TO THE KNOWLEDGE OF VELVET ANTS OF THE
GENERA ARTIOTILLA INVREA, RADOSZKOWSKITILLA
LELEJ AND TAIWANOMYRME TSUNEKI
(HYMENOPTERA: MUTILLIDAE)

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Summary. The genera Artiotilla Invrea, Radoszkowskitilla Lelej and species A. afghanica (Suárez) and R. aulica (Smith) are newly recorded from Pakistan and A. afghanica is the first record from Iran. Taiwanomyrme cheni sp. n. (China: Yunnan) is described and illustrated. A new synonymy is proposed for Radoszkowskitilla aulica (Smith, 1855), comb. n. = R. karnataka Lelej, 2005, syn. n. and R. ceylonica (Lelej, 1993) = R. tamila Lelej, 2005, syn. n. A new combination is proposed for Artiotilla mesopotamica (Bischoff, 1914), comb. n. from genus Trogaspidia Ashmead. The keys to the species in males and females of the genera Radoszkowskitilla and females of Taiwanomyrme are given.

Key words: Hymenoptera, Mutillidae, Trogaspidiini, taxonomy, new species, new synonymy, new records, Oriental region, Palearctic, India, Pakistan, Iran.

**INTRODUCTION**


**MATERIAL**

The following abbreviations are used for material discussed in this study.


**IBSS** – Federal Scientific Center of the East Asia Terrestrial Biodiversity (formerly Institute of Biology and Soil Science), Vladivostok, Russia.

**MZUF** – Università di Firenze, Museo Zoologico "La Specola", Florence, Italy.

**NMNH** – National Museum of Natural History, Washington DC, USA.

**OLML** – Oberösterreichisches Landesmuseum Linz, Austria.

**ZIN** – Zoological Institute of Russian Academy of Sciences, St-Petersburg, Russia.

**ZMB** – Museum für Naturkunde an der Humboldt-Universität, Berlin, Germany.

The classification of the Mutillidae follows Brothers and Lelej (2017). The general distribution of the species follows Lelej (2002, 2005) with addition. The new records are asterisked (*). The following abbreviations are used: S1, S2, S3, etc., to denote the first, second, third, etc. metasomal sterna; T1, T2, T3, etc., to denote the first, second, third, etc. metasomal terga.

**Genus Artiotilla** Invrea, 1950


Type species: *Mutilla biguttata* Costa, 1858 by original designation.
SPECIES INCLUDED. Originally the genus included type species only, *Artiotilla biguttata*. Lelej and Kabakov (1980) added *A. aghanica* (Suárez, 1979) and *A. ariana* Lelej, 1980 to the list, but the latter species became the type species of new genus *Kurzenkoitlla* Lelej, 2005. Here I replace additional species *Mutilla mesopotamica* Bischoff, 1914 from the genus *Trogaspidia* to genus *Artiotilla*.

**Artiotilla afghanica** (Suárez, 1979)


**DISTRIBUTION.** Afghanistan: Nuristan, Nangarhar; *Pakistan: Khyber Pakhtunkhwa, Balochistan, *Iran: Sistan va Balouchestan, Hormogam.

**Artiotilla biguttata** (Costa, 1858)

**REMARKS.** The synonymy, examined material and distribution of this species see: Lelej, 1985, 2002. Recently (Lelej et al., 2017) the genus *Artiotilla* and *A. biguttata* were recorded from Russia (North Caucasus).

**Artiotilla mesopotamica** (Bischoff, 1914), comb. n.

*Mutilla mesopotamica* Bischoff, 1914: 15, ♂, holotype, "Mesopotamien, Tell Halaf, felsige Steppen am Kebbes, 21.III 1913. Exp. Oppenheim, Kohl S." [Siry, Al Hasakah Province, Expedition Baron Max von Oppenheim in Northern Syria and Mesopotamia. The Tell Halaf Archeological Campaign was in 1911-1913], [ZMB], examined.


**MATERIAL EXAMINED.** The holotype was examined in 2011 during my trip to the Museum für Naturkunde an der Humboldt-Universität, Berlin.

**DISTRIBUTION.** North-East Syria: Al Hasakah Province.
Genus *Radoszkowskitilla* Lelej, 2005


Type species: *Indratilla ceylonica* Lelej, 1993, by original designation.

SPECIES INCLUDED. Including current data the genus numbers three species: *Radoszkowskitilla aulica* (Smith, 1855), *comb. n.*, *R. ceylonica* (Lelej, 1993) and *R. sinhala* Lelej, 2005.


**REMARKS.** The male of *Radoszkowskitilla* differs from male of Palaearctic *Artiotilla* by lacking any felt line on sternum 2 (short line in *Artiotilla*), by having longitudinal shiny medial line on mesoscutellum (lacking in *Artiotilla*), by sparse pale setae on T3 and T4 (well developed band of pale setae in *Artiotilla*). The female of *Radoszkowskitilla* differs from that of *Artiotilla* by having weakly sculptured carinated pygidial area (indistinct, not carinated in *Artiotilla*), by mandible without inner subbasal tooth (with such tooth in *Artiotilla*), by T2 posteriorly and T3 with 2 spots of silver setae (T2 posteriorly without spots, T3 with band of yellowish setae in *Artiotilla*).

*Radoszkowskitilla aulica* (Smith, 1855), *comb. n.*  
Figs 1–4

*Mutilla aulica* Smith, 1855: 37, ♀, type "Northern India", syntypes in BMNH; Sichel & Radoszkowski, 1869: 158, 1870: 258, ♀ (? Northern India); Cameron, 1892: 117, pl. 1, fig. 4, ♀, North India, Poona [Pune, Maharashtra]; André, 1894: 476, 482; Cameron, 1897: 82, ♀, Dalla Torre, 1897: 13, ♀, India; Bingham, 1897: 4, 13, ♀, Northern India, Ceylon [Sri Lanka]; André, 1902: 38, ♀, India.

*Trogaspidia aulica*: Lelej, 2005: 88, ♀, Northern India, Maharashtra; Pagliano *et al.*, 2020: 279, India.


**MATERIAL EXAMINED.** Paratypes of *Radoszkowskitilla karnataka*, *India*: 3 ♀, with the same labels as holotype. Additional material. *Pakistan*: North-West Frontier [currently Khyber Pakhtunkhwa], Peshawar, Forestry Campus of Agricultural University, 14–26.VIII 2005, 1 ♀ (S.V. Ovchinnikov) [IBSS].

**DISTRIBUTION.** *Pakistan*: Khyber Pakhtunkhwa; India: North India, Maharashtra, Karnataka. Probably widely distributed in India.

**REMARKS.** For a long time we discussed with late B. Petersen the status of *Mutilla aulica* Smith, 1855 described from North Pakistan (former North India) Børge Petersen who have had possibilities to study the species described by F. Smith from Oriental region and regarded my *Indratilla ceylonica* Lelej, 1993 as
junior synonym of *Trogaspidia aulica* (Smith, 1855) (Petersen, in litt., 1993). According to the original description (Smith, 1855) the female of *Mutilla aulica* Smith differs from the female of *ceylonica* Lelej by having spots of bright silvery setae on each side of T3 and T4 (such spots located in *ceylonica* on T2 posterad and T3. When I studied the female from Peshawar (North Pakistan, type locality of *aulica* Smith and the photos of female *aulica* identified by B. Petersen in the National
Pusa collection, New Delhi, India (many thanks for Nithya Chandran for that) I accepted the idea that *aulica* belongs to the genus *Radoszkowskitilla*. In this genus *aulica* related with *R. karnataka* Lelej, 2005 which is known by female and male and I regard the latter as a junior subjective synonym of *aulica*.

**Radoszkowskitilla ceylonica** (Lelej, 1993)


**DISTRIBUTION.** India: Karnataka, *Tamil Nadu; Sri Lanka: Northern Province, North Central Province, Eastern Province,**

**REMARKS.** One male of *Radoszkowskitilla tamila* and one female of *R. ceylonica* were collected in Sri Lanka at the same place and time by the same collectors. I think that they are opposite sexes of the same species and younger name *tamila* is a junior subjective synonym of *ceylonica*.

**Radoszkowskitilla sinhala** Lelej, 2005


**MATERIAL EXAMINED.** Holotype only.

**DISTRIBUTION:** Sri Lanka: Sabaragamuwa Province.

**Key to the Radoszkowskitilla species**

1. Males ................................................................................................................................. 2

– Females .............................................................................................................................. 4
2. Flagellomere 1 flattened curved, pedicel and flagellomere 1 with tuft of silver setae. 8.0–8.8 mm ................................................................. R. ceylonica (Lelej)
   – Flagellomere 1 not flattened nor curved, pedicel and flagellomere 1 without tuft of silver setae ............................................. 3

3. Metasoma ferruginous except black T5–T7 and S5–S8. T3–T6 with sublateral spots of golden setae. 7.6–10.8 mm .................................................. R. aulica (Smith)
   – Metasoma black. T3–T6 posteral with narrow pale fascia. 13.8 mm .... R. sinhala Lelej

4. Fore coxa with large lamellate tooth. T2 without medial basal carina, with weak lateral longitudinal carina. Pygidial area sculptured except shiny apical third. Larger species: 7.4–10.4 mm .................................................. R. aulica (Smith)
   – Fore coxa with acute tubercle. T2 with medial basal carina and extremely developed lateral longitudinal carina. Pygidial area shiny with weakly sculptured basal third. Smaller species: 5.6–7.6 mm .................................................. R. ceylonica (Lelej)

**Genus Taiwanomyrme Tsuneki, 1993**


Type species: Smicromyrme taiwanus Tsuneki, 1993, ♂, Taiwan, by original designation (junior subjective synonym of Mutilla friekae Zavattari, 1913, ♂).

SPECIES INCLUDED. Six species: T. friekae (Zavattari, 1913), ♂ (China: Jiangsu, Zhejiang, Anhui, Fujian, Taiwan); T. impressus (Chen, 1957), ♂ (China: Jiangxi, Fujian and Sichuan); T. impressoides Tu, Lelej et Chen, 2015, ♂ (China: Zhejiang, Fujian, Hunan); T. basirufus (Chen, 1957), ♂, ♀ (China: Zhejiang, Fujian, Jiangxi, Sichuan, Hunan and Yunnan); T. latisquamula Tu, Lelej et Chen, 2015, ♀ (China: Guizhou) and T. cheni Lelej sp. n. (China: Yunnan).

**Taiwanomyrme cheni Lelej, sp. n.**

http://zoobank.org/NomenclaturalActs/D0F3F3EF-3C88-4261-A1A2-66C4E11FF7A8
Figs 5–8


DIAGNOSIS. FEMALE. Genal carina distinct, forming tooth at hypostomal carina junction. Scutellar scale narrow, T2 anteriorly with a pair of transversely arranged, circular spots of silver setae, T2 apical band of black setar medially expanded. T3 with interrupted medially band of dense silver setae. Pygidial area carinated laterally, glabrous shiny. Body black; mesosoma laterally, coxae, femora, T2 except posterior band, S2 except posterior band ferruginous-red. MALE unknown.

DESCRIPTION. FEMALE. Body length 7.8 mm. Ratio of head width and pronotal maximal width 98:85. Ratio of mesosoma length and pronotal maximal width

Colour and setation. Body black, mesosoma laterally, coxae, femora, T2 except posterior band, S2 except posterior band ferruginous-red. Mandible, antennae, mesosoma ventrally tinted reddish. Tibial spurs reddish. Frons and vertex with sparse suberect and erect black setae; gena with sparse recumbent greyish setae. Mesosoma dorsally and posterior propodeal face with sparse suberect fuscous to black setae. Pleuron and propodeum laterally with pale yellow recumbent micropubescence. T1 and T6 with long, sparse erect greyish to black setae. T2 anteriorly with a pair of bilateral circular spots of pale yellow setae, ratios of spot diameter, spot interspace and longitudinal eye diameter 20:40:40, posteriorly with medially widened band of black setae. Felt line on T2 rufous. T3 with interrupted medially band of dense silver setae. T4 and T5 with erect black setae. All metasomal sterna with sparse whitish setae, which form apical fringe on S2 and S3.

DISTRIBUTION. China (Yunnan).

REMARKS. The female of this new species is similar to that of *T. basirufus* (Chen, 1957), but differs by having interrupted medially band of silver setae on T2 (non interrupted band in *T. basirufus*) by narrower mesosoma before propodeal spiracles (0.82 × maximal mesosomal width in *T. cheni* vs. 0.90 × in *T. basirufus*).

ETYMOLOGY. The specific name is dedicated to Prof. Chen Xue-xin for his contribution to the study of Chinese Mutilidae.

Key to the species of *Taiwanomyrme* (females)

1. Pronotum laterally (dorsal view) with two blunt tubercles. Scutellar scale very small, pointed. Pygidial area smooth .......................................................... 2
   – Pronotum laterally (dorsal view) with two sharp tubercles. Scutellar scale wide, V-shaped. Pygidial area microstriate .............................................. *T. laisquamulata* Tu, Lelej et Chen
2. T2 with interrupted medially band of silver setae. Mesosomal width before propodeal spiracles 0.82 × maximal mesosomal width ................................................. *T. cheni* Lelej, sp. n.
   – T2 with non interrupted band of silver setae. Mesosomal width before propodeal spiracles 0.90 × maximal mesosomal width ................................................. *T. basirufus* (Chen)

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