

**A REDESCRIPTION AND GENERIC REASSIGNMENT  
OF THE ADULTS OF HALOTANYTARSUS TIKA TOURENQ, 1975  
(DIPTERA : CHIRONOMIDAE)**

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The adult male of *Halotanytarsus tika* Tourenq is redescribed and the female described for the first time. The taxonomic position of the species is discussed and the genus is placed as a junior synonym of *Tanytarsus* v.d. Wulp.

**Redescription et nouvelle position générique  
des imagos de *Halotanytarsus tika* Tourenq 1975  
(Diptera, Chironomidae).**

L'imago ♂ de *Halotanytarsus tika* Tourenq est redécrite et l'imago ♀ décrite pour la première fois. La position taxonomique de l'espèce est discutée et le genre placé en synonymie avec *Tanytarsus* v.d. Wulp.

**INTRODUCTION**

In 1966 Tourenq listed an undescribed genus *Halotanytarsus* in an introductory list of species from fresh and brackish waters of the Camargue in Southern France. Although certain diagnostic characters were given : « ... réduction des palpes labiaux et des tarsi de la deuxième paire des pattes... » there were no named species included. Two years later Laville and Tourenq recorded adult *Halotanytarsus* sp. in flight from May until August in the Camargue.

In his doctoral thesis in 1975 Tourenq named the new species *tika* in the combination *Halotanytarsus tika*. This thesis appears to satisfy the criteria of publication (Articles 8 and 9 of the I.C.Z.N.). The generic name *Halotanytarsus* is validated by the citation of characters differentiating the taxon : "... caractérisés par une réduction des métatarses de la patte moyenne..." and by the designation of *tika* as type-species by monotypy. One year later (1976) Tourenq repeated the information presented in 1975 with no further description of the species. A footnote in the two previously mentioned publications states that a description of the new species would soon be published.

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The discovery of further specimens of this species from Turkey and Crete makes this an opportune time for the publication of a fuller description of the species and an assessment of the generic position of *tika* Tourenq.

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*Tanytarsus tika* (Tourenq, 1975) **Comb. nov.**

"*Halotanytarsus*" sp. Tourenq, 1966 : 464 **Nom. nud.** (I.C.Z.N. 13 b).

"*Halotanytarsus*" sp. Laville & Tourenq, 1968 : 77 **Nom. nud.** (I.C.Z.N. 13 b).

*Halotanytarsus tika* Tourenq, 1975 : 204.

*Halotanytarsus tika* Tourenq, 1976 : 63.

### MATERIAL EXAMINED

1 ♂ [Slide mounted in Euparal] FRANCE : Bouches-du-Rhône, Camargue, J.-N. Tourenq, Université Paul-Sabatier, Toulouse. Lectotype here designated.

Paralectotypes 17 ♂, 4 ♀ [Slide mounted in Euparal or Berlese]. Same data as lectotype. Deposited in the Université Paul-Sabatier and the British Museum (Natural History), London.

5 ♂ [Slide mounted in Euparal]. GREECE : Corfu, Kurnas -See, 50 m. a.s.l. 24°16' E. 35°20' N. 16.v.1971, To light, H. Malicky. Staatssammlung Munich.

4 ♂, 3 ♀ [Slide mounted in Berlese]. TURKEY : Konya, Hortu, 8 kms. N.W. Ereğli, 980 m. a.s.l. 33°83' E. 37°55' N., 10.viii.1974, To light beside saline drainage ditch, P.S. Cranston, B.M. 1974 — 482. British Museum Natural History).

**Male** (n = 26). Length 2.4-3.4 m.m., wing length 1.3-1.7 m.m.

Antenna. Pale yellow, antennal plume slightly reduced. Pedicel 55  $\mu$  high  $\times$  95  $\mu$  wide. 13 flagellomeres : length (in  $\mu$ ) 40, 18, 18, 22, 27, 29, 31, 31, 34, 33, 32, 35, 186. Antennal ratio 0.48-0.57 (0.53).

Head. Yellow. Frontal tubercles 25-32  $\mu$  long. Palps pale, 5 segmented : 1st 26  $\mu$  long  $\times$  21  $\mu$  wide, 2nd 26  $\mu$   $\times$  26  $\mu$ , 3rd 31  $\mu$   $\times$  29  $\mu$ , 4th 34  $\mu$   $\times$  26  $\mu$ , 5th 45  $\mu$   $\times$  18  $\mu$ . 6-8 temporal setae in a single row of 2-3 postorbitals, 2-3 outer verticals and 1-2 inner verticals. Clypeus with 15-21 bristles. Eyes bare with only slight dorsal elongation. Cibarial pump as in *Fig. 1 a*, tentorium as in *Fig. 1 b*.

Thorax. Greenish-yellow, halteres pale yellow. Antepnotum

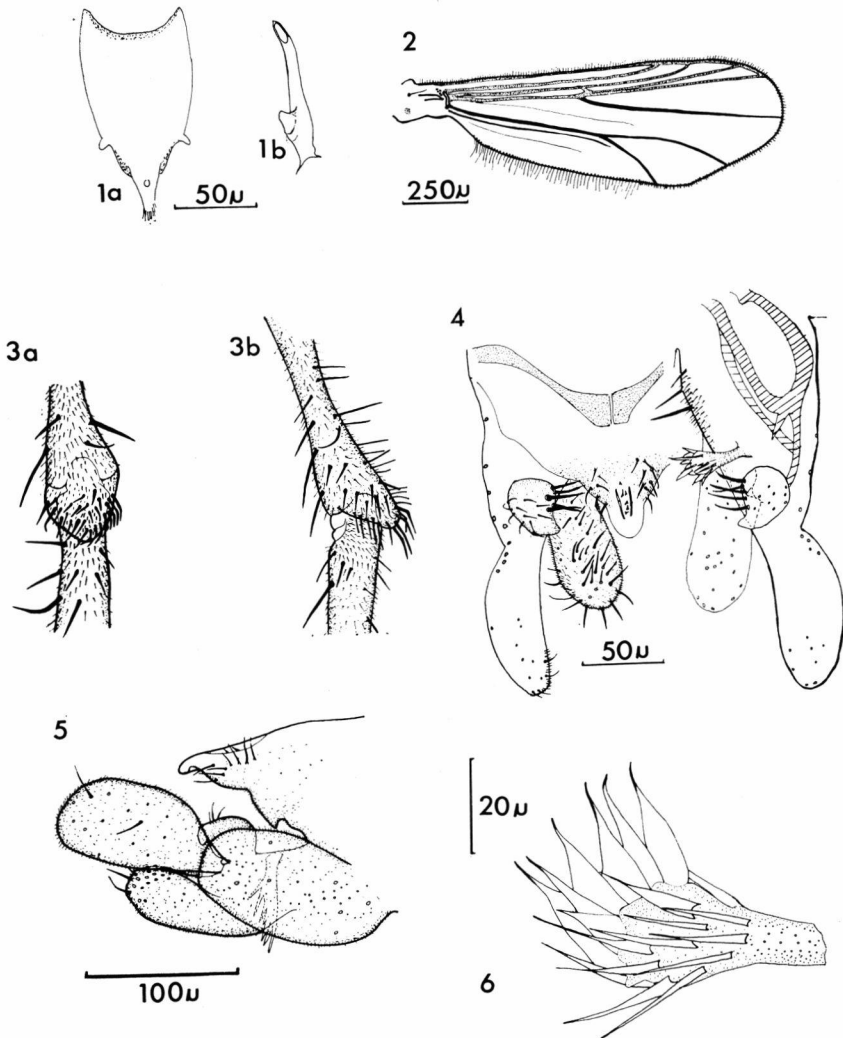


FIG. 1 to 6. — FIG. 1a. Cibarial pump, labial lonchus, cornua and tormae. FIG. 1b. ♂ Tentorium. FIG. 2. ♂ Wing. FIG. 3a. Tibial pad of  $P_2$  of ♂. FIG. 3b. Tibial pad of  $P_3$  of ♂. FIG. 4. ♂ Hypopygium (Dorsal). FIG. 5. ♂ Hypopygium (Lateral). FIG. 6. Appendage 2a squashed (phase contrast).

bare, lobes medially widely separated, invisible from above but broadened laterally. Acrosticals 1-2, dorsocentrals 1-3, prealars absent. Scutellum with 0-2 setae.

Wing. Venation as in *Fig. 2*. Basal vein with one seta, remaining veins and membrane without microtrichia. Wing membrane finely punctate. V.R. 1.14-1.25 (1.19). Squama bare.

Legs. P2 40 % P1, P3 70 % P1. Meso- and metatibial apices each with a setose pad (*Fig. 3*). Pulvillae and empodium about 15-20  $\mu$  long. Claw 25  $\mu$  long. Mean proportions and lengths of the legs (in  $\mu$ ) excluding Crete specimens ( $n = 21$ ):

Leg	Fe	Ti	Ta1	Ta2	Ta3	Ta4	Ta5	L.R.	B.R.
P1	647	490	615	335	289	238	143	1.26	0.8-1.2
P2	425	400	125	57	49	33	44	0.31	0.7-1.1
P3	570	489	276	170	195	121	80	0.56	0.7-1.1

The population from Crete has all segments of the legs between 25 and 40 % longer than the others. The ratios are similar however.

Hypopygium (*Figs. 4, 5 & 6*). Anal point 45-50  $\mu$  long with a pair of combs and 4-6 (7-12 Crete) dorsal spines between the combs. 6-8 setae laterally on the anal point. Digitus of endomere (appendage 2a) as in *Fig. 6* with lamellar setae ("blattborsten" of Reiss 1968: 210). Five of the specimens from the Camargue show various degrees of torsion of the hypopygium, two showing full 180° inversion.

**Female** ( $n = 7$ ). Length 2.3-3.3 m.m., wing length 1.3-1.7 m.m.

Antenna. Pedicel 50  $\mu \times$  84  $\mu$ . 4 flagellomeres, mean length in  $\mu$ : 73, 35, 36, 147. Antennal ratio 0.9-1.1 (1.03) (*Fig. 7*).

Head. 6-8 temporal setae distributed as in the male. Clypeus with 18-25 bristles.

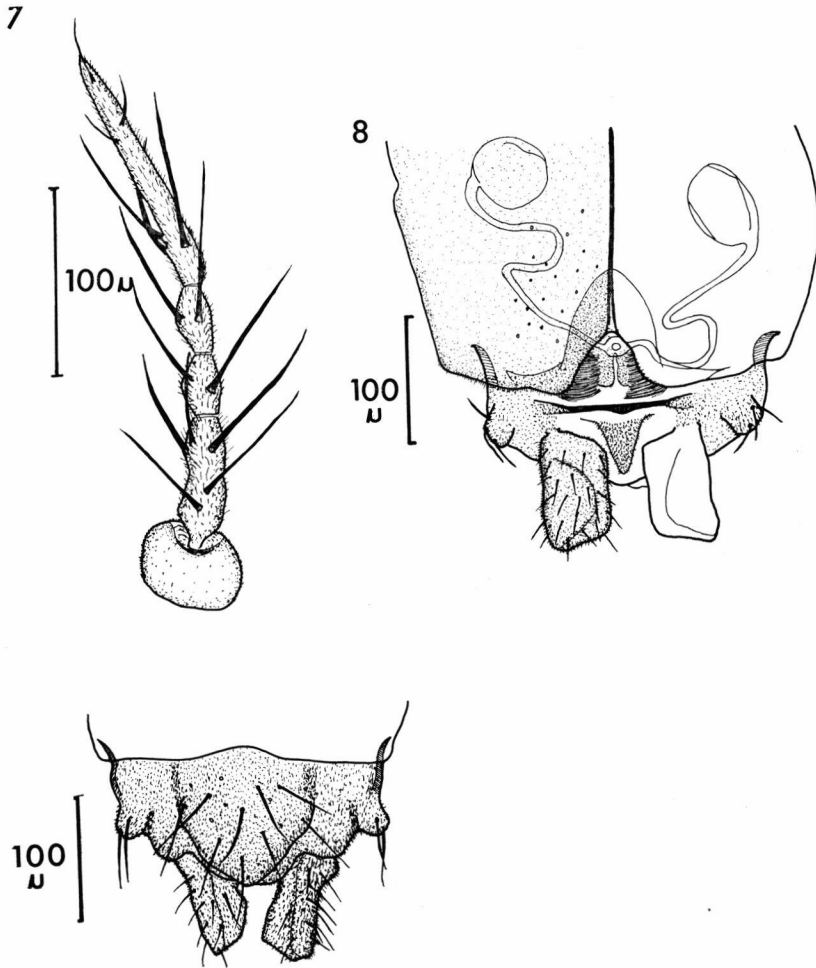
Palps five segmented: 1st 24  $\mu \times$  21  $\mu$ , 2nd 19  $\mu \times$  26  $\mu$ , 3rd 28  $\mu \times$  25  $\mu$ , 4th 28  $\mu \times$  22  $\mu$ , 5th 33  $\mu \times$  21  $\mu$ .

Thorax. As in male except that no scutellar bristles were seen in all the specimens examined.

Legs. P2 70 % P1, P3 110 % P1. Apices of tibiae as in male. Mean proportions and lengths of legs (in  $\mu$ ):

Leg	Fe	Ti	Ta1	Ta2	Ta3	Ta4	Ta5	L.R.	B.R.
P1	473	422	403	143	103	77	59	0.95	0.8-1.1
P2	415	421	160	52	37	23	32	0.38	0.7-0.9
P3	540	520	295	149	145	84	59	0.57	0.7-1.0

Genitalia (*Figs. 8 & 9*). Gonocoxapodeme VIII (GCa) apparently absent. Notum twice length of seminal capsules but caudally faint. Sternite VIII (S) forms a large floor under the vagina. Gonapophysis VIII (Gp) simple, rounded bearing long (40  $\mu$ ) microtrichia on caudal



FIGS 7 to 9. — FIG. 7. ♀ Antenna. FIG. 8. ♀ Genitalia (Ventral). FIG. 9. ♀ Genitalia (Dorsal).

and caudomesal surfaces. Tergite IX (*Fig. 9*) bluntly triangular with moderately developed shoulders. Gonocoxite IX with 2-3 setae. Cerci relatively large. Postgenital plate distinct ( $40 \mu$  long) and triangular. Seminal capsules ovoid with no distinct necks. Spermathecal ducts sinuous.

## SYSTEMATICS

The bare squamae, horizontal vein r-m, foreleg ratio and hypopygium with four volsellae indicates that *tika* Tourenq belongs to the tribe Tanytarsini of the subfamily Chironominae. Several genera in this tribe are described as lacking macrotrichia on the wings and without a comb on the meso- and metatibial apices: *Himatendipes* Tokunaga, 1959, *Biwatendipes* Tokunaga, 1965, *Corynocera* Zetterstedt, 1838, *Thienemanniola* Kieffer, 1921 and *Lenziella* Kieffer, 1922 (sensu Sæther, 1971 a).

*T. tika* (Tourenq) shares several other characters with some of these genera including shortened segments of the midleg, shortened palpal segments, reduced number of flagellomeres in the female and a reduction in the antennal plume of the male. However, as pointed out by Sæther (1971 a : 1824) these are atrophied, aberrant characters which are of limited use as generic characters. He further observes that these genera are apparently not closely related but are the aberrant forms of other common Tanytarsine genera, the relationships of which he discusses.

The explanation of the convergence of the phenotypes of these genera may be associated with mating on the ground. Tourenq (1976 : 63) notes that the adults of *tika* do not form mating swarms but move at the water surface. Assuming that mating is not aerial, as seems likely, many characters may be seen as modifications for ground mating. Foremost among these is the facultative torsion of the hypopygium which permits end-to-end mating. *Corynocera*, *Thienemanniola* and two species of *Tanytarsus*, *miriforceps* and *sylvaticus* also exhibit hypopygial torsion (Fittkau 1971 : 29). *Corynocera* and *Thienemanniola* also share many of the aberrant characters listed for *tika*. Since ground mating can occur in unrelated genera, accompanied by paralleled modifications, atrophied characters associated with this behavioural change cannot be used in the generic placement of *tika*.

The male hypopygium, female genitalia and internal structures of the head should be characters unaffected by modification of the swarming habit and should give indications of the generic affinity. The hypopygium is like a typical *Tanytarsus*, possessing combs and spines on the anal point and simple, lamellar setae on the digitus of the endomere. Although the species shares many characters with the genus *Lenziella* the bifid or ramified bristles on the digitus of the endomere show that this latter genus has greater affinities with *Cladotanytarsus* Kieffer. The female genitalia are very similar to those of *Tanytarsus* spp. described and figured by Sæther (1977 : 143, Figs. 64 & 65 a-c) except that the notum is longer in *tika*. This character seems

to be more variable within the genus *Tanytarsus* than suggested by Saether, as shown by the examination of further British material of the genus.

Comparison of the cibarial pump and tentorium of *tika* with other species of *Tanytarsus* shows that the shape of these structure falls well within the variation shown by other non-aberrant species.

#### SYNONYMY

*Tanytarsus* Wulp, 1874 : 134. Type-species *signatus* Wulp, 1858. (I.C.Z.N. 1961 : 361.)

*Halotanytarsus* Tourenq, 1975 : 204. Type-species *tika* Tourenq, 1975 by monotypy. **Syn. n.**

#### REFERENCES

- FITTKAU (E. J.). 1971. — Der Torsions-Mechanismus beim Chironomiden-Hypopygium. *Limnologica, Berlin*, 8 (1) : 227-34.
- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE 1961. — Opinion 616. *Tanytarsus* van der Wulp, 1874 (Insecta, Diptera). Designation of a type-species under the Plenary Powers. *Internatl. Comm. Zool. Nomenc., Bull. zool. Nom.*, 18 : 361-362.
- KIEFFER (J. J.). 1921. — Notes sur quelques Chironomides étranges habitant les lacs de Schleswig-Holstein. *C. r. Ass. fr. Advanc. Sci.*, (1920) : 327-331.
- KIEFFER (J. J.). 1922. — Nouveaux chironomides à larves aquatiques. *Annl. Soc. scient. Brux.*, 41 : 355-367.
- LAVILLE (H.) & TOURENO (J.-N.). 1968. — Nouvelles récoltes de Chironomides en Camargue et dans les Marimas de Guadalquivir. *Annl. Limnol.*, 4 (1) : 73-80.
- LEHMANN (J.). 1973. — Systematische und phylogenetische Studie über die Gattungen *Thiennemanniola* Kieffer und *Corynocera* Zetterstedt (Diptera, Chironomidae). *Hydrobiologica*, 43 : 381-414.
- LINDBERG (B.). 1970. — Tanytarsini (Diptera, Chironomidae) from Northern Fennoscandia. *Annl. Zool. Fenn.*, 7 : 303-312.
- SAETHER (O. A.). 1971. — Notes on the general morphology and terminology of the Chironomidae (Diptera). *Can. Ent.*, 103 : 1237-1260.
- SAETHER (O. A.). 1971 a. — Four new and unusual Chironomidae (Diptera). *Can. Ent.*, 103 : 1799-1827.
- SAETHER (O. A.). 1977. — Female genitalia in Chironomidae and other nematocera : morphology, phylogenies and keys. *Bull. Fish. Res. Bd. Can.*, 197-210.
- TOKUNAGA (M.). 1959. — A new midge from Kashmir (Diptera, Tendipedidae). *Akitu*, 8 : 21-23.
- TOKUNAGA (M.). 1965. — A new midge from Japan (Diptera, Chironomidae). *Kontyû*, 33 : 42-45.
- TOURENO (J.-M.). 1966. — Introduction à l'étude écologique des Chironomides des eaux douces et saumâtres de Camargue. *Annl. Limnol.*, 2 (2) : 459-465.
- TOURENO (J.-N.). 1975. — Recherche écologique sur les Chironomides (Diptera) de Camargue. Doctorat thesis. *Université Paul-Sabatier, Toulouse*.
- TOURENO (J.-N.). 1976. — Recherche écologique sur les Chironomides (Diptera) de Camargue. 1. Etude faunistique et biogéographique. *Annl. Limnol.*, 12 (1) : 17-74.