

ENTOMOLOGIA TEORETYCZNA—ENTOMOLOGIE GÉNÉRALE

*Telmatogeton gedanensis* sp. n. (*Clunioninae*, *Chironomidae*,  
*Diptera*) — new marine chironomid from the Polish  
Baltic coast

*Telmatogeton gedanensis* sp. n. (*Clunioninae*, *Chironomidae*, *Diptera*)  
— nowy ochotek morski z Polski

BY

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ABSTRACT. A new species, *Telmatogeton gedanensis* (*Clunioninae*, *Chironomidae*, *Diptera*), is described from the Polish coast of Baltic Sea. This species is closely related to *Telmatogeton japonicus* TOKUNAGA.

A new marine midge of the large genus *Telmatogeton* SCHINER of the subfamily *Clunioninae* has been found on the coast of the Baltic Sea in Gdynia-Orłowo during studies on *Diptera* of brackish and salt habitats of Poland.

The *Clunioninae* is a specialized group of *Chironomidae* generally restricted to the sea shore. All previously known species of the genus *Telmatogeton* are distributed on the coasts of the Pacific and Indian Oceans, chiefly in the southern hemisphere. From the Palaearctic only two species from Japan were known.

WIRTH has observed a preference by *Clunioninae* for coastal habitats where the sea is freshened. A preference for fresh water is exhibited by the Hawaiian species of *Telmatogeton*: *T. hirsutus* WIRTH, *T. torrenticola* (TERRY), *T. fluviatilis* WIRTH which breed in mountain torrents (WIRTH, 1947, 1949).

The new species lives above water level, on large, splashed stones covered with growths of filamentous green algae in the supralittoral zone of the brackish Gdańsk Bay — salinity 0.7–8‰ (figs. 1, 2). Larvae



1. Stones on which *Telmatogeton gedanensis* sp. n. has been found  
Głazy, na których znaleziono *Telmatogeton gedanensis* sp. n.



2. Baltic shore of Gdańsk Bay in Gdynia-Orłowo (Kępa Redłowska)  
Brzeg Bałtyku nad Zatoką Gdańską w Gdyni-Orłowie (Kępa Redłowska)

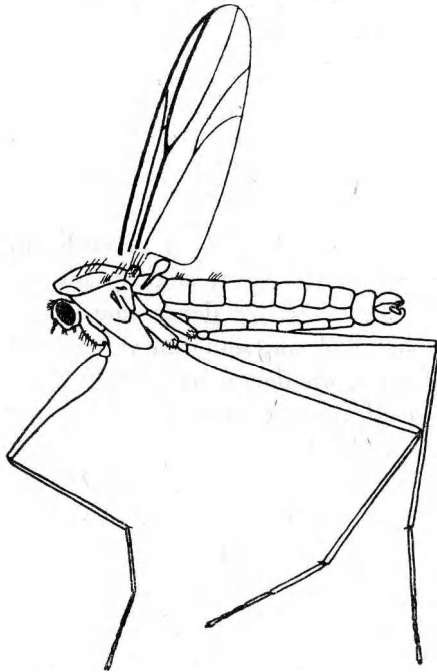
and pupae reside in cases among algae on the opening to the sea, vertical walls of stones; imagines run only on these stones.

This is the first record of the genus from Europe.

*Telmatogeton gedanensis* sp. n.

Male (fig. 3). General colour brownish-black, antennae and palpi brownish, halteres yellowish-white. Length, 3.6–4.2 mm.

Antennal pedicellus rectangular, about 1.5 times as long as broad, with large bristles (fig. 4); flagellum with six flagellomeres; first flagellomere about twice as long as broad at tip, constricted at middle; second to fifth flagellomeres subspherical; last flagellomere three times as long as broad at base, tapered gradually to a narrow tip, often with a slight constriction forming a slender nipple (fig. 5). Palpi with one short, fingerlike segment, tapered to a narrow tip, and with fine setae. Clypeus prominent, with long bristles. Labellae prominent, extending past tips of palpi; the apices with dense fine setae. Vertex flattened, with rows of long orbital and postorbitals bristles.



3. *Telmatogeton gedanensis* sp. n., ♂

Mesonotum broad, arched anteriorly and overhanging the head; several (probably 2-4) notopleural bristles; and 4-6 dorsocentral setae anteriorly, and 2-4 in front of scutellum. Scutellum with long bristles, longer than length of scutellum; postscutellum bare.

Wings with venation as in fig. 6; anterior veins thickened and darkened; costa with dense fine setae;  $R$  and  $R_1$  with about twenty minute setae,  $R_{4+5}$  with about ten microsetae toward tip; crossvein  $r-m$  situated near middle of wing just distal of the fork between  $M_{3+4}$  and  $Cu_1$ .

Legs long; ratio of segments as follows:

|          | Cx | Tr | Fe  | Ti  | T <sub>1</sub> | T <sub>2</sub> | T <sub>3</sub> | T <sub>4</sub> | T <sub>5</sub> |
|----------|----|----|-----|-----|----------------|----------------|----------------|----------------|----------------|
| fore leg | 45 | 15 | 160 | 145 | 70             | 27             | 15             | 14             | 21             |
| mid leg  | —  | —  | 220 | 175 | 60             | 20             | —              | 12             | 20             |
| hind leg | —  | —  | 230 | 185 | 76             | 38             | 14             | 13             | 20             |

Coxae large, with dense, long setae anteriorly; coxae of fore legs with large pointed projection (fig. 7), others simple; femora of fore legs thickened at base, very slender distally. Femora, tibiae and tarsi with dense, fine setae throughout. Tibiae of the anterior four legs each with a single spur which is quite straight; on the hind legs two tibial spurs. Fifth tarsal segment deeply trilobed, the median lobe nearly as long as proximal section of segment; claws of all tarsi similar, asymmetrical and furcated; flattened arms serrated; empodium simple, as long as the median lobe; on the base of claws a very fine and long bristle, as long as claws (fig. 8).

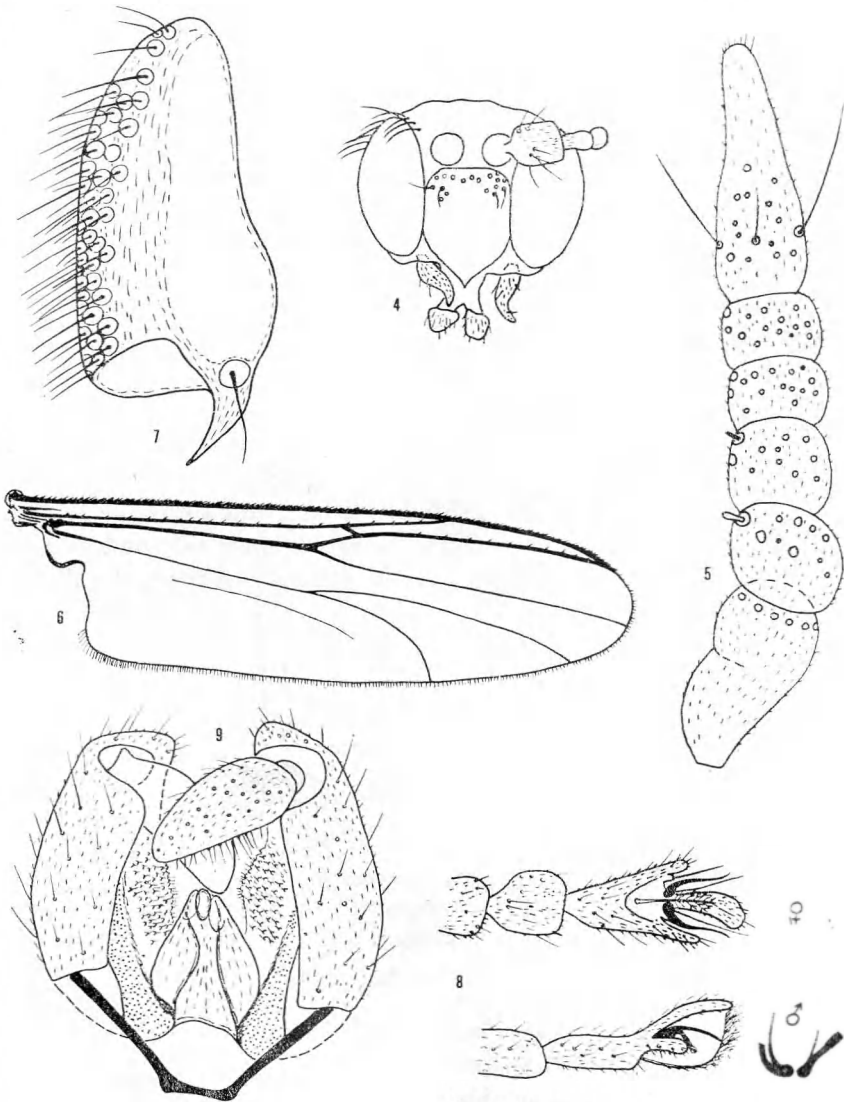
Abdomen with minute setae, only on two first tergites several longer setae.

Male genitalia (fig. 9) rotated between seventh and eighth segments about 90°. Gonocoxites simple, stout, slightly longer than broad with verrucosed ventral field covered by dense fine setae. Gonostyli ovoid, simple — without hooks or claws; setae on ventral side vertical or back directed, longer than setae on dorsal side. Parameres as plates arising between bases of gonocoxites with recurved apices flanking a cylindrical, sclerotized penis sheath. Tenth sternum (sternapodema) distinct.

Female. Similar to male in colour and general characteristics. Length, 3.6-4.2 mm. Tarsal claws simple, long and sharp (fig. 8).

Ratio of legs segments as follows:

|          | Cx | Tr | Fe  | Ti  | T <sub>1</sub> | T <sub>2</sub> | T <sub>3</sub> | T <sub>4</sub> | T <sub>5</sub> |
|----------|----|----|-----|-----|----------------|----------------|----------------|----------------|----------------|
| fore leg | 33 | —  | 105 | 97  | 55             | 22             | 13             | 12             | 20             |
| mid leg  | —  | —  | 155 | 110 | 50             | 20             | 12             | —              | 20             |
| hind leg | —  | —  | 190 | 135 | 72             | 35             | 13             | 11             | 20             |



4-9. *Telmatogeton gedanensis* sp. n.

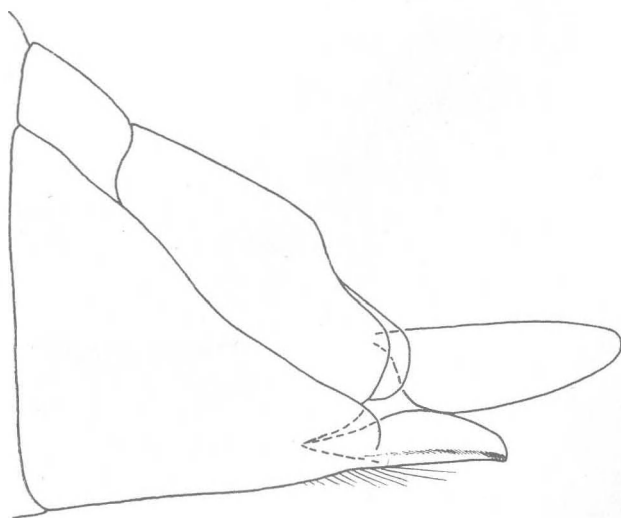
4 - front of the head, 5 - flagellum, 6 - wing, 7 - coxa of the fore leg. (4-7 male),  
8 - last segment of tarsi of male and female with claws, 9 - male genitalia

4 - głowa z przodu, 5 - wić, 6 - skrzydło, 7 - biodro pierwszej pary nóg (4-7 samiec),  
8 - ostatni segment stóp samca i samicy z pazurkami, 9 - aparat kopolacyjny samca

Genital segments bare, with fine pubescence only, and several longer setae on VIII gonosternite. Cerci large and narrow about 2.5–3 times as long as broad. VIII gonosternite with large gonapophysis which reaches to middle of cerci (fig. 10).

Larva. Length, mature about 10 mm. Colour, olivaceous green; head capsule brown; cervical border, mentum, mandibular teeth and hooks of posterior pseudopods black.

Head oval, slightly tapering to anterior and dorsoventrally flattened. Frontoclypeal suture present. Frons with two pairs of small setae on lateral margins, the first near anterior corner and the second in distal half, before the seta just standing lateral of suture opposite. Antennae stout, short and four segmented; stout basal segment a little longer as broad, bearing a small second and two minute distal segments and an opposing Lauterborn's organ adjacent to and almost as long as these; one ring shaped organ. Apex of premandible flattened and curved, with three blunt teeth. Mandible (fig. 11) heavy and stout with six blunt, distal teeth, a long hyaline seta arising near base and appressed to them; mesal brush composed of several fine hairs on inner side and two long setae on outer margin. Mentum heavily sclerotized and triangular distally,

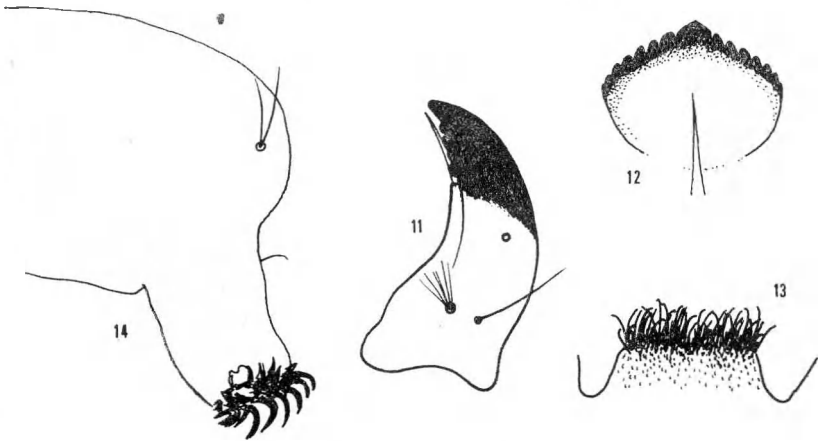


10. Lateral view of female genitalia of *Telmatogelon gedanensis* sp. n. Aparat genitalny samicy *Telmatogelon gedanensis* sp. n. z boku

with fifteen teeth; the median tooth broad, with a triangular, blunt apex (fig. 12).

Prothoracic pseudopod (fig. 13) not bilobed, with dense black hooks distally, these progressively reduced to minute spines on posterior margin. Thorax and abdomen devoid of setae except a pair of preanal setae, and one on posterior margin of posterior pseudopods, preanal papillae absent (fig. 14). Posterior pseudopods short, crowned by large curved hooks. Anal gills absent.

Pupa. Length about 6.5 mm. Cephalothorax, legs and wings cases amber-brown.

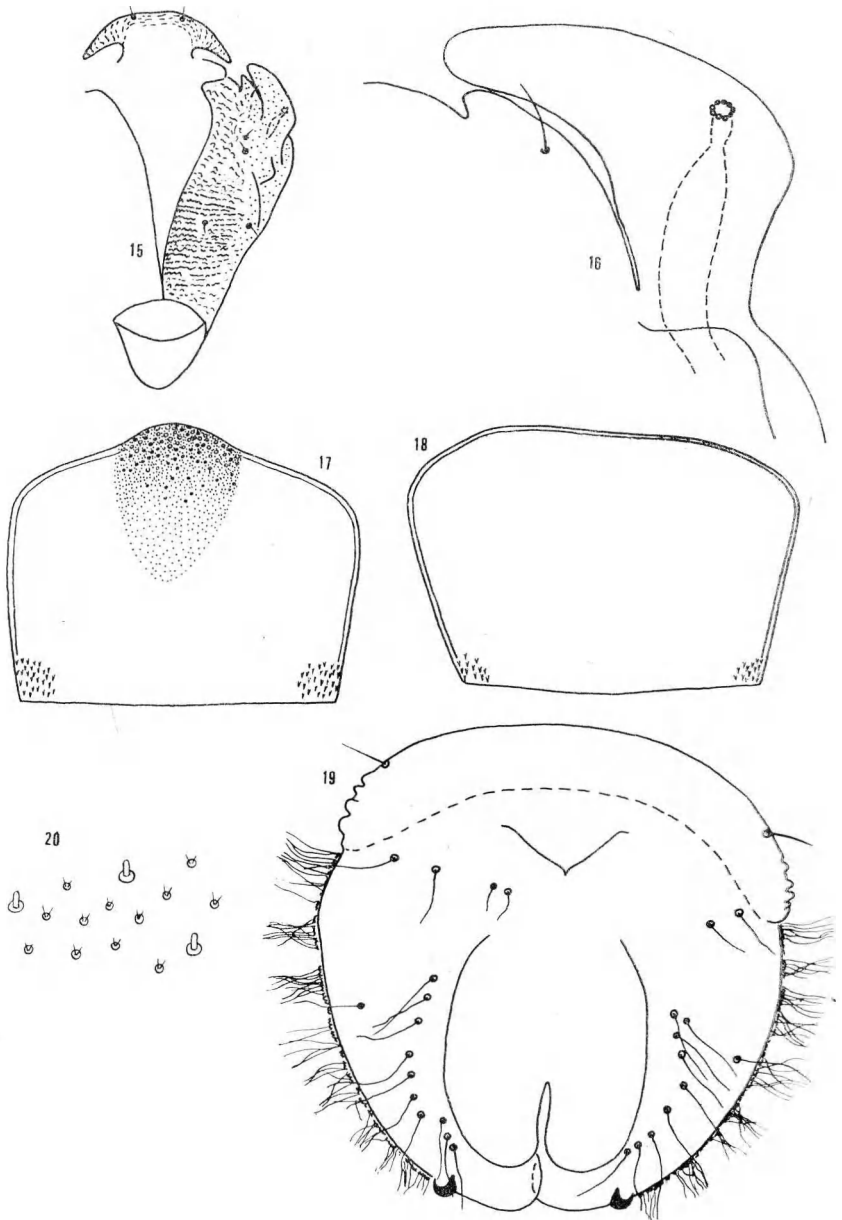


11-14. *Telmatogeton gedanensis* sp. n., larva

11 — mandible, 12 — mentum, 13 — prothoracic pseudopods, 14 — posterior pseudopod  
11 — żuwaczka, 12 — warga dolna, 13 — zrośnięte nóżki przednie, 14 — nóżka tylna

Thorax with marked transverse, irregular, rugose integumental thickenings. Anterior margin of cephalic lobe somewhat incised, with two setae. Thorax dorsally with five setae on each side as in fig. 15. A prominent, forward projecting, prothoracic respiratory organ arising from humeral corner; the spiracle opening dorsally before halfway to apex (fig. 16).

Tergites and sternites of 2-7 abdominal segments unsclerotized except for narrow U-shaped lines bordering anterior and lateral margins, second with weakly marked line. Third sternite with a prominent median, brown, shagreened patch on anterior margin (fig. 17). Third to seventh sternites



15–20. Pupa of *Telmatogeton gedanensis* sp. n. 15 – thorax dorsally, 16 – respiratory horn, 17 – third sternite, 18 – fifth tergite, 19 – terminal abdominal disc (ventral), 20 – covering of dorsal side of terminal disc



and tergites of abdominal segments with a pair of small patches covered by minute spines at posterior ends of lateral lines (fig. 18).

Terminal abdominal disc (fig. 19) as broad as long, sclerotized, amber-brown; about nine to ten setae in a row on the ventral side on each side of the genital lobes; lateral margins with numerous, fine amber coloured hairs; caudal apex between the strong curved hooks is smooth and bilobed; dorsal side of disc covered by minute microsetae, inserted in pairs in pits and rarely by blunt brownish spines (fig. 20).

Holotype, male (*Telmatogeton* No. prep. 5); allotype, female (*T.* No. prep. 4) — Baltic Sea, Gdańsk Bay, shore in Gdynia-Orłowo, 12. VI. 1975, SZADZIEWSKI leg. Paratypes: 8 males, 5 females, 6 larvae, 4 pupae, VI–VIII 1975, other data as type. Holotype, allotype and paratypes are in my own collection.

*Telmatogeton gedanensis* sp. n. is most closely allied to *T. japonicus* TOKUNAGA (TOKUNAGA, 1933, 1935) which it closely resembles, particularly in the structure of the antennae, wing venation, male genitalia and structure of tarsal claws. It differs especially in the one-segmented palpi and fore legs with a projection. In the Chilean species such as *T. trochanteratum* EDWARDS there are projections on the legs but on the middle trochanter. Larvae and pupae do not distinctly differ from those of the other species of the genera *Telmatogeton* and *Paraclunio* KIEFF.

#### KEY TO THE PALAEARCTIC SPECIES OF THE GENUS *TELMATOGETON*

1. — Coxae of fore legs with a long, pointed projection; palpi one segmented . . . . . *T. gedanensis* sp. n. . . . .
- Coxae of fore leg without a long, pointed projection; palpi two segmented . . . . . 2
2. — Crossvein *r-m* situated before the middle of wing, fork between  $M_{3+4}$  and  $Cu_1$  beyond the *r-m*, empodium biramous at tip. . . . . *T. pacificus* TOKUNAGA, 1935 (Japan)
- Crossvein *r-m* situated at middle of wing, fork between  $M_{3+4}$  and  $Cu_1$  just proximal of the *r-m*, empodium simple . . . . . *T. japonicus* TOKUNAGA, 1933 (Japan)

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15–20. Poczwarzka *Telmatogeton gedanensis* sp. n. 15 — dorsalna strona tułowia, 16 — wyrostek oddechowy, 17 — trzeci sternit, 18 — piąty tergit, 19 — płytka analna, 20 — pokrycie górnej powierzchni płytki analnej

## STRESZCZENIE

Praca zawiera opis nowego ochotka morskiego — *Telmatogeton gedanensis* sp. n., który został znaleziony na kamieniach w supralitoralu Zatoki Gdańskiej.

Opisano samca, samicę, larwę i poczwarkę. Podano klucz do oznaczania imagines gatunków palearktycznych tego rodzaju.

Jest to pierwsze stwierdzenie rodzaju *Telmatogeton* w Europie.

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