

# *Tipula (Acutipula) citae*, a new species of the *maxima* group from Algeria (Diptera: Tipulidae)

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**Abstract:** *Tipula (Acutipula) citae* n. sp. is described from the Petite Kabylie, a mountainous region along the coast of east Algeria. The new species belongs to the *maxima* group. A discussion is presented about its phylogenetic position within this group.

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## Introduction

Several species groups of Tipulidae are distributed in northwest Africa and the Iberian Peninsula, whereas within this family no species groups are known which are limited to northwest Africa and Italy (Theowald & Oosterbroek, 1984). A new species of *Acutipula*, described here as *T. (A.) citae*, was collected in the Algerian Kabylies in 1986. These mountain regions along the coast of east Algeria were at least up to the Lower Miocene part of a mountain range which included Sicily, Calabria and the Apennines (Giusti & Manganelli, 1984). It was therefore of interest to describe the new species and to investigate whether it would show a relationship to species endemic to Italy.

## *Tipula (Acutipula) citae* n. sp.

### *Type-material*

Holotype: ♂, labelled: 32 km S El Aouana 1300 m 25.v.1986/Algerie Petite Kabylie P. Oosterbroek. Paratypes: 6 ♂, labelled as the holotype.

Type-material preserved in the Zoological Museum, Amsterdam. The type-locality is along a small river with *Alnus* and ferns in a *Quercus* forest.

## Diagnosis

*T. (A.) citae* belongs to the *maxima* group (sensu Vermoolen, 1983). This is among others apparent from the shape of tergite 9 (fig. 5) and the colouration of the wings (fig. 9). The spe-

cies is characterized by the bifid inner dististyle (figs. 6, 7), a very distinct and peculiar character. In the other species of the *maxima* group and in many other species of *Acutipula* the inner dististyle consists of four parts.

## Description of male

Bodylength: 24-26 mm, winglength: 22-25 mm.

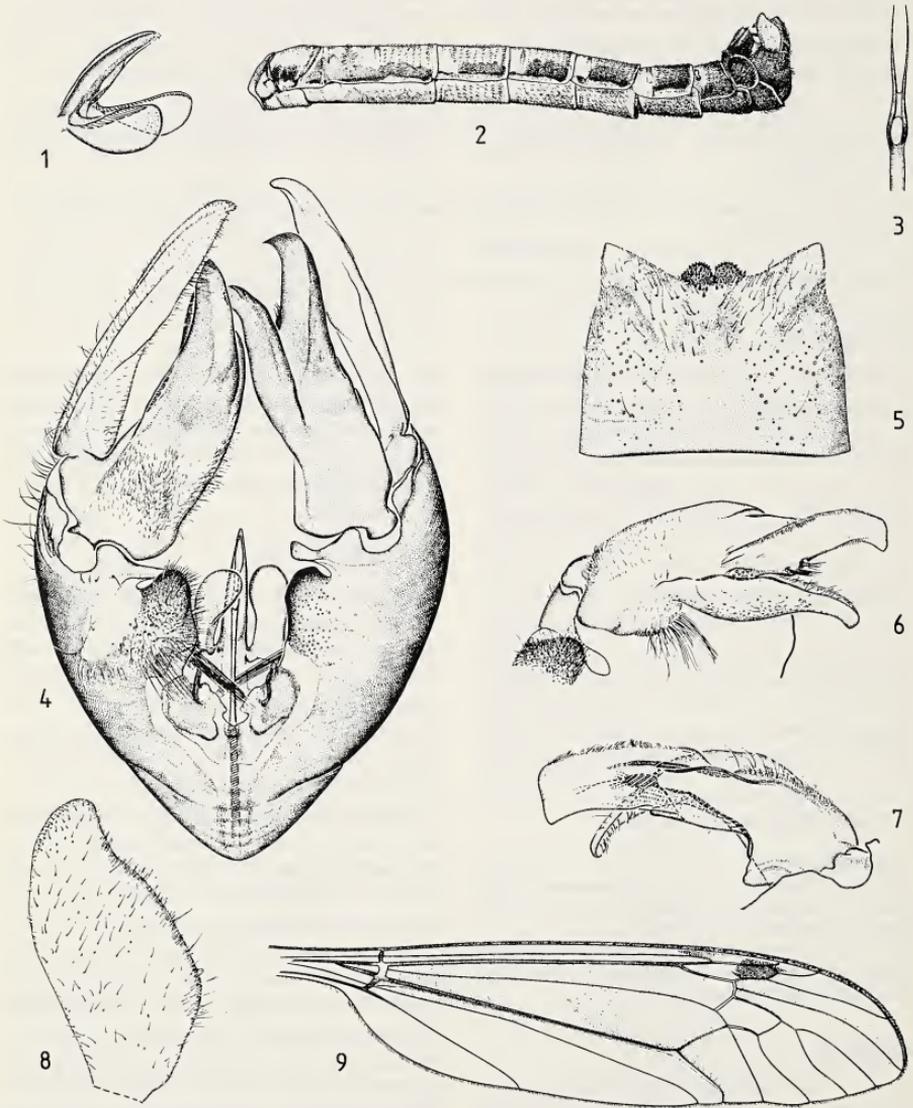
**Head.** Nasus distinct. Rostrum about as long as head, brown, dorsal anterior half darker greyish brown. Vertex and postgenae greyish brown. Antennae brown, 13-segmented, about three times length of rostrum, flagellar segments cylindrical with the longest verticils twice as long as segments.

**Thorax.** Pronotum dark brown, somewhat paler laterally. Scutum I with four dark brown longitudinal stripes with light greyish brown in between. Medial stripes not prolonged on praescutum. Central part of thoracic suture distinctly darkened. Scutum 2 with two broad dark brown stripes. Scutellum lustrous, dark brown. Paratergites light brown. Mediotergite lustrous, yellowish brown, posterior part less shining and brown. Area in front of wingbase brown with dark brown patches. Lateral parts of thorax lustrous, light grey with katatergite and lower parts of katepisternum and meron distinctly darkened. Coxae light brown, ba-

sally darkened. Trochanters brown. Femora brown to dark brown, tips broadly darkened. Tibiae dark brown, tips darkened. Tarsal segments dark brown. Tarsal claws with two

teeth as figured by Vermoolen (1983: fig. 6).

Wings with wingspots S1 to S4 (Vermoolen, 1983: fig. 1) present but only slightly darker than light brown tone of wingmembrane, spot



Figs. 1-9. Wing, abdomen and hypopygium of *Tipula (Acutipula) citae*. 1, adminiculum, side view; 2, abdomen; 3, apex of intromittent organ; 4, hypopygium, from behind; 5, tergite 9, dorsal view; 6, left inner dististyle, dorsal view; 7, left inner dististyle, outside view; 8, left outer dististyle, outside view; 9, right wing.

S5 absent (fig. 9, after the specimen with the most distinctly coloured wings). Halteres dark brown.

**Abdomen** (fig. 2). Tergite I grey with dark brown spots laterally. Sternite 1 light yellowish brown. Segments 2-7 light brown to brown. Lateral parts of tergites distinctly darkened except for lighter coloured anterior corners, dorsal part sometimes with a narrow dorsal stripe. Segments 8-9 and sometimes larger part of segment 7 distinctly darkened.

**Hypopygium** (fig. 4). Tergite 9 and sternite 9 fused but with a distinct fold in between. Posterior border of tergite 9 with triangular lateral corners and two small rounded median lobes set with black spines (fig. 5). Outer dististyle twice as long as broad (fig. 8). Inner dististyle with two parts only, id3 and id2 (figs. 6, 7). Adminiculum conical with apically swollen lateral appendages (figs. 1, 4). Apex of intromittent organ with two filaments connected by a small septum (fig 3).

Female unknown.

### Etymology

The species is named after the first author's friend and companion, Cita Hartveld, among others because of the support during our pleasant stay in Algeria.

### Discussion

Within the *maxima* group of the subgenus *Acutipula* 17 (sub)species are recognized (Vermoolen, 1983). One of the basal lineages of the group consists of the four species distributed in southwest Europe (*triangulifera* Loew (southern Spain), *repanda* Mannheims (southern

France, Spain, Portugal)) and Morocco (*anormalipennis* Pierre (Haut Atlas), *repentina* Mannheims (Haut and Moyen Atlas)). The sisterspecies of the *maxima* group is *T. (A.) luctuosa* Mannheims from central and southern Italy.

Phylogenetic analysis of the characters found in *citae*, *luctuosa*, the species of the *maxima* group and other species of *Acutipula* resulted in the following synapomorphies:

1. *T. (A.) luctuosa* and the species of the *maxima* group possess contrasted wings. The large dark area near the wingbase extends to vein A1 (fig. 9). In other species of the subgenus *Acutipula* with contrasted wings, such as *vittata* Meigen, *tenuicornis* Schummel, *vana* Alexander and *bubo* Alexander this spot is smaller, not reaching beyond the Cu vein.

2. The lateral sides of the male tergite 9 are bulging out into triangular projections (fig. 5). Within *Acutipula* this character is restricted to *luctuosa* and the *maxima* group.

3. In *luctuosa* and the basal lineages of the *maxima* group the apex of the intromittent organ consists of two well developed filaments, a character not found in other species of *Acutipula*.

4. The species of the *maxima* group possess a very characteristic wing-pattern, the dark areas in the wing are restricted to five easily identifiable spots (spot S5 not present in *citae*).

5. A septum connects the apical filaments of the intromittent organ (fig. 3; see also Vermoolen, 1983: figs. 7-9).

6. Females of the four above mentioned species from southwest Europe and Morocco possess a distinct sclerotized projection in front of the median rim at the inner side of the hypovalva (fig. 10), not found in *luctuosa* and

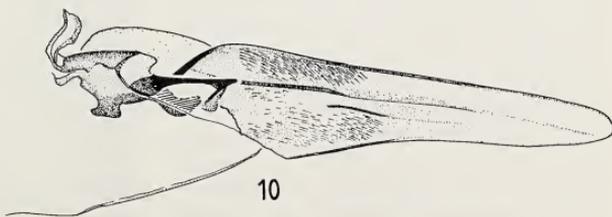


Fig. 10. *Tipula (Acutipula) repentina*, right hypovalva, inside view.

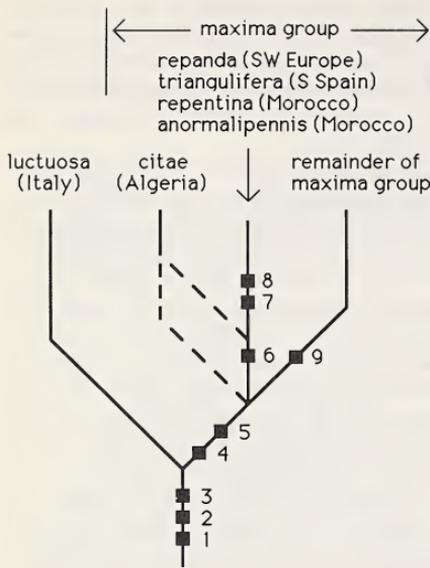


Fig. 11. Cladogram depicting the basal phylogeny of the *Tipula (Acutipula) maxima* group and its sisterspecies *T. (A.) luctuosa*.

the other species of the *maxima* group. This character can not be interpreted for *citae* because females of this species are not known.

7. ld3 of these four species provided with a row of long stiff setae just below the dorsal margin, not present in *luctuosa* and the other species of the *maxima* group including *citae*.

8. ld2 of these four species very characteristic, the basal part is broad and the apical part is abruptly narrowed.

9. The remainder of the *maxima* group is

among others characterized by further modifications of the apical part of the intromittent organ (Vermoolen, 1983: figs. 8-9).

The cladogram (fig. 11) based on these nine synapomorphies shows that the exact phylogenetic position of *citae* is not fully resolved. The species might represent one of the basal lineages of the *maxima* group, but it could as well be the sisterspecies of the four west Mediterranean species if the female, not yet collected, shows a large sclerotized projection in front of the median rim at the inner side of the hypovalva (character 6). In spite of these uncertainties, however, it can be concluded that *citae* is not the sisterspecies of *luctuosa* from Italy.

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