

## A new species of *Tipula* (*Lunatipula*) from Turkey, close to *T. (L.) imbecilla* Loew (Diptera: Tipulidae)

Hasan Koç & Pjotr Oosterbroek

Koç, H. & Oosterbroek, P. 2005: A new species of *Tipula* (*Lunatipula*) from Turkey, close to *T. (L.) imbecilla* Loew (Diptera: Tipulidae). — Entomol. Fennica 16: 19–22.

A description, with figures, is presented of *Tipula* (*Lunatipula*) *cillibema* sp. n., a species from the province Mugla, Southwestern Turkey. The species is close to *T. (L.) imbecilla* Loew, from areas near Rhodos. Both species are assigned to the macrocelene group *sensu* Mannheims (1965), and their position within this species group is discussed.

*H. Koç, Mugla University, Science and Arts Faculty, Department of Biology, 48000 Kötekli/ Mugla, Turkey; E-mail: khasan@mu.edu.tr*

*P. Oosterbroek, Department of Entomology, Zoological Museum, University of Amsterdam, Plantage Middenlaan 64, 1018 DH Amsterdam, The Netherlands; E-mail: oosterbroek@science.uva.nl*

*Received 8 April 2004, accepted 27 August 2004.*

### 1. Introduction

A total of 132 species of Tipulidae, of which 53 species are endemic, is known from Turkey (Koç & Oosterbroek 2001, Serçe & Koç 2004). Turkey is also the type locality of 66 species. Material that included the new species of the macrocelene group, reported here, was collected by the first author in asiatic Turkey, in the province of Mugla. Specimens were collected close to a stream in a mixed forest. Plants found in this habitat were *Platanus orientalis*, *Pinus brutia*, *Quercus* sp., *Rosa* sp., *Rubus* sp., *Juncus* sp., *Juniperus* sp., *Populus* sp., *Dryopteris* sp. and *Trifolium* sp.

### 2. Species description

*Tipula* (*Lunatipula*) *cillibema* sp. n. (Fig. 1)

*Type material.* Holotype: 1 ♂, Turkey, Mugla, Fethiye, 23 km along road to Korkutelı (36° 46'

N, 29° 28' E), 04.V.2002, 1,155 m a.s.l. Paratype: 5 ♂♂, same data as holotype. Holotype and 4 paratypes preserved at the Department of Biology, Science and Arts Faculty, Mugla University; 1 paratype at the Department of Entomology, Zoological Museum, University of Amsterdam.

*Description.* Male: Body length 13–15 mm; antennal length 5–6 mm; wing length 15–17 mm. Head light gray, yellowish brown along middle. Rostrum largely yellowish brown, a little light gray at base and apex; nasus ranging from distinct to small, with a few long golden hairs at the apex. First four palpal segments yellowish brown, terminal segment darker brown. Antenna 13-segmented, scape and pedicel yellowish brown, scape sometimes light gray, flagellar segments brownish black; antenna of moderate length, if bent backwards more or less reaching to base of halter; flagellar segments cylindrical with base slightly thickened, apical segment small but dis-

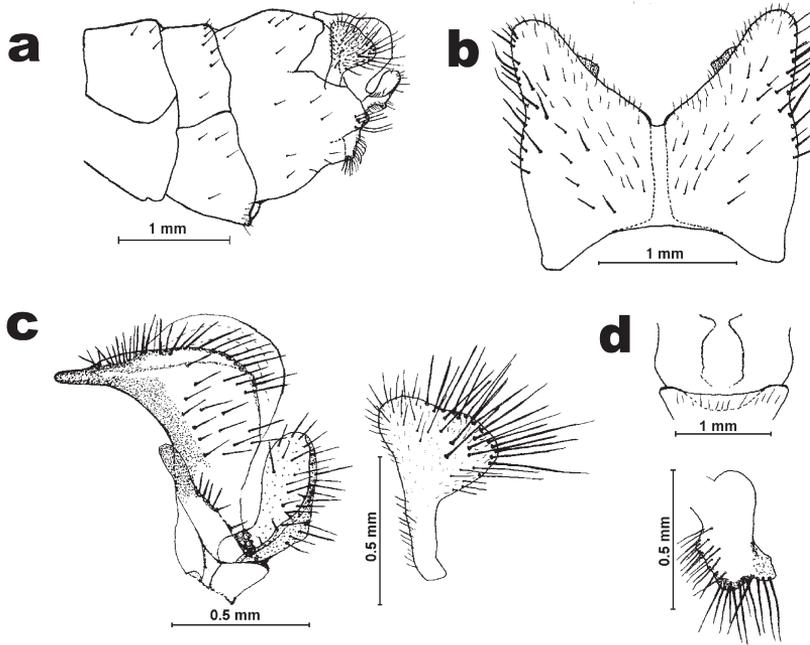


Fig. 1. *Tipula* (*Lunatipula*) *cillibema* sp. n. – a. Hypopygium, lateral view. – b. Tergite 9, dorsal view. – c. Left outer and inner gonostyle, lateral view. – d. Hind margin of sternite 8 and appendage of sternite 9, ventral and rear views.

tinct, longest verticils somewhat shorter than flagellar segments.

Pronotum and scutum dark grayish brown, scutum with five yellowish brown stripes; lateral parts of thorax grayish black. Halter with yellowish brown stem and whitish, partly brownish gray knob. Wing light brown tinged, lunar mark reaching into discal cell; stigma just beyond lunar mark not markedly distinct, light brown; petiole of veins M1 and M2 short, at most about as long as height of discal cell. Coxae grayish brown; trochanters, femora and tibiae yellowish brown, tips of femora and tibiae somewhat darkened; tibial spurs distinct, spur formula 1.2.2; tarsal segments yellowish brown to brownish black, claws without secondary tooth.

Abdomen yellowish brown with narrow dark brown to black dorsal stripe on tergites 2–6 and narrowly darkened lateral margins. Sternites brownish with blackened hind margins.

Hypopygium (Fig. 1a) not distinctly swollen, yellowish to reddish brown. Hind margin of tergite 9 (Fig. 1b) widely V-shaped with broadly rounded lateral corners. Outer gonostyle (Fig. 1c) apically very broad and provided with long hairs. Anterior part of inner gonostyle (Fig. 1c) with distinct beak and evenly rounded dorsal crest; posterior part simple, evenly rounded, and sepa-

rated from anterior part. Appendages of sternite 9 (Fig. 1d) short and broad, provided with long golden hairs apically and along inner margin. Hind margin of sternite 8 (Fig. 1d) straight and without hairs, appendages, or incision.

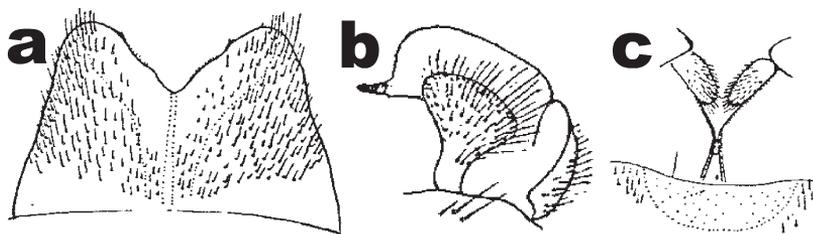
Female: not known.

*Etymology.* The name *cillibema* is an anagram of *imbecilla*, to be treated as a noun in apposition.

### 3. Discussion

The new species *cillibema* is most probably the sister species of *imbecilla* Loew. The latter was described from the Greek island Rhodos by Loew (1869) after both sexes, without further information on the locality, date, or number of specimens. Of the type series, Mannheims (1965) could trace only one male, preserved in the Zoologische Staatssammlung, München. Since 1869, no other specimens of *imbecilla* Loew have become available. It thus was a pleasant surprise to find the present species in our 2002 material in Mugla, a Turkish province just opposite Rhodos. Examination of the single currently known male of *imbecilla* Loew showed that the new species *cillibema* is indeed very close, but different enough to be described as a new species.

Fig. 2. *T. (L.) imbecilla* [after Mannheims (1965)]. – a. Tergite 9, dorsal view. – b. Left outer and inner gonostyle, lateral view. – c. Hind margin of sternite 8, oblique-ventral view.



The differences between the two species are found in the general colouration (*imbecilla* light, *cillibema* dark coloured), the nasus (*imbecilla* absent, *cillibema* present), the abdomen (*imbecilla* uniformly brown without dorsal stripe, *cillibema* with a distinct darkened dorsal stripe), and several hypopygial characters. In *cillibema*, the lateral corners of tergite 9 are more pronounced (Fig. 1b; *imbecilla*, Fig. 2a); the dorsal crest of the inner gonostyle is apically lower (Fig. 1c; *imbecilla* Fig. 2b); the appendages of sternite 9 are broader and more differentiated and there are marked differences in the ventral part of the hypopygium between these appendages and the hind margin of sternite 8 (Fig. 1d; *imbecilla*, Fig. 2c).

Apart from these differences it must be concluded that both species are very closely related. The general shape of the hypopygium and its separate parts are of the same structure. A very special character shared by both species is the absence of any ornamentation at the hind margin of sternite 8. Of all 302 species of *Tipula*, subgenus *Lunatipula*, known from the Western Palaearctic, this character is found only in *cillibema* sp. n.,

*imbecilla* Loew, and *carens* Theischinger; all the other species either have (bushes of) long hairs along the posterior margin of sternite 8 [Mannheims (1963): *Lunatipula* “*fasciculatae*”], or the posterior margin of sternite 8 is provided with two sockets that bear apical bristles (*Lunatipula* “*spinosa*”). *T. (L.) imbecilla* and *carens* have been assigned to the macroselene group by Mannheims (1965) and Theischinger (1987). This group presently contains some 30 species, most of which are distributed in the eastern part of the Mediterranean region. The group belongs to the *Lunatipula spinosae*, but within the group there is a tendency toward reduction of the two bristle-bearing sockets (as seen in species such as *cretis* Mannheims, *selenis* Loew, and *macciana* Edwards), culminating in the presence of weaker bristles only (as in *pelidne* Mannheims; Fig. 3a), or no ornamentation at all.

*T. (L.) imbecilla* and *cillibema* have some characters in common with *pelidne*, such as the widely V-shaped hind margin of tergite 9 (Fig. 3b). However, the inner and outer gonostyli of *pelidne* are clearly different (Fig. 3c). A character found in all three species is the absence of the sec-

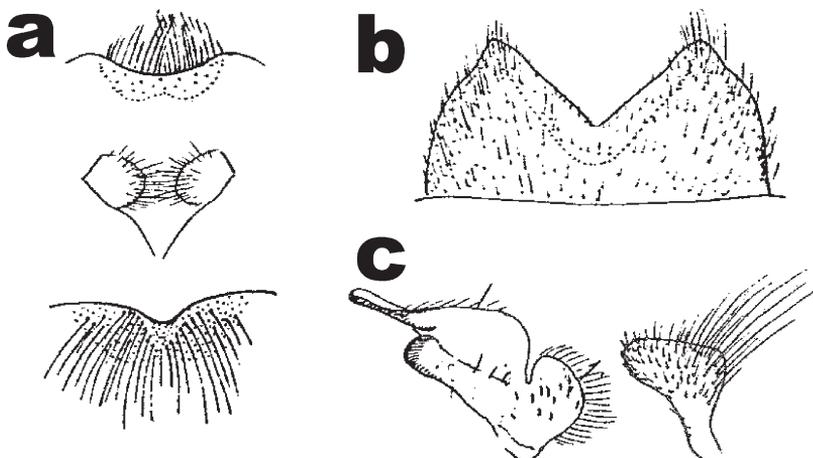


Fig. 3. *T. (L.) pelidne* [after Mannheims (1965)]. – a. Hind margin of sternite 8, ventral and rear views. – b. Tergite 9, dorsal view. – c. Left outer and inner gonostyle, lateral view.

ondary tooth on the male claws. This character is found in most species of the *macroselele* group, but not in *carens*, which was assigned by Theischinger (1987) to a different section of the *macroselele* group, namely close to *christophi* Theischinger.

*Acknowledgements.* The authors would like to thank Dr. W. Schacht of the Zoologische Staatssammlung, München, for the opportunity to study type material of *T. (L.) imbecilla* Loew and to the Mugla University for financial support (Research Project No 01/017).

## References

- Serçe, Ö. & Koç, H. 2004: Contributions to Tipulidae of Turkey (Diptera). — Journal of Institute of Science and Technology of Gazi University (in press).
- Koç, H. & Oosterbroek, P. 2001: Checklist of the Turkish Tipulidae (Diptera), with new records. — *Studia Dipterologica* 8 (Heft 2): 463–468.
- Loew, H. 1869: Beschreibungen Europäischer Dipteren. — Halle 1: XVI + 1–310.
- Mannheims, B. 1963: 15. Tipulidae. — In: Lindner, E. (ed.), Die Fliegen der Paläarktischen Region 3(5)1, Lief. 238: 137–176.
- Mannheims, B. 1965: 15. Tipulidae. — In: Lindner, E. (ed.), Die Fliegen der Paläarktischen Region 3(5)1, Lief. 256: 177–212.
- Theischinger, G. 1987: Neue Taxa von *Lumatipula* Edwards aus der mediterranen Subregion der Palaearktis (Diptera, Tipulidae, Tipula Linnaeus), 5. Fortsetzung. — *Beaufortia* 37: 99–120.