 69 – aedeagus; 70, 71. *M. lucidus* (CANDÈZE, 1865) n. comb.: 70 – habitus, 71 – aedeagus; 72, 73. *M. platiai* n. sp.: 72 – habitus, 73 – aedeagus; 74-75. *M. portulinensis* n. sp.: 74 – habitus, 75 – aedeagus

Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides (singular hairs on centre protruding), on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

#### DESCRIPTION

Head with very dense and umbilicate puncturation, interstices of points less than half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last three antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), prominently and regularly raised, straight laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum straight, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a flat median mould at posterior third. Puncturation of pronotum very dense, coarse, umbilicate, and regularly rounded, interstices of points at the whole surface shiny, and reduced to small wrinkles, forming raised rugosities at posterior third, and at centre.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with a very prominent inner tooth, forming an extended thorn. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending median lobe, sub-parallel, in middle thin, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Female unknown.



## DIFFERENTIAL DIAGNOSIS

*M. platiai* is closely allied to *M. aemulus*, but may be easily distinguished from this species by the darker colour of body, by the thorn-like apex of elytra, and by the form of aedeagus.

## ETYMOLOGY

Named after our dear friend and colleague, Prof. Dr. G. PLATIA, Gatteo, Italy, in honour of his excellent scientific works on the Elateridae.

## DISTRIBUTION

Malaysia: Pahang; Perak; Kelantan.

***Mulsanteus portulinensis* n. sp.**

(Figs. 74-75)

## LOCUS TYPICUS

Philippines: Mindanao.

## TYPE MATERIAL

**Holotypus** ♂ (CSV): Philippines : Mindanao, Maramag province, Portulin, 3.I.1991, leg. Bolm.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and slightly shiny species. Length: 13.2 mm, width: 3.2 mm. Reddish-brown, head, and apical third of elytra, as well as mesothorax black. Pubescence yellowish-brown, semi-erect, short, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with very dense and umbilicate puncturation, interstices of points less than half their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last two antennomeres; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum trapezoid, along median line slightly longer than wide at the posterior angles (length/width ratio 1.08:1.00), prominently and regularly raised, straight laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum

straight, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum with a flat median mould at posterior fifth. Punctuation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points once their diameter, and little shiny.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, punctuation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with a very small, just visible inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple punctuation, interstices of striae rugged punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose punctuation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending parameres, sub-parallel, in middle thin, apically narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females unknown.

#### DIFFERENTIAL DIAGNOSIS

*M. portulinensis* is closely allied to *M. murenus*, but may be easily distinguished from this species by the longer body, its darker colour, by the less dense punctuation of pronotum, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

Philippines: Mindanao.

### 7. THE SPECIES OF THE GENUS *MULSANTEUS* OF THE INDIAN AND CEYLONESE SUB-REGION

The material from the Indian and the Ceylonese sub-regions has been collected at India and Sri Lanka. Although, India (excluding Westghats) and Sri Lanka belong to two different zoological sub-regions, we publish the *Mulsanteus*-species occurring there together, for the reason that there is just a little material (three species) known so far from both sub-regions.

## 7.1. KEY TO SPECIES

1. Interstices of pronotum puncturation once their diameter; larger species (12.5 mm) ..... *M. touffus* (VATS & CHAUHAN, 1992)
- Interstices of pronotum puncturation half their diameter; smaller species (10.5 to 11.5 mm) ..... 2.
2. Body surface dull; species of 11.5 mm in length ..... *M. tumidicollis* (SCHWARZ, 1901)
- Body surface shiny; species of 10.5 mm in length ..... *M. maceratus* (CANDÈZE, 1893)

## 7.2. REVIEW OF SPECIES

***Mulsanteus maceratus* (CANDÈZE, 1893) n. comb.**

(Figs. 76-77)

*Ludius maceratus* CANDÈZE, 1893: 57.*Trichophorus maceratus* (CANDÈZE, 1892): SCHWARZ, 1906: 259.*Neotrichophorus maceratus* (CANDÈZE, 1893): SCHENKLING, 1927: 433.

## LOCUS TYPICUS

India.



Photo 4: India, western Ghat, north of Mumbai. Photo A. Patwaradhan, 2006

## NEW MATERIAL

India: Kerala, Triyandrum, Poonmudi, V.1992, 2 spm., T.R.S. Nathan; Sri Lanka: Dodanduwa, 20.-30.IV.1998, 1 spm., leg. B. Makovsky; Kerala, Peryiar, IV.1993, 1 spm., leg. Senft; Pondicherry, IX.1992, 1 spm., leg. Nathan; same location but VI.1992, 1 spm., leg. Nathan; same location but X.1995, 2 spm., leg. Nathan; same location but XI.2002, 1 spm., leg. L. Surender.

## DISTRIBUTION

India: Kerala; Bengale.

Sri Lanka: Dodanduwa.

***Mulsanteus touffus* (VATS & CHAUHAN, 1992) n. comb.**

(Figs. 78-79)

*Aphanobius touffus* VATS & CHAUHAN, 1992: 189-190.

## LOCUS TYPICUS

India: Uttar Pradesh.

## NEW MATERIAL

India: Uttar Pradesh, Rishikesh, VII.1991, 1 spm., leg. K. Werner; Kerala, Triyandrum, Poonmudi Range, V.1989, 1 spm., leg. T.R.S. Nathan.

## DISTRIBUTION

India: Uttar Pradesh; Kerala.

## REMARKS

The authors of the species published it as a member of the genus *Aphanobius*. However, from the description of the thorax, given by the authors, it is discernible that the species belongs to *Mulsanteus*. The mentioned tufts on the apex of posterior angles of pronotum are typical for *Mulsanteus*-species, but not for *Aphanobius*-species.

Unfortunately, the authors of the species *A. touffus* (VATS & CHAUHAN, 1992) placed pictures (1 – male genitalia and 3 – habitus) as part of the description that they also used in another paper (J. ent. Res., **16** (1): 20-23) for the species *Megapenthes variabilis*. In view of this, clarifications should be made, on which pictures belong to which species.

***Mulsanteus tumidicollis* (SCHWARZ, 1901) n. comb.**

(Figs. 80-81)

*Ludius tumidicollis* SCHWARZ, 1901: 330-331.

*Trichophorus tumidicollis* (SCHWARZ, 1901): SCHWARZ, 1906: 259.

*Neotrichophorus tumidicollis* (SCHWARZ, 1901): SCHENKLING, 1927: 433.

## LOCUS TYPICUS

India: Madras.

## NEW MATERIAL

India: Pondicherry, Karaikal, VIII.1979, 1 spm., leg. T.R.S. Nathan; India: Nedungadu, 1936, 1 spm., leg. P.S. Nathan.

## DISTRIBUTION

India: Madras; Pondicherry; Nedungadu.

8. THE SPECIES OF THE GENUS *MULSANTEUS* OF THE WALLACEA

No material of the genus *Mulsanteus* has been recorded from the Wallacea so far. The species described next is the first of this genus known from islands of Ternate, and Bacan, and from the zoogeographic sub-region named Wallacea.

## 8.1. REVIEW OF SPECIES

***Mulsanteus weigeli* n. sp.**

(Figs. 82-83)

## LOCUS TYPICUS

Indonesia: Maluku.

## TYPE MATERIAL

**Holotypus** ♂ (NME): Indonesia: Maluku, Ternate, Tolire lake, 100 m, 29.I.2005, leg. A. Weigel. **Paratypes** 3 ♀♀ (NME, CPG, CSV): Indonesia: Maluku, Bacan, 10



Photo 5: Ternate, northern part, primary forest at the Tolire lake. Photo A. Weigel, 2006

km east of Labuah, 120 m, 14.I.2006, 1 spm., leg. A. Weigel; Bacan, 3 km south of Labuah, 40 m, 13.I.2006, 1 spm., leg. A. Weigel; Maluku, Ternate, 27.I.1979, 1 spm., leg. Brignoli.

#### DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.9 mm, width: 3.1 mm. Black, legs, antennae, and the centre of scutellum reddish-brown. Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

#### DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half to once their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last antennomere; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

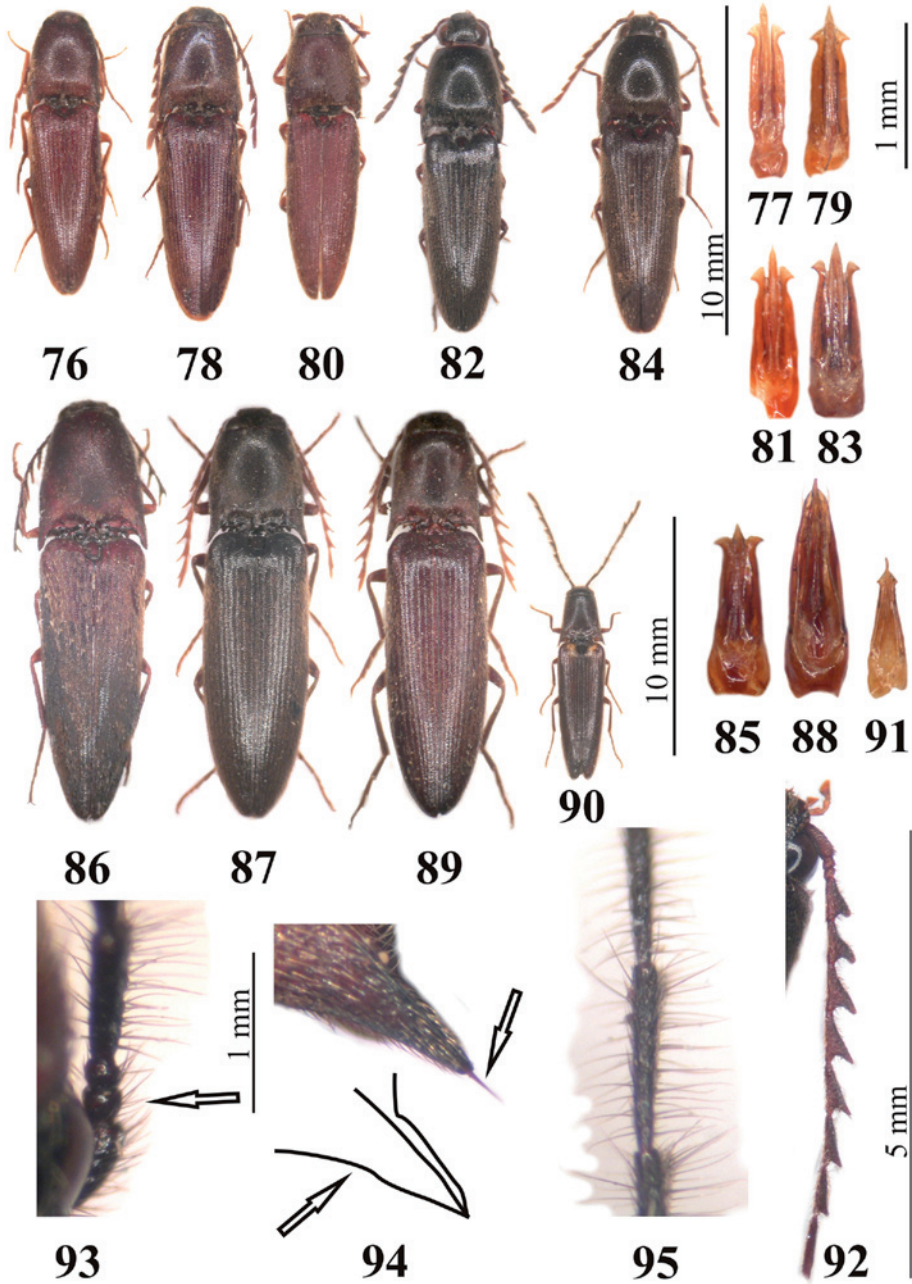
Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), prominently and regularly raised, arcuate laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any median mould or furrow. Puncturation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points once their diameter, shiny, and covered with fine and simple points.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species).

Plate 5 (figs. 74-91). 76, 77. *M. maceratus* (CANDÈZE, 1893) n. comb.: 76 – habitus, 77 – aedeagus; 78, 79. *M. touffus* (VATS & CHAUHAN, 1992) n. comb.: 78 – habitus, 79 – aedeagus; 80, 81. *M. tumidicollis* (SCHWARZ, 1901) n. comb.: 80 – habitus, 81 – aedeagus; 82, 83. *M. weigeli* n. sp.: 82 – habitus, 83 – aedeagus; 84, 85. *M. irianjayensis* n. sp.: 84 – habitus, 85 – aedeagus; 86. Habitus of *Elater hoabinhus* (FLEUTIAUX, 1936) n. comb.; 87, 88. *E. phongsalyensis* n. sp.: 87 – habitus, 88 – aedeagus; 89. Habitus of *Elater vitalisi* (FLEUTIAUX, 1918) n. comb.; 90, 91. *Gamepentes malaisei* (FLEUTIAUX, 1942) n. comb.: 90 – habitus, 91 – aedeagus; 92, 93, 94, 95. Characteristics of *Mulsanteus*-species: 92 - antennae; 93 - antennomeres 2-3; 94 – right basis angle of pronotum (lateral view); 95 – antennomeres 5-7 with pubescence







Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with median lobe noticeably extending parameres, sub-parallel, in middle thick, apically slightly narrowed and sharp. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females are not much different from the males, only their antennae are slightly slimmer, and of nearly the same length.

#### DIFFERENTIAL DIAGNOSIS

*M. weigeli* is closely allied to *M. riesei*, but may be easily distinguished from this species by the shorter body and the shorter antennae, and by the form of aedeagus.

#### ETYMOLOGY

Named after the discoverer of the new species, Mr. A. WEIGEL, Wernburg, Germany.

#### DISTRIBUTION

Indonesia: Maluku.

### 9. THE SPECIES OF THE GENUS *MULSANTEUS* OF THE PAPUAN SUB-REGION

No material of the genus *Mulsanteus* has been recorded from the Papuan sub-region so far. *Mulsanteus irianjayensis* is the first of this genus known from Irian Jaya.

#### 9.1. REVIEW OF SPECIES

##### ***Mulsanteus irianjayensis* n. sp.**

(Figs. 84-85)

#### LOCUS TYPICUS

Indonesia: Irian Jaya.

#### TYPE MATERIAL

**Holotypus** ♂ (NME): Indonesia: Irian Jaya, Biak, 10 km north of Bosnik, 13.II.1998, leg. A. Weigel. **Paratypes** 4 ♂♂, 1 ♀ (CSV, NME): Indonesia: Same date as Holotypus, 1 spm., leg. A. Weigel; same location but 14.II.1998, 1 spm., leg. A. Weigel; Nabire, Kwatisore, 3.III.1998, 1 spm., leg. A. Weigel; 170 km south of Nabire, Epomani, 6.I.1996, 1 spm., leg. A. Weigel; Yapen, 20 km south of Serui, 5.I.1999, 1 spm., leg. A. Weigel.

## DIAGNOSIS

Holotypus ♂: Elongate, wedge-shaped, raised, and shiny species. Length: 11.7 mm, width: 3.3 mm. Chestnut-brown, elytra, legs and antennae reddish-brown. Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex; apices of posterior angles of pronotum with a tuft of longer and protruding bristles; pubescence of antennae covered with conspicuously long and protruding hairs.

## DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half to once their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, frons slightly raised above the base of antennae, and completely edged. Eyes small, spherical, and little prominent. Antennae long, thin and serrate from fourth antennomere on, outreaching posterior angles of pronotum by the length of the last antennomere; second antennomere globular, very short, as long as wide, and slightly extended at apex; third antennomere of the same length as second antennomere, but semi-globular, truncate at apex, and both combined conspicuously shorter than fourth and each of the following antennomeres; those are extended and truncate at apex; last antennomere oval, sub-apical bevelled.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), prominently and regularly raised, arcuate laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum convex, and with a prominently raised carina, apices truncate, and bent downwards (best visible from lateral view). Pronotum without any median mould or furrow. Puncturation of pronotum less dense, coarse, umbilicate, and regularly rounded, interstices of points two times their diameter, shiny, and covered with fine and simple points.

Scutellum triangular, wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, puncturation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex. Apex curved, and with an inner tooth. Base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with dense, simple puncturation, interstices of striae finely punctured, dull, and strip-like raised. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose puncturation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with a sub-parallel, in middle thick, apical slightly narrowed and sharp, the paramere noticeably extending median lobe. Apical lobe of parameres crescent-shaped, with prominent, hook-like lateral edge, and long apical hairs.

Females are not much different from the males, just their antennae are slightly slimmer, and of the same length.

## DIFFERENTIAL DIAGNOSIS

*M. irianjayensis* is closely allied to *M. weigeli*, but may be easily distinguished from this species by the lighter colour of body, the less dense puncturation of pronotum, and by the form of aedeagus.

## ETYMOLOGY

Named after the locus typicus.

## DISTRIBUTION

Indonesia: Irian Jaya.

10. CHECK-LIST OF THE ZOOGEOGRAPHICAL DISTRIBUTION OF *MULSANTEUS*-SPECIES IN  
SOUTHEAST ASIA  
(Sectionings after DE LATIN, 1967: 271)

Species from the Indo-Chinese subregion

- Cambodia: *Mulsanteus cambodiensis*, *M. rugosus*.  
 Laos: *Mulsanteus bonifacyi*, *M. kubani*, *M. longicornis*, *M. pejchai*, *M. rugosus*, *M. sausai*.  
 Myanmar: *Mulsanteus brignolii*, *M. clavus*, *M. sausai*.  
 Thailand: *Mulsanteus clavus*, *M. kubani*, *M. riesei*, *M. rugosus*, *M. sausai*.  
 Vietnam: *Mulsanteus bonifacyi*, *M. longicornis*.  
 China (Guangxi): *Mulsanteus sausai*.  
 China (Hong Kong): *Mulsanteus anchastinus*.  
 China (Hubei): *Mulsanteus hubeiensis*, *M. wudangshanensis*.  
 China (Shaanxi): *Mulsanteus shaanxiensis*.  
 Taiwan: *Mulsanteus foldvarii*, *M. peregovitsi*, *M. rubuginosus*, *M. shirozui*.

Species from the territories of the Himalaya and from Tibet

- Nepal: *Mulsanteus godawariensis*, *M. hirtellus*, *M. holzschuhi*, *M. ingridae*, *M. langtangensis*, *M. murenus*, *M. nepalensis*, *M. pokharanus*.  
 Bhutan: *Mulsanteus godawariensis*, *M. nepalensis*.  
 India (Sikkim): *Mulsanteus murenus*, *M. pokharanus*, *M. sikkimensis*.  
 India (Darjeeling): *Mulsanteus hartmanni*, *M. holzschuhi*, *M. murenus*, *M. nepalensis*, *M. pedongensis*, *M. pokharanus*.  
 India (Assam): *Mulsanteus pokharanus*.  
 India (Uttar Pradesh; Himachal Pradesh): *Mulsanteus touffus*, *M. pokharanus*.  
 Tibet: *Mulsanteus sausai*.

Species from the Indian and the Ceylonese sub-regions

- India: *Mulsanteus maceratus*, *M. tumidicollis*, *M. sikkimensis*, *M. touffus*.  
 Sri Lanka: *Mulsanteus maceratus*, *M. hirtellus*.

Species from the Malayan sub-region

- Borneo: *Mulsanteus antennatus*, *M. borneoensis*, *M. spissus*.  
 Java: *Mulsanteus aemulus*, *M. hirticornis*, *M. illotipes*, *M. lucidus*.  
 Malay (Kelantan): *Mulsanteus spissus*.  
 Malay (Pahang): *Mulsanteus germanus*, *M. spissus*.  
 Malay (Perak): *Mulsanteus hirticornis*, *M. spissus*.  
 Sumatra: *Mulsanteus germanus*, *M. hirticornis*, *M. illotipes*.  
 Philippines: *Mulsanteus hirsutus*, *M. phillipsi*, *M. portulinensis*.

## Species from the Wallacea

Indonesia (Maluku): *Mulsanteus weigeli*.

## Species from the Papuan sub-region

Indonesia (Irian Jaya): *Mulsanteus irianjayensis*.11. CONSTITUTION OF THE SISTER-GROUP OF THE GENUS *MULSANTEUS*

## ANALYSIS

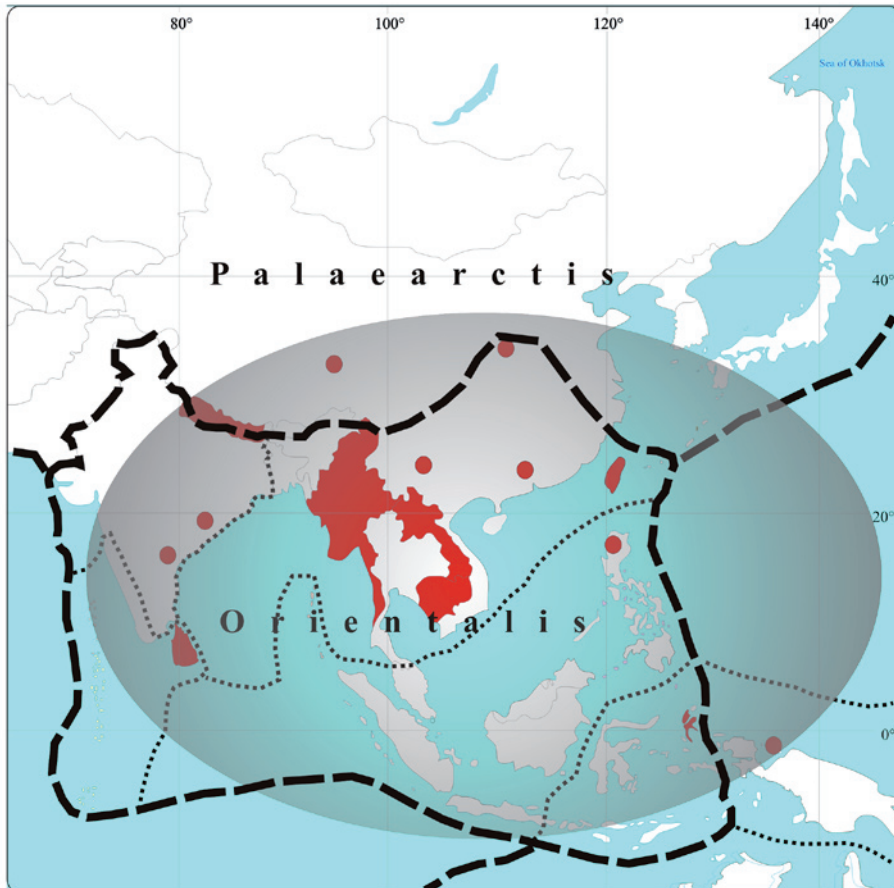
The species of the genera *Aphanobius*, *Elater* and *Mulsanteus* possess common characteristics in various body parts (form and pubescence of antennae, structure of pronotum, scutellum, and male genitalia). These characteristics will be compared within the following analysis.

| Body part | <i>Aphanobius</i>   | <i>Elater</i>  | <i>Mulsanteus</i>  |
|-----------|---|--|--|
| Antennae  | Not reaching posterior angles of pronotum for the length of the last one to two segments; second and third antennomere clearly longer than wide; apices of fourth to tenth antennomere truncate; hairs short and inclined.  | Reaching posterior angles of pronotum or outreaching it for the length of the last antennomere; second and third antennomere globular to semi-globular; apices of fourth to tenth antennomere serrate (in the majority of the known species) to lamellate (in three species); hairs very short and protruding. | Outreaching posterior angles of pronotum for the length of the last one to four segments; second and third antennomere globular to semi-globular; apices of fourth to tenth antennomere truncate, serrate or lamellate; hairs long and protruding.   |
| Pronotum  | Sub-parallel, at median line clearly longer than wide along posterior angles (length/with ratio as 1.25 to 1.30:1.00); disk of pronotum slightly raised; puncture fine and simple to umbilicate, interstices of points half to once their diameter, reduced to small wrinkles at basis. | Campaniform, at median line as long as wide, or slightly longer than wide along posterior angles (length/with ratio as 1.00 to 1.02:1.00); disk of pronotum conspicuously raised; puncture fine and simple to umbilicate, interstices of points half to manifold their diameter.                               | Campaniform to trapezoid, at median line slightly to conspicuously longer than wide along posterior angles (length/with ratio as 1.02 to 1.10:1.00); disk of pronotum flat to slightly raised; puncture fine and simple to umbilicate, interstices of points half to once their diameter, flat or reduced to small wrinkles. |
| Scutellum | Wedge-shaped, arcuate at apex, laterally constricted.   | Wedge-shaped, arcuate at apex, laterally straight.   | Wedge-shaped, sharp at apex, laterally straight.   |

## RESULTS

The antennae of the species of the genera *Elater* and the *Mulsanteus* are of almost identical structure, while those of the species of the genus *Aphanobius* are different in the form of the second and third antennomere. The campaniform pronotum of the *Elater* and the *Mulsanteus*-species are also similar to almost identical. Only the down-bent apexes of posterior angles of pronotum are unique in the species of *Mulsanteus*. The pronotum of *Aphanobius* is sub-parallel, along median line conspicuously longer than wide at the posterior angles, and just slightly raised. The sharp apex of scutellum is evolved only in the species of *Mulsanteus*, while those of *Elater* and *Aphanobius* are arcuate. The male genitalia are different in all the three compared groups, and especially the lateral edge of paramere is especially significant for the various groups.

As an overall result of the above analysis, the genera of *Elater* and *Mulsanteus* have many more similar to identical characteristics with each other than each of them with the genus *Aphanobius*.



**Map 1:** Dispersions of the *Mulsanteus anchastinus* basic-group.

## 12. CONSTITUTION OF MONOPHYLETIC BASIC-GROUPS AND THEIR ZOOGEOGRAPHICAL DISTRIBUTION

The reviewed species of the genus *Mulsanteus* possess characteristics that are developed in some of them as identical structures. Therefore, these characteristics can be treated as hypothetical apomorphies which have been evolved by a common ancestor and overtaken by the descendants (in accordance with the principle of parsimony). Separate and manifold convergent evolution of those characteristics in the various species would be the alternative to synapomorphy. Based on hypothetical apomorphies, the species of the genus *Mulsanteus* are articulated into phylogenetic basic-groups.

12.1. The *Mulsanteus anchastinus* basic-group

## APPERTAINING SPECIES

*Mulsanteus anchastinus*, *M. brignolii*, *M. foldvarii*, *M. hirsutus*, *M. irianjayensis*, *M. maceratus*, *M. nepalensis*, *M. pedongensis*, *M. pokharanus*, *M. riesei*, *M. rubuginosus*, *M. rugosus*, *M. sausai*, *M. shaanxiensis*, *M. touffus*, *M. tumidicollis*, *M. weigeli*.

## SYNAPOMORPHIES

Habitus wedge-shaped, elytra and disk of pronotum conspicuously raised; pronotum along median line slightly longer than wide at posterior angles (length/width ratio 1.00 to 1.05:1.00); pronotum campaniform, laterally slightly arcuate; interstices of pronotum puncturation flat; basis of pronotum with a prominent, but regular dropping; antennae elongate, fourth to tenth antennomere triangular, apically extended and truncate.

## DISTRIBUTION

The species of the *Mulsanteus anchastinus* basic-group occur in the Indo-Chinese sub-region (Cambodia, China, Laos, Myanmar, Thailand, Taiwan), in Himalaya (Darjeeling in India, Nepal) and Tibet, in the Indian and in the Ceylonese sub-region (India, Sri Lanka), in the Malayan sub-region (Philippines), in the Wallacea (Maluku), and in the Papuan sub-region (Irian Jaya).

12.2. The *Mulsanteus bonifaci* basic-group

## APPERTAINING SPECIES

*Mulsanteus bonifaci*, *M. cambodiensis*, *M. clavus*, *M. hubeiensis*, *M. kubani*, *M. pejchai*, *M. platiai*, *M. peregovitsi*, *M. shirozui*, *M. sikkimensis*.

## SYNAPOMORPHIES

Habitus wedge-shaped, elytra and pronotum slightly raised, the disk of the latter flat; pronotum along median line clearly longer than wide at posterior angles (length/width ratio 1.05 to 1.10:1.00); pronotum trapezoid, laterally straight; interstices of pronotum puncturation raised, and wrinkling; basis of pronotum with a slightly raised



dropping; antennae elongate, serrate from fourth antennomere on, apex of antennomere extended to lamellate.

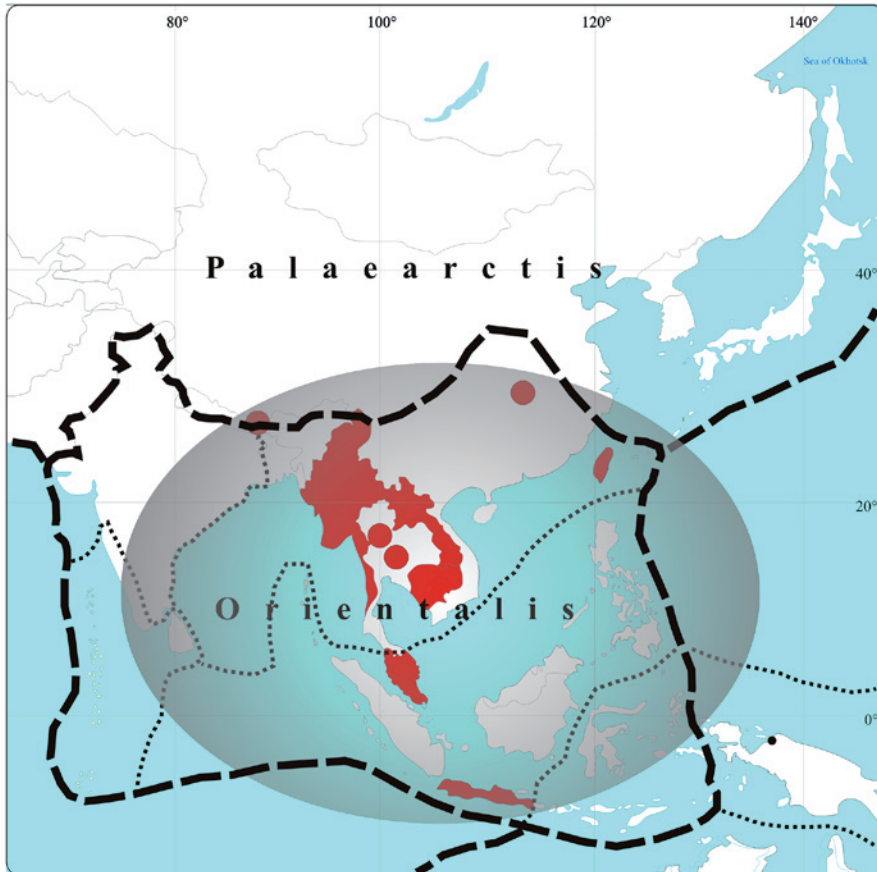
#### DISTRIBUTION

The species of the *Mulsanteus bonifaci* basic-group occur in the Indo-Chinese sub-region (Cambodia, China, Laos, Thailand, Vietnam), in Himalaya (Sikkim in India) and in the Malayan sub-region (Java, Malayan Peninsula).

### 12.3. The *Mulsanteus godawariensis* basic-group

#### APPERTAINING SPECIES

*Mulsanteus godawariensis*, *M. hartmanni*, *M. hirtellus*, *M. holzschuhi*, *M. ingridae*, *M. langtangensis*, *M. murenus*.



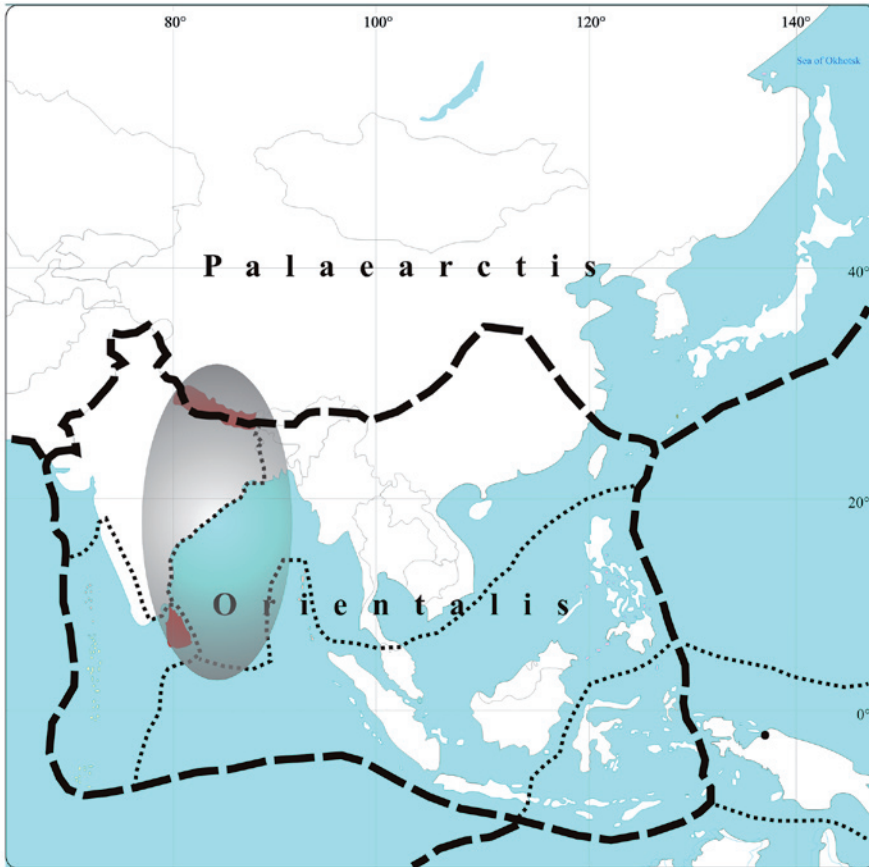
**Map 2:** Dispersions of the *Mulsanteus bonifaci* basic-group.

## SYNAPOMORPHIES

Habitus wedge-shaped, elytra and pronotum slightly raised, the disk of the latter flat; pronotum along median line clearly longer than wide at posterior angles (length/width ratio 1.05 to 1.10:1.00); pronotum trapezoid, laterally straight; pronotum puncturation dense and umbilicate, interstices of points flat, forming raised rugosities at posterior third; basis of pronotum step-resembling; antennae elongate, fourth to tenth antennomere apically serrate.

## DISTRIBUTION

The species of the *Mulsanteus godawariensis* basic-group occur in Himalaya (Nepal) and one species is known from Ceylonese sub-region.



**Map 3:** Dispersions of the *Mulsanteus hirtellus* basic-group.

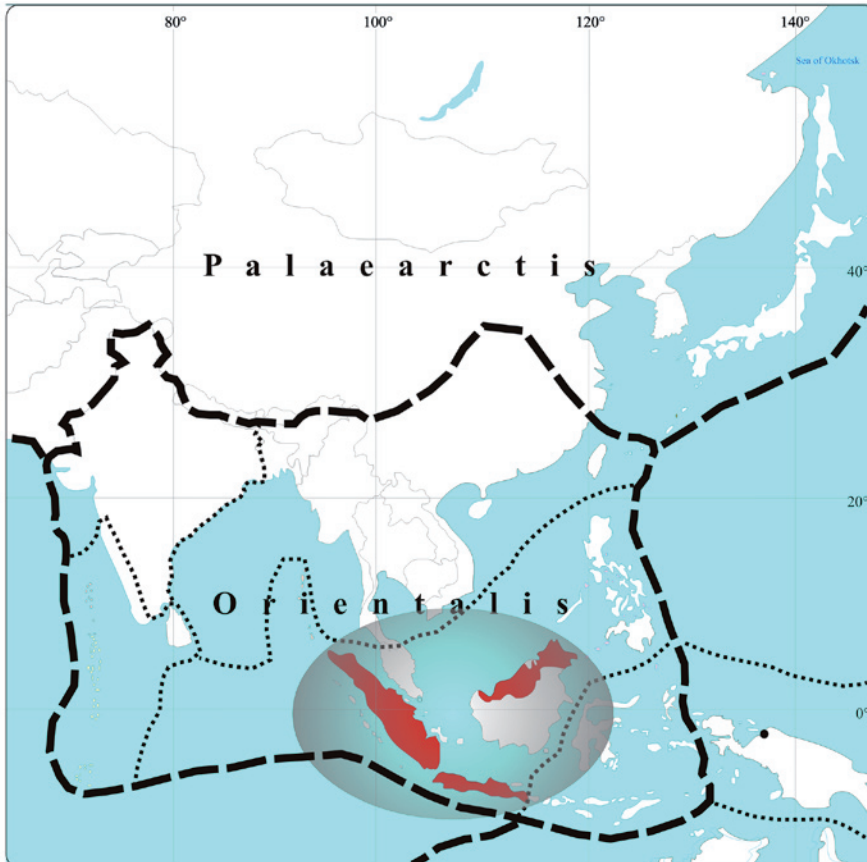
#### 12.4. The *Mulsanteus aemulus* basic-group

##### APPERTAINING SPECIES

*Mulsanteus aemulus*, *M. antennatus*, *M. hirticornis*, *M. illotipes*, *M. longicornis*, *M. lucidus*, *M. philippsi*.

##### SYNAPOMORPHIES

Habitus wedge-shaped, elytra and pronotum slightly raised, the disk of the latter conspicuously raised; pronotum along median line clearly longer than wide at posterior angles (length/width ratio 1.10 to 1.15:1.00); pronotum companiform, laterally arcuate; pronotum puncturation less dense and simple, interstices of points flat and once their diameter; basis of pronotum with a conspicuous dropping; antennae elongate, fourth to tenth antennomere serrate to lamellate, outreaching apical third of elytra, and covered with long protruding, bristly hairs.



**Map 4:** Dispersions of the *Mulsanteus illotipes* basic-group.

## DISTRIBUTION

The species of the *Mulsanteus aemulus* basic-group occur in the Malayan sub-region (Borneo, Java, Malayan Peninsula, Philippines, Sumatra) and in the Indo-Chinese sub-region (Laos, Vietnam).

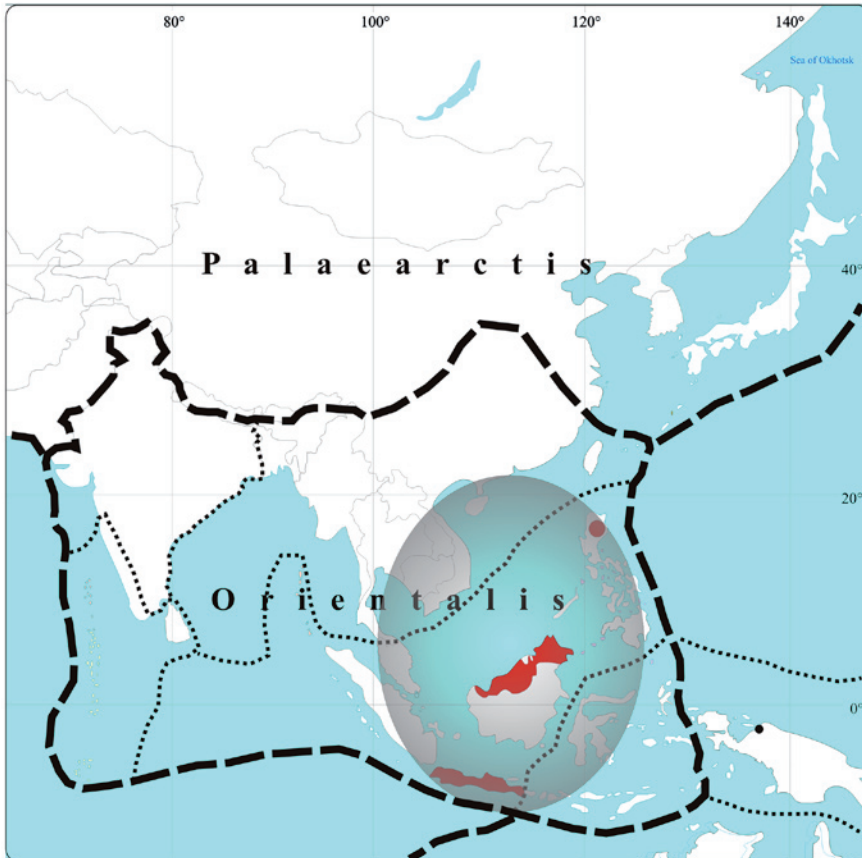
12.5. The *Mulsanteus borneoensis* basic-group

## APPERTAINING SPECIES

*Mulsanteus borneoensis*, *M. germanus*, *M. portulinensis*.

## SYNAPOMORPHIES

Habitus wedge-shaped, elytra and pronotum conspicuously raised, the basis of the latter with a short median mould or furrow; pronotum along median line clearly longer than wide at posterior angles (length/width ratio 1.05 to 1.10:1.00); pronotum trapezoid,



**Map 5:** Dispersions of the *Mulsanteus borneoensis* basic-group.

straight laterally; pronotum puncturation less dense and simple, interstices of points flat and half to once their diameter; basis of pronotum with a conspicuous dropping; antennae elongate, fourth to tenth antennomere serrate, antennomere extended apically, and covered with long protruding, bristly hairs.

#### DISTRIBUTION

The species of the *Mulsanteus aemulus* basic-group occur in the Malayan sub-region (Borneo, Malayan Peninsula, Phillipines).

### 12.6. Results, discussions and interpretations

#### SYNAPOMORPHIES

The antennae of the species of the genera *Elater* and the *Mulsanteus* seem to be of almost identical structure, and the serrate form of the antennomere represent the original condition, as it is developed in species of both genera. However, the antennae of the species of *Mulsanteus* are covered with long, protruding hairs, while those of the species of *Elater* are covered with fine and short hairs. From this prospective, the serrate to lamellate apexes of antennomere in the *Mulsanteus bonifacyi*, and the *M. godawariensis* basic-groups show the pristine characteristics, and should be taken as plesiomorphies. As a consequence, the extended or lamellate apex of antennomere in the *M. aemulus* and *M. borneoensis* basic-group should be treated as an extension and therefore as a later modification of the primary condition. Accordingly, the truncated apex of antennomeres in the species of the *M. anchastinus* basic-group represent a reduction of the original condition.

The pronotum outlines and surface punctures in the species of the genus *Elater* and those of the *M. godawariensis* basic-groups are almost identical. The wrinkled interstices of points in the species of the *M. bonifacyi* basic-group also represent a modification of the primary condition.

The apex of scutellum in the species of *Elater* and in all basic-groups of *Mulsanteus* is different. While it is rounded in *Elater*, it appears to be sharp in *Mulsanteus*.

The male genitalia are also different in the *Elater* and in the *Mulsanteus* species. In species of *Elater* the paramere of aedoeagus has no lateral edge, while species of *Mulsanteus* possess a paramere with a conspicuous hook-like lateral edge.

As a result of the above analysis, the genera *Elater* and *Mulsanteus* seem to be more closely related than any of them with the genus *Aphanobius*, and the species of the *M. godawariensis* basic-groups have much closer relations to the species of the genus *Elater*, than those of the *M. bonifacyi*, the *M. anchastinus*, the *M. aemulus*, and the *M. borneoensis* basic-group. For this reason, we treat the genus *Elater* to be the sister-group of the *Mulsanteus godawariensis* basic-group.

#### DISTRIBUTION

The species of the *Mulsanteus anchastinus* basic-group have a wide-spread distribution, from Himalaya, the Indian and Ceylonese sub-region to the Indo-Chinese sub-

region, including some of the south and south-eastern Chinese provinces, and Taiwan, as well as parts of the Malayan sub-region (Philippines), the Wallacea (Maluku), and a part of the Papuan sub-region (Irian Jaya). This group covers an area from 80-140 degrees of eastern longitude, and 5 degrees of south latitude to 30 degrees north latitude (Greenwich). Beside a west-east orientated dispersion, from Himalaya to the island of Taiwan, there is also a north-south dispersion to be recognised, from southeastern Chinese provinces to the Papuan sub-region.

The *Mulsanteus bonifacyi* basic-group is distributed from northern India across the Indo-Chinese sub-region, including parts of southeastern China and Taiwan, the Malayan Peninsula, and Java. The distribution reaches from 85-125 degrees of eastern longitude and 10 degrees of south latitude to 30 degree north latitude (Greenwich). The dispersions seem to be similar to those of the *Mulsanteus anchastinus* basic-group.

The *Mulsanteus godawariensis* basic-group has a confined distribution in the Himalaya (seven species), and in Sri Lanka (one species). The dispersions of the group seem to be limited to the mentioned regions.

The species of the *Mulsanteus aemulus* basic-group occur in the Malayan sub-region, and one species of that group in the Indo-Chinese sub-region. However, the majority of the species have distributions in the Malayan sub-region, and it seems that the distribution centre of the group should be found within this sub-region.

The species of the *Mulsanteus borneoensis* basic-group occupies in the Malayan sub-region exclusively. There is a clear west-eastern distribution from Sumatra, across Borneo, up to the Philippines.

#### DISPERSIONS

The distribution of the *Mulsanteus*-species in south-eastern Asia shows a situation similar to the one we know from the species of the tribe Megapenthini (ref. to SCHIMMEL, 2005) and the species of the genus *Elater*, the hypothetical sister-group of the *Mulsanteus godawariensis* basic-group. These species have a Palaearctic and an oriental distribution, and there is some reason to assume that they were founded on a population from the old Laurasia continent. Their dispersion to the Indo-Chinese and to the Malayan sub-region, and especially to the islands of the Sunda Archipelago, needs to be analyzed in accordance with the climate situations during the glacial period in the Pleistocene epoch, and the therefrom resulting down-sinking of the sea-level, and the dry-out of the shelf, which created spreading-corridors for the animals.

The dispersion of two species of the *M. godawariensis* basic-group to the islands of the Wallacea (Maluku) and to the Papuan sub-region (Irian Jaya) is impossible to explain with the mentioned mechanisms during the glacial period. Passive drifting, perhaps of rotten wood, in which the beetles may have lived, is the most probable reason for the current occupancies of these species.

The distribution and dispersion of one species, *M. hirtellus*, in Sri Lanka is most enigmatic. As there are currently no species of the genus *Mulsanteus* known from Africa or from the island of Madagascar, the possibility of the occupancies of such species in Sri Lanka being based on passive geological drifting is very slight.



## NEARCTIC SPECIES

The specimens of the species *Crigmus texanus*, *Neotrichophorus carolinensis* and *N. arizonensis* from the Nearctic sub-region, which are preserved in the collection of the first author and placed by SCHENKLING (1925) under the genus *Neotrichophorus*, have been treated parallel to the material published in this study. As a result of this comparison, we believe that the mentioned species, and probably all of the Nearctic species of the genus “*Neotrichophorus*”, have closer relations to the genus *Elater* than to the genus *Mulsanteus* (*Neotrichophorus*). We think that a revision on the Nearctic material mentioned will be necessary, and that there is very probably a need to be placed these species near or into the genus *Elater*. Consequently, we have good reason to believe that there is a need to confine the distribution of the *Mulsanteus*-group to the Palaearctic sub-region, the Oriental region, the Wallacea, and to the Australian region (Papuan sub-region).

## 13. SPECIES INCERTAE SEDIS

For one of the species treated by SCHENKLING (1927) as a member of the *Neotrichophorus*-group, *Ludius suturalis*, their systematic position could not be defined. Based on the description of the species, given by CANDÈZE (1889), and the characteristics of the species given by VAN ZWALUWENBURG (1959) in a key to species, *L. suturalis* is surely not a species of the genus *Mulsanteus*. However, the type of *L. suturalis* could not be found and studied. For this reason, and in order for this problem not to be forgotten, we treat this species with status incertae sedis.

***Ludius suturalis* CANDÈZE, 1889 sp. incertae sedis**

*Ludius suturalis* CANDÈZE, 1889: 53.

*Trichophorus suturalis* (CANDÈZE, 1889): SCHWARZ, 1906: 259.

*Neotrichophorus suturalis* (CANDÈZE, 1889): SCHENKLING, 1927: 433.

## LOCUS TYPICUS

Malaysia: Borneo, Sintang.

14. SPECIES REMOVED FROM THE GROUP, AND A NEW SPECIES OF THE GENUS *ELATER*

Three species formerly included into the genus *Neotrichophorus* have had to be excluded from the group, and placed with new name combinations into the genera *Elater* and *Gamepenthis*. *Elater vitalisi* (FLEUTIAUX, 1918) n. comb., and *Elater hoabinhus* (FLEUTIAUX, 1936) n. comb., possess characteristics typical of the genus *Elater*, such as the shape of antennae, the form of head, that of pronotum, and of male genitalia. For this reason, both species are transferred in this paper to the genus *Elater*: *Neotrichophorus malaisei* FLEUTIAUX, 1942 is transferred to the genus *Gamepenthis*, and treated as a member of the tribe Megapenthini. A new species of the genus *Elater*, *E. phongsalyensis* n. sp., which has been collected in Laos, is described.



***Elater hoabinhus* (FLEUTIAUX, 1936) n. comb.**  
(Figs. 86)

*Neotrichophorus hoabinhus* FLEUTIAUX, 1936: 295-297

LOCUS TYPICUS

Vietnam: Tonkin, Hoa-Binh.

NEW MATERIAL

Indo-Chine: Song-Chay, 1908, 1 spm., without further data.

Distribution

Vietnam: Tonkin.

Indo-Chine.

***Elater phongsalyensis* n. sp.**  
(Figs. 87-88)

LOCUS TYPICUS

Laos: Phongsaly.

TYPE MATERIAL

**Holotypus** ♂ (NMB): Laos: Phongsaly province, Phongsaly environments, 1500 m, 6.-17.V.2004, leg. M. Brancucci. **Paratypes** 3 ♂♂, 1 ♀ (CSV, NMB): same data as holotype, 3 spm., leg. P. Pacholátko; same province but Ban Sano Mai, 1150 m, 19.-26.V.2004, 1 spm., leg. P. Pacholátko.

DIAGNOSIS

Holotypus ♂: Elongate, sub-parallel, slightly raised, and shiny species. Length: 15.4 mm, width: 3.8 mm. Blackish-brown, legs and antennae reddish-brown. Pubescence reddish-brown, semi-erect, long, bristly and dense, on pronotum inclined to basis and to lateral sides, on elytra inclined to apex.

DESCRIPTION

Head with dense and umbilicate puncturation, interstices of points half to once their diameter, pubescence short and inclined to apex. Head inclined from centre to apex, disk with a transverse impression, frons slightly raised above the base of antennae. Eyes small, spherical, and little prominent. Antennae long, lamellate from fourth antennomere on, consisting of twelve antennomeres, and outreaching posterior angles of pronotum by the length of the last two antennomere; second antennomere short, triangular, as long as wide; third antennomere slightly longer than second antennomere, and truncate at apex, both combined slightly shorter than fourth and each of the following antennomeres; those having an extended lamelle at apex; last antennomere oval, apically constricted.

Pronotum campaniform, along median line slightly longer than wide at the posterior angles (length/width ratio 1.02:1.00), slightly and regularly raised, arcuate laterally, and with a prominent, abrupt dropping at basis. Posterior angles of pronotum slightly divergent, and with a prominently raised carina, apices sharp. Pronotum without any median mould or furrow. Punctuation of pronotum dense, coarse, umbilicate, and regularly rounded, interstices of points half their diameter, at basis reduced to small wrinkles.

Scutellum wedge-shaped, slightly convex at base, laterally straight, and sharp at apex. Surface slightly raised, punctuation dense, coarse, and umbilicate, pubescence dense, fine, and just visible, pointed from basis to apex.

Elytra sub-parallel, elongate and wedge-shaped, after middle narrowed to apex, the latter curved, base slightly smaller than that of pronotum, slightly depressed at scutellum, margins raised, shoulders prominent (winged species). Striae of elytra covered with less dense, simple punctuation, interstices of striae finely punctured, little shiny, and flat. Pubescence short, bristly, and inclined to apex.

Pro-, meso- and metathorax with dense and rugose punctuation, interstices of points raised and shiny. Pubescence short and adjacent.

Legs elongate, moderately long and thin, tarsomeres up to claws of decreasing length, ventrally with hardly visible, fine pubescence, and fine upholstery, tibia covered with longer and protruding bristles.

Aedeagus with a sub-parallel, in middle thickened, and excavated, apical slightly narrowed and sharp, the paramere noticeably extending median lobe. Parameres crescent-shaped, with long apical hairs.

Female is little larger (length: 19.6 mm, width: 4.5 mm) and more raised than males, its antennomeres are serrate, not lamellate.

#### DIFFERENTIAL DIAGNOSIS

*E. phongsalyensis* is closely allied to *E. vitalisi*, but may be easily distinguished from this species by the darker colour, the denser punctuation at basis of pronotum, by its campaniform lateral outline, and by the form of aedeagus.

#### ETYMOLOGY

Named after the locus typicus.

#### DISTRIBUTION

Laos: Phongsaly province.

### *Elater vitalisi* (FLEUTIAUX, 1918) n. comb.

(Fig. 89)

*Agonischius vitalisi* FLEUTIAUX, 1918: 264.

*Neotrichophorus vitalisi* (FLEUTIAUX, 1918): FLEUTIAUX, 1939: 148.

*Neotrichophorus chapensis* FLEUTIAUX, 1936: 295-296; 1939: 148.

## LOCUS TYPICUS

Vietnam: Tonkin, Chapa.

## NEW MATERIAL

Vietnam: Hoan Lien Son province, Sa Pa, 11.-15.V.1990, 3 spm., leg. V. Kubán;  
Myanmar: Shan highlands, Monghkok, 15.-20.VII.2006, 1 spm., L. Jingke.

## DISTRIBUTION

Vietnam: Tonkin; Hoan Lien Son.

Myanmar: Shan highlands.

***Gamepentes malaisei* (FLEUTIAUX, 1942) n. comb.**

(Figs. 90-91)

*Neotrichophorus malaisei* FLEUTIAUX, 1942: 18.

## LOCUS TYPICUS

Myanmar: Kambaiti.

## REMARKS

The revision of the Holotype which is preserved in the Naturhistoriska Riksmuseet (Stockholm), result in the need to tranfere this species to the genus *Gamepentes*. The species is closely allied to the *G. antennatus* (MIWA, 1934) from Taiwan, and to *G. sausiai* SCHIMMEL, 2003, but may be easily distinguished from these species by the flat pronotum, and the form of aedeagus. There are no new records or material of this species known. Since the description of the Holotype by FLEUTIAUX (1942) this species has never been collected again.

## DISTRIBUTION

Myanmar.

## 15. SUMMARY

As results of this study, we now know 45 species of the genus *Mulsanteus* occurring in the Oriental region, in the Papuan sub-region, in the Wallacea, and in the Himalaya.

The following 22 species are introduced as new to science: *Mulsanteus brignolii* n. sp., *M. cambodiensis* n. sp., *M. godawariensis* n. sp., *M. hartmanni* n. sp., *M. holzschuhi* n. sp., *M. hubeiensis* n. sp., *M. ingridae* n. sp., *M. irianjayensis* n. sp., *M. kubani* n. sp., *M. langtangensis* n. sp., *M. murenus* n. sp., *M. nepalensis* n. sp., *M. pedongensis* n. sp., *M. pejchai* n. sp., *M. platiai* n. sp., *M. portulinensis* n. sp., *M. pokharanus* n. sp., *M. riesei* n. sp., *M. sausiai* n. sp., *M. shaanxiensis* n. sp., *M. sikkimensis* n. sp., *M. weigeli* n. sp., and *M. wudangshanensis* n. sp.

For the following species new name combinations are proposed: *Mulsanteus aemulus* (CANDÈZE, 1891) n. comb., *M. anchastinus* (CANDÈZE, 1881) n. comb., *M. antennatus* (CANDÈZE, 1896) n. comb., *M. bonifacyi* (FLEUTIAUX, 1918) n. comb., *M. borneoensis* (ÔHIRA, 1973) n. comb., *M. clavus* (CANDÈZE, 1891) n. comb., *M. germanus* (CANDÈZE, 1894) n. comb., *M. hirsutus* (CANDÈZE, 1875) n. comb., *M. hirticornis* (CANDÈZE, 1893) n. comb., *M. illotipes* (CANDÈZE, 1863) n. comb., *M. longicornis* (FLEUTIAUX, 1936) n. comb., *M. lucidus* (CANDÈZE, 1865) n. comb., *M. maceratus* (CANDÈZE, 1893) n. comb., *M. phillipsi* (VAN Zwaluwenburg, 1936) n. comb., *M. rugosus* (FLEUTIAUX, 1918) n. comb., *M. touffus* (VATS & CHAUHAN, 1992) n. comb., and *M. tumidicollis* (SCHWARZ, 1901) n. comb.

The following species are removed from the *Mulsanteus*-group, and transferred to the genera *Elater* LINNAEUS, 1758, and *Gamepentes* FLEUTIAUX, 1928: *Elater vitalisi* (FLEUTIAUX, 1918) n. comb., *E. hoabinhus* (FLEUTIAUX, 1936) n. comb., and *Gamepentes malaisei* (FLEUTIAUX, 1942) n. comb.

*Elater phongsalyensis* n. sp. is described as new to sciences, and *Ludius suturalis* CANDÈZE, 1889 is treated as species incertae sedis.

Species of the genus *Mulsanteus* have been published in this paper for the first time from China, from the Wallacea, and from the Papuan sub-region.

An analysis on the characteristics of closely related groups of the tribe Elaterini has shown that the genus *Elater* for some reason appears to be the sister-group of the genus *Mulsanteus*.

Basing on some symplesiomorphy we found in the various species of the genus *Mulsanteus* we articulate them into five phylogenetic basic-groups:

1. The *Mulsanteus anchastinus* basic-group (*Mulsanteus anchastinus*, *M. brignolii*, *M. foldvarii*, *M. hirsutus*, *M. irianjayensis*, *M. maceratus*, *M. nepalensis*, *M. pedongensis*, *M. pokharanus*, *M. riesei*, *M. rubuginosus*, *M. rugosus*, *M. sausai*, *M. shaanxiensis*, *M. touffus*, *M. tumidicollis*, *M. weigeli*).
2. The *Mulsanteus bonifaci* basic-group (*Mulsanteus bonifaci*, *M. cambodiensis*, *M. clavus*, *M. hubeiensis*, *M. kubani*, *M. pejchai*, *M. platiai*, *M. peregovitsi*, *M. shirozui*, *M. sikkimensis*).
3. The *Mulsanteus godawariensis* basic-group (*Mulsanteus godawariensis*, *M. hartmanni*, *M. hirtellus*, *M. holzschuhi*, *M. ingridae*, *M. langtangensis*, *M. murenus*).
4. The *Mulsanteus aemulus* basic-group (*Mulsanteus aemulus*, *M. antennatus*, *M. hirticornis*, *M. illotipes*, *M. longicornis*, *M. lucidus*, *M. philippi*).
5. The *Mulsanteus borneoensis* basic-group (*Mulsanteus borneoensis*, *M. germanus*, *M. portulinensis*).

Finally, we have good reason to believe, that the species of the genus *Mulsanteus* are distributed in the Palaearctic sub-region, the Oriental region, the Wallacea, and to the Australian region (Papuan sub-region) exclusively.

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