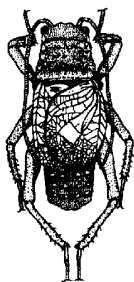


Far Eastern Entomologist



Дальневосточный энтомолог

Journal published by
Far East Branch of the
Russian Entomological Society
and Laboratory of Entomology
Institute of Biology and Pedology,
Vladivostok

Number 13: 1-28

June 1995

TO THE KNOWLEDGE OF EAST ASIAN SPECIES OF THE TRIBE SMICROMYRMINI BISCHOFF, 1920 (HYMENOPTERA, MUTILLIDAE) WITH DESCRIPTION OF FOUR NEW GENERA AND EIGHT NEW SPECIES

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Six genera and 23 species are reviewed. Four new genera: *Andreimyrmex* gen. n. (type species *A. long* sp. n.), *Ephucilla* gen. n. (type species *Mutilla naja* Zavattari), *Tsunekimyrmex* gen. n. (type species *Mutilla fluctuata* Smith), *Sinotilla* gen. n. (type species *Smicromyrmex boheana* Chen) and eight new species: *A. long* sp. n. (China, Yunnan), *E. panfilovi* sp. n. (Yunnan), *E. cheni* sp. n. (Yunnan), *Physetopoda thai* sp. n. (Thailand), *Sinotilla hong* sp. n. (Yunnan), *S. belokobylskiji* sp. n. (North Vietnam), *S. viet* sp. n. (North Vietnam), *S. bacbo* sp. n. (North Vietnam) are described. The key to 12 Oriental and Palaearctic genera is given.

KEY WORDS: Mutillidae, Oriental region, taxonomy.

А.С.Лелей. К познанию восточноазиатских видов трибы *Smicromyrmex* Bischoff, 1920 (Hymenoptera, Mutillidae) с описанием 4 новых родов и 8 новых видов // Дальневосточный энтомолог. 1995. N 13. С. 1-28.

Дан обзор 6 родов и 23 видов. Описываются 4 новых рода: *Andreimyrmex* gen. n. (типовой вид *A. long* sp. n.), *Ephucilla* gen. n.

(типовой вид *Mutilla naja* Zavattari), *Tsunekimyrmex* gen. n. (типовой вид *Mutilla fluctuata* Smith), *Sinotilla* gen. n. (типовой вид *Smicromyrmex boheana* Chen) и 8 новых видов: *A. long* sp. n. (Китай, Юньнань), *E. panfilovi* sp. n. (Юньнань), *E. chemi* sp. n. (Юньнань), *Physetopoda thai* sp. n. (Таиланд), *Sinotilla hong* sp. n. (Юньнань), *S. belokobylskiji* sp. n. (Северный Вьетнам), *S. viet* sp. n. (Северный Вьетнам), *S. bacbo* sp. n. (Северный Вьетнам). Дается определительная таблица для 12 ориентальных и палеарктических родов.

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INTRODUCTION

Before our research the tribe Smicromyrmini was represented in Oriental region by two genera: *Smicromyrmex* Thomson, 1870 and *Promecilla* André, 1903. Two genera of this tribe have been added by me recently: *Nemka* Lelej, 1985 and *Mickelomyrmex* Lelej, 1995 (Lelej, 1995) and review of the latter is given (Lelej, in litt.). In this paper six genera are reviewed, the East Asian species of *Promecilla* will be given separately. Now the tribe Smicromyrmini numbers 10 genera and more than 60 species in Oriental region.

SOURCES OF MATERIAL. Taxonomic data is based on the material collected in Vietnam by Russian scientists; on the specimens collected by various specialists during Soviet-Chinese expeditions in 1955-1957; on the collection of National Science Museum (Natural History), Tokyo. Valuable comparative material received from Dr. B. Petersen (Zoological Museum, Copenhagen).

MATERIAL DEPOSITORIES. Institutional collections in which the examined material is deposited are abbreviated in the text as follows: IBP - Institute of Biology and Pedology, Russian Academy of Sciences, Vladivostok; NSMT - National Science Museum (Natural History), Tokyo; ZIS - Zoological Institute, St-Petersburg; ZMMU - Zoological Museum of Moscow University.

Tribe Smicromyrmini Bischoff, 1920

Key to the Oriental and Palaearctic genera

- 1. Males (unknown for *Nuristanilla*) 2
- Females (unknown for *Tsunekimyrmex* and *Ephucilla*) 12
- 2. Gastral sternum 2 with short lateral felt lines, sometimes reduced to a few small punctures 3
- Gastral sternum 2 without any trace of lateral felt lines 8

3. Mandible strongly widened to apex, preapical inner teeth is equal to apical one or larger 4
 - Mandible narrowed to apex, preapical inner teeth is clear smaller than apical one 5
4. Inner eye margin with deep notch. Pterostigma of forewing is 0.7 times distance between pterostigma and base RS on SC+R (Fig. 18). Width of gastral segment 2 is 1.2 times of propodeal width... 4. *Tsunekimyrmex* gen. n.
 - Inner eye margin with weak notch. Pterostigma of forewing is 1.4 times distance between pterostigma and base RS on SC+R. Width of gastral segment 2 is 1.5 times of propodeal width. 15 Palaearctic species and one from India *Dentilla* Lelej, 1980 (type species *Mutilla erronea* André, 1902)
5. Genital volsella with basal external lobe and long narrow cuspis. Basivolsella with very long setae 6
 - Genital volsella without basal external lobe and long narrow cuspis (Fig. 30). Basivolsella at most with short setae (Figs. 29, 33) 7
6. Mandible tridentate at apex. Mesopleurae beneath with one or two pairs of precoxal denticles or tubercles. 13 Palaearctic and Oriental species
 *Nemka* Lelej, 1985 (type species *Mutilla viduata* Pallas, 1773)
 - Mandible bidentate at apex. Mesopleurae beneath without precoxal denticles or tubercles. 13 Oriental and East Palaearctic species
 ... *Mickelomyrmex* Lelej, 1995 (type species *Mutilla hageni* Zavattari, 1913)
7. Antennal segment 3 is 0.5-0.6 times its maximal width, 0.3-0.4 times antennal segment 4. Tegulae protruding beyond scutoscutellar suture for 1/5-1/4 of its length 5. *Sinotilla* gen. n.
 - Antennal segment 3 is equal to its maximal width, 0.6 times antennal segment 4. Tegulae not protruding or at most scarcely protruding beyond scuto-scutellar suture 6. *Smicromyrmex* Thomson
8. Mandible strongly widened to apex, preapical inner teeth is equal to apical one or larger than it 9
 - Mandible narrowed to apex, preapical inner teeth remarkably smaller than apical one 10
9. Mandible not excised beneath, without tooth or lobe near the base (Fig. 2). Antennal segment 3 is 0.7 times its maximal width (Fig. 5).....
 1. *Andreimyrmex* gen. n.
 - Mandible excised beneath, with large lobe near the base. Antennal segment 3 is 1.5-1.6 times its maximal width. 10 Palaearctic species *Ephutomma* Ashmead, 1899 (type species *Mutilla turcestanica* Dalla Torre, 1897)
10. Genital volsella with more or less widened external lobe (basivolsella), the latter with setae longer than volsellar cuspis 11
 - Genital volsella without widened external lobe (Fig. 14), inner and lower margin of volsella with setae not longer than volsellar cuspis (Figs. 13, 15)
 2. *Ephucilla* gen. n.

11. Mandibular lobe near the base beneath rounded, mandible usually not excised beneath. Thickened basivolsellar setae remarkably not reaching the apex of gonostylus. Basal gastral segments yellowish-red at least. Oriental and two Palaearctic species *Promecilla* André, 1903 (type species *Mutilla regia* Smith, 1853)
- Mandible deeply excised beneath, with large tooth near the base. Thickened basivolsellar setae remarkably much protruding beyond the apex of gonostylus (in species of *scutellaris* group not longer than volsellar cuspis). Gaster black 3. *Physetopoda* Schuster
12. Gastral tergum 6 without pygidial area, with glabrous shining area widened posterad, not carinated laterally 13
- Gastral tergum 6 with distinct pygidial area, carinated laterally, pygidial area longitudinally striate or with glabrous shining apical part (Fig. 25) 14
13. Antennal segment 3 is 0.8-1.0 its maximal width, 1.5 times antennal segment 2 and is equal to antennal segment 4. Scutellar scale developed 5. *Sinotilla* gen. n.
- Antennal segment 3 is 1.6 times its maximal width, 2.4 times antennal segment 2, 1.4 times antennal segment 4. Scutellar scale absent *Promecilla* André
14. Gastral tergum 2 with central yellowish cuticular spot, without spots of pale pubescence. One species from East Afghanistan. *Nuristanilla* Lelej, 1980 (type species *Nuristanilla kabakovi* Lelej, 1980)
- Gastral tergum 2 without pale cuticular spot, with one or three basal spots of pale pubescence, sometimes with basal pale band 15
15. Mandible wide, tridentate at apex (Fig. 7). Scutellar scale absent. Pygidial area with weak visible longitudinal striae 1. *Andreimyrmex* gen. n.
- Mandible slender, sharpened at apex, without inner preapical teeth or with one-two weak teeth. Scutellar scale well developed. Sculpture of pygidial area well visible in basal part at least 16
16. Pronotum with protruding humeral part, wider than propodeum *Dentilla* Lelej
- Pronotum without protruding humeral part, usually narrower or at most scarcely wider than propodeum 17
17. Pygidial area narrowed to base and closed laterally, with long setae. Gastral tergum 2 with basal, apical and two lateral pale spots (Fig. 24) 3. *Physetopoda* Schuster
- Pygidial area with more or less parallel lateral sides or widened to base. Gastral tergum 2 with one or three pale basal spots and pale apical band, if sometimes apical median spot is presented, lateral spots are absent 18
18. Minimal distance between eyes is 1.1-1.3 times longitudinal eye diameter *Ephutomma* Ashmead
- Minimal distance between eyes is 1.6-1.8 times longitudinal eye diameter . 19

19. Pygidial area short-oval *Nemka* Lelej
 - Pygidial area elongated, with parallel sides or widened to base 20
 20. Scutellar scale more than 2 times wider of its length. Gastral tergum 2 with three basal spots disposed in horizontal line and with at most pale median apical patch *Mickelomyrme* Lelej
 - Scutellar scale slightly wider than its length. Gastral tergum 2 with lateral pale spots (if they are present) disposed behind of median one and with pale apical band or apical fringe 6. *Smicromyrme* Thomson

1. Genus *Andreimyrmex* Lelej, gen. n.

Smicromyrme: Mickel, 1933a: 318 (part.); Chen, 1957; 178 (part.).

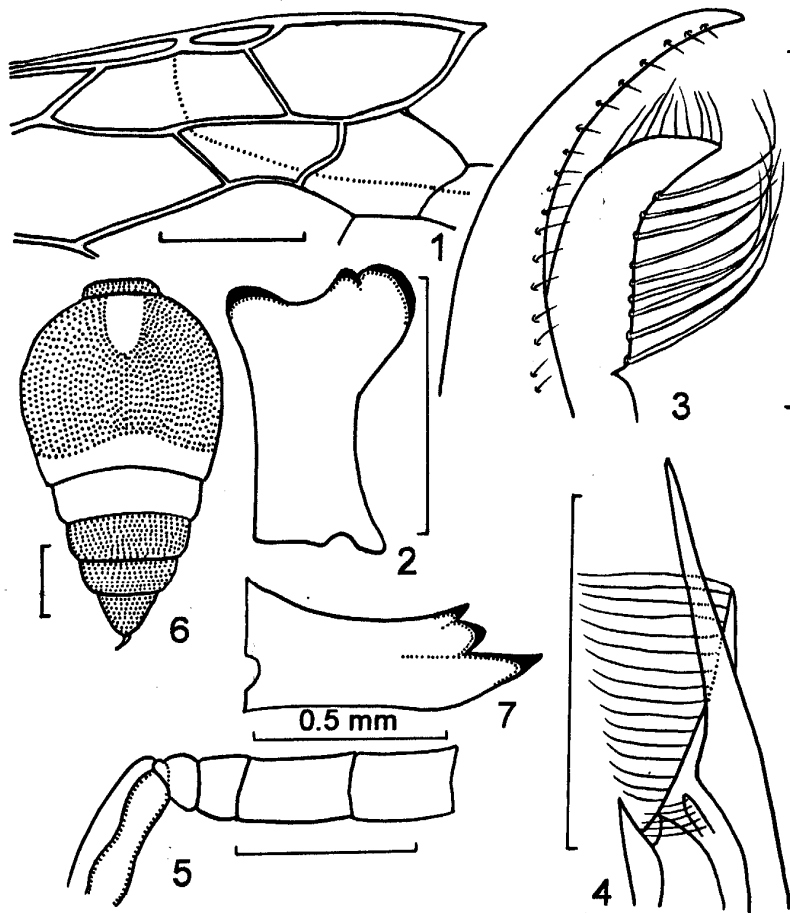
Type species: *Andreimyrmex long* Lelej, sp. n.

GENERIC DIAGNOSIS. MALE. Head robust, rounded posterad, frons and vertex densely punctate, antennal scrobes highly elevated. Mandible robust, widened apically, tridentate at apex, without tooth and emargination beneath near the base, with additional large inner tooth (Fig. 2). Clypeus deeply depressed below mandibles, deeply concave, with arcuate anterior margin. Postocellar distance is 4.2 times posterior ocellus diameter. Scape distinctly bicarinate beneath, emargination between carinae is glabrous in basal half. Antennal segment 3 is 0.7 times its maximal width. Tegulae not protruding beyond scuto-scutellar suture. Parascutal carinae weak. Notauli full, parapsidal furrow scarcely visible. Scutellum simple. Mesopleurae beneath with deep, median, glabrous emargination anterad. Hindcoxae carinate inside, carina widened and lamellate posterad. Wings infuscated, pterostigma is 1.5 times distance between pterostigma and base of RS on vein Sc+R (Fig. 1). Gaster black. Gastral tergum 1 with distinct dorsum, gastral tergum 2 with lateral felt lines, gastral sternum 2 without median basal carina and any trace of lateral felt lines. Tergum 7 without definite median impunctate area. Sternum 8 (hypopygium) with wide shallow apical emargination. Genital volsella wide, curved down apically, with long setae on inner and ventral margins (Figs. 3, 4).

FEMALE. Foretarsi with external spines. Mandible wide, tridentate at apex (Fig. 7). Clypeus with strong protruding transverse carina, hypostomal carina near mandible with denticle. Scutellar scale absent. Antennal segment 3 is equal to its maximal width, 1.6 times antennal segment 2, 1.1 times antennal segment 4, the latter slightly shorter than antennal segment 5. Pronotum slightly wider than propodeum. Gastral tergum 2 with one basal pale spot and with pale band posterad slightly widened medially; gastral tergum 3 with wide pale band (Fig. 6). Pygidial area elongate, not strongly carinate laterally, with weakly visible longitudinal striae.

SPECIES INCLUDED. *Andreimyrmex* includes four species: *A. davidi* (André), *A. long* sp. n., *A. tridens* (Chen) and *A. substriolata* (Chen).

RANGE. China (including Taiwan), Vietnam.



Figs. 1-7. *Andreimyrmex*. 1-5) *A. long*, holotype, male: 1) forewing; 2) mandible; 3) genitalia, lateral aspect; 4) do, dorsal aspect; 5) antennal segments 1-5; 6,7) *A. tridentiens*, female: 6) gaster; 7) mandible. Scale line = 1 mm.

DISCUSSION. The males of *Andreimyrmex* are similar to those of *Ephutomma* Ashmead, 1899 by the mandibular shape, genital volsellar shape and lacking of lateral felt lines on gastral sternum 2 and their diagnostic characters are given in the key above. The males of *Andreimyrmex* resemble those of *Dentilla* Lelej, 1980 and *Tsunekimyrmex* gen. n. in having of widened mandible but easily distinguishable from them by lacking of the felt lines trace on the gastral sternum 2 and by lacking of large tooth on the mandible beneath near the base. The females of *Andreimyrmex* easily differ from other genera of Smicromyrmini by wide tridentate mandible. My opinion about sex combination is based on follows:

1. Original mandibular shape of males and females.
2. Two species of males with widened mandible and two species of females with wide tridentate mandible are distributed in the South and South-Eastern China. One species of such males and one species of such females are known from Taiwan.
3. The larger *A. substriolata* (Chen) (length 7.0-9.3 mm, Jiangxi, Anhui, Zhejiang, Taiwan) may be belongs the opposite sex of *A. davidi* (Andre) (length 15.0 mm, Jiangsu, Jiangxi, Fujian, Taiwan) and the smaller *A. tridentiens* (Chen) (length 6.0-8.3 mm, Fujian, Vietnam) may be the opposite sex of *A. long* sp. n. (7.0-9.0 mm, Yunnan).

ETYMOLOGY. This genus is dedicated to Ernest André, famous French expert in mutillid wasps.

***Andreimyrmex long* Lelej, sp. n.**

TYPE MATERIAL (2 males). Holotype - male, China, West Yunnan, Mangshi, 1000 m, 4.VI 1956 (Huang Tiang-rong) [ZMMU]; paratype, 1 male with the same label [ZMMU].

DESCRIPTION. MALE. Length 7.0-9.0 mm. Black, wings infuscated; mandibles brownish-red preapically; tegulae chestnut; fore spures brownish, mid- and hind spures white. Scape, lower frons, genac, antennal scrobes, pronotum dorsally, mesopleurae and legs clothed with dense appressed short and scattered long, erect, pale pubescence; upper frons, vertex, scutellum, metanotum medially, propodeum, gastral terga 1-5 and gastral sterna 1-8 with more rare pale setae mixed with a few black ones on vertex; mesoscutum, tegulae and gastral terga 6, 7 with black setae mixed with a few pale ones on tergum 6 and mesoscutum anterad medially. Scutellum and metanotum laterally and propodeum basally with dense appressed short pubescence. Gastral terga 1-5 each with narrow apical band of golden pubescence. Gastral sterna 2-6 each with pale apical fringe. Relative width of head and thorax including tegulae 9.0:10.2. Clypeus mostly glabrous, smooth, finely punctate laterally, without basal tubercle. Dorsal carina of scape sinuated. Ocelli small, ratio postocellar

distance:ocular-ocellar distance=0.7, ocellar area elevated, laterad with glabrous furrow. Occipital carina well developed. Antennal segment 3 is 0.7 times its maximal width, 1.3 times antennal segment 2, and 0.4 times antennal segment 4, the latter is equal to antennal segment 5 (Fig. 5). Antennal scrobes laterad with deep furrow, carina on upper margin sharply angulated and its outer branch reaching the inner margin of eye. Frons, vertex, pronotum, mesoscutum, scutellum and mesopleurae densely punctate, somewhat coarsely on pronotum and mesopleurae. Mesoscutum with notauli reaching its foremargin, short parapsidal lines scarcely visible. Scutellum simple. Propodeum reticulate, dorsally with weakly visible median elongate closed area. Mesopleurae beneath with precoxal sharp denticle. Metasternum longitudinally striate. Tegulae smooth and shining, sparsely punctate. Wing venation as in Fig. 1. Gastral segment 1 carinate beneath, gastral segment 2 densely punctate, sparser on tergal disk. Gastral terga 3-6 densely punctate. Last tergum densely punctate, apical half with indefinite, impunctate, glabrous area. Sternum 8 not densely punctate, shallow emargination smooth and shining. Volsella as in Figs. 3, 4. FEMALE unknown.

RANGE. Mountain region in Western Yunnan (China).

DISCUSSION. The male of *A. long* resembles *A. davidi* but differs by apical narrow band of golden pubescence on gastral terga 1-5, by pale pubescence on frons, by lacking longitudinal ridges on vertex behind of ocelli (in *A. davidi* gastral tergum 3 with band of yellowish pubescence and tergum 4 with rare pale setae medially, frons and vertex with black pubescence, vertex with longitudinal ridges behind of ocelli).

ETYMOLOGY. Specific name originates from Chinese word "long", which means dragon, with reference to the mandibular shape of species.

***Andreimyrmex davidi* (Andre, 1898), comb. n.**

Mutilla davidi Andre, 1898: 28, male [holotype - male, Kiang-si (A. David) (China, Jiangxi)].

Smicromyrmex davidi: Mickel, 1933a: 321, male (Jiangxi); Chen, 1957: 179, 201, male (Jiangsu, Fujian, Taiwan).

MATERIAL. No specimen examined.

RANGE. China (Jiangsu, Jiangxi, Fujian, Taiwan).

***Andreimyrmex tridentiens* (Chen, 1957), comb. n.**

Smicromyrmex tridentiens Chen, 1957: 181, 213, female [holotype - female, Fujian, Shaowu (Tachulan), 26.IV 1942].

MATERIAL (3 females). Vietnam: 2 females, Ha Son Binh Prov., Da Bac, Tuly, forest, 23.X 1990 (S. Belokobylskij) [ZIS, IBP]; 1 female, Gia Lai Con

Tum Prov., Co Ha hung, 12 km N Buon Luoi, 22- 27.VI 1983 (L. Medvedev) [IBP].

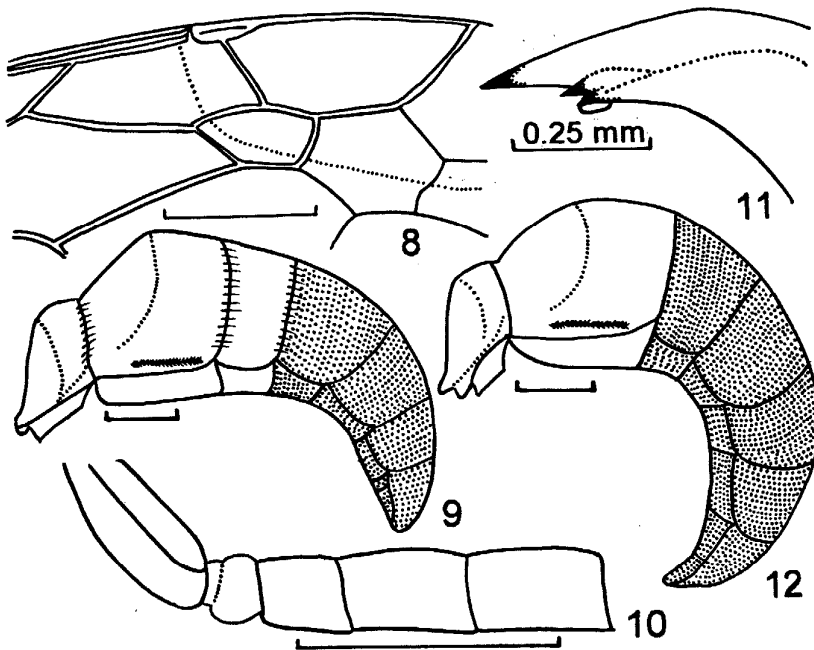
RANGE. China (Fujian), Vietnam (Ha Son Binh, Gia Lai Con Tum).

***Andreimyrmex substriolata* (Chen, 1957), comb. n.**

Smicromyrme substriolata Chen, 1957: 181, 209, female [holotype - female, Jiangxi, Kuling, 7.VIII 1935 (O. Piel)].

MATERIAL (1 female). Taiwan: 1 female, Nantou, Lienwhachi, 23. III 1979 (A. Shinohara) [NSMT].

RANGE. China (Jiangxi, Anhui, Zhejiang, Taiwan).



Figs. 8-12. *Ephucilla*, males. 8-11) *E. panfilovi*, paratype: 8) forewing; 9) gaster; 10) antennal segments 1-5; 11) mandible; 12) *E. drupa*, gaster. Scale line = 1 mm.

2. Genus *Ephucilla* Lelej, gen. n.

Smicromyrme: Mickel, 1935: 271 (part.); Chen, 1957: 178 (part.); Tsuneki, 1993: 39 (part.).

Ephutomma: Lelej, Yamane, 1992: 631.

Type species: *Mutilla naja* Zavattari, 1913.

GENERIC DIAGNOSIS. MALE. Head robust, elevated posterad (rounded posterad in *undata* group), frons and vertex longitudinally striate (vertex densely punctate in *undata* group). Mandible tridentate (bidentate in *undata* group) at apex, deeply excised beneath forming large tooth beneath near the base (dorsal margin basomedially highly crooked in *undata* group). Clypeus convex (concave in *undata* group) with protruding midpart of anterior margin. Postocellar distance is 1.5-2.6 times posterior ocellus diameter. Scape distinctly bicarinate beneath. Antennal segment 3 is equal to (in *naja* group) or 1.25 times (in *undata* and *drupa* groups) its maximal width. Tegulae slightly protruding beyond scuto-scutellar suture. Parascutal carinae weak. Scutellum simple. Mesopleurae beneath with distinct, oblique, precoxal ridges. Hindcoxae carinate inside, carina not widened posterad. Wing hyaline or infuscated, pterostigma is 0.5-0.6 times distance between pterostigma and base of RS on vein Sc+R. Gaster black or with bluish, metallic lustre (in *naja* and *undata* groups) or some basal segments red (in *drupa* group). Gastral tergum 1 with distinct dorsum, gastral tergum 2 with lateral felt lines, gastral sternum 2 with strong median basal carina and without any trace of felt lines. Tergum 7 usually with longitudinal median impunctate area, widened posterad, sternum 8 simple, without any tubercles or carinae. Genital volsella not widened basally, setae on inner and ventral margin shorter than cuspis length (Figs. 13-16). FEMALE unknown.

SPECIES INCLUDED. *Ephucilla* includes six species in three groups: *naja* group: *E. naja* (Zavattari), *E. drola* (Zavattari); *drupa* group: *E. drupa* (Zavattari), *E. panfilovi* sp. n. and *undata* group: *E. undata* (Chen), *E. cheni* sp. n. *Smicromyrme guenteri* (Zavattari, 1913) from Taiwan probably belongs to *Ephucilla* also if Chen's identification and genital figure are correct, but Chen (1957) associated this species with *Mickelomyrme hageni* (Zavattari, 1913), while Mickel (1935), who examined the lectotype of *guenteri*, resembled it to *M. norna* (Zavattari, 1913) and *E. drupa* (Zavattari, 1913).

RANGE. Oriental region.

DISCUSSION. The males of *Ephucilla* are similar to those of *Promecilla* André, 1903 by the mandible shape and by lacking of lateral felt lines on gastral sternum 2, but differs in having another genital volsella (see key). The males of *Ephucilla* resemble those of *Ephutomma* Ashmead and *Andreimyrmex* gen. n. in lacking felt lines trace on gastral sternum 2 but easily differ from them by unmodified mandible.

ETYMOLOGY. *Ephucilla* is derived from *ephu* - part of *Ephutomma* and *cilla* - part of *Promecilla*, with reference to resemblance of the genus with both of them.

***Ephucilla naja* (Zavattari, 1913), comb. n.**

Mutilla naja Zavattari, 1913: 38, male [lectotype, designated by Mickel (1933) - male, Formosa, Taihorin, 7.VIII 1911 (H. Sauter)].

Smicromyrme naja: Mickel, 1933b: 417, male (Taiwan); 1935: 275, male (key); Chen, 1957: 180, 202, male (Taiwan); Tsuneki, 1972: 19, male (Taiwan); 1993: 39, male (Taiwan).

Ephutomma naja: Lelej, Yamane, 1992: 631, male (Ishigaki-jima).

MATERIAL (3 males). Taiwan: 1 male, Baibara, 25.IV 1929 (K. Sato) [NSMT]; 1 male, Hori, 28.IV 1929 (K. Sato) [NSMT]. Japan: 1 male, Ishigaki-jima, Omote-dake, 22.VIII 1991 (A. Lelej) [IBP].

RANGE. Taiwan, Japan (Ishigaki-jima).

***Ephucilla drola* (Zavattari, 1913), comb. n.**

Mutilla drola Zavattari, 1913: 37, male [lectotype, designated by Mickel (1933) - male, Formosa, Taihorin, XI 1910 (H. Sauter)].

Smicromyrme drola: Mickel, 1933b: 417, male (Taiwan); 1935: 271, 282, male (key); Hammer, 1962: 44, male (Sikkim, Assam); Tsuneki, 1993: 39, male (Taiwan).

Smicromyrme drola drola: Chen, 1957: 203, male (Taiwan).

MATERIAL. No specimens examined.

RANGE. China (Taiwan - nominative subspecies, Zhejiang - subsp. *lodra* Chen).

REMARKS. *E. drola lodra* (Chen, 1957), comb. n. (tibiae and tarsi ferruginous, apical band of gastral terga 2-3 golden yellow) probably refers to a separate species (legs black, apical band of gastral terga 2-3 whitish in *E. drola drola*). The *E. drola* sensu Hammer (1962) from Sikkim and Assam (body length 15.0-16.0 mm) probably refers to a different species also.

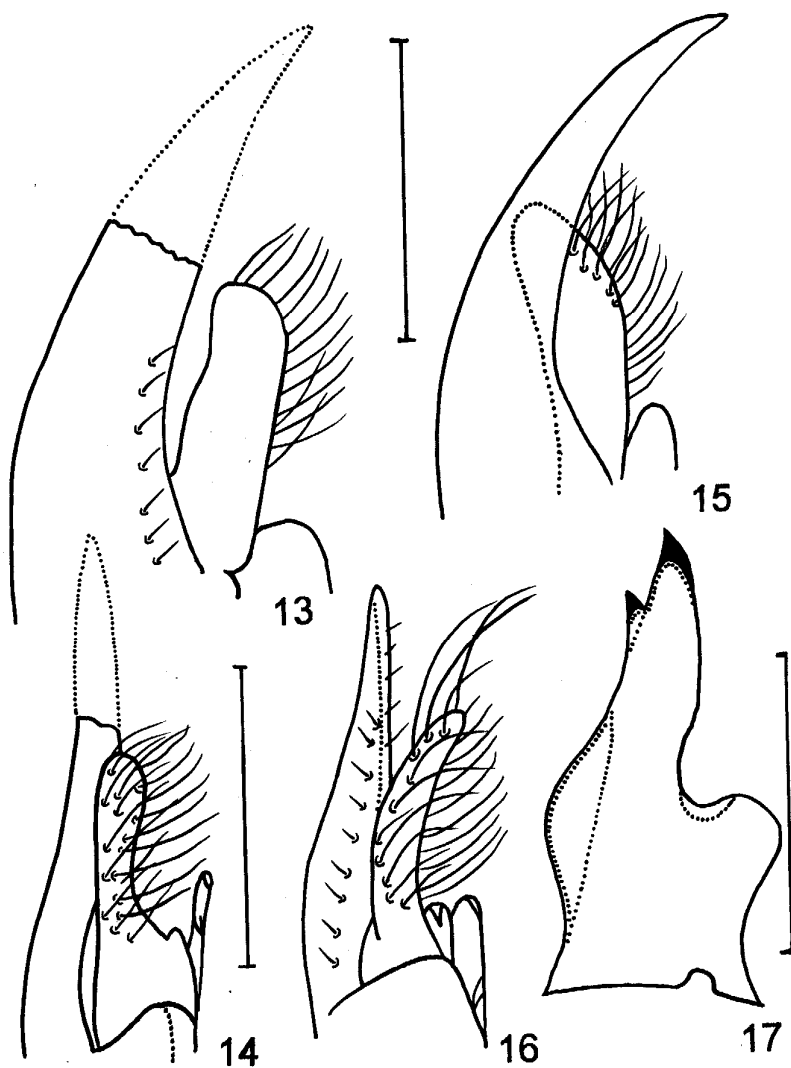
***Ephucilla drupa* (Zavattari, 1913), comb. n.**

Mutilla drupa Zavattari, 1913: 41, male [lectotype, designated by Mickel (1933) - male, Formosa, Kankau (Koshun), 7.IV 1912 (H. Sauter)].

Smicromyrme drupa: Mickel, 1933b: 417, male (Taiwan); 1935: 273, male (key); Chen, 1957: 180, 202, male (Taiwan); Tsuneki, 1972: 18, male (Taiwan); 1993: 40, male (Taiwan).

MATERIAL (2 males). Taiwan: 1 male, 6.V 1926 (T. Kano) [NSMT]; 1 male, 8.V.1928 (T. Kano) [NSMT].

RANGE. Taiwan.



Figs. 13-17. *Ephucilla*, males. 13, 14) *E. panfilovi*, holotype, genitalia: 13) lateral aspect; 14) do, ventral aspect; 15-17) *E. cheni*, holotype: 15) genitalia, lateral aspect; 16) do, ventral aspect; 17) mandible. Scale line = 0.5 mm.

***Ephucilla panfilovi* Lelej, sp. n.**

TYPE MATERIAL (3 males). Holotype - male, China, Yunnan, vicinities of Kunmin, 2000 m, 7.VII 1956 (Huang Ke-ren et al.) [ZMMU]. Paratypes: 1 male, N "1202 ㊦" [South Yunnan, V-VI 1956 (D. Panfilov) [ZMMU]; 1 male, Yunnan, Ganglangba, 540 m, 16.IV 1957 (Hung Guang-di) [ZMMU].

DESCRIPTION. MALE. Length 7.5-10.0 mm. Black, gastral terga 1-3 red; wings infuscated; mandibles brownish-red preapically; tegulae chestnut, darker basally; fore spurs brownish, mid- and hind spurs white. Clypeus, scape, lower frons, genae, antennal scrobes, mandibles basally clothed with appressed short and scattered long erect pale pubescence; upper frons and vertex with scattered long erect black setae (in one paratype all head with whitish setae only). Pronotum dorsally, mesopleurae, legs with dense, appressed short and scattered, erect long whitish pubescence; scutellum, axillae and metanotum medially with scattered erect long black and mixed whitish setae; mesoscutum and tegulae with brownish (whitish in one paratype) pubescence; scutellum and metanotum laterally with dense appressed pale microsetae; propodeum with scattered long erect whitish pubescence; pronotum laterally and metapleurae with pale appressed micropubescence. Gastral segments 1-3 with scattered long erect and short recumbent pale pubescence (black pubescence on tergum 2 in holotype and one paratype); terga 4-7 and sterna 4-8 with black pubescence; terga 1-3 and sterna 2, 3 with apical whitish fringes; tergum 2 with lateral yellowish felt lines. Relative width of head and thorax including tegulae 7.5 : 9.2. Clypeus weakly convex, the median portion of the margin straight, with transverse submarginal concavity, surface of clypeus very finely and closely punctate; median area triangular, without lateral ridges and basal tubercle. Scape distinctly bicarinate beneath. Ocelli small, ratio postocellar distance:ocular-ocellar distance=0.5, postocellar distance is 2.6 times posterior ocellus diameter. Frons with longitudinal median furrow nor so deep as in *E. drupa*. Antennal segment 3 is 1.25 times its maximal width, 1.9 times antennal segment 2, and 0.7 times antennal segment 4, the latter is equal to antennal segment 5 (Fig. 10). Antennal scrobes with the carina on upper margin sharply angulated and its outer branch reaching the inner margin of eye. Mandible tridentate at apex, second preapical denticle with small distinct carina ventrally (Fig. 11). Frons and vertex longitudinally striate, occiput and genae densely punctate. Mesoscutum with notauli reaching its foremargin, short parapsidal lines, without parascutal carinae. Scutellum simple, without longitudinal median furrow anterad; prescutellar transverse fovea deep and shining. Propodeum reticulate, dorsally with median elongate triangular closed area. Pronotum dorsally, mesoscutum, scutellum, mesopleurae, median portion of metanotum densely punctate. Lateral pronotal lobes, except posterior glabrous margin, weakly longitudinally striate with vertical anterior carina. Metasternum longitudinally striate. Tegulae not protruding beyond axillae, smooth and shining, sparsely punctate. Wing

venation as in Fig. 8. Gastral segment 1 carinate beneath, basal part of gastral tergum 2 almost straight (Fig. 9), gastral segment 2 densely punctate, sparser on sternum. Gastral terga 3- 6 densely punctate, each with median impunctate area apically. Last tergum densely punctate, apical half with impunctate, widened posterad, glabrous area. Sternum 7 and base of sternum 8 widely depressed; the latter densely punctate ventrally. Volsella in Figs. 13, 14. FEMALE unknown.

RANGE. China (Yunnan).

DISCUSSION. The male of *E. panfilovi* resembles *E. drupa* but differs by shallow frontal furrow (in *E. drupa* face with very distinct median furrow), by shape of gastral tergum 2 (Fig. 9 vs. Fig. 12).

ETYMOLOGY. This species is dedicated to Dmitrii V. Panfilov, the Russian expert in bumblebees, being a participant of the Soviet-Chinese expeditions in 1955-1957.

***Ephucilla undata* (Chen, 1957), comb. n.**

Smicromyrme undata Chen, 1957: 179, 198, male (holotype - male, Taiwan, Pingtung, 18.IV 1938).

MATERIAL. No specimens examined. RANGE. Taiwan.

***Ephucilla cheni* Lelej, sp. n.**

TYPE MATERIAL. Holotype - male, China, Yunnan, Mt. Qiangshan W Dali, 2100-2600 m, 30.V 1955 (Xue Yu-feng) [ZMMU].

DESCRIPTION. MALE. Length 7.0 mm. Black, gaster with bluish metallic lustre; thorax, including tegulae and sterna, red; wings slightly infuscated; mandibles preapically and antennal scrobes brownish-red; fore spurs brown, mid- and hind spurs white. Head, scape, mandibles, thorax, legs, gastral terga 1-4 and gastral sterna 1-5 with appressed short and scattered long erect pale pubescence; mesoscutum and tegulae with somewhat brownish pubescence; propodeum with scattered long erect whitish pubescence; pronotum laterally and metapleurae with pale appressed micropubescence; other gastral parts with black pubescence, tergum 5 with a few pale setae laterally; terga 1-4 and sterna 2-4 with apical whitish fringe; tergum 2 with lateral yellowish felt lines. Relative width of head and thorax including tegulae 10.8:14.4. Mandible bidentate at apex, the dorsal margin baso-medially highly crooked (Fig. 17). Clypeus weakly concave, the median portion of the margin straight, with transverse submarginal concavity, surface of clypeus very finely punctate; median area triangular, without lateral ridges and basal tubercle, preapical concavity glabrous. Scape distinctly bicarinate beneath. Ocelli large, ratio postocellar distance:ocular-ocellar distance=0.7, postocellar distance is 1.5 times posterior ocellus diameter. Frons with shallow median furrow. Antennal segment 3 is 1.25 times its maximal width, 1.5 times antennal segment 2, and 0.7 times antennal segment 4, the latter slightly longer than antennal segment 5. Antennal scrobes with the carina

on upper margin arcuately angulated and its outer branch reaching the inner margin of eye. Frons and lower vertex longitudinally striate, upper vertex, occiput and genae densely punctate. Ocellar area elevated, laterad with longitudinal furrow, postocellar area glabrous. Propodeum reticulate, dorsally with median elongate closed area. Pronotum dorsally, mesoscutum, scutellum, mesopleurae, median portion of metanotum densely (sometimes confluent) punctate. Tegulae not protruding beyond axillae, smooth and shining, sparsely punctate. Wing venation similar to that of *E. panfilovi* (Fig. 8). Gastral segment 1 carinate beneath, carina somewhat concave; gastral segment 2 densely punctate, sparser on sternum and tergal disk. Gastral terga 3-7 densely punctate, apical half of the last tergum with impunctate, widened posterad, glabrous area. Sternum 7 weakly depressed; sternum 8 densely punctate ventrally. Volsella as in Figs. 15, 16. FEMALE unknown.

RANGE. China (Yunnan).

DISCUSSION. The males of *E. cheni* and *E. undata* have similar head shape, mandible, ocelli size but differs by apex of genital volsella which is curved to midline and has long setae by bluish metallic lustre of gaster (in *E. undata* apex of genital volsella stright and without long setae, gaster black).

ETYMOLOGY. This species dedicated to Chen Chin-wen who revised the Chinese Mutillidae.

3. Genus *Physetopoda* Schuster, 1949

Type species: *Physetopoda insularis* Schuster, 1949 = *Mutilla rubrocincta* Lucas, 1849, by original designation.

SPECIES INCLUDED. Genus includes 25 Palearctic species (Lelej, 1985). *Smicromyrme oratoria* Chen, 1957 (China: Shandong, Jilin) must be included in *Physetopoda* also. *Ph. thai* sp. n. is the first known Oriental species.

Physetopoda thai Lelej, sp. n.

TYPE MATERIAL. Holotype - female, North Thailand, Mt. Doi Pui near Chiang Mai, 9.VIII 1988 (Y. Notsu) [NSMT].

DESCRIPTION. FEMALE. Length 6.5 mm. Black, thorax red, antennal segment 1, 2, mandible, except apex and tibiae, ventrally dark-red. Frons, vertex and genae with appressed, yellowish pubescence (sparser on frons) and scattered, sparse, erect, black setae. Thoracic dorsum and upper part of posterior propodeal face with black setae only; thorax laterally with pale micropubescence; mesopleura with vertical row of long erect pale setae. Lower part of posterior propodeal face, legs, gastral tergum 1, gastral terga 2-5 laterally and gaster ventrally with pale setae. Gastral tergum 2 with basal median, apical median and two lateral spots of appressed golden pubescence; tergum 4 with median triangular spot; tergum 5 with band of appressed golden pubescence (Fig. 24); sterna 2-5 posterad with fringe of long subappressed yellowish setae. Felt lines of gastral

tergum 2 yellowish. Tergum 6 with golden pygidial fringes. Other parts of gastral terga with black pubescence. The relation of longitudinal eye diameter to distance between eye and mandible base is 3.0. Minimal distance between eyes is 1.1 times longitudinal eye diameter. Clypeus strongly elevated basally with basal median weak tubercle and transverse concave preapical glabrous depression limited above by transverse arched carina. Hypostomal carina widened triangularly. Antennal segment 3 is 0.9 times its maximal width, 1.5 times antennal segment 2, is equal to antennal segment 4, the latter 0.9 times antennal segment 5. Frons, vertex and genae deeply confluent punctate. Mandible slender, with 2 small inner preapical denticles. Thorax dorsally as in Fig. 23. Scutellar scale well developed, laterad with a row of denticles; prescutellar arcuate row of denticles well developed also. Thoracic dorsum coarsely confluent punctate. Propodeum dorsally and its posterior upper part denticulate. Thorax laterally glabrous, mesopleura above coxa punctate, lateral propodeal face shallowly, sparsely punctate. Gastral tergum 2 with dense, small, confluent punctures. Pygidial area narrowed basally, carinated laterally, with weak shallow sculpture in basal half (Fig. 25). MALE unknown.

RANGE. North Thailand.

DISCUSSION. The female of *Ph. thai* resemble ones of Palaearctic *Ph. halensis* (Fabricius, 1787) and *Ph. punctata* (Latreille, 1792) in having 4 pale spots on gastral tergum 2 but easily differs by pale spot on tergum 4 and pale band on tergum 5 (pale band on tergum 3 only in *halensis* and *punctata*).

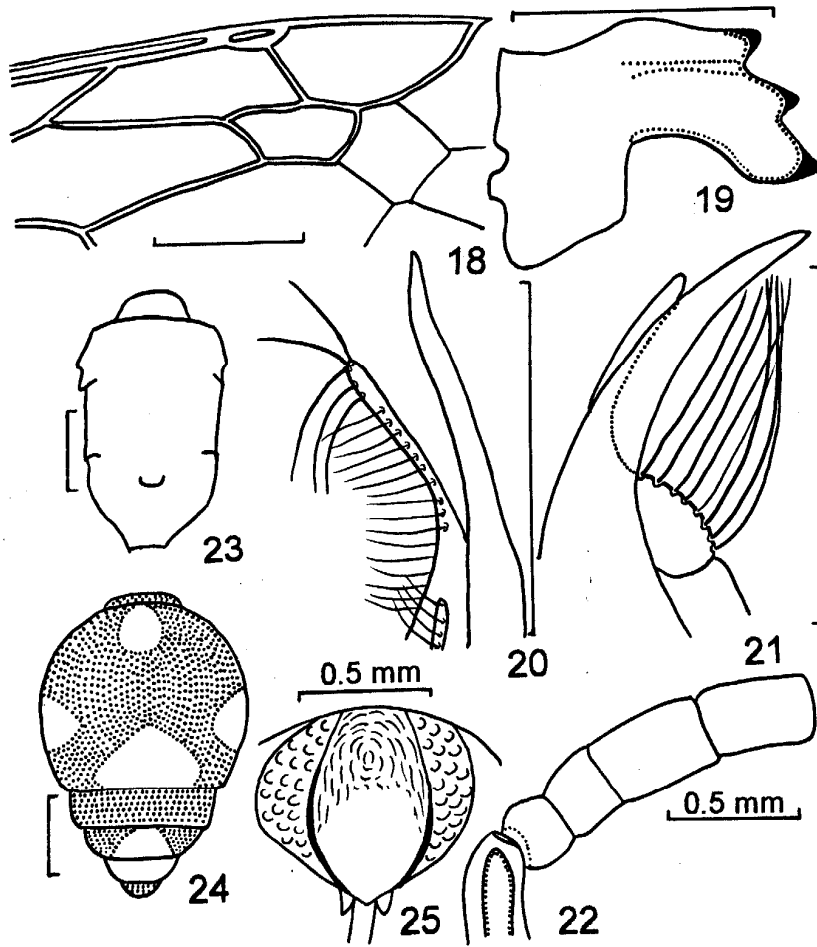
ETYMOLOGY. Specific name originates from Thai word "thai", designated one of the peoples living in Thailand, with reference to the country where the species has been found.

4. Genus *Tsunekimyrmex* Lelej, gen. n.

Smicromyrmex: Mickel, 1935: 292 (part.); Tsuneki et al., 1993: 17 (part.).

Type species: *Mutilla fluctuata* Smith, 1865.

GENERIC DIAGNOSIS. MALE. Head robust, rounded posterad, frons longitudinally striate, vertex densely punctate. Mandible robust, tridentate at apex, deeply excised beneath, forming large lobe near the base, dorsal margin medially elevated (Fig. 19). Clypeus convex with median longitudinal carina, anterior margin protruding and shallowly emarginated. Ocelli small, postocellar distance is 3.7 times posterior ocellus diameter, ocellar area slightly elevated. Scape distinctly bicarinate beneath. Antennal segment 3 is equal to its maximal width (Fig. 22). Tegulae not protruding beyond axillae. Parascutal carinae well developed and highly elevated. Notauli full, parapsidal furrow short. Scutellum simple. Mesopleurae beneath without precoxal tubercles. Hindcoxae carinate inside, carina widened and lamellate posterad. Wings subhyaline, pterostigma is 0.7 times distance between pterostigma and base of RS on vein Sc+R (Fig. 18). Gastral segment 2 with long lateral felt lines on tergum and smaller ones on



Figs. 18-25. *Tsunekimyrmex* and *Physetopoda*. 18-22) *T. fluctuata*, male: 18) forewing; 19) mandible; 20) genitalia, dorsal aspect; 21) do, lateral aspect; 22) antennal segments 1-5; 23- 25) *Ph. thai*, holotype, female: 23) thorax; 24) gaster; 25) gastral tergum 6. Scale line = 1 mm.

sternum. Tergum 7 without median impunctate area. Sternum 8 densely punctate. Genital volsella widened basally, with long narrow cuspis; basivolsella with external, extremely long, strong setae; volsella with long, parallel setae on inner margin and a few longer ones on apex (Figs. 20, 21). FEMALE unknown.

SPECIES INCLUDED. *Tsunekimyrm*e includes type species only.

RANGE. Philippines, Indonesia.

DISCUSSION. The males of *Tsunekimyrm*e are similar to those of *Dentilla* Lelej by the widened mandible, genital volsellar shape and having of short lateral felt lines on gastral sternum 2 and their diagnostic characters are given in the key above. The males of *Tsunekimyrm*e resemble those of *Ephutomma* Ashmead in having of widened mandibles but easily distinguishable from them by having short felt lines on gastral sternum 2 (lacking in *Ephutomma*).

ETYMOLOGY. This genus is dedicated to Katsuji Tsuneki, famous Japanese expert in wasps.

***Tsunekimyrm*e fluctuata (Smith, 1865), comb. n.**

Mutilla fluctuata Smith, 1865: 80, male [holotype - male, Morty Island (Indonesia)].

*Smicromyrm*e fluctuata: Mickel, 1934: 204, male (Samar, Negros, Mindanao); 1935: 272, 292, male; Tsuneki et al., 1993: 17, male (Mindanao).

MATERIAL (2 males). Philippines, 2 males, Island Tawi Tawi, Tarawakan, north of Batu Batu, Malaise trap, 29.X 1961 (Noona Dan. exp. 61-62) with label *Smicromyrm*e fluctuata (Smith) B. Petersen det. [IBP].

RANGE. Philippines (Samar, Negros, Mindanao, Tawi Tawi), Indonesia (Morty Island).

5. Genus *Sinotilla* Lelej, gen. n.

*Smicromyrm*e: Mickel, 1933a: 318 (part.); Chen, 1957: 178 (part.).

Type species: *Smicromyrm*e boheana Chen, 1957.

GENERIC DIAGNOSIS. MALE. Head robust, elevated posterad, frons and vertex longitudinally striate. Mandible bidentate at apex, deeply excised beneath, with large tooth near the base (Fig. 28). Clypeus weakly convex or weakly concave, with protruding midpart of anterior margin. Ocelli small, postocellar distance (in type species) is 4.3 times posterior ocellus diameter; each ocellus posterad with longitudinal carina, running to occiput. Scape distinctly bicarinate beneath, emargination between carinae with setae. Antennal segment 3 (in type species) is 0.5 times its maximal width and 0.3 times antennal segment 4 (Fig. 27). Tegulae protruding beyond scuto-scutellar suture for 1/5-1/4 of its length. Parascutal carinae absent. Notauli absent (in type species) or invisible in anterior one-third (in *S. hong*). Parapsidal furrow short. Scutellum simple. Mesopleurae beneath with longitudinal, glabrous, precoxal line. Hindcoxae carinate

inside, carina not widened posterad. Wings infuscated, pterostigma is less than 0.6 times distance between pterostigma and base of RS on vein Sc+R (Figs. 26, 31). Gastral tergum 1 with distinct dorsum, gastral tergum 2 with lateral felt lines, gastral sternum 2 with shorter ones (in type species with a few small punctures only). Tergum 7 densely punctate (in type species) or with indefinite median impunctate area (in *S. hong*). Sternum 8 densely punctate. Genital volsella short, narrow with stronger external setae, haired on inner margin and apically (Figs. 29, 30, 33).

FEMALE. Foretarsi without external comb of spines. Mandible slender. Clypeus with protruding transverse lamellate carina and median basal tubercle. Gena limited below by ridge, forming tubercle on hypostomal carina. Antennal segment 3 is 0.8-1.2 times its maximal width, 1.4-1.6 times antennal segment 2, 1.0-1.5 times antennal segment 4, the latter slightly longer (Fig. 40) or shorter (Figs. 35, 39) than antennal segment 5. The sides of thorax convergent posterad (not convergent posterad in *S. belokobylskiji*), scutellar scale distinct (Figs. 34, 37). Gastral tergum 2 with pale band posterad, slightly widened medially. Gastral tergum 3 with wide pale band. Gastral tergum 6 without distinct pygidial area; impunctate, glabrous, shining, widened apically area weakly carinated laterally at apex.

SPECIES INCLUDED. *Sinotilla* includes 10 species: *S. boheana* (Chen), *S. cyaneiventris* (André), *S. hong* sp. n., *S. subparallela* (Chen, 1957) (Fujian), *S. thalia* (Mickel, 1933) (Taiwan), *S. pekiniana* (André, 1905) (Jiangsu, Hebei, Fujian), *S. contractula* (Chen, 1957) (Fujian), *S. belokobylskiji* sp. n., *S. bacbo* sp. n., *S. viet* sp. n. Probably *Smicromyrme ansula* Chen, 1957 (Zhejiang) and *Smicromyrme decora* (Smith, 1879) (Malaysia) belong to this genus also.

RANGE. China (including Taiwan), Vietnam.

DISCUSSION. The males of *Sinotilla* resemble those of *Smicromyrme* Thomson in having the same shape of mandible and volsella and short lateral felt lines or its trace on gastral sternum 2 and their diagnostic characters are given in the key above. The females of *Sinotilla* are similar to those of *Promecilla* André, 1903 in having elongate and narrowed posterad thorax and by lacking distinct pygidial area and their diagnostic characters are given in the key above.

ETYMOLOGY. *Sinotilla* is derived from Latin *Sina*, China, with reference to the country where the genus has been distributed, and *tilla*, part of *Mutilla*.

***Sinotilla boheana* (Chen, 1957), stat. et comb. n.**

Smicromyrme cyaneiventris boheana Chen, 1957: 180, 204, male [holotype - male, Fujian, Shaowu (Tachulan), 27.VI 1942 (T. Maa)].

MATERIAL (2 males). China, 1 male, Yunnan, 30 km SW Jinping, 420 m, 21.IV 1956 (Huang Ke-ren et al.) [ZMMU]; North Vietnam, 1 male, Prov. Ha Son Binh, Da Bac, Tuly, forest, 16-23.X 1990 (A. Gorochoy) [ZIS].

RANGE. China (Fujian, Yunnan), Vietnam (new record) (Ha Son Binh).

REMARKS. The specimens mentioned above well agree with diagnostic characters given in the key of Chen (1957), but differ from the description of *Mutilla cyaneiventris* (André, 1896) by the lacking of notauli, having basal median carina on gastral sternum 2, tibiae and tarsi red (in *cyaneiventris* notauli well developed, basal carina on gastral sternum 2 absent, legs black), so I consider *boheana* as distinct species.

***Sinotilla cyaneiventris* (André, 1896), comb. n.**

Mutilla cyaneiventris André, 1896: 18, male [holotype - male, North China].

Smicromyrme cyaneiventris: Mickel, 1933a: 320, male (North China); Yasumatsu, 1948: 73, male (Zhejiang); Hammer, 1949: 11, male (Jiangsu); Chen, 1957: 203, male, female (Hebei, Jiangsu, Zhejiang, Jiangxi).

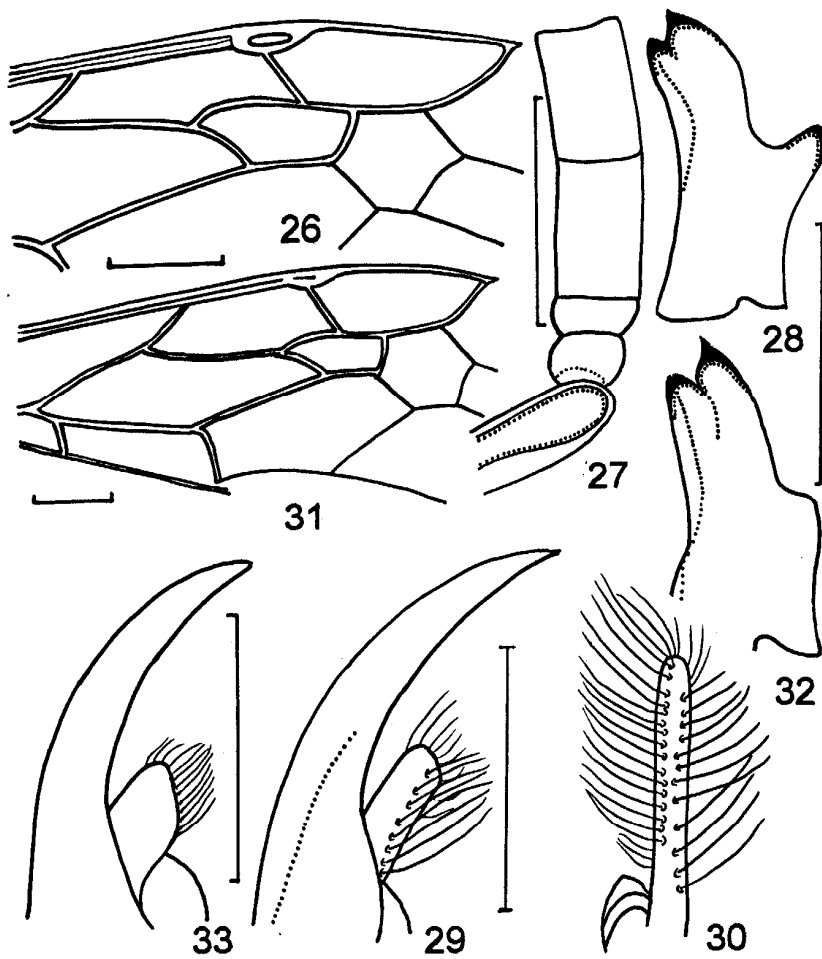
MATERIAL (1 female). China, 1 female, Jiangxi, Lushan, Lienhwatung, 24.V 1941 (S. Asahina collection) [NSMT-1-Hym. N 23579].

RANGE. China (Hebei, Jiangsu, Jiangxi, Shangxi, Zhejiang).

***Sinotilla hong* Lelej, sp. n.**

TYPE MATERIAL. Holotype, male; China, Yunnan Prov., Yuping [former Bingbian], 800 m, 28.VI 1956 (Huang Ke-ren et al.) [ZMMU].

DESCRIPTION. MALE. Length 12.0 mm. Black, wings infuscated; thorax, except propleurac, red; mandibles brownish-red with dark apex; tegulae red; fore tibiae and tarsi reddish, other parts of legs brownish; fore spurs pale brownish, mid- and hind ones white. Body and legs clothed with short appressed and scattered long erect pale pubescence; gastral terga 5-7 and sterna 5-8 with black pubescence; gastral tergum 4 with mixed black and pale setae. Gastral terga 1, 2 posterad with pale narrow band; gastral tergum 3 clothed with wide pale band; sterna 2-4 with whitish fringes; felt lines yellowish. Relative width of head and thorax including tegulae 10.4 : 12.4. Mandibles bidentate at the apex, with rounded lobe beneath near the base (Fig. 32). Clypeus weakly convex, the median triangular portion with two weak submarginal ridges; lateral portions finely and closely punctate. Ratio postocellar distance:ocular-ocellar distance=0.8. Frons with longitudinal median sulcus. Antennal segment 3 is 0.6 times its maximal width, 1.2 times antennal segment 2, 0.4 times antennal segment 4, the latter equal to antennal segment 5. Antennal scrobes with the carina on upper margin not sharply angulated and its outer branch reaching the inner margin of eye. Frons and vertex longitudinally striate, frons laterally, occiput and genae confluent punctate. Mesoscutum with notauli not reaching its foremargin, parapsidal lines short. Tegulae angulate and lamellate posterad, protruding beyond scuto-scutellar suture for 1/4 of its length, shallowly punctate basally. Propodeum reticulate, dorsally with median elongate closed area.



Figs. 26-33. *Sinotilla*, males. 26-30) *S. boheana*: 26) forewing; 27) antennal segments 1-5; 28) mandible; 29) genitalia, lateral aspect; 30) volsella, ventral aspect; 31-33) *S. hong*, holotype: 31) forewing; 32) mandible; 33) genitalia, lateral aspect. Scale line = 1 mm.

Pronotum dorsally, mesoscutum, scutellum, mesopleurae densely punctate. Metasternum longitudinally striate. Wing venation as Fig. 31. Gastral segment 1 carinate beneath, gastral segment 2 densely punctate, sparser on tergal disk. Last tergum densely punctate, with median longitudinal impunctate area; sternum 8 with glabrous translucent apical margin, punctate ventrally. Volsella as Fig. 33. FEMALE unknown.

RANGE. China (Yunnan).

DISCUSSION. The male of *S. hong* resembles *S. boheana* and *S. cyaneiventris* but differs from both of them by rounded lobe near the base of mandible (large tooth in *S. boheana* and *S. cyaneiventris*) and differs from the former by totally red thorax, brownish mid- and hind tibiae, impunctate area of tergum 7, volsellar shape (Fig. 33 vs. Fig. 29) (mesopleurae beneath black, all tibiae red, tergum 7 punctate in *S. boheana*).

ETYMOLOGY. The specific name originates from Chinese word "hóng", which means red, with reference to the red thorax, and Hôngha, Vietnamese name of Yuanjiang, Red river, with reference to type locality of the species.

***Sinotilla pekiniana* (André, 1905), comb. n.**

Mutilla pekiniana André, 1905: 214, female [lectotype, designated by Mickel (1933a) - female, Peking (China)].

Smicromyrme pekiniana: Mickel, 1933a: 319, female (Beijing); Hammer, 1949: 11, female (Jiangsu); Chen, 1957: 208, female (Jiangsu, Fujian).

Smicromyrme cyaneiventris: Yasumatsu, 1951: 71, female (Shanxi).

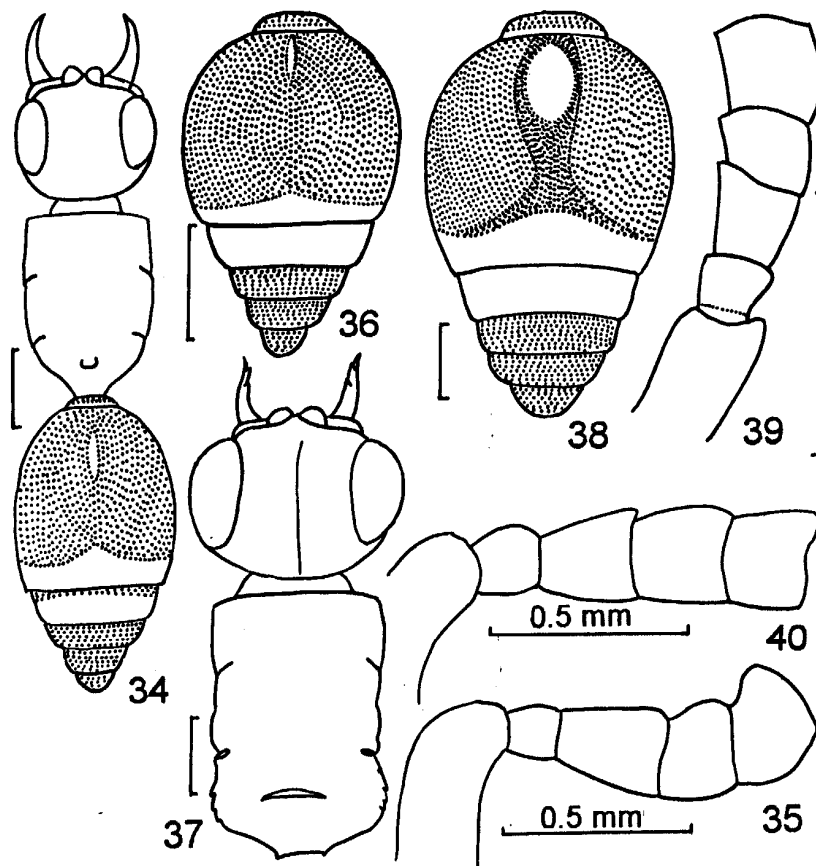
MATERIAL. No specimens examined.

RANGE. China (Hebei, Shanxi, Jiangsu, Fujian).

***Sinotilla belokobylskiji* Lelej, sp. n.**

TYPE MATERIAL (3 females). Holotype - female, North Vietnam, Prov. Vinh Phu, Tam Dao, 1000 m, forest, 10.XI 1990 (S. Belokobylskij) [ZIS]. Paratypes: North Vietnam: 1 female, Prov. Ha Son Binh, Da Bac, Tuly, bamboo, road, 21.X 1990 (S. Belokobylskij) [IBP]; 1 female, Prov. Hanoi, 70 km NW Hanoi, Ba Vi, forest, 22.XI 1990 (S. Belokobylskij) [ZIS].

DESCRIPTION. FEMALE. Length 9.0-11.0 mm. Head and gaster black; antennal segments 1, 2, thorax and legs red; mandible, except apex and base, and palps brownish-red; flagellomeres beneath brownish. Frons, vertex and thoracic dorsum with sparse and erect black setae only; genae, mandible, scape, legs, gastral tergum 1, gastral terga 2-5 laterally and gaster ventrally with pale setae. Gastral tergum 2 with basal median spot and posterior apical, broad, slightly widened medially band of appressed golden pubescence, the distance between median spot and band more than spot diameter (Fig. 38). Tergum 3 with broad complete band of golden pubescence. Gastral tergum 1 and sterna 2, 3 with posterior narrow band (not fringe!) of appressed golden pubescence; sterna 2-5



Figs. 34-40. *Sinotilla*, females. 34, 35) *S. bacbo*, holotype: 34) head, thorax and gaster; 35) antennal segments 1-5; 36) *S. viet*, holotype, gaster; 37-39) *S. belokobylskiji*, paratype: 37) head and thorax; 38) gaster; 39) antennal segments 1-5; 40) *S. cyaneiventris*, antennal segments 1-5. Scale line = 1 mm.

posterad with fringe of long, subappressed golden setae. Felt lines of gastral tergum 2 yellowish. Tergum 6 with golden pygidial fringes. Other parts of gastral terga with black pubescence. The relation of longitudinal eye diameter to distance between eye and mandible base is 3.6. Clypeus without any tubercles on anterior margin, strongly elevated basally with basal median weak tubercle and transverse concave preapical glabrous furrow limited above by transverse arched

carina. Frons and vertex with longitudinal median carina; hypostomal carina with two blunt large tubercles. Antennal segment 3 is 0.9 times its maximal width, 1.4 times antennal segment 2, 1.1-1.2 times antennal segment 4, the latter 0.7 times antennal segment 5 (Fig. 39). Frons, vertex and genae deeply confluent punctate. Mandible slender, with 2 weak inner preapical denticles. Thoracic sides not convergent posterad (Fig. 37). Scutellar scale wide. Hindcoxae carinate inside. Thoracic dorsum and posterior propodeal face coarsely confluent punctate. Thorax laterally glabrous, mesopleura above coxa punctate, lateral propodeal face shallowly, sparsely punctate. Gastral sternum 1 longitudinally carinate. Gastral tergum 2 broadly depressed along the median longitudinal line, coarsely punctate; gastral sternum 2 with median basal carina and dense separate punctures. Gastral tergum 6 with glabrous, shining widened posterad area, not carinated laterally. MALE unknown.

RANGE. North Vietnam (Vinh Phu, Hanoi, Ha Son Binh).

DISCUSSION. The females of *S. belokobylskiji* easily differ from those of *S. bacbo* sp. n. and *S. viet* sp. n. described below by large basal pale spot on gastral tergum 2 and broad longitudinal median depression. The females of *S. belokobylskiji* resemble *Smicromyrme semperi* (Ashmead, 1904), *Smicromyrme basalis* (Smith, 1879) and *Smicromyrme fura* Mickel, 1934 (all are from the Philippines) in having broad longitudinal medial depression on gastral tergum 2 but differ from all of them by lacking true pygidial area.

ETYMOLOGY. This species is dedicated to Sergey A. Belokobylskij, expert in Braconidae, who collected mutillid wasps during trip to Vietnam in 1990.

***Sinotilla bacbo* Lelej, sp. n.**

TYPE MATERIAL. Holotype - female, North Vietnam, Prov. Haiphong, Trung Trang, 12.I 1989 (Gudkov) [ZIS].

DESCRIPTION. FEMALE. Length 6.5 mm. Head, thorax, legs, palps and gastral segment 1 red; antennae brownish-red, flagellomeres yellowish-red ventrally; mandible red with dark apex; gastral tergum 2 black with bluish metallic lustre; gastral terga 3-6 and sterna 2-6 brownish-red. Head, mandible, scape, thoracic dorsum, legs, gastral tergum 1, gastral terga 2-6 laterally, gaster ventrally with pale setae. Gastral tergum 2 with basal median narrow patch and posterior apical band, widened medially, of appressed whitish pubescence, the distance between median patch and band more than patch length (Fig. 34). Tergum 3 with entire band of whitish pubescence. Gastral tergum 1 and sterna 2-5 with posterior fringe of whitish setae. Felt lines of gastral tergum 2 yellowish. Tergum 6 with whitish pygidial fringes. Other parts of gastral terga with black and brownish pubescence. The relation of longitudinal eye diameter to distance between eye and mandible base is 4.7. Clypeus without any tubercles on anterior margin, strongly elevated basally with basal median tubercle and transverse concave preapical glabrous depression limited above by transverse arched carina.

Frons and vertex without longitudinal median carina; hypostomal carina with two small tubercles. Antennal segment 3 is 1.2 times its maximal width, 1.6 times antennal segment 2, 1.5 times antennal segment 4, the latter 0.8 times antennal segment 5 (Fig. 35). Frons and vertex confluent punctate, genae densely punctate. Mandible slender, without inner preapical denticles. Thoracic sides convergent posterad (Fig. 34). Scutellar scale narrow but distinct. Hindcoxae carinate inside. Thoracic and propodeal dorsum coarsely confluent punctate. Posterior propodeal face somewhat reticulate above and shallowly sparsely punctate below. Thorax laterally glabrous, mesopleura and metapleura above coxae punctate, lateral propodeal face shallowly, sparsely punctate. Gastral sternum 1 longitudinally carinate. Gastral tergum 2 with dense small punctures; gastral sternum 2 with weak, median, basal carina and sparse large punctures. Gastral tergum 6 with glabrous, shining, widened posterad area weakly carinated laterally in apical part. MALE unknown.

RANGE. North Vietnam (Haiphong).

DISCUSSION. The female of *S. bacbo* resembles those of *S. contractula*, *S. thalia*, *S. cyaneiventris* in having metallic lustre of gaster, scutellar scale and very weak pygidial area, but differs from all of them by red head (black in *contractula*, *thalia* and *cyaneiventris*), by narrow basal median pale patch of gastral terga 2 (circular spot in *contractula*, lacking any spot in *thalia* and *cyaneiventris*).

ETYMOLOGY. Specific name originates from Vietnamese "Bắc Bõ", name of Vietnam northward of province Nghe Tinh, with reference to the region where the species has been found.

***Sinotilla viet* Lelej, sp. n.**

TYPE MATERIAL. Holotype - female, North Vietnam, Prov. Quang Ninh, Island Dong Kho (21°06'N, 107°36'E), 20.III 1987 (V. Kuznetsov) [IBP].

DESCRIPTION. FEMALE. Length 5.0 mm. Black, thorax, legs, antennal segments 1-3, palps and mandible, except apex, red; flagellomeres reddish ventrally; gaster without bluish metallic lustre. Frons and vertex with black setae; genae, scape with pale setae. Thoracic dorsum with black setae, posterior propodeal face, legs, gastral tergum 1, gastral terga 2 laterally and gaster ventrally with pale setae. Gastral tergum 2 with a few basal, median, whitish, appressed setae. Felt line brownish. Mandible slender, with two small, inner preapical denticles. Thorax laterally glabrous with micropubesence. Glabrous area on gastral tergum 6 with scarcely visible sculpture in apical part. Other characters as in *S. bacbo*. MALE unknown.

RANGE. North Vietnam (Quang Ninh).

DISCUSSION. The female of *S. viet* resembles that of *S. subparallela* in having similar body colour, narrow scutellar scale and by lacking distinct

pygidial area and basal pale spot on gastral tergum 2 but differs by black gastral segment 1 (red in *subparallela*), gena limited beneath by carina, forming denticle on hypostomal carina (gena simple in *subparallela*), mid- and hindtibia with 2 rows of 3 spines (spineless in *subparallela*). The female of *S. viet* differs from that of *S. bacbo*, except black head and gastral tergum 2, by lacking basal median patch on gastral tergum 2 and by shorter posterior pale band on tergum 2 (equal to band on tergum 3 in *bacbo*) (Fig. 36 vs. Fig. 34). The female of *S. viet* resembles that of *Smicromyrme decora* but differs by black gaster (first segment red; gaster with bluish metallic lustre in *decora*).

ETYMOLOGY. Specific name originates from Vietnamese "việt", designated one of the peoples living in Vietnam, with reference to the country where the species has been found.

6. Genus *Smicromyrme* Thomson, 1870

Type species: *Mutilla rufipes* Fabricius, 1787, by original designation.

SPECIES INCLUDED. Genus includes more than 100 Palaearctic species divided in 5 subgenera (Lelej, 1985). The real number of Oriental species could be estimated after revision of the species have been described primarily in the genus *Mutilla*.

***Smicromyrme (Smicromyrme) strandi* (Zavattari, 1913)**

Mutilla strandi Zavattari, 1913: 36, male [lectotype (designated by Mickel, 1933b) - male, Taiwan, Taihorin, X.1910 (H. Sauter)].

Smicromyrme strandi: Mickel, 1933b: 416, male (Taiwan); 1935: 275, male (Taiwan).

Smicromyrme rufipes strandi: Chen, 1957, male (Shanxi, Jiangsu, Zhejiang, Fujian, Taiwan); Tsuneki, 1972b: 21, male, female (Taiwan); 1993: 39, male (Taiwan).

MATERIAL (1 male, 3 females). China, Taiwan: 1 female, 14.VI 1925 (T. Kano) [NSMT-I-Hym No 1094]; 1 female, Chipon, 18.VIII 1936 [NSMT-I-Hym No 3322]; Guangdong: 1 male, 1 female, Reserve Chebaling, 20.VI 1990 (A. Lelej) [IBP].

RANGE. China (Shanxi, Jiangsu, Zhejiang, Fujian, Guangdong, Taiwan).

REMARKS. *S. strandi* and *S. lewisi* Mickel, 1935 are the separate species and males of the former differ from those of the latter by entirely red thorax, except blackish mesopleurae beneath (propodeum always black in *lewisi*). The sculpture of mesopleurae beneath also different (deep, dense, large punctures in *strandi* without precoxal longitudinal line; shallow, dense, smaller punctures in *lewisi* with distinct precoxal longitudinal line).

***Smicromyrme (Smicromyrme) fura fura* Mickel, 1934**

Smicromyrme fura fura Mickel, 1934, 198, female [holotype - female,

Philippines, Mindanao, Tangcolan, Bukidnon (Baker)]; 1935: 288, female.

MATERIAL (2 females). Philippines: 1 female, Negros, Alman, 19.VIII 1970 (S. Ae) [NSMT]; 1 female, Mindanao, Tudaya, 26.VII 1970 (B. Tanaka) [NSMT].

RANGE. Philippines (Luzon, Samar, Sibuyan, Panay, Negros, Mindanao, Basilan).

***Smicromyrme(Smicromyrme) riguttata latisquamula* Chen, 1957**

Smicromyrme triguttata latisquamula Chen, 1957: 182, 209, female [holotype female, China, Jiangxi, Kuling, 14.VIII 1935 (O.Piel)].

MATERIAL (1 female). North Vietnam: 1 female, Prov. Vinh Phu, Tam Dao, 1000 m, forest, 15.XI 1990 (S. Belokobylskij) [ZIS].

RANGE. China (Jiangxi, Fujian), Vietnam (new record) (Vinh Phu).

ACKNOWLEDGMENTS

I thank Dr. A. Shinohara, National Science Museum (Nat. Hist.), Tokyo, Dr. V. I. Tobias, Zoological Institute, Sankt-Petersburg, Dr. A. Antropov, Zoological Museum of Moscow University for loaning of specimens; Dr. S. Belokobylskij, Zoological Institute, Sankt-Petersburg, Dr. V. Kuznetsov, Institute of Biology and Pedology, Vladivostok for the gift of material. I am much indebted to Dr. B. Petersen, Zoological Museum, Copenhagen who generously provided me with valuable exchange material of the Oriental mutillid wasps.

REFERENCES

- André, E. 1896. Mutillides nouveaux ou imparfaitement connus fouissant pourtie des collections du musce National de Hongrie. - Termesztetraizi fuzetek 19(1): 9-25.
- André, E. 1898. Etude sur les Mutillides du Museum de Paris. - Annales de la Societe Entomologique de France 67: 1-79.
- André, E. 1905. Mutillides nouveaux ou peu connues de l'Ancien Monds et de l'Australie. - Zeitschrift für systematische Hymenopterologie und Dipterologie 5(1-6): 201-216, 265-277.
- Chen Chin-wen. 1957. A revision of the velvety ants or Mutillidae of China (Hymenoptera). - Quarterly Journal of the Taiwan Museum 10(3-9): 135-224.
- Hammer, K. 1949. Ueber einige von Kjell Kolthoff und anderen in China gesammelten Hymenoptera. Chrysididae, Cleptidae, Mutillidae. - Arkiv for Zoologi 42A(8): 1-12.
- Hammer, K. 1962(1960). Mutilliden (Insecta: Hymenoptera) aus dem Indischen Museum in Calcutta. - Records of the Indian Museum 58(1): 1-51.
- Lelej, A. S. 1985. [The velvet ants (Hymenoptera, Mutillidae) of the USSR and neighboring countries]. Nauka, Leningrad: 268 pp. (In Russian).

- Lelej, A. S. 1995. A Review of Palaearctic and Oriental Species of Genus *Nemka* Lelej with Description of Oriental genus *Mickelomyrme* gen. n. (Hymenoptera, Mutillidae). - *Far Eastern Entomologist*, 6: 1-20.
- Lelej, A. S. (in litt.). A review of the East Asian species of *Mickelomyrme* Lelej (Hymenoptera, Mutillidae). - *Entomofauna*.
- Lelej, A. S., Yamane, Sk. 1992. Interesting velvet ants (Hymenoptera, Mutillidae) from Japan and Korea. - *Japanese Journal of Entomology* 60(3): 625-632.
- Mickel, C. E. 1933a. The Mutillidae of Eastern Asia. - *Lingnan Science Journal* 12(3): 289-325.
- Mickel, C. E. 1933b. The Mutillidae of Formosa. - *Annals of the Entomological Society of America* 26(2): 381-423.
- Mickel, C. E. 1934. Mutillidae of the Philippine Islands. - *The Philippine Journal of Science* 54(1): 91-219, pl. 1.
- Mickel, C. E. 1935. The mutillid wasps of the islands of the Pacific Ocean (Hymenoptera, Mutillidae). - *Transactions of the Royal Entomological Society of London* 83(pt 2): 177-312.
- Mickel, C. E. 1935. The mutillid wasps of the islands of the Pacific Ocean (Hymenoptera, Mutillidae). - *Transactions of the Royal Entomological Society of London* 83(pt 2): 177-312.
- Smith, F. 1865. Descriptions of New Species of Hymenopterous Insects from the Islands of Sumatra, Sula, Gilolo, Salvatty and New Guinea, collected by Mr. A. R. Wallace. - *Journal of the Proceedings of the Linnean Society, Zoology* 8: 79-80.
- Tsuneki, K. 1972. Mutillidae collected in Formosa in 1966 and 68 (Hymenoptera). - *Etizenia* 64: 1-25.
- Tsuneki, K. 1993. On some Taiwanese Mutillidae, collected in 1976 by T. Murota, with description of new taxa (Hymenoptera). - *Special Publications of the Japan Hymenopterists Association* 41: 39-50.
- Tsuneki, K., Nozaka, C., Tano, T., Kurokawa, H., Murota, T. 1993. Mutillidae recently collected in the Philippines (Hymenoptera). - *Special Publications of the Japan Hymenopterists Association*, 41: 1-38.
- Yasumatsu, K. 1948. Records of East Chinese Mutillidae (Hymenoptera). - *Lingnan Science Journal* 22(1-4): 71-73.
- Yasumatsu, K. 1951. Mutillidae of Shansi, North China. - *Mushi* 22(12): 69-72.
- Zavattari, E. 1913. H. Sauter's Formosa-Ausbeute. Mutillidac (Hym.). - *Archiv für Naturgeschichte* 79A(13): 19-42.

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