

# Mutillid Wasps Collected in Malaysia and Indonesia by Dr. Sk. Yamane (Hymenoptera, Mutillidae)

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**ABSTRACT** Thirty eight species belonging to 12 mutillid genera are recorded from Borneo and neighbouring islands. *Yamanetilla* gen. nov. (type species: *Odontomutilla nipponica* Tsuneki), *Petersenidia dayak* sp. nov. from Sarawak, *Sinotilla lambirensis* sp. nov. from Sarawak, *Smicromyrme borneo* sp. nov. from Sabah, *Andreimyrme sarawakensis* sp. nov. from Sarawak and hitherto unknown female of *Trogaspidia cydippe* (Mickel) are described. The genus *Radoszkowskius* Ashmead (type species: *Mutilla simplicifascia* Sichel et Radoszkowski) is resurrected in the tribe Trogaspidiini.

**Key Words:** Hymenoptera / mutillid wasps / new genus / new species / Borneo / Malaysia / Indonesia

The Island of Borneo is located in the Southeast Asian tropics and includes two states of Malaysia (Sabah and Sarawak), four provinces of Indonesia (East, West, Central and South Kalimantan), and Brunei. The mutillid fauna of this large island consists of 60 described species in 5 genera (Mickel, 1935; Pagden, 1949; Tsuneki, 1972b), but the inventory still remains quite incomplete. In 1992, 1993, and 1995 Dr. Seiki Yamane (Kagoshima University, Kagoshima, Japan) collected more than 100 specimens of mutillid wasps from Borneo which were entrusted to me for study. Several mutillids collected by him in Sulawesi (Celebes) and Jawa, and additional materials from other collections were also examined. Asterisks (\*) show new localities.

**Material depositories.** Institutional collections in which the examined materials will be deposited are abbreviated in the text as follows. IBPV - Institute of Biology and Pedology, Russian Academy of Sciences, Vladivostok; KU - Department of Biology, Kagoshima University, Kagoshima; NSMT - National Science Museum (Natural History), Tokyo; ZIS - Zoological Institute, Sankt Petersburg. Most of the specimens tentatively deposited at Kagoshima University will finally be moved to appropriate institutions in Malaysia and Indonesia.

## Subfamily Myrmillinae Bischoff, 1920

### 1. *Squamulotilla calliopeia* Mickel, 1935

*Mutilla calliope* Smith, 1858: 85, ♂ non ♀ (Sarawak).

*Squamulotilla calliopeia* Mickel, 1935: 188, ♂ (holotype - ♂, Sarawak).

**Specimen examined.** Malaysia: 1 ♂, Sarawak, Miri, Lambir National Park, Canopy Biology Program, yellow pan, TO, 19-22 viii 1992, N A0019 [KU].

**Distribution.** Malaysia (Sabah and Sarawak).

### 2. *Squamulotilla cardea* Mickel, 1935

*Squamulotilla cardea* Mickel, 1935: 192, ♀ [holotype - ♀, Borneo, Bettotan near Sandakan, 25 vii 1927 (C.B.K. & H.M.P.)].

**Specimen examined.** Malaysia: 1 ♀, Sarawak, Miri, Lambir National Park, Canopy Ecology, 14 i 1993 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Sabah and Sarawak).

Remarks. The present specimen differs from the original description in having black integument under pale spot on gastral tergum 1 and pale band on tergum 2, but the distal tibial spine at the tip of a short cylindrical process confirms the identity.

Subfamily **Mutillinae** Latreille, 1802

Tribe **Trogaspidiini** Bischoff, 1920

Genus **Radoszkowskius** Ashmead, 1903

*Radoszkowskius* Ashmead, 1903: 328, ♀ non ♂; Mickel, 1928: 36 (listed).

*Odontomutilla* (non Ashmead, 1899): André, 1903: 29, ♀ non ♂, part.; Zavattari, 1913: 62, ♀ non ♂, part.; Mickel, 1935: 199, ♀ non ♂, part.

*Timulla* (non Ashmead, 1899): Mickel, 1935: 218, ♀ non ♂, part.

**Type species:** *Mutilla simplicifascia* Sichel et Radoszkowski, 1870, ♀ non ♂, Halmahera [Molucca Is.], by original designation.

**Species included.** Genus *Radoszkowskius* includes 4 species known from the female only: *R. simplicifascia* (Sichel et Radoszkowski, 1870) (Indonesia: Halmahera I.), *R. merops* (Smith, 1861) (Indonesia: Batjan I.), *R. penheus* (Smith, 1861) (Indonesia: Batjan I.), *R. seraficus* (Zavattari, 1913) (Indonesia: Sumbawa, Solor and Ambon), all being new combinations.

**Distribution.** Indonesia.

**Remarks.** The females of the genus *Radoszkowskius* have not pale spots and pale band on gastral tergum 2 and are easily distinguished by this state from other genera of the tribe Trogaspidiini.

The type species, *Mutilla simplicifascia* Sichel et Radoszkowski, 1870, of this genus was originally described from a female and a male. The female belongs to the tribe Trogaspidiini (subfamily Mutillinae), and the male to the genus *Odontomutilla* (subfamily Sphaerophthalminae). Since Bischoff (1920) *Radoszkowskius* has been treated as a junior synonym of *Odontomutilla* Ashmead, 1899. This treatment is correct only if the name *simplicifascia* belongs to the male sex. However, since Mickel (1935) designated the female specimen as the lectotype of *Mutilla simplicifascia*, *Radoszkowskius* must be a valid name in the tribe Trogaspidiini.

3. *Radoszkowskius simplicifascia* (Sichel et Radoszkowski, 1870), comb. nov.

*Mutilla simplicifascia* Sichel et Radoszkowski, 1870: 192, ♀ non ♂, Tab. 7, Fig. 3, ♀ [lectotype (designated by Mickel, 1935) - ♀, Gilolo (Indonesia, Halmahera I.)]; Dalla Torre, 1897: 86 (*simplicifasciata*); Ashmead, 1903: 329, ♀ non ♂; Mickel, 1928: 36.

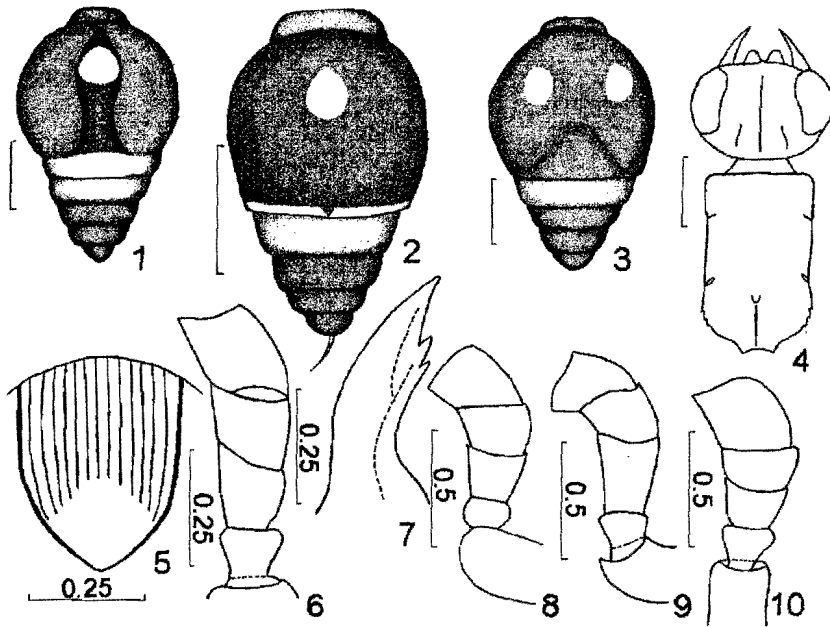
*Odontomutilla simplicifascia*: André, 1903: 29, ♀ non ♂, part.; Bischoff, 1920: 245, ♀ non ♂; Mickel, 1935: 204, ♀ non ♂.

No specimen examined.

**Distribution.** Indonesia (Halmahera I.).

**Remarks.** After a careful study of the original description and colour figures of *Mutilla simplicifascia* I came to the conclusion that the two specimens (♂, ♀) were erroneously described as belonging to one and the same species by Sichel and Radoszkowski due to the apparent similarity in gastral colour pattern (both the female and male have the pale band on tergum 3 only). Undoubtedly the male belongs to the genus *Odontomutilla*, but the female belongs to a small group within the genus *Trogaspidia* without pale spots on gastral tergum 2. The female of *simplicifascia* is possibly conspecific with *Mutilla merops* Smith, 1861, distributed in the islands of northern Moluccas (O'Tolle, 1975). In his 1935 paper Mickel states that the holotype of *simplicifascia* is the female and that the allotype (paratype) is the male. According to the International Code of Zoological Nomenclature (1985, art. 74b) Mickel designated the lectotype of *simplicifascia* although he had not seen the type material. In this case a new name must be proposed for the male, but I suppose that it was described as *O. ceramensis* Mickel, 1935 (Indonesia, Ceram I.). A similar case was established for *Mutilla merops* Smith, 1861, when the female was transferred to *Trogaspidia* (currently *Radoszkowskius merops*) and the male to *Odontomutilla* (currently *O. apiastra* Mickel, 1935).

4. *Petersenidia macassarica* (Zavattari, 1913), comb. nov. *Petersenidia*  
*Mutilla macassarica* Zavattari, 1913: 80, ♀ (holotype - ♀, Celebes: Makassar [Ujung Pandang]). *Timulla*  
(*Trogaspidia*) *macassarica*: Mickel, 1935: 255, ♀ (Celebes).  
**Specimen examined.** Indonesia: 1 ♀, Sulawesi, Ujung Pandang, Bantimurung, 18 viii 1992 (Sk. Yamane)  
[KU].  
**Distribution.** Indonesia (Sulawesi).
5. *Petersenidia mamblia* (Cameron, 1902), comb. nov. *Promecidia*  
*Mutilla mamblia* Cameron, 1902a: 79, ♀ (holotype - ♀, Sarawak, Kuching).  
*Timulla* (*Trogaspidia*) *mamblia*: Mickel, 1935: 268, ♀ (keyed).  
**Specimen examined.** Malaysia: 1 ♀, Sabah, Sepilok, forest, 21 viii 1995 (Sk. Yamane) [KU].  
**Distribution.** Malaysia (Sabah\* and Sarawak).
6. *Petersenidia psecas* (Mickel, 1935), comb. nov. *Petersenidia*  
*Timulla* (*Trogaspidia*) *psecas* Mickel, 1935: 268, ♀ [holotype - ♀, Borneo, Sabah, Sandakan (Baker)].  
**Specimen examined.** Malaysia: 1 ♀, Sarawak, Miri, Lambir National Park, Canopy Ecology, 29 i 1993  
(Sk. Yamane) [KU].  
**Distribution.** Malaysia (Sabah and Sarawak\*).
7. *Petersenidia dayak* Lelej, sp. nov. *Petersenidia*  
**Specimens examined** (2 ♀). Holotype - ♀, Malaysia, Sarawak, Miri, Lambir National Park, 1 viii 1993 (Sk.  
Yamane) [KU]; paratype, 1 ♀, Sarawak, Miri, Lambir National Park, 50 ha plot, 23 viii 1995 (Sk. Yamane)  
[KU].  
**Description.** *Female.* Length 6.0-7.5 mm. Head and gaster black; antennal segments 1-3, thorax, legs except  
fuscous tarsi, mandible except apex red; palps brownish-red; antennal segments 4-12 beneath and gastral  
sternum 1 reddish.  
Frons and vertex with sparse subappressed and erect black setae; thoracic dorsum with sparse erect black  
and subappressed reddish setae; gena, mandible, scape, legs, posterior face of propodeum, gastral tergum 1,  
terga 2-5 laterally and gaster ventrally with pale setae. Tergum 2 with two spots, tergum 3 with broad  
complete band of yellowish pubescence (Fig. 3). Sterna 2 and 3 posteriorly with a weak narrow band of  
appressed pale pubescence; sterna 2-5 posteriorly with a fringe of long, subappressed yellowish setae. Felt  
lines of gastral tergum 2 reddish. Tergum 6 with yellowish pygidial fringes. Other parts of gastral terga with  
black pubescence.  
The ratio of longitudinal eye diameter to distance between eye and mandibular base 3.6-4.0. Clypeus  
strongly elevated basally with a basal median tubercle and transverse concave preapical glabrous furrow, the  
latter being interrupted above by a slightly emarginate transverse carina. Gena bordered beneath by a ridge  
which ends at hypostomal carina as a sharp tubercle. Antennal segment 3 being 0.85 times its maximal  
width, 2.0 times antennal segment 2, 1.1 times antennal segment 4, the last being 0.75 times antennal  
segment 5 (Fig. 8). Frons, vertex and gena deeply and densely punctate; frons and vertex somewhat  
longitudinally striate; punctures larger on gena. Mandible slender, with an inner preapical denticle.  
Humeral angles distinct, not prominent; seen from above pronotal sides divergent posteriad, with a  
distinct carina but without lateral denticle; mesonotum laterally crenulate; relative width of thorax at  
humeral angles, at broadest part of pronotum, at anterior spiracles, at posterior spiracles, and at broadest part  
of propodeum 5.2 : 5.8 : 5.6 : 5.3 : 5.5. Scutellar scale very narrow, scarcely visible posteriorly, with a short  
medial weak ridge. Propodeum rather long and gently sloping to the gastral base. Thoracic dorsum coarsely  
and confluent punctate; propodeal dorsum and posterior face of propodeum above tuberculate; lateral  
edges of propodeum with larger tubercles.  
Gastral sternum 1 longitudinally carinate, posteriorly twice emarginate. Tergum 2 with a flattened dorsal  
disk, broadly shallowly depressed in posterior half, densely punctate (punctures sparser laterally),  
longitudinally striate in posterior two-thirds except shallow posterior depression; gastral sternum 2 with  
dense separate punctures, basally glabrous with small sparse ones. Pygidial area of tergum 6 convex,  
glabrous, shining, and not carinate laterally.  
*Male.* Unknown.  
**Distribution.** Malaysia (Sarawak).  
**Remarks.** The female of *P. dayak* strongly resembles that of *P. psecas* (Mickel) in having coarsely  
punctate genae and black gastral tergum 1, but differs from the latter in the extremely short antennal  
segment 3 (Fig. 8 vs. Fig. 9) (almost twice segment 4 in *psecas*), very narrow scutellar scale (well  
developed in *psecas*), and glabrous smooth pygidial area of tergum 6 without lateral carinae (well



Figs. 1-10. 1, 4, 10, *Sinotilla lambirensis* sp. nov., holotype; 2, 5, 6, *Smicromyrme borneo* sp. nov., holotype; 3, 8, *Petersenidia dayak* sp. nov., paratype; 7, *Andreimyrme sarawakensis* sp. nov., holotype; 9, *P. psecas* (Mickel). 1, 2, 3, female gaster; 4, head and thorax; 5, pygidial area; 6, 8-10, antennal segments 2-5; 7, mandible.

defined and carinate laterally, glabrous and unsculptured in *psecas*). Among the species of *Petersenidia* with females having very short antennal segment 3 and glabrous pygidial area without lateral carinae, the female of *P. dayak* resembles that of *P. proserpina* (Smith), but is distinguished from the latter by the coarsely punctate genae (punctures separate in *proserpina*), very narrow scutellar scale (well developed in *proserpina*) and black gastral tergum 1 (ferruginous in *proserpina*).

**Etymology.** The specific name is a noun and originates from Dayak, one of the native peoples of Borneo.

8. *Petersenidia volatilis* (Smith, 1859), comb. nov. *Protrogaspidia*  
*Mutilla volatilis* Smith, 1859: 9, ♂ (holotype - ♂, Celebes); Dalla Torre, 1897: 98, ♂ (listed); André, 1903: 41, ♂ (listed).  
*Mutilla maura* Smith, 1861a: 75, ♂ (nom. praeocc., non Linnaeus, 1758; Celebes; synonymized with *volatilis* by Mickel, 1935); André, 1903: 71, ♂ (listed); Zavattari, 1913: 90, ♂ (Celebes).  
*Mutilla mariae* Dalla Torre, 1897: 57, ♂ (unnecessary new name for *Mutilla maura* Smith, 1861, non Linnaeus, 1758); synonymized with *volatilis* by Mickel, 1935.  
*Timulla (Trogaspidia) volatilis*: Mickel, 1935: 266, ♂ (Celebes).  
**Specimen examined.** Indonesia: 1 ♂, Sulawesi, Makassar, 50 m, 28-30 xi 1973 (H. Shima) [NSMT].  
**Distribution.** Indonesia (Sulawesi).

9. *Petersenidia depressicornis* (Mickel, 1935), comb. nov. *Krombeinidia*  
*Timulla (Trogaspidia) depressicornis* Mickel, 1935: 264, ♂ [holotype - ♂, Borneo, Sandakan (Baker)].  
**Specimen examined.** Malaysia: 1 ♂, Sarawak, Miri, Lambir National Park, Canopy Biology Program, yellow pan, GAP, 22-25 vi 1993, NB0417 [KU].  
**Distribution.** Malaysia (Sabah and Sarawak).

10. *Petersenidia nallinia* (Zavattari, 1913), comb. nov. *Krombeinidia*  
*Mutilla nallinia* Zavattari, 1913: 100, ♂ (Jawa).  
*Timulla (Trogaspidia) nallinia*: Mickel, 1935: 263, ♂ (Jawa).

**Specimens examined** (4♂). Indonesia: 1♂, Jawa, Banjoewangi [ZIS]; 2♂, Jawa, Tjibodas [ZIS]; 1♂, Western Jawa, Mt. Gedeh, 28 ix 1965 (J. E. Lukovsky) [IBPV] identified by B. Petersen as *nallinia* Zavattari.

**Distribution.** Indonesia (Jawa).

11. *Petersenidia ira* (Cameron, 1902), comb. nov. *Krombeinidia*  
*Mutilla ira* Cameron, 1902a: 74, ♂ (holotype - ♂, Borneo, Sarawak).  
*Mutilla attila* Cameron, 1903: 152, ♂ (holotype - ♂, Borneo), synonymized with *ira* by Mickel (1935).  
*Timulla (Trogaspidia) ira ira*: Mickel, 1935: 265, ♂ (Sabah and Sarawak).  
**Specimens examined** (3♂). Malaysia: 1♂, Sarawak, Miri, Lambir National Park, Canopy Biology Program, yellow pan trap, GAP, 11-14 v 1993, N B0333 [KU]; 1♂, same loc., Malaise trap (I), GAP, 21-24 vii 1993, N B0569 [KU]. Indonesia: 1♂, West Jawa, Mt. Djampang Wetan, Radjamandala, 1200 m, viii 1937 (H. A. Welsh) [IBPV], identified by B. Petersen as *attila attila* Cameron.  
**Distribution.** Malaysia (Sabah and Sarawak), Indonesia\* (West Jawa). + west Sumatra (1♂)
12. *Petersenidia saturnia samawangensis* (Mickel, 1935), comb. nov. *Tailoritegma*  
*Timulla (Trogaspidia) saturnia samawangensis* Mickel, 1935: 256, ♂ (holotype - ♂, North Borneo, Samawang near Sandakan, 17 vii 1927 (C.B.K. & H.M.P.)).  
**Specimens examined** (2♂). Malaysia: 1♂, Sarawak, Miri, Lambir National Park, Canopy Biology Program, Malaise trap, GAP, 14-18 xii 1992, N A0167 [KU]; 1♂, same loc., Malaise trap, GAP, 26-29 v 1993, N B0364 [KU].  
**Distribution.** Malaysia (Sabah and Sarawak\*).
13. *Petersenidia hylonome* (Mickel, 1935), comb. nov. *Petersenidia*  
*Timulla (Trogaspidia) hylonome* Mickel, 1935: 288, ♂ [holotype - ♂, Borneo, Sandakan (Baker)].  
**Specimen examined.** Malaysia: 1♂, Sarawak, Miri, Lambir National Park, 21 ix 1992 (Sk. Yamane) [KU].  
**Distribution.** Malaysia (Sabah and Sarawak\*).
14. *Petersenidia bagrada* (Cameron, 1902), comb. nov. *Krombeinidia*  
*Mutilla bagrada* Cameron, 1902a: 76, ♂ (holotype - ♂, Borneo, Kuching).  
*Timulla (Trogaspidia) bagrada*: Mickel, 1935: 263, ♂ (Sarawak).  
**Specimen examined.** Indonesia: 1♂, East Kalimantan, Kutai (Kal. Tim.), 30 vii 1986 (T. Yajima) [KU].  
**Distribution.** Malaysia (Sarawak), Indonesia\* (East Kalimantan).
15. *Petersenidia proserpina* (Smith, 1858), comb. nov. *Crioceridia*  
*Mutilla proserpina* Smith, 1858: 85, ♀ (holotype - ♀, Borneo, Sarawak).  
*Timulla (Trogaspidia) proserpina proserpina*: Mickel, 1934: 175, ♀ (Borneo, Panay, Siargao, Mindanao and Basilan); 1935: 269, ♀ (keyed).  
*Timulla (Trogaspidia) fortuita nebulosa* Mickel, 1935: 263, ♂ (holotype - ♂, Borneo, Sandakan), (Sabah and Sarawak), synonymized with *proserpina* by B. Petersen.  
**Specimens examined** (4♀ 2♂). Malaysia: 1♀, Sabah, Danum Valley, 29 viii 1995 (Sk. Yamane) [KU]; 2♀, Sarawak, Miri, Lambir National Park, 12 viii 1992, 14 viii 1995 (Sk. Yamane) [KU, IBPV]; 1♂, same loc., 21 xi 1992 (Sk. Yamane) [KU]. Indonesia, East Kalimantan: 1♂, Bukit Sochart, UNMUL forest, 12 viii 1992 (Sk. Yamane) [KU]; 1♂, Kutai National Park, Sangkimah, 8 ix 1993 (Sk. Yamane) [KU].  
**Distribution.** Malaysia (Sabah and Sarawak), Indonesia\* (East Kalimantan), ?Philippines (Panay, Negros, Mindanao and Basilan).  
**Remarks.** I studied the female of *P. fortuita* (Mickel, 1934) from Mindanao (see below), which runs to *P. proserpina proserpina* in Mickel's (1935) key, and found that it differed from the true *proserpina* in the more developed basal clypeal tubercle, more converging pronotal sides, and less flattened dorsum of gastral tergum 2. Probably females of *P. proserpina proserpina* sensu Mickel (1934) from the Philippines are the opposite sex of *P. fortuita* (Mickel, 1934) also described from the Philippines.
16. *Petersenidia fortuita* (Mickel, 1934), comb. nov. *Crioceridia*  
*Timulla (Trogaspidia) fortuita* Mickel, 1934: 181, ♂ (holotype - ♂, Mindanao, Tangkulan), (Sibuyan, Negros, Basilan and Palawan).

*Timulla (Trogaspidia) fortuita fortuita*: Mickel, 1935: 263, ♂(keyed).

*Smicromyrme (Petersenidia) fortuita*: Tsuneki *et al.*, 1993: 24, ♂(Mindanao and Palawan).

**Specimens examined** (1♂1♀). Philippines: 1♂, Mindanao, Sant Luis Calapan, 14 iv 1954 (H. M. & D. Townes) [IBPV] identified by B. Petersen as *proserpina fortuita*; 1♀, Mindanao, Baracatan, Davao City, 27-29 vi 1977 (Y. Kurosawa) [NSMT].

**Distribution.** Philippines (Sibuyan, Negros, Mindanao, Basilan and Palawan).

17. *Trogaspidia implicata* (Mickel, 1935), comb. nov.

*Timulla (Trogaspidia) implicata* Mickel, 1935: 238, ♀[holotype - ♀, Celebes, Gorontalo, 10-12 v 1905 (R. Shelford)].

**Specimen examined.** Indonesia: 1♀, Sulawesi, Ujung Pandang, Bantimurung, 8 viii 1992 (Sk. Yamane) [KU].

**Distribution.** Indonesia (Sulawesi).

18. *Trogaspidia oceanitis* (Mickel, 1935), comb. nov.

*Timulla (Trogaspidia) oceanitis* Mickel, 1935: 253, ♀(holotype - ♀, Ambon I.).

**Specimens examined** (1♀). Indonesia: 1♀, Sulawesi, Ujung Pandang, Bantimurung, 8 viii 1992 (Sk. Yamane) [KU].

**Distribution.** Indonesia (Sulawesi\* and Ambon).

**Remarks.** The female from Sulawesi has a narrowly interrupted pale band on tergum 3, other characters including the sculpture of pygidial area sculpture and narrow scutellar scale agree with Mickel's original description.

19. *Trogaspidia manilensis* (Brown, 1906)

*Mutilla manilensis* Brown, 1906: 685, ♀ [Philippines, Manila (Luzon)].

*Timulla (Trogaspidia) manilensis*: Mickel, 1934: 174, ♀(Luzon, Panay, Negros, Mindanao, Basilan and Palawan); 1935: 252, ♀(keyed).

*Trogaspidia manilensis*: Tsuneki *et al.*, 1993: 37, ♀(Luzon).

**Specimens examined** (2♀). Indonesia, East Kalimantan: 1♀, Kutai National Park, Teluk Kaba, 6 viii 1992 (Sk. Yamane) [KU]; 1♀, Samarinda, 5 viii 1992 (Sk. Yamane) [KU].

**Distribution.** Philippines (Luzon, Panay, Negros, Mindanao, Basilan and Palawan), Indonesia\* (East Kalimantan).

**Remarks.** The females from East Kalimantan have a medially interrupted pale band on gastral tergum 3.

20. *Trogaspidia suspiciosa* (Smith, 1858), comb. nov.

*Mutilla suspiciosa* Smith, 1858: 84, ♂(holotype - ♂, Borneo, Sarawak); Dalla Torre, 1897: 90, ♀, ♂ (listed); André, 1903: 41 (listed).

*Mutilla sibylla* Smith, 1858: 86, ♀(holotype - ♀, Borneo, Sarawak); synonymized with *suspiciosa* by Smith, 1861a: 75, ♀.

*Mutilla casiphia* Cameron, 1902c: 207, ♂(Borneo); synonymized with *suspiciosa* by Mickel, 1935.

*Mutilla gispa* Cameron, 1902b: 139, ♀(Borneo); synonymized with *sibylla* by Mickel, 1935.

*Timulla (Trogaspidia) suspiciosa suspiciosa*: Mickel, 1935: 243, ♂(Sabah, Sarawak and West Kalimantan).

*Timulla (Trogaspidia) sibylla*: Mickel, 1935: 244, ♀(Sabah, Sarawak and West Kalimantan).

**Specimens examined** (3♀5♂). Indonesia, East Kalimantan: 1♂, Kutai National Park, 13 ix 1993 (Sk. Yamane) [KU]; same loc., 2♂1♀, 14 ix 1993 (Sk. Yamane) [KU]; same loc., 2♂1♀, 15 ix 1993 (Sk. Yamane) [KU]; same loc., 1♂1♀ [IBPV]; same loc., 1♀, 11-15 ix 1993 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Sabah and Sarawak), Indonesia (West Kalimantan and East Kalimantan\*).

**Remarks.** Smith (1861a) stated that *M. sibylla* has been taken *in copula* with *M. suspiciosa*, but Mickel (1935) did not believe it and regarded male and female as separate species. Males and females of *T. suspiciosa* collected by Sk. Yamane in Kutai National Park in the same place and at the same time, though not *in copula*, support Smith's opinion about the sex combination of *P. suspiciosa*.

21a. *Trogaspidia castellana islandica* (Mickel, 1935), comb. nov.

*Timulla (Trogaspidia) minor islandica* Mickel, 1934: 155, ♀, ♂[holotype - ♂, Philippines, Mindanao, Surigao (Baker)]; 1935: 233, ♀, ♂.

**Specimen examined.** Philippines: 1♀, Mindanao, Mt. Apo, iv 1978 [NSMT].

**Distribution.** Philippines (Samar, Biliran, Mindanao and Basilan).

21b. *Trogaspidia castellana sandakanensis* (Mickel, 1935), comb. nov.

*Timulla (Trogaspidia) minor sandakanensis* Mickel, 1935: 233, ♀, ♂ (holotype - ♂, Malaysia, Sabah, Kudat, 13 ix 1927 (C.B.K. & H.M.P.)).

**Specimens examined** (3 ♀). Malaysia: 1 ♀, Sabah, Poring, Kinabalu, 550 m, 17 iii 1995 (Sk. Yamane) [KU]; 1 ♀, Sarawak, Miri, Lambir National Park, Tower Region, 10 xii 1993 (Sk. Yamane) [KU]; 1 ♀, Sarawak, Miri, Lambir National Park, Head Quarter R. 20 vii 1995 (Sk. Yamane) [IBPV].

**Distribution.** Malaysia (Sabah and Sarawak\*).

22. *Trogaspidia cydippe* (Mickel, 1935)

*Timulla (Trogaspidia) cydippe* Mickel, 1935: 239, ♂ [holotype - ♂, Borneo, Pontianak (F. Muir)].

*Trogaspidia cydippe*: Hammer, 1962: 23, ♂ (Sarawak).

**Specimens examined** (7 ♂2 ♀). Indonesia, East Kalimantan: Kutai National Park, 6 ♂, 14, 15, 16, 18 ix 1993 (Sk. Yamane) [KU, 1 ♂ in IBPV]; same loc., 1 ♀, 16 ix 1993 (Sk. Yamane) [KU]; same loc., 1 ♂, 30 vii 1986 (T. Yajima) [KU]; 1 ♀, South Borneo, 4 km W Nr. Sotek, 27-29 xii 1980 (J. Aoki) [NSMT].

**Description.** *Female* (hitherto unknown). Body length 6.5 mm. The female of *T. cydippe* resembles that of *T. formosana* (Matsumura, 1911) (Taiwan) in having a pale interrupted band on gastral terga 3-4 and black legs, but differs in the smaller spots on tergum 2 (distance between spots being 1.3 times spot diameter in *cydippe* and 0.7 times in *formosana*), in lacking pale band on gastral tergum 1 (*formosana* with an interrupted band), and in the sculpture of pygidial area (longitudinally striate with glabrous shining apical third to fourth in *cydippe*; irregularly rugose with micropunctate apical fifth in *formosana*). The female of *T. cydippe* resembles that of *T. rhea rhea* (Mickel, 1935) (Taiwan) in having black legs, small pale spots on tergum 2 and a pale band on terga 3-4, but differs in the sculpture of pygidial area (longitudinally striate with glabrous apical tenth in *rhea rhea*). The female of *T. cydippe* is similar to *T. oceanitis* (Mickel, 1935) (Ambon I.), but differs in the scalelike scutellar scale (very narrow, tooth-like in *oceanitis*) and sculpture of pygidial area (anterior half irregularly rugose and posterior half granulate in *oceanitis*).

**Distribution.** Malaysia (Sarawak), Indonesia (West Kalimantan and East Kalimantan\*).

**Remarks.** Sex combination is based on specimens collected by Sk. Yamane in Kutai National Park. I studied the male specimen from West Sumatra (Maninjau, 16-18 viii 1985, Sk. Yamane) [IBPV], identified by B. Petersen as *agapeta* Cameron, which has gastral terga 5-7 and sterna 5-8 black, but in other characters including genital structure it is not distinguished from the males of *T. cydippe* from Borneo. Probably *T. cydippe* and *T. agapeta* are conspecific and the former is a junior synonym of the latter.

Tribe *Smicromyrmini* Bischoff, 192023. *Mickelomyrme zebina* (Smith, 1861), comb. nov.

*Mutilla zebina* Smith, 1861b: 115, ♀ [holotype, ♀ - Island of Bachian [Indonesia, Batjan]; Dalla Torre, 1897: 99 (listed); André, 1903: 41 (listed)].

*Smicromyrme zebina*: Mickel, 1934: 204, ♀, ♂ (Luzon, Cebu and Mindanao); 1935: 292, ♀, ♂ (North Borneo); Tsuneki *et al.*, 1993: 21, ♀, ♂ (Luzon, Cebu, Mactan and Negros).

**Specimens examined** (2 ♂18 ♀). Malaysia: 1 ♀, Sabah, Danum Valley, secondary forest, 29 viii 1995 (Sk. Yamane) [KU]; 1 ♂, Sarawak, Miri, Lambir National Park, 24 vii 1993 (Sk. Yamane) [KU]. Indonesia, East Kalimantan: Kutai National Park, 1 ♀1 ♂ in copula, 4 ♀, Kutai N. P., Sangkimah, 11, 14 ix 1993 (Sk. Yamane) [KU]; 1 ♀, Kutai N. P., Teluk Kabah, 6 viii 1992 (Sk. Yamane) [KU]; 9 ♀, same loc., 18 ix 1993 (Sk. Yamane) [KU, IBPV]; 2 ♀, near KM 9, 6 viii 1992 (Sk. Yamane) [KU].

**Distribution.** Philippines (Luzon, Cebu, Mactan, Negros and Mindanao), Malaysia (Sabah and Sarawak\*), Indonesia (East Kalimantan\* and Batjan I.).

**Remarks.** The male and female collected *in copula* by Sk. Yamane in Borneo confirm the Mickel's (1934) view about the sex combination of *M. zebina*.

24. *Sinotilla gribodoana* (Invrea, 1942), comb. nov.

*Mutilla gracillima* (nec Smith, 1858): Zavattari, 1913: 92, ♂ (Borneo).

*Smicromyrme zavattarii* Mickel, 1935: 282, ♂ [holotype - ♂, Borneo, Bandjermasin (Indonesia, South Kalimantan)].

*Smicromyrme gribodoana* Invrea, 1942: 193 [nom. nov. pro *zavattarii* Mickel]; Hammer, 1962: 44, ♂ (Sarawak).

**Specimen examined.** Malaysia: 1 ♂, Sarawak, Miri, Lambir National Park, Malaise trap, 1-3 xii 1992 [KU].

**Distribution.** Malaysia (Sarawak), Indonesia (South Kalimantan).

**Remarks.** The male of *S. gribodoana* strongly resembles that of *S. boheana* (Chen, 1957) (type species of *Sinotilla*, distributed in South China and Vietnam) in having mesonotum without notauli, similar colour of mesosoma, longitudinal medial ridge on the posterior face of propodeum and on gastral tergum 1, but differs from the latter in dark metallic blue of gastral terga 1 and 2 (black in *boheana*), gastral sternum 2 without any traces of felt lines (a few small punctures in *boheana*), gastral terga 1-3 with white bands (golden in *boheana*), and in black tibiae except fore tibia (red in *boheana*).

25. *Sinotilla lambirensis* Lelej, sp. nov.

**Specimens examined** (3 ♀). Holotype - ♀, Malaysia, Sarawak, Miri, Lambir National Park, Tower Region, 22 i 1993 (Sk. Yamane) [KU]. Paratypes: 2 ♀, same loc., 6, 22 i 1993 (Sk. Yamane) [KU, IBPV].

**Description.** *Female.* Body length 4.6-6.1 mm. Head and gaster black; antennal segments 1 and 2, mandible except apex, thorax, legs except tarsi red; tarsi and palps brownish red; flagellomeres beneath brownish.

Frons, vertex and thoracic dorsum with sparse subappressed and erect black setae only; gena, mandible, scape, legs, gastral tergum 1, base of tergum 2, terga 2-5 laterally and gaster ventrally with pale setae. Tergum 2 with a basal median spot and posteriorly with a broad, medially slightly widened band of dense appressed short and sparse long erect golden pubescence. Distance between median spot and band almost twice longer than spot diameter; distance between median spot and anterior tergal margin slightly shorter than spot diameter (Fig. 1). Tergum 3 with a broad complete band of golden pubescence. Sterna 2 and 3 posteriorly with a narrow band (not fringe!) of appressed golden pubescence; sterna 2-5 posteriorly with a fringe of long, subappressed golden setae. Felt lines of gastral tergum 2 reddish. Tergum 6 with golden pygidial fringes. Other parts of gastral terga with black pubescence.

Ratio of longitudinal eye diameter to distance between eye and mandibular base 3.5-4.1. Clypeus without any tubercles on anterior margin, strongly elevated at base, and basally with a weak median tubercle and a transverse concave preapical glabrous furrow bordered above by a transverse arched carina. Frons and vertex with longitudinal median carina; vertex with two short longitudinal lateral carinae; gena bordered beneath by a ridge which ends on hypostomal carina as a large tubercle. Antennal segment 3 being 0.7 times its maximal width, 1.4 times antennal segment 2, 0.9 times antennal segment 4, the last being 0.6 times antennal segment 5 (Fig. 10). Frons, vertex and gena deeply and densely punctate with some longitudinal rugae. Mandible slender, with 2 weak inner preapical denticles.

Thorax with almost parallel sides before propodeal spiracles; propodeum slightly widened (Fig. 4). Scutellar scale narrow. Hindcoxa carinate on the inner face. Thoracic dorsum coarsely confluent punctate; posterior face of propodeum with a median longitudinal carina, reticulate with some tubercles in upper part. Thorax laterally glabrous; mesopleuron above coxa punctate; lateral face of propodeum with a few shallow punctures.

Gastral sternum 1 longitudinally carinate. Tergum 2 broadly shallowly depressed along the median longitudinal line, coarsely punctate; gastral sternum 2 with a median carina at base and dense separate punctures. Gastral tergum 6 with glabrous, shining and widened posterior area, and not carinate laterally.

*Male.* Unknown.

**Distribution.** Malaysia (Sarawak).

**Remarks.** The female of *S. lambirensis* strongly resembles that of *S. belokobylskiji* Lelej, 1995 (from Vietnam) in having broad median depression on gastral tergum 2 and lacking true pygidial area on tergum 6, but differs therefrom in the narrow scutellar scale (wide in *belokobylskiji*), weak depression on tergum 2 (strong in *belokobylskiji*), and smaller size (9-11 mm in *belokobylskiji*). It also resembles those of *Smicromyrme semperi* (Ashmead, 1904) and *S. fura* Mickel, 1934 from the Philippines, and *S. basalis* (Smith, 1879) from Borneo in having broad longitudinal medial depression on gastral tergum 2, but differs from all of them in lacking true pygidial area.

*S. lambirensis* sp. nov. and *S. gribodoana* (Invrea) may represent opposite sexes of the same species.

**Etymology.** The specific name originates from the type locality, the Lambir Hills National Park, Sarawak, East Malaysia.

26. *Sinotilla bacbo* Lelej, 1995

*Sinotilla bacbo* Lelej, 1995: 24, ♀ [holotype - ♀, North Vietnam, Prov. Haiphong, Trung Trang, 12 i 1989 (Gudkov) [ZIS].

*Ephueillew*

**Specimen examined.** Indonesia: 1 ♀, East Kalimantan, Kutai National Park, Sangkimah, 18 ix 1993 (Sk. Yamane) [KU].

**Distribution.** North Vietnam (Haiphong), Indonesia\* (East Kalimantan).

27. *Sinotilla runcina* (Zavattari, 1913), comb. nov.

*Mutilla runcina* Zavattari, 1913: 94, ♂ (holotype - ♂, Bandjermasin [Indonesia, South Kalimantan]).

*Smicromyrme runcina*: Mickel, 1935: 279, ♂ (Sabah).

**Specimen examined.** Malaysia: 1 ♂, Sarawak, Miri, Lambir National Park, Canopy Biology Program, Malaise trap, TO, 31 viii-3 ix 1992 N A0036 [KU].

**Distribution.** Malaysia (Sarawak\* and Sabah), Indonesia (South Kalimantan).

28. *Smicromyrme (Smicromyrme) basalis basalis* (Smith, 1879)

*Mutilla basalis* Smith, 1879: 200, ♀ (holotype - ♀, Sarawak).

*Smicromyrme basalis basalis*: Mickel, 1934: 202, ♀ (Mindanao); 1935: 290, ♀ (Sabah).

**Specimens examined** (9 ♀). Indonesia, East Kalimantan: 2 ♀, Kutai National Park near KM 9, 7 viii 1992 (Sk. Yamane) [KU]; 2 ♀, same loc., 11-15 ix 1993 (Sk. Yamane) [KU]. Malaysia, Sarawak: 1 ♀, Miri, Lambir National Park, Tower Region, 22 i 1993 (Sk. Yamane) [KU]; 2 ♀, same loc., 10 xii 1993 (Sk. Yamane) [KU, IBPV]; 1 ♀, Miri, Lambir National Park, 50 ha plot, 27 i 1993 (Sk. Yamane) [KU]. Malaysia, Sabah: 1 ♀, Poring, Kinabalu, 500-600 m, 15 iii 1995 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Sabah and Sarawak), Indonesia\* (East Kalimantan).

29. *Smicromyrme (Smicromyrme) borneo* Lelej, sp. nov.

**Specimen examined.** Holotype - ♀, Malaysia, Sabah, Lahad Datu, 30 viii 1995 (Sk. Yamane) [KU].

**Description.** *Female.* Length 3.8 mm. Head, gaster, antennal segments 3-12 black; antennal segments 1 and 2 reddish brown; thorax, coxae and mandible except tip red; legs brown with reddish foretarsi.

Frons and thoracic dorsum with sparse subappressed and erect brownish red setae; gena, vertex, mandible, clypeus, scape, legs, posterior face of propodeum, gastral tergum 1, terga 2-5 laterally, and gaster ventrally with pale setae. Tergum 2 basally with a median circular spot and posteriorly with a narrow fringe of appressed argental pubescence. Distance between median spot and anterior tergal border slightly shorter than spot diameter (Fig. 2). Tergum 3 with a broad complete band of argental pubescence. Sterna 2-5 posteriorly with a fringe of long, subappressed pale setae. Felt lines of gastral tergum 2 whitish. Tergum 6 with pale pygidial fringes. Other parts of gastral terga with black pubescence.

Ratio of longitudinal eye diameter to distance between eye and mandibular base 3.6. Clypeus without any tubercle on anterior margin, strongly elevated basally, with a small basal tubercle and a slightly concave, transverse preapical glabrous furrow bordered above by an arched transverse carina. Frons and vertex with large, dense (and sometimes coarse) punctures; gena with smaller punctures, and without ridge beneath; hypostomal carina slightly arched, without tubercle. Antennal segment 3 equal to its maximal width, 1.6 times antennal segment 2, and equal to antennal segment 4, the last being 0.9 times antennal segment 5 (Fig. 6). Mandible slender, with a weak inner preapical denticle.

Thorax with almost parallel sides before propodeal spiracles; propodeum slightly widened; humeral angles rounded. Scutellar scale nail-form with a transverse row of small tubercles alongside it. Row of small tubercles on prescutellar area well developed. Thoracic dorsum reticulate before the row of prescutellar tubercles. Posterior face of propodeum tuberculate in upper fifth. Thorax laterally glabrous; lateral face of propodeum microrugose.

Gastral sternum 1 longitudinally carinate. Tergum 2 with small elongate punctures; gastral sternum 2 without basal carina, with large separate punctures. Tergum 6 with well developed narrow pygidial area, carinated laterally; pygidial area longitudinally striate, with glabrous, shining apical part (Fig. 5).

*Male.* Unknown.

**Distribution.** Malaysia (Sabah).

**Remarks.** The female of *S. borneo* resembles that of *S. basalis annularis* Mickel, 1934 (from Luzon) in having brown scape and black legs and gastral segment 1, but differs therefrom in having circular pale basal spot on gastral tergum 2 (elongate in *basalis annularis*) and lacking broad longitudinal mediobasal depression of gastral tergum 2. The female of the new species differs from that of *S. strandi* (Zavattari, 1913) (from China and Taiwan) in having black legs, brown scape and circular basal spot on tergum 2 (legs and scape ferruginous, and tergum 2 with an elongate spot in *strandii*).

**Etymology.** The specific name is a noun and originates from the name of the island, Borneo.

30. *Promecilla delia* (Mickel, 1935), comb. nov.

*Smicromyrme delia* Mickel, 1935: 282, ♀ (holotype - ♀, North Borneo, Bettotan near Sandakan, 20 viii 1927 (C.B.K. & H.M.P.) [Sabah].

**Specimen examined.** Indonesia: 1 ♀, East Kalimantan, Kutai National Park, Sangkimah, 8 ix 1993 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Sabah), Indonesia\* (East Kalimantan).

**Remarks.** The female studied has a body length of 4.3 mm.

31. *Andreimyrmex sarawakensis* Lelej, sp. nov.

**Specimen examined.** Holotype - ♀, Malaysia, Sarawak, Miri, Lambir National Park, Tower Region, 10 xii 1993 (Sk. Yamane) [KU].

**Description.** *Female.* Body length 4.8 mm. Head black; mandible except apex and antennal tubercles brownish red; scape brown; flagellomeres beneath tinged with red; palps pale brownish; thorax ferruginous; legs ferruginous except the tibiae and tarsi blackish; gaster dark metallic blue. Frons, vertex and thoracic dorsum with sparse black setae only; gena, mandible, scape, legs, posterior face of propodeum, gastral tergum 1, tergum 2 laterally and gaster ventrally with pale setae. Gastral tergum 2 basally without median spot, posteriorly with an apical, broad, slightly widened median band of appressed yellowish pubescence; other parts with black pubescence. Terga 3-5 with black pubescence; tergum 3 also with sparse pale setae; terga 4 and 5 also with a few pale setae laterally. Sterna 2-5 posteriorly with a fringe of pale setae. Felt lines of gastral tergum 2 yellowish. Tergum 6 with pale pygidial fringes.

Ratio of longitudinal eye diameter to distance between eye and mandibular base 4.5. Clypeus basally with a median tubercle and a transverse, concave, preapical glabrous furrow bordered above by a carina. Gena margined below by a ridge which ends on hypostomal carina as an acute tubercle. Antennal segment 3 being 0.9 times its maximal width, 1.5 times antennal segment 2 and equal to antennal segment 4, the last being 0.8 times antennal segment 5. Frons, vertex and gena with small separated punctures which become sparser on frons. Mandible tridentate (Fig. 7).

Head and pronotum 8.6 : 6.7 in relative width. Mesonotum slightly but distinctly narrower than pronotum and propodeum; pronotum slightly wider than propodeum. Scutellar scale absent. Hindcoxa carinate on inner face. Thoracic dorsum coarsely and confluent punctate; propodeal dorsum and upper part of posterior face of propodeum reticulate; its lower part with shallow sculpture. Thorax laterally glabrous, with a few shallow punctures above mid-coxa.

Gastral sternum 1 longitudinally carinate; sternum 2 without basal carina, with sparse punctures; tergum 6 with distinct pygidial area which is carinated laterally and with parallel sides; anterior half of pygidium obscurely and longitudinally rugous, and posterior half glabrous and unsculptured.

*Male.* Unknown.

**Distribution.** Malaysia (Sarawak).

**Remarks.** The female of *A. sarawakensis* strongly resembles that of *A. neaera* (Mickel, 1935), comb. nov. (Malaysia, Sabah) in lacking scutellar scale and having pale band on tergum 3, but differs therefrom in the absence of any basal pale spot on tergum 2 (with a small median obscure pale spot in *neaera*), smaller size (7.0 mm in *neaera*), distinctly tridentate mandible (bidentate but possibly tridentate in *neaera*), and the mandible, scape and gastral tergum 1 darker in colour.

*Smicromyrme annexa* (Cameron, 1909) (male) from Sarawak and Sabah, and *S. volupia* Mickel, 1935 (male) from Sabah probably belong to the genus *Andreimyrmex* Lelej, 1995 and then *A. neaera* and *A. sarawakensis* may represent the opposite sex of these species.

**Etymology.** The specific name originates from the type locality, Sarawak.

## Subfamily Ephutinae Ashmead, 1903

## Tribe Rhopalomutillini Schuster, 1949

32. *Rhopalomutilla oceanica* Mickel, 1935

*Rhopalomutilla oceanica* Mickel, 1935: 197, ♀, ♂ [holotype - ♂, Bettotan near Sandakan, 10 viii 1927 (C.B.K. & H.M.P.) [Malaysia, Sabah].

**Specimen examined.** Malaysia: 1 ♂, Sarawak, Miri, Lambir National Park, Canopy Biology Program, Malaise trap, TO, 24-27 viii 1992, N A0028 [KU].

**Distribution.** Malaysia (Sabah and Sarawak\*).

Subfamily **Sphaerophthalminae** Schuster, 1949 (1903)Tribe **Odontomutillini** Lelej, 198333. *Odontomutilla familiaris familiaris* (Smith, 1858)<sup>7</sup>

*Mutilla familiaris* Smith, 1858: 81, ♀ (holotype - ♀, Malay Peninsula, Singapore).

*Odontomutilla familiaris*: Mickel, 1934: 132, ♀, ♂ (Luzon, Samar, Negros, Mindanao and Basilan).

*Odontomutilla familiaris familiaris*: Mickel, 1935: 201, ♀, ♂ (Sabah and Sarawak); Pagden, 1949: 226, ♀ ♂ (Malay Peninsula and East Kalimantan).

**Specimens examined** (3♂7♀). Philippines, Mindanao: 1 ♀, Mt. Apo, Cotabato, 3 ix 1976 (N. Kashiwai) [NSMT]; 1♂, Tagurano, 1000 m, 26 vi 1977 (S. Ae) [NSMT]. Indonesia, East Kalimantan: 1♂5♀, Kutai National Park, Sangkimah, 8-15 ix 1993 (Sk. Yamane) [KU, IBPV]; 1♀, Kutai National Park, Teluk Kabah, 18 ix 1993 (Sk. Yamane) [KU]. Malaysia, Sarawak: 1♂, Miri, Lambir National Park, 28 viii 1993 (Sk. Yamane) [KU].

**Distribution.** Philippines (Luzon, Samar, Negros, Mindanao and Basilan), Malaysia (Malay Peninsula, Sabah and Sarawak), Indonesia (East Kalimantan), Singapore. <sup>+ Brunei + Sumatra</sup>

4 ♀, Santa Fe, Bukidnon, Mindanao P.I., 3.vi.1932, 2000 ft. alt., F.C. Kaddan [Calif. Ac. Soc.]  
4 ♀, Malurus, Sarawak, Third Division Kapit, 4 mi. at airport, 17.ii.1970, J.E. Toftor [Calif. Ac. Soc.]

34. *Odontomutilla unimaculata* (Smith, 1858)

*Mutilla unimaculata* Smith, 1858: 87, ♀ (holotype - ♀, Sarawak). <sup>non-praece, non Lucas, 1846</sup>

*Odontomutilla unimaculata*: Mickel, 1935: 203, ♀.

**Specimens examined** (3♀). Indonesia, East Kalimantan: 1♀, Kutai National Park, Sangkimah, 11-15 ix 1993 (Sk. Yamane) [KU]; 1♀, Kutai National Park, Teluk Kabah, 17 ix 1993 (Sk. Yamane) [KU]. Malaysia, Sarawak: 1♀, Miri, Lambir National Park, Tower Region, 3 viii 1995 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Sarawak), Indonesia\* (East Kalimantan).

35. *Odontomutilla thymele* Mickel, 1935

*Odontomutilla thymele* Mickel, 1935: 211, ♀ (holotype - ♀, Bettotan near Sandakan, 30 vii 1927 (C.B.K. & H.M.P.) [Sabah]; Pagden, 1949: 227, ♀ (Sarawak).

**Specimens examined.** Malaysia: 1♀, Sarawak, Miri, Lambir National Park, Tower Region, 10 xii 1993 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Sabah and Sarawak).

Genus *Yamanetilla* Lelej, gen. nov.

Type species: *Odontomutilla nipponica* Tsuneki, 1972, designated here.

**Generic diagnosis.** Male. Head and gaster black, thorax entirely ferruginous. Clypeus basally with an elevated triangle area. Mandible tridentate without tooth and emargination beneath near the base. Scape carinate beneath. Gena bordered by a carina which ends on hypostomal carina as an acute tubercle. Posterolateral angles of scutum with parascutal carina. Notauli visible in posterior quarter of scutum; parapsidal furrow invisible. Posterolateral scutellar angles produced or dentate. Hind coxa with well developed coxal setiferous organ on inner face. Tegula protruding beyond scuto-scutellar suture. Tip of metasternum emarginate, with lateral denticles. Forewing with two radio-medial and one discoidal cells. Gaster with a pale band on tergum 3; tergum 2 laterally with a linear felt line; tergum 1 with distinct dorsal face. Tergum 7 and sternum 7 simple; hypopygium (sternum 8) simple or carinate submedially (in *Y. quadruplex*).

**Female.** Head and gaster black; thorax entirely ferruginous. Head width less than maximal thoracic width. Gena bordered by a strong carina which ends on hypostomal carina as an acute denticle. Thorax widest at mesonotal tubercles, narrowed anteriorly and posteriorly. Scutellar scale absent. Mesopleural ridge well developed with a row of long pale setae. Gaster with a pale band on tergum 3 and without basal pale spot on tergum 2 medially. Tergum 1 with well developed dorsal face. Tergum 2 laterally with a linear felt line but without deep pubescent fovea; sternum 2 laterally without felt line or with a rounded felt area (in *Y. pedaria*). Tergum 6 tuberculate with sparse pale setae; medio-apical part somewhat rugous.

**Species included.** Genus *Yamanetilla* includes 6 species: *Y. nipponica* (Tsuneki, 1972), *Y. cassiope* (Smith, 1858), *Y. pedaria* (Mickel, 1934), and three species of which I have not seen any specimen, i. e., *Y. taiwaniana* (Zavattari, 1913)<sup>2</sup> comb. nov. (Taiwan); *Y. andromeda* (Mickel, 1934)<sup>2</sup> comb. nov. (Philippines: Luzon, Samar, Negros and Mindanao); *Y. quadruplex* (Chen, 1957)<sup>2</sup> comb. nov. (China: Jiangsu). <sup>+ Carolina (Muls., 1832), ♂ (Burma)</sup>

**Distribution.** Eastern Asia and Pacific Islands.

**Remarks.** The males and females of *Yamanetilla* are similar to those of *Odontomutilla* Ashmead,

1899. However, the males differ from the latter in the rounded posterolateral angles of propodeum (angulate or produced into a prominent tooth in *Odontomutilla*), smaller body (6.3-9.3 mm vs. 10.0-16.0 mm in Oriental *Odontomutilla*); and the females differ in lacking anterolateral pubescent fovea on gastral tergum 2 (large deep pubescent fovea present in Oriental *Odontomutilla*), smaller body (6.0-7.2 mm vs. 8.0-18.0 mm in Oriental *Odontomutilla*).

The main characters of the males of *Yamanetilla* correspond to those of *Radoszkowskius* Ashmead, 1903 ["scutellum and metathorax normal, unarmed, ... front wings with one recurrent nervuire" (Ashmead, 1903)]. The male of *Mutilla simplicifascia* sensu Ashmead, 1903 (type species of *Radoszkowskius*) does not agree with original description (Sichel et Radoszkowski, 1870). "son [ecusson] bord posterieur terminale par deux dents, ... metathorax reticule, parties laterales amincies, aplaties, rectilignes et terminees en arriere par une lobe triangulaire". It is clear that the male of *M. simplicifascia* Sichel et Radoszkowski, 1870 belongs to the genus *Odontomutilla*. Generic name *Radoszkowskius* Ashmead, 1903 must be conserved for the female sex in the tribe Trogaspidiini, because the lectotype, designated for heterogenous *Mutilla simplicifascia*, is the female (Mickel, 1935) (see discussion under genus *Radoszkowskius*).

**Etymology.** The name of this new genus is dedicated to Seiki Yamane, an expert in wasp and ant taxonomy.

36. *Yamanetilla nipponica* (Tsuneki, 1972), stat. et comb. nov.

*Odontomutilla taiwaniana nipponica* Tsuneki, 1972a: 7, ♀, ♂ [holotype - ♂, Fukui Pref., Arashi, 800 m, 20 ix 1970 (K. Tsuneki)].

**Specimens examined** (5 ♂, 4 ♀). Japan, Honshu: 2 ♂, Fukui-ken, Ono-shi, Taniyama, 500-600 m, 31 vii 1972 (Y. Haneda) [IBPV]; 1 ♀, same loc., 29 vii 1993 (A. Lelej) [IBPV]; 1 ♀, 3 ♂, Ono-shi, Shimouchinami, 400 m, 30 vii 1993 (S. Murota) [IBPV]; 1 ♀, Ono-shi, Arashi, 400-600 m, 31 vii 1993 (H. Kurokawa) [IBPV]; 1 ♀, Kyoto, 7 viii 1980 (V. Kuznetsov) [IBPV].

**Distribution.** Japan (Honshu).

**Remarks.** The male of *Y. nipponica* Tsuneki differs from that of *Y. taiwaniana* Zavattari in having long setae (half the gonostylus length) on basivolsella [not longer than volsella length in *taiwaniana*; Fig. 19 (Tsuneki, 1972a) vs. Fig. 7 (Chen, 1957)], sculpture of median area of clypeus [Fig. 14 (Tsuneki, 1972a) vs. Fig. 7 (Tsuneki, 1972c)]. The female of *Y. nipponica* differs from that of *Y. taiwaniana* in the entirely pale ferruginous legs (tibiae and tarsi blackish in *taiwaniana*).

37. *Yamanetilla cassiope* (Smith, 1858), comb. nov.

*Mutilla cassiope* Smith, 1858: 86, ♀ (holotype - ♀, Sarawak).

*Odontomutilla cassiope*: Mickel, 1935: 216, ♀, ♂ (Sabah); Pagden, 1949: 228, ♀, ♂ (Selangor and East Kalimantan).

**Specimens examined** (1 ♀, 3 ♂). Indonesia: 1 ♂, East Kalimantan, Bukit Soehart, UNMUL forest, 12 viii 1992 (Sk. Yamane) [KU]. Malaysia: 1 ♂, North Borneo [Sabah], Keningau, 1-2 i 1981 (K. Akiyama) [NSMT]; 1 ♀, Sarawak, Miri, Lambir National Park, 25 xi 1992 (Sk. Yamane) [KU]; 1 ♂, same loc., 24 vii 1993 (Sk. Yamane) [KU].

**Distribution.** Malaysia (Selangor, Sabah and Sarawak), Indonesia (East Kalimantan).

**Remarks.** The male specimen from Sarawak is larger in body size (8.5 mm) than that from East Kalimantan, and with dark fuscous forewings and black legs except ferruginous coxae, trochanters and base of femora and reddish fore femur. But in the shape of clypeus, large setiferous organ on hind coxae, posteriorly elevated carina on gastral sternum 1, and extremely long setae in basal third of genital gonostylus, it is very similar to the male from East Kalimantan with subhyaline forewings and wholly ferruginous femora.

38. *Yamanetilla pendaria* (Mickel, 1934), comb. nov.

*Odontomutilla pendaria* Mickel, 1934: 135, ♂, ♀ (holotype - ♂, Iligan, Mindanao); 1935: 216, ♂, ♀.

**Specimen examined.** South Vietnam: 1 ♀, Hau Giang Prov., Con Dao Il. (8o41'N, 106o37'E), 6 iv 1987 (V. Kuznetsov) [IBPV].

**Distribution.** Philippines (Mindanao, Basilan and Palawan), Vietnam\* (Hau Giang Prov.).

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ボルネオ島および近隣の島嶼から 12 属 38 種のアリバチを記録した。 *Yamanetilla* gen. nov. (模式種: *Odontomutilla nipponica* Tsuneki), *Petersenidia dayak* sp. nov. (サラワク), *Sinotilla lambirensis* sp. nov. (サラワク), *Smicromyrme borneo* sp. nov. (サバ), *Andreimyrme sarawakensis* sp. nov. (サラワク), およこれまで記録のなかった *Trogaspidia cydippe* (Mickel) の雌を記載した。属 *Radoszkowskius* Ashmead (模式種: *Mutilla simplicifascia* Sichel et Radoszkowski) を族 *Trogaspidiini* に復活させた。