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Tipulidae)

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Tipula (Savtshenkia) subsignata haennii ssp. n.
and *Tipula (S.) subsignata cazorla* ssp. n.
from the Iberian Peninsula (Diptera, Tipulidae)

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Tipula (Savtshenkia) subsignata haennii ssp. n. is described after male and female from the Pyrenees (Spain and France) and *T. (S.) subsignata cazorla* ssp. n. after male only from the Sierra de Cazorla (Provincia de Jaén, Spain). The three subspecies of *T. (S.) subsignata* are compared among each other and with *T. (S.) corsosignata*, endemic to Corsica. The latter is considered the sister species of *subsignata* and a phylogeny of these four taxa is presented. A mention is given of the capture in the Var (France) of *T. (S.) sardosignata* MANNHEIMS & THEOWALD, 1959 formerly considered endemic to Corsica and Sardinia.

INTRODUCTION

Tipula (Savtshenkia) subsignata LACKSCHEWITZ, 1933 (Fig. 1) is known from the mountains of central and oriental Europe: Harz, Alps, North Apennines, Carpathians, Bulgaria, Yugoslavia and the Southern European territories of the USSR (OOSTERBROEK & THEOWALD, in print). SAVTSHENKO (1961: 195) mentioned the species from the central Pyrenees, but without a precise locality. The species has been found in the Pyrenees as well as in Southern Spain by JEAN-PAUL HAENNI and the author during two brief collecting journeys in the French (Pyrénées-Orientales) and the Spanish (Gerona) Pyrenees (October 1987), and in the Sierras of Andalucia (late September and October 1989). However, the Pyrenean and the Andalucian specimens differ from the *forma typica* (*T. s. subsignata*) and from each other. Therefore, they are described as two new subspecies.

DESCRIPTIONS

Tipula (Savtshenkia) subsignata haennii ssp. n. (fig. 2)

Type material

Holotype ♂: France (Pyrénées-Orientales); 8.10.1987; C. DUFOUR leg./La Preste; versant S., forêt mixte, anciennes terrasses; 1150 m; St. 4. (coll. MHNN, Musée d'histoire naturelle de Neuchâtel). Paratypes: 1 ♀ idem/3 km N La Preste; limite sup. forêt moussue (pin + hêtre); 1600 m; St. 5. (coll. MHNN). 3 ♀♀, Espagne (Gerona); 6-14.10.1987; C. DUFOUR leg./1 km S Setcases; forêt riv. (feuillus) paroi rocheuse moussue; 1200 m; St. 10. (2 ♀♀ coll. MHNN; 1 ♀ ZMA, Zoological Museum Amsterdam).

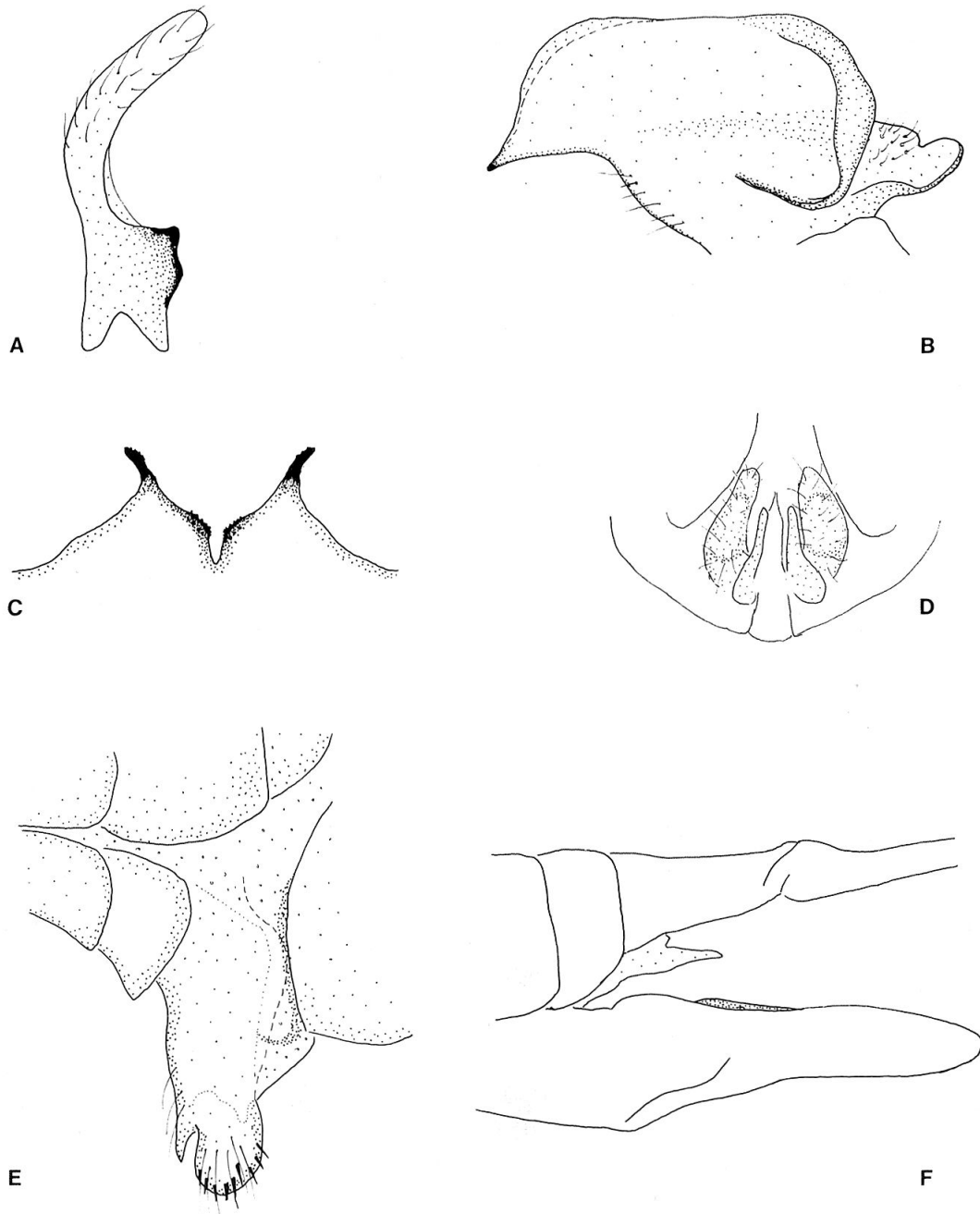


Fig. 1. *Tipula (Savtshenkia) s. subsignata* LACKSCHEWITZ; male: A, Od outside; B, Id outside; C, posterior extension of tergite 9; D, appendages of adminiculum; E, sternite 8; female: F, hypovalvae left, lateral view.

Discriminating characters

Very similar to *s. subsignata* (fig. 1), differing in characters of the male hypopygium and female ovipositor as follows.

Male: tergite 9 lacking spines near median incision, and with little developed spines on posterior projections; outer dististyle (od) long with narrow basal projection; inner dististyle (id) with developed crest, especially towards anterior beak, posterior ridge not extended in median part of id and posterior extension as in fig. 2; sternite 8 broad, with median tooth of appendage well

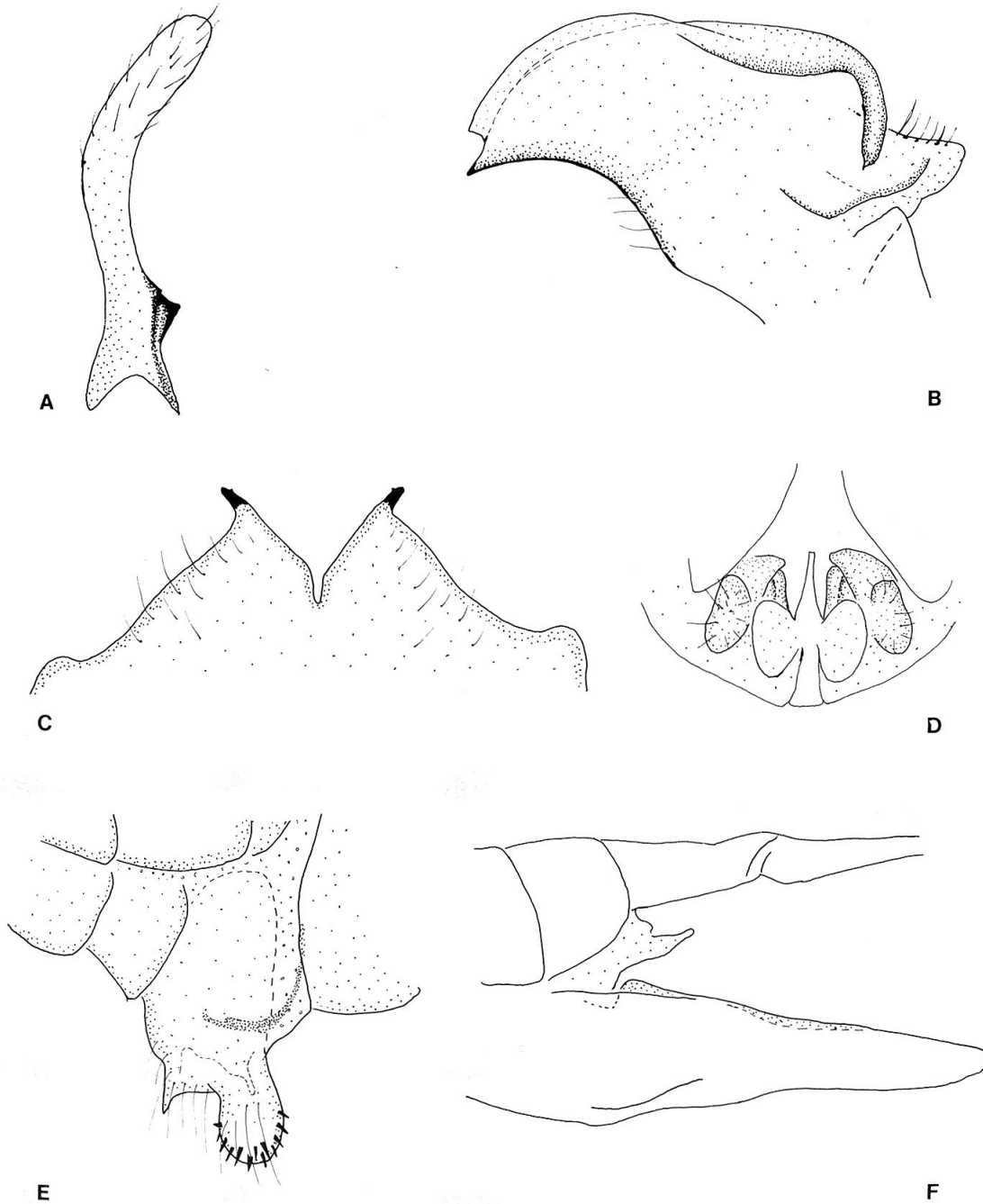


Fig. 2. *Tipula (Savtshenkia) subsignata haennii* ssp. n.; male: A, Od outside; B, Id outside; C, posterior extension of tergite 9; D, appendages of adminiculum; E, sternite 8; female: F, hypovalvae left, lateral view.

separated from rounded lobes; inner appendages of adminiculum rounded and not extended towards genital opening; outer appendages of adminiculum with small posterior lobe (bearing fine hairs).

Female: similar to *s. subsignata* by unsclerotized and rather short ninth sternum; but differing by shape of the dorsal ridge of the hypovalvae, the upper surface of which is only visible proximally (lateral view), whereas in the nominal subspecies it is only visible in the median region. Seen from above (not illustrated) the same ridge is less curved.

Biotope

The altitudes of localities range from 1150 to 1600 m; vegetation is deciduous or mixed forest, with well developed moss. At Setcases, the specimens were collected near drippings along a steep cliff.

Etymology

The subspecies is dedicated to my dear friend JEAN-PAUL HAENNI, specialist of Bibionidae and Scatopsidae, and efficient Tipulid collector.

Tipula (Savtshenkia) subsignata cazorla ssp. n. (fig. 3)

Type material

Holotype ♂: Espagne-Jaén, Sierra de Cazorla; 29.9.1989; C. DUFOUR & J.-P. HAENNI leg./3 km W Blanquillo (Mt); Lancha de la Cigara; 1100 m; bord de rivière, joncs, falaises calcaires; St. 18. (MHNN). Paratype: 1 ♂, idem.

Discriminating characters

The male of *T. s. cazorla* differs from the other subspecies in hypopygial characters only. Tergite 9 bearing spines near median incision and with well developed spines on posterior projections; od broad at base; id with slight crest towards anterior beak, posterior ridge extended in median part of id and posterior extension curved upwards; sternite 8 narrow with appendage directed posteriorly (upright in other subspecies), median tooth well separated from rounded lobes; inner appendages of adminiculum extended towards genital opening; outer appendages of adminiculum with long and narrow posterior lobe (bearing fine hairs) hiding only partly the other lobes.

Female: unknown.

Biotope

Both specimens were caught along a limestone cliff with wet drippings leading to a little stream.

Etymology

The subspecies is named after the beautiful Sierra de Cazorla, the name of which is used as apposition.

DISCUSSION

Distribution

Although SAVTSHENKO (1961) mentioned the species from the central Pyrenees, THEOWALD (1973) could not trace any material or other record of *subsignata* from the Pyrenees. The present specimens confirm SAVTSHENKO whose material certainly belonged to *T. (S.) s. haennii* ssp. n. It is worth noting that the fauna of the French Massif central does not seem to hold *T. (S.) subsignata*, although 73 species have recently been recorded from this region (DUFOUR & BRUNHES, in print) and the closest captures are those made in France (Hautes-Alpes) by OOSTERBROEK, HAENNI and DUFOUR in 1983 (not published). *T. (S.) s. cazorla* ssp. n. is known only from an isolated Sierra in southern Spain.

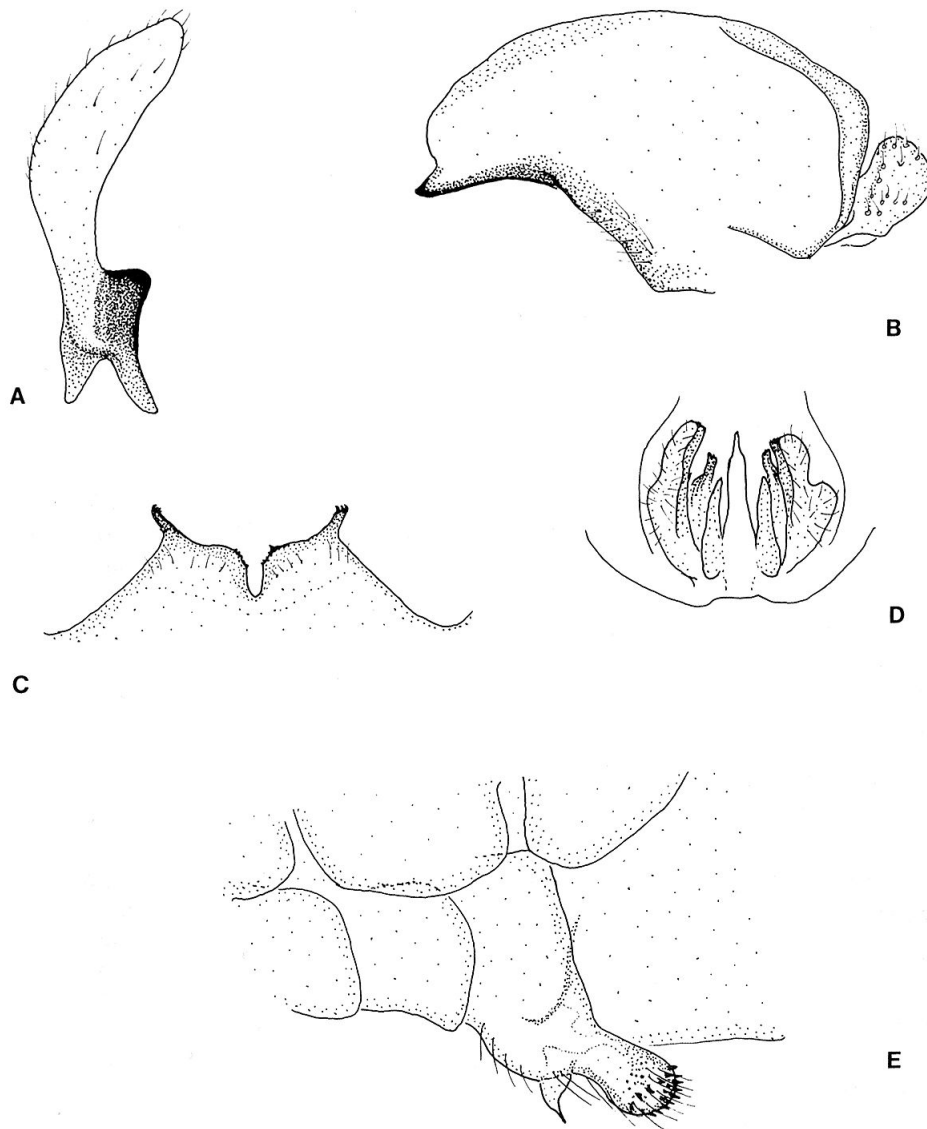


Fig. 3. *Tipula (Savtshenkia) s. cazorla* ssp. n.; male: A, Od outside; B, Id outside; C, posterior extension of tergite 9; D, appendages of adminiculum; E, sternite 8.

Phylogeny

Within the subgenus *Savtshenkia*, THEOWALD (1973) separates 9 species characterized by an apex of sternite 8 bearing a pair of swellings or sausage-like appendages with minute black spinules mostly on their inner surface. Among these, THEOWALD considers two species-groups: the *staegeri*-group characterized by a little developed thumb-like hind part of id (*T. staegeri* NIELSEN, 1922, *T. subsignata* LACKSCHEWITZ, 1933, *T. sardosignata* MANNHEIMS & THEOWALD, 1959, and *T. nielseni* MANNHEIMS & THEOWALD, 1959) and the *signata*-group with species showing a strongly extended modified and sclerotized hind part of id (*T. signata* STAEGER, 1840, *T. benesignata* MANNHEIMS, 1954, *T. persignata tofina* ALEXANDER, 1945, *T. boreosignata* TJEDER, 1969, *T. mannheimsi* THEOWALD, 1973).

Since THEOWALD (1973), five new taxa have been discovered: *T. eleonorae* THEISCHINGER, 1978, *T. cyrnosardensis* THEOWALD, DUFOR & OOSTERBROEK,

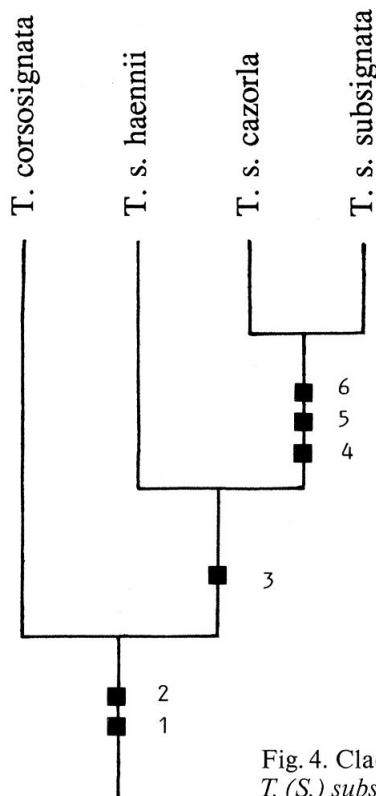


Fig. 4. Cladogram showing phylogenetical relations between the subspecies of *T. (S.) subsignata* and *T. (S.) corsosignata*.

1982, *T. corsosignata* THEOWALD, DUFOUR & OOSTERBROEK, 1982, and both new subspecies of *T. subsignata*. Among the 14 species and subspecies of the *signata*-group and *staegeri*-group sensu THEOWALD (the monophyly of which are not proved and which would need a complete revision based on males and females), *T. (S.) s. subsignata*, *T. (S.) s. haennii* and *T. (S.) s. cazorla* appear most closely related to *T. (S.) corsosignata* from Corsica. They are separated from the other species by the following synapomorphies (fig. 4).

1. A sclerotized, nail-like, shiny, median appendage of sternite 8. (In *T. signata* a somewhat similar appendage is present. However it is pubescent, hardly sclerotized and thicker.)
2. An unsclerotized, rather short, whitish 9th sternum. In all other species which could be checked sternum 9 is sclerotized.

The species *subsignata* is characterized by:

3. The existence of a ridge on the median part of id.

Three synapomorphies are common to *s. subsignata* and *s. cazorla*:

4. The continuity of the hind ridge of id with the ridge mentioned above.
5. Od large at base.
6. Inner appendage of adminiculum curved and extended inwards.

Surprisingly enough *T. (S.) s. cazorla* (from Southern Spain) appears more closely related to *T. (S.) s. subsignata* (from Alps and Carpathians) than to *T. (S.) s. haennii* from the Pyrenees.

NOTE CONCERNING *TIPULA (S.) SARDOSIGNATA* (MANNHEIMS & THEOWALD)

While checking related species we have encountered a specimen of *Tipula (S.) sardosignata* collected recently in Southern France by YVES GONSETH: 1 ♂

teneral, France (Var); St-Cyr-sur-Mer; 5.10.1988; garrigue, chêne vert, bord rivière temporaire; (MHNN).

This capture is worth mentioning as *T. sardosignata* was until now considered endemic to Corsica and Sardinia.

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RÉSUMÉ

Tipula (Savtshenkia) subsignata haennii ssp. n. provenant des Pyrénées françaises et espagnoles est décrite sur la base du mâle et de la femelle et *T. (S.) s. cazorla* ssp. n. provenant de la Sierra de Cazorla (Province de Jaén, Espagne) d'après le mâle uniquement. Les trois sous-espèces de *T. (S.) subsignata* sont comparées entre elles et avec *T. (S.) corsosignata*, endémique de Corse, qui est considérée comme taxon frère de *T. (S.) subsignata* dans le cadre d'une analyse phylogénétique. Une capture de *Tipula (S.) sardosignata* MANNHEIMS & THEOWALD, 1959, considérée jusqu'ici comme endémique de Corse et de Sardaigne est signalée du Var (France).

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