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TANAIDACEA (CRUSTACEA: PERACARIDA) OF THE GULF OF MEXICO. V. THE FAMILY PSEUDOTANAIDAE FROM LESS THAN 200 METERS, WITH THE DESCRIPTION OF *PSEUDOTANAIS MEXIKOLPOS,* N. SP. AND A KEY TO THE KNOWN GENERA AND SPECIES OF THE WORLD

Jürgen Sieg and Richard W. Heard

Abstract.—No published records exist for pseudotanaid tanaidaceans in the Gulf of Mexico. In this study three species, *Iungentitanais primitivus* (Sieg, 1973), *Pseudotanais mortenseni* Sieg, 1973, and *P. mexikolpos,* n. sp. are reported from the Gulf or immediately adjacent waters of the Florida Keys. *Iungentitanais primitivus* and *P. mortenseni* were previously known only from their type localities, both at San Thomas Harbor in the West Indies. *Pseudotanais mexikolpos* is described from a single location in the West Flower Garden Banks off Texas. It most closely resembles two Mediterranean species, *P. mediterraneus* G. O. Sars, 1882, and *P. unicus* Sieg, 1977. It can be separated from *P. mediterraneus* by having a much longer disto-sternal seta on the propodus of peraeopods 4–6 and from *P. unicus* by its shorter cephalothorax and distinctly larger peraeopod 3. A key to the five known genera and 25 described species of the family is included and taxonomic problems concerning several species are briefly discussed.

There are no published records of the tanaidacean family Pseudotanaidae for the Gulf of Mexico. Of the 24 described species only three, *Iungentitanais primitivus* (Sieg, 1973), *Pseudotanais kurchatovi* Kudinova-Pasternak & Pasternak, 1978, and *P. mortenseni* Sieg, 1973, have been reported from the Caribbean region. During the past 10 years, three species of pseudotanaids were collected from less than 200 m in conjunction with several environmental baseline studies conducted in the Gulf of Mexico and the immediately adjacent waters of the Florida Keys. These specimens were made available to us for study and are the subject of this report.

The family Pseudotanaidae was originally established by Sieg (1973, 1977) for those species having a marsupium formed by a single pair of sheet-like oostegites. As in all other tanaidaceans except the Tanaidae, the eggs develop between the oostegites. The Tanaidae are the only other family with one pair of oostegites. This group is unique, however, in having the oostegites transformed into sack-like structures, termed "ovisacs" by Lang (1960), in which the eggs are incubated (see Sieg 1980, 1984; Johnson & Attramadal 1982). Other characters of the Pseudotanaidae given by Sieg (1977) were the: (1) reduced size of the first two peraeonites, (2) maxilliped with basis completely fused, (3) first antenna of females with 3 or 4 segments, and (4) mandibles with pars molaris reduced.

Males are known only for the genus *Pseudotanais* G. O. Sars, 1882. They are rarely collected and are distinctly dimorphic, with

a body shape similar to the males of *Leptognathia* and *Typhlotanais*. The pleon is strongly enlarged and distinctly longer than one-third of the total body length (rostrum to tip of telson); whereas in females the pleon is approximately one-fifth of the total body length (Fig. 1: *Pseudotanais*). Each pleonite contains large bundles of dorso-ventral musculature to move the strongly developed pleopods which are characteristic of all males, even for those species in which the females lack pleopods. The first antenna has 7 segments with the first 2 dorsoventrally depressed and probably functioning as a unit. The third peduncle segment is distinctly smaller and movable. The four flagellar segments each bear aesthetascs distally (segments 1–3 with a cluster of aesthetascs and segment 4 with a single terminal aesthetasc). The second antenna is like that of the female. The mouthparts are lacking except for the maxilliped, which is slightly smaller than that of the female. Unlike the female the lateral margins of the maxilliped are fused with the carapace fold. The chelipeds are slightly larger, and the peraeopods and uropods appear more slender than in the female.

In a monograph of the family, Sieg (1977) grouped the known species into two subfamilies, the Cryptocopinae and the Pseudotanainae. The Cryptocopinae is represented by four genera: *Cryptocope* G. O. Sars, 1882; *Cryptocopoides* Sieg, 1977; *Iungentitanais* Sieg, 1977; and *Paraiungentitanais* Sieg, 1977. The subfamily Pseudotanainae has only the type genus, but contains most of the family's described species. Sieg (1977) also divided the genus *Pseudotanais* into the subgenera *Pseudotanais,* s.s. and *Akanthinotanais* Sieg, 1977.

Since 1977 three species of *Pseudotanais,* two species of *Cryptocopoides,* and two species of *Cryptocope* have been described: *Pseudotanais guillei* Shiino, 1978, from the Kerguelen Islands; *P. kurchatovi* Kudinova-Pasternak & Pasternak, 1978, from deep water in the Caribbean, and *P. siegi* Kudinova-Pasternak, 1985, from the North Atlantic; *Cryptocopoides rostralis* Tzareva, 1982, which was transferred to the genus *Typhlotanoides* Sieg, 1983 (Sieg 1986a:102) and *Cryptocopoides rotundata* Tzareva, 1982 (which was synonymized with the neuter of *Mirandotanais vorax* Kussakin & Tzareva, 1974 by Sieg 1986a:138–139). Within *Cryptocope* Kudinova-Pasternak (1982) described *C. longa* and *C. vitjazi,* both from the deep waters of the Mediterranean Sea. Finally, Kudinova-Pasternak & Pasternak (1978:187–188) mentioned a specimen of *Cryptocope* sp. from deep water in the Caribbean Sea, but with reservations they later reassigned it to the genus *Leptognathia* G. O. Sars, 1882 (Kudinova-Pasternak & Pasternak 1981:117).

A key to the known genera and all the described species of the family is presented here. For bibliographic, taxonomic, and zoogeographic information see Sieg (1983). For terminology refer to Sieg (1977, 1980).

The following abbreviations are used in the key and figures: A.1 = first antenna, A.2 = second antenna, L = labrum, Md(r) = right mandible, Md(l) = left mandible, Mx.1 = first maxilla, Mx.2 = second maxilla, La = labium (paragnaths), Mxp = maxilliped, Epi = epignath (=maxillipedal epipodite), Che = cheliped, P.1–P.6 = peraeopod 1 to peraeopod 6, Pl.1–Pl.5 = pleopod 1 to pleopod 5, Plt = pleotelson, and Uro = uropod.

Key to the Genera and Species of Pseudotanaidae

1. A.1 7-segmented (Fig. 1: *Pseudotanais*) ..... males
– A.1 4- or 3-segmented 2
2. A.1 4-segmented (Fig. 1: subfamily Cryptocopinae) 3
– A.1 3-segmented (Fig. 1: subfamily Pseudotanainae) 6
3. Pleopods reduced, without setae (Fig. 1: Pl.3); Mx.1 with 9 terminal spines ..... *Cryptocope abbreviata* (G. O. Sars, 1868)

– Pleopods well developed and with setae; Mx.1 with 5 short or 9 longer terminal spines 4

4. Cheliped slender, with carpus and propodus elongate (Fig. 1: Che.1, Che.2); A.1 elongate; pleopodal endopodite with one distal inner seta and exopodite with pilose proximal seta (Fig. 1: Pl.1) 5

– Cheliped (Fig. 1: Che.3) and A.1 stout; pleopodal exopodite and endopodite each only with some distal outer setae (Fig. 1: Pl.2) ..... *Cryptocopoides arcticus* (Hansen, 1913)

5. Without eyes (Fig. 1); cheliped with carpus 4 times as long as broad (Fig. 1: Che.2); Mx.1 with 9 well developed terminal spines ..... *Paraiungentitanais longidigitatus* (Kudinova-Pasternak, 1975)

– With eyes (Fig. 1); cheliped with carpus 5 times as long as broad (Fig. 1: Che.1); Mx.1 with 5 small terminal spines ..... *Iungentitanais primitivus* (Sieg, 1973)

6. Carpal spines of P.2–P.6 of typical shape (Fig. 1: 1 subgenus *Akanthinotanais*) 7

– Carpus of P.2–P.6 with 1 transformed blade-like spine (Fig. 1: 2 subgenus *Pseudotanais* s. str.) ... 14

7. With eyes; pars molaris always pointed 8

– Without eyes; pars molaris pointed or ending in several blunt processes 12

8. Merus of P.4–P.6 with 2 short spine-like setae of equal size 9

– Merus of P.4–P.6 with 1 short and 1 long spine-like seta 10

9. Uropodal exopodite nearly as long as endopodite ..... *Pseudotanais gerlachi* Sieg, 1977

– Uropodal exopodite only slightly longer than first segment of endopodite ..... *Pseudotanais malayensis* Sieg, 1977

10. Cheliped with carpus elongate (at least 2.5 times longer than broad) and elongate chela (Fig. 1: 4); ischium of P.3–P.6 with 1 long seta 11

– Carpus of cheliped stout (less than twice as long as broad) and chela of typical shape (Fig. 1: 3); ischium of P.3–P.6 with short seta ..... *Pseudotanais guillei* Shiino, 1978

11. Peraeonites 4 and 5 relatively small, broader than long, lateral margins convex ..... *Pseudotanais mortenseni* Sieg, 1977

– Peraeonites 4 and 5 large, at least as long as broad, lateral margins straighter, with a protuberance at articulation of peraeopods ..... *Pseudotanais siegi* Kudinova-Pasternak, 1985

12. Cheliped with carpus elongate (about 3.5 times longer than broad) and elongate chela (Fig. 1: 4); pars molaris with several blunt processes (Fig. 1: 9) ..... *Pseudotanais longipes* Hansen, 1913

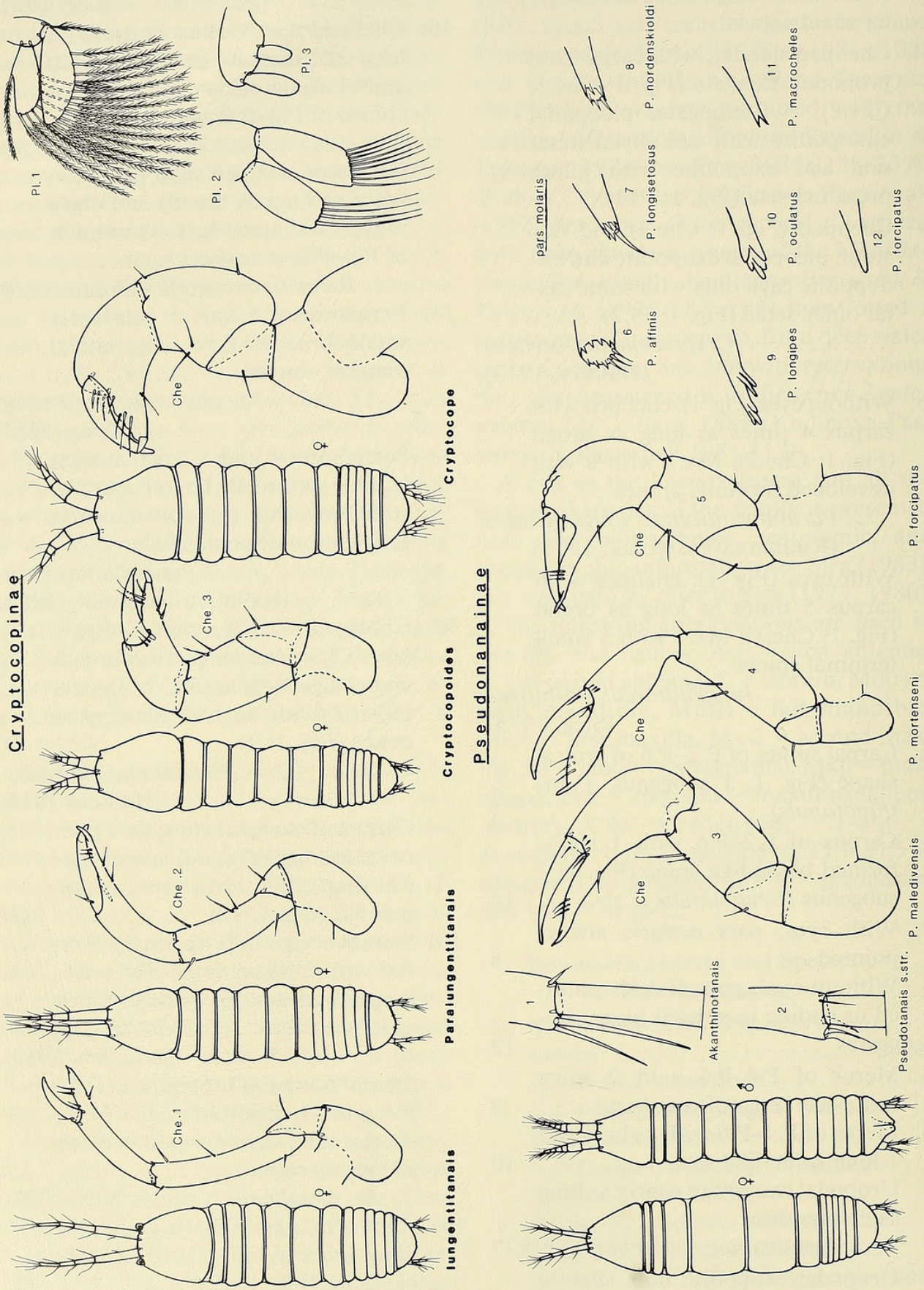
– Carpus of cheliped stout (less than twice as long as broad) and of typical shape (Fig. 1: 3); pars molaris pointed (Fig. 1: 12) 13

13. Sternal border of propodus in P.4–P.6 with 2 distal spine-like setae, longer than claw; propodus 3 times as long as claw .. *Pseudotanais gaussi* Vanhöffen, 1914

– Sternal border of propodus in P.4–P.6 with 1 distal spine-like seta, shorter than claw; propodus twice as long as claw ..... *Pseudotanais similis* Sieg, 1977

14. With eyes; pars molaris ending in blunt processes (Fig. 1: 10) or simple point (Fig. 1: 12) 15

– Without eyes; pars molaris of vari-


Cryptocopinae
Pl. 1
Pl. 2
Pl. 3
Che
Che .1
Che .2
Che .3
♀
Iungentitanais
Paralungentitanais
Cryptocopoides
Cryptocope
Pseudonannainae
pars molaris
Che
1
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Akanthinotanais
Pseudotanais s.str.
P. maledivensis
P. mortenseni
P. forcipatus
P. affinis
P. longisetosus
P. nordenskioldi
P. longipes
P. oculatus
P. macrocheles
Pseudotanais

able shape (broad with several spine-like setae; thin with several pointed or blunt processes; bifurcate or simple point (Fig. 1: 6–8, 11–12) 18

15. Pars molaris ending in several blunt spine-like processes (Fig. 1: 10) ..... *Pseudotanais oculatus* Hansen, 1913 (syn. *Paratanais nanaimoensis* Fee, 1927)
- Pars molaris pointed (Fig. 1: 12) 16

16. Cephalothorax longer than broad; P.3 distinctly smaller than P.2 ..... *Pseudotanais unicus* Sieg, 1977
- Cephalothorax broader than long, P.3 as large as P.2 17

17. Propodus of P.4–P.6 distally with one long sternal seta, distinctly longer than claw ..... *Pseudotanais mexikolpos,* n. sp.
- Propodus of P.4–P.6 with one sternal distal seta, about as long as claw ..... *Pseudotanais mediterraneus* G. O. Sars, 1882

18. Pleopods present 20
- Pleopods absent 19

19. Chela with a gap between fixed finger and articulation of dactylus (Fig. 1: 5); pars molaris pointed (Fig. 1: 12) .. *Pseudotanais forcipatus* (Lilljeborg, 1864)
- Cheliped without gap between fixed finger and articulation of dactylus (Fig. 1:3); pars molaris with 3 blunt processes .... *Pseudotanais lilljeborgi* G. O. Sars, 1882

20. Chela with a gap between fixed finger and articulation of dactylus (Fig. 1: 5); pars molaris pointed (Fig. 1: 12) 21
- Chela without gap between fixed finger and articulation of dactylus (Fig. 1: 3); pars molaris not pointed 22

21. Exopodite of uropod at most as long as first segment of endopodite; endite of maxilliped completely fused medially, without notch or setae ... *Pseudotanais jonesi* Sieg, 1977
- Exopodite of uropod distincly longer than first segment of endopodite; endite of maxilliped with 1 pair of small setae on each side of the disto-medial notch .... *Pseudotanais abyssi* Hansen, 1913

22. Pars molaris bifid (Fig. 1: 11) ... . *Pseudotanais macrocheles* G. O. Sars, 1882
- Pars molaris broad or tapered, but always with several pointed processes (Fig. 1: 6–8) 23

23. Pars molaris broad, with 3 small distal setae in addition to pointed processes (Fig. 1: 6) .... *Pseudotanais affinis* (Hansen, 1887)
- Pars molaris tapered, without distal setae 24

24. Endopodite and exopodite of uropod nearly equal in length (pars molaris tapered and with several pointed processes of nearly equal size) ..... *Pseudotanais vitjazi* Kudinova-Pasternak, 1966
- Exopodite of uropod distinctly shorter than endopodite 25

25. Pars molaris with 1 process distinctly longer than others (Fig. 1: 7); carpus of P.4–P.6 with 1 long sternal seta (as long as propodus) *Pseudotanais longisetosus* Sieg, 1977
- Pars molaris with all processes of nearly equal size (Fig. 1: 8); carpus of P.4–P.6 with short sternal seta

←

Fig. 1. Major characteristics of the different pseudotanaid subfamiliar taxa.

..... *Pseudotanais nordenskioldi* Sieg, 1977

Remarks.—Two species recently referred to the genus *Cryptocope, C. longa* Kudinova-Pasternak, 1982, and *C. vitjazi* Kudinova-Pasternak, 1982, are not included in the key, since they both appear to be most closely related to *Leptognathia* (Leptognathiinae). Both species differ distinctly from the described species of *Cryptocope* in the overall shape of the body and chela, the morphology of the pars incisiva, and the setation of the pleopods. The pars incisiva in *Cryptocope* is deeply incised while those of *Leptognathia* spp., *C. longa* and *C. vitjazi* are only slightly crenulated (see Sieg 1986b; Kudinova-Pasternak 1982:figs. 3, 4). The pleopodal exopodite and endopodite of *Cryptocope* only have distal setae (see Sieg 1977), whereas those of *C. longa* and *C. vitjazi* like *Leptognathia* spp. also each bear one proximal seta (see Kudinova-Pasternak 1982:figs. 3, 4). Based on these observations, we tentatively transfer *C. longa* and *C. vitjazi* to the genus *Leptognathia,* as diagnosed by Sieg (1986b).

Pseudotanais borceai Bačescu, 1960, is not included in the key because of apparent inconsistencies in the original and only description. The type material has been lost (Bačescu, pers. comm.), and at present it is not possible to determine its taxonomic status. Additional specimens from the type locality are needed to clarify this problem.

We also excluded *P. kurchatovi* Kudinova-Pasternak & Pasternak, 1978 from the key because it does not belong to *Pseudotanais.* Our reasons are based on the following criteria. In their original description Kudinova-Pasternak & Pasternak (1978: 188–190, fig. 5) described and illustrated the antenna 1 with the second segment short and annular as well as the third segment being distinctly longer. In all other known species of *Pseudotanais* the second segment is nearly as long as the third. Other morphological differences that make the systematic position of *P. kurchatovi* uncertain are: (1) the shape of the cheliped (especially that of the chela), (2) the proportion of peraeonites (peraeonites 1 and 2 atypically long and peraeonites 4 and 5 atypically broad), (3) the shape of dactylus and its terminal spine on P.4–P.6 (in all other species of *Pseudotanais* a short claw is present while in *P. kurchatovi* the dactylus and spine are unfused with a combined length nearly equal to that of propodus), and (4) the shape of the pars molaris is more reminiscent of species belonging to the Typhlotanaidae rather than to the genus *Pseudotanais.*

It also should be mentioned that at least in *P. nordenskioldi* Sieg, 1977, *P. longisetosus* Sieg, 1977, and *P. oculatus* Hansen, 1913, the figures of the pars molaris given by Sieg (1977) are misleading, since there are no distinct spines or setae as illustrated (see Figs. 43, 46, 49). In these species the pars molaris ends in several spine-like teeth, not spines or setae.

Subfamily Cryptocopinae Sieg, 1977

Iungentitanais primitivus (Sieg, 1973)

Figs. 2–4, 12

Material. — FLORIDA MIDDLE GROUNDS: Sta 151, 28°32′13″N, 84°18′40″W, 25–28 Jun 1979, 31.3–33.0 m, coral reef, dive, 1 female, Marine Science Consortium (MESC) Cat. No. 6157-10495.—Same station, 15–19 Oct 1978, 1 female, MESC Cat. No. 6157-10499 and 2 females, Cat. No. 6157-10500.—Sta 481, 29°30′52″N, 84°18′59″W, 6–8 Oct 1978, 28.5–33.0 m, coral reef, dive, 1 female, MESC Cat. No. 6157-10496.—Same station, 14–18 Oct 1978, 1 female, MESC Cat. No. 6157-10498.—Sta 247, 28°32′16″N, 84°18′36″W, 26–30 Jan 1979, 31.3–33.0 m, coral reef, dive/grab, 1 female, MESC 281261.

FLORIDA KEYS: Pumpkin Creek, Key Largo, 25°19′N, 80°16′W, no depth information, 2 Jun 1981, 2 females, Invertebrate Zoology Collection of the Gulf Coast Re-

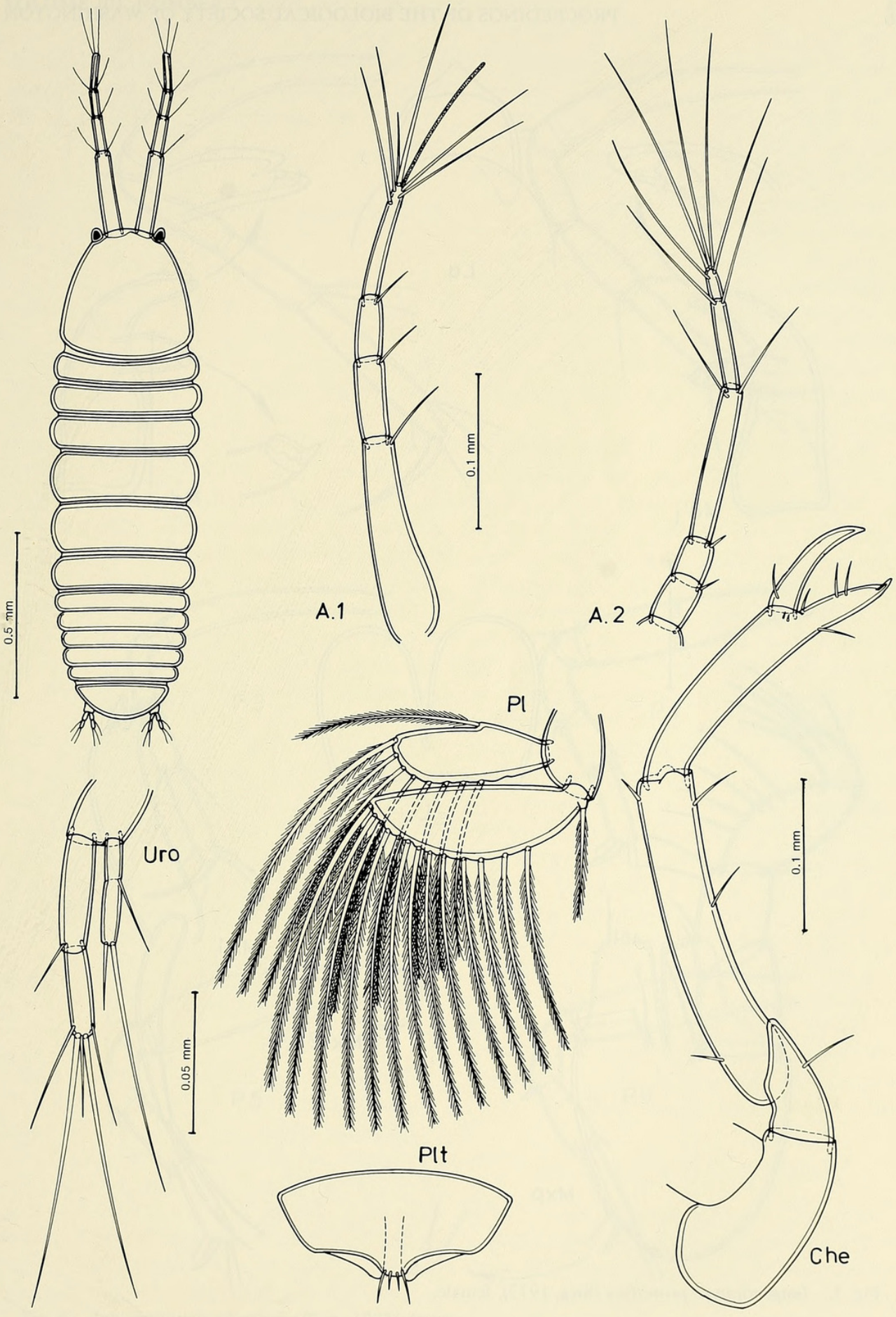

Fig. 2. *Iungentitanais primitivus* (Sieg, 1973), female.

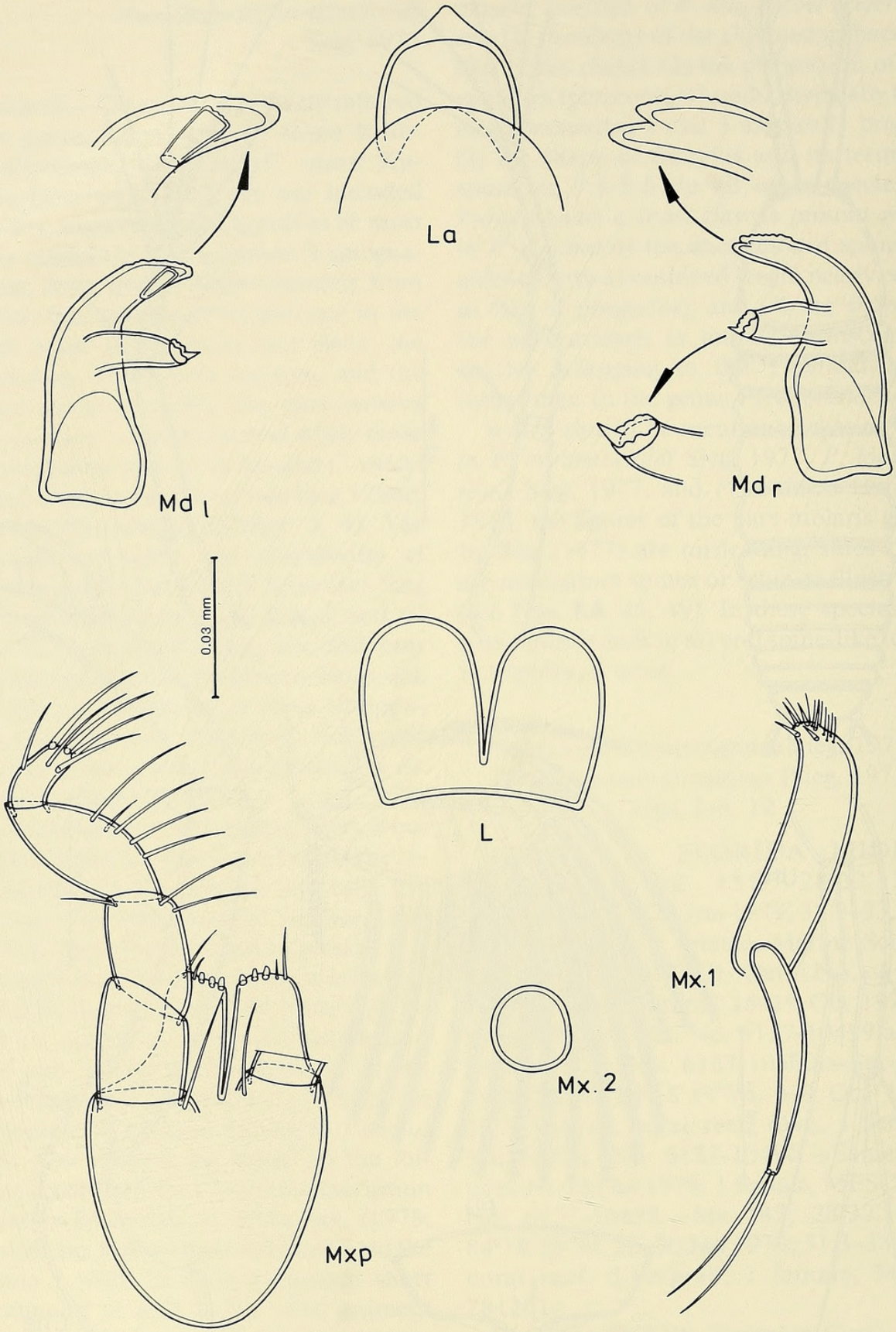

Fig. 3. *Iungentitanais primitivus* (Sieg, 1973), female.

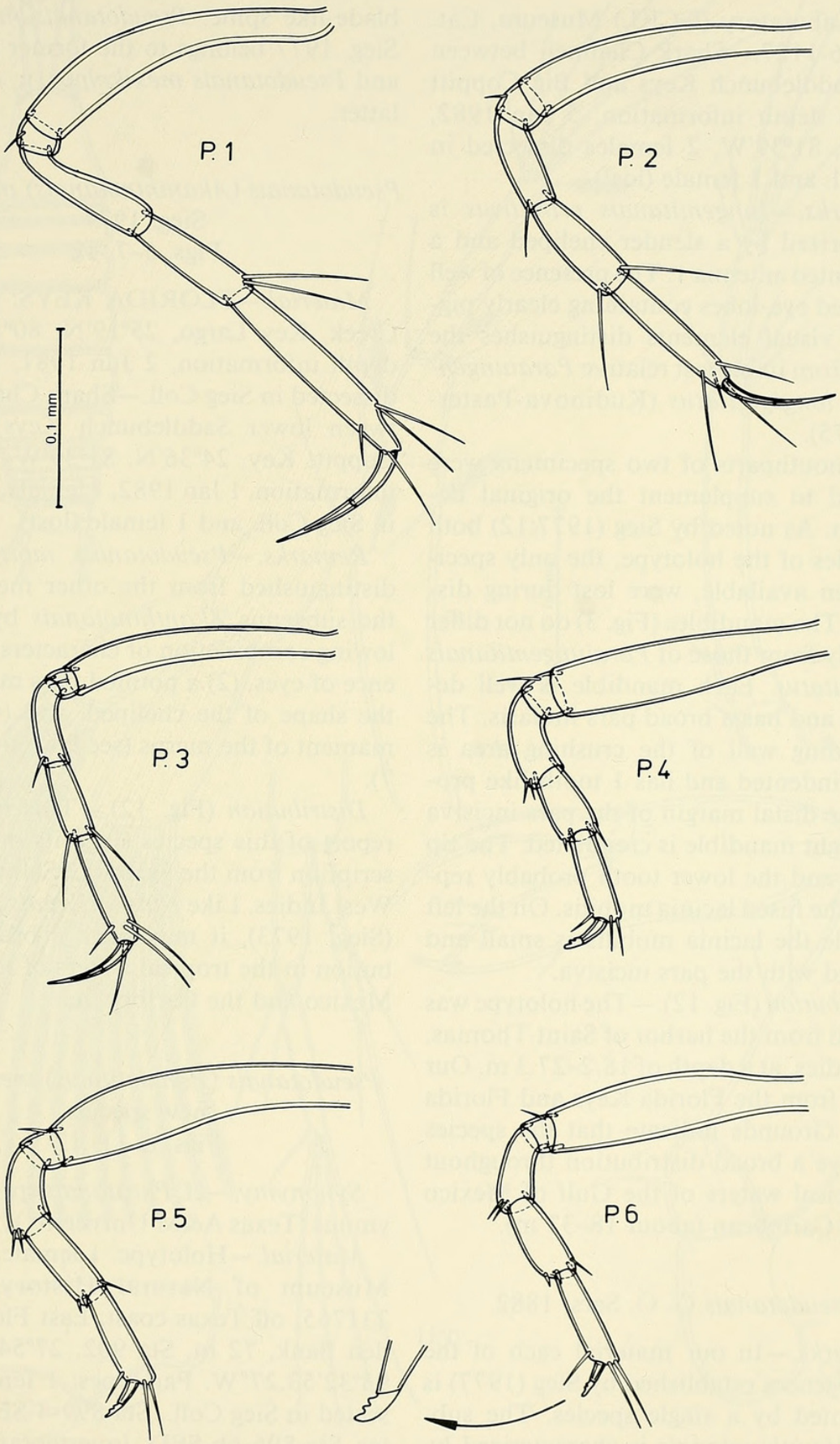

Fig. 4. *Iungentitanais primitivus* (Sieg, 1973), female.

search Laboratory (GCRL) Museum, Cat. No. I 86-1127.—Shark Channel, between lower Saddlebunch Keys and Big Coppitt Key, no depth information, 5 Jan 1982, 24°36′N, 81°39′W, 2 females dissected in Sieg Coll. and 1 female (lost).

Remarks.—*Iungentitanais primitivus* is characterized by a slender cheliped and a 4-segmented antenna 1. The presence of well developed eye-lobes containing clearly pigmented visual elements distinguishes the species from its closest relative *Paraiungentitanais longigigitatus* (Kudinova-Pasternak, 1975).

The mouthparts of two specimens were dissected to supplement the original description. As noted by Sieg (1977:12) both mandibles of the holotype, the only specimen then available, were lost during dissection. The mandibles (Fig. 3) do not differ markedly from those of *Paraiungentitanais longidigitatus.* Each mandible is well developed and has a broad pars molaris. The surrounding wall of the crushing area is slightly indented and has 1 tooth-like process. The distal margin of the pars incisiva of the right mandible is crenulated. The tip is bifid, and the lower tooth probably represents the fused lacinia mobilis. On the left mandible the lacinia mobilis is small and not fused with the pars incisiva.

Distribution (Fig. 12).—The holotype was collected from the harbor of Saint Thomas, West Indies, at a depth of 18.2–27.3 m. Our records from the Florida Keys and Florida Middle Grounds indicate that the species may have a broad distribution throughout the tropical waters of the Gulf of Mexico and the Caribbean (about 18–33 m).

Pseudotanais G. O. Sars, 1882

Remarks.—In our material each of the two subgenera established by Sieg (1977) is represented by a single species. The subgenus *Akanthinotanais* is characterized by having long meral spines on P.4–P.6 while *Pseudotanais,* s.s. has one transformed blade-like spine. *Pseudotanais mortenseni* Sieg, 1977 belongs to the former subgenus and *Pseudotanais mexikolpos,* n. sp. to the latter.

Pseudotanais (*Akanthinotanais*) *mortenseni* Sieg, 1977
Figs. 5–7, 12

Material.—FLORIDA KEYS: Pumpkin Creek, Key Largo, 25°19′N, 80°16′W, no depth information, 2 Jun 1981, 1 female, dissected in Sieg Coll.—Shark Channel, between lower Saddlebunch Keys and Big Coppitt Key, 24°36′N, 81°39′W, no depth information, 1 Jan 1982, 1 female, dissected in Sieg Coll. and 1 female (lost).

Remarks.—*Pseudotanais mortenseni* is distinguished from the other members of the subgenus *Akanthinotanais* by the following combination of characters: (1) presence of eyes, (2) a pointed pars molaris, (3) the shape of the cheliped, and (4) the armament of the merus (see key and Figs. 5–7).

Distribution (Fig. 12).—This is the first report of this species since its original description from the harbor of Saint Thomas, West Indies. Like *Iungentitanais primitivus* (Sieg, 1973), it may have a broad distribution in the tropical waters of the Gulf of Mexico and the Caribbean.

Pseudotanais (*Pseudotanais*) *mexikolpos,* new species
Figs. 8–11, 12

Synonymy.—cf. *Paratanais* sp. A., Anonymous (Texas A&M University), 1978:772.

Material.—Holotype: 1 female, National Museum of Natural History, USNM 231765; off Texas coast, East Flower Garden Bank, 72 m, Sta 902, 27°54′36.64″N, 93°32′53.27″W. Paratypes: 1 females, dissected in Sieg Coll., Sta 899-4-SED, 1 neuter, Sta 896-6b-SED, Invertebrate Zoology Collection of the Gulf Coast Research Laboratory Museum Cat. No.; 1 female, Sta

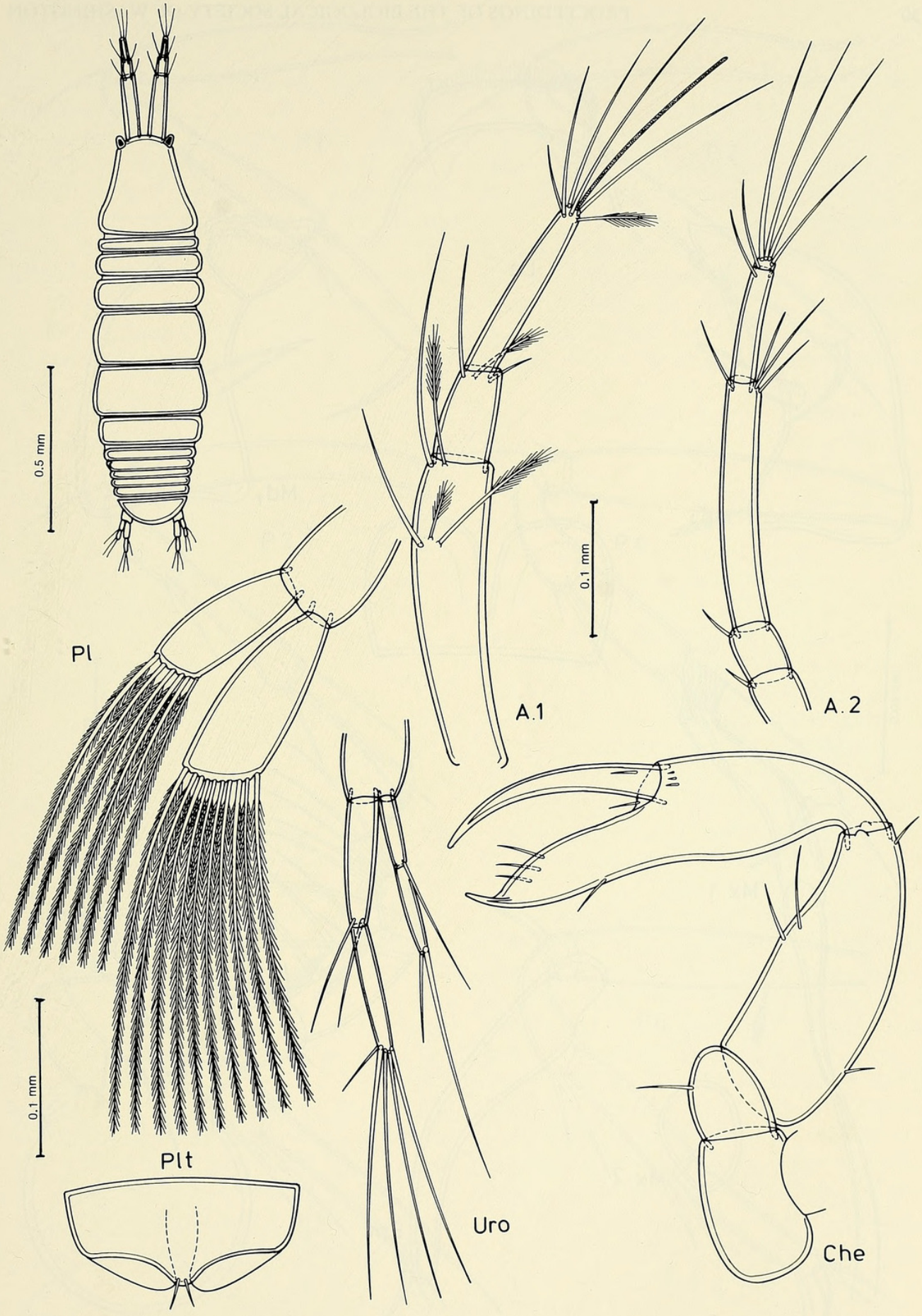

Fig. 5. *Pseudotanais mortenseni* Sieg, 1977.

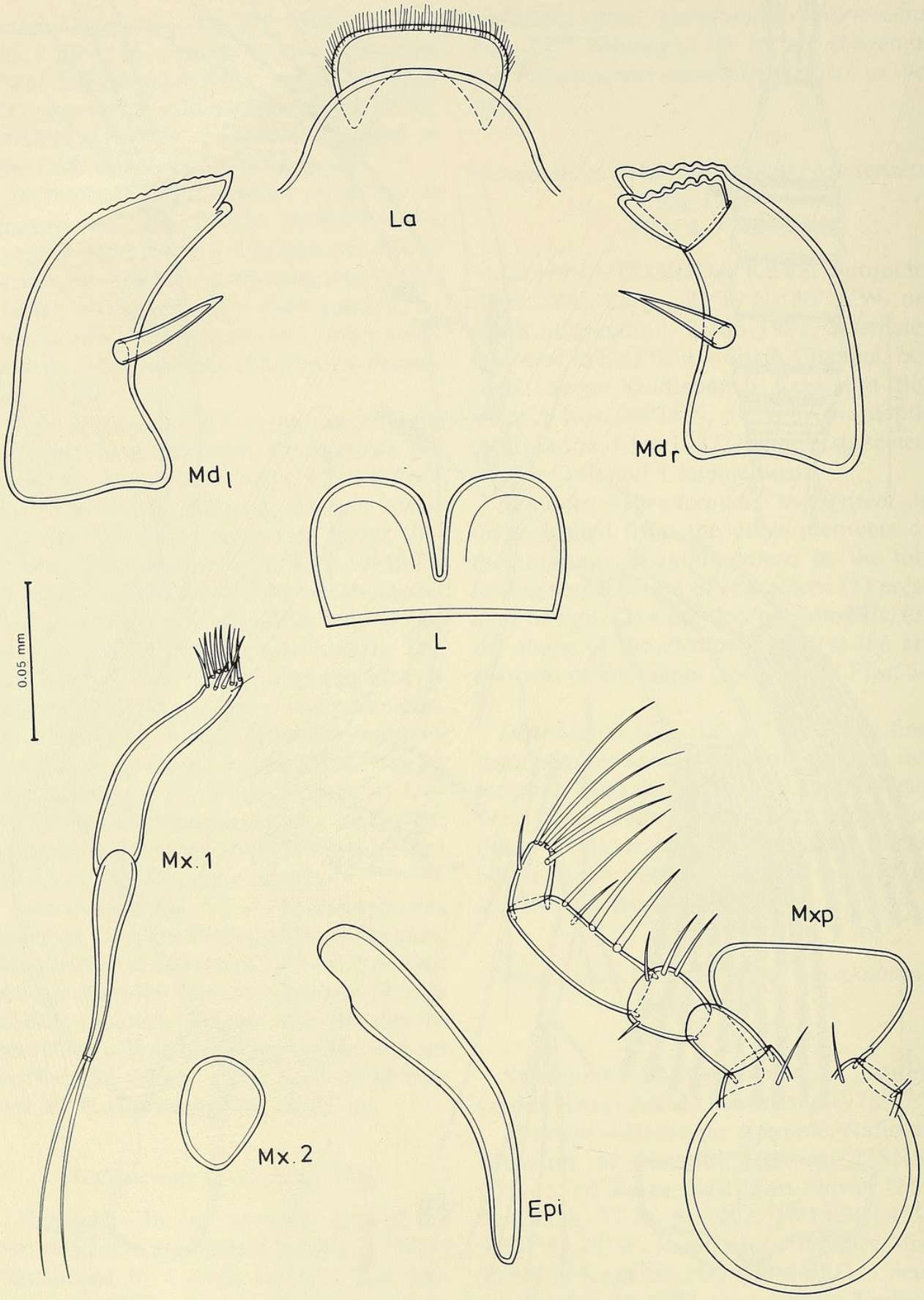

Fig. 6. *Pseudotanais mortenseni* Sieg, 1977.

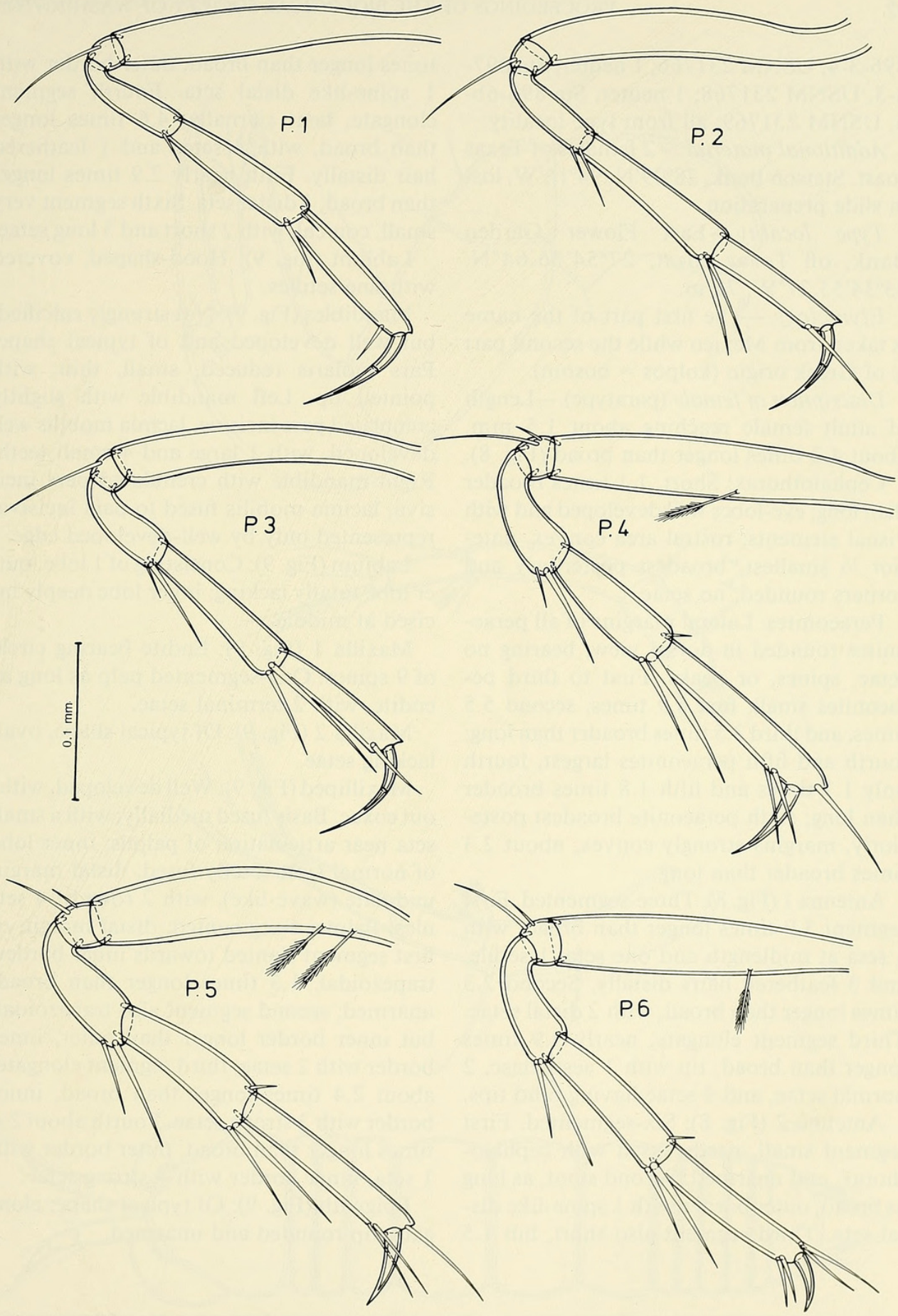

Fig. 7. *Pseudotanais mortenseni* Sieg, 1977.

896-3-4, USNM 231766; 1 neuter, Sta 897-8-3, USNM 231768; 1 neuter, Sta 896-6b-4, USNM 231769; all from type locality.

Additional material.—2 females of Texas coast, Stetson Bank, 28°09′N, 94°16′W, lost in slide preparation.

Type locality.—East Flower Garden Bank, off Texas coast, 27°54′36.64″N, 93°34′53.27″W, 72 m.

Etymology.—The first part of the name is taken from Mexico while the second part is of Greek origin (kolpos = bosom).

Description of female (paratype).—Length of adult female reaching about 1.5 mm, about 4.2 times longer than broad (Fig. 8).

Cephalothorax: Short, 1.1 times broader than long; eye-lobes well developed and with visual elements; rostral area convex, anterior ⅓ smallest, broadest posteriorly and corners rounded; no setae.

Peraeonites: Lateral margins of all peraeonites rounded in dorsal view, bearing no setae, spines, or peaks. First to third peraeonites small, first 6.9 times, second 5.5 times, and third 3.5 times broader than long; fourth and fifth peraeonites largest, fourth only 1.7 times and fifth 1.8 times broader than long; sixth peraeonite broadest posteriorly, margins strongly convex, about 2.3 times broader than long.

Antenna 1 (Fig. 8): Three-segmented. First segment 3.9 times longer than broad, with 1 seta at midlength and one seta, 1 setule, and 3 feathered hairs distally. Second 2.3 times longer than broad, with 2 distal setae. Third segment elongate, nearly 3.9 times longer than broad, tip with 1 aesthetasc, 2 normal setae, and 4 setae having bifid tips.

Antenna 2 (Fig. 8): Six-segmented. First segment small, partly fused with cephalothorax, and unarmed. Second stout, as long as broad, outer border with 1 spine-like distal seta. Third segment also short, but 1.5 times longer than broad, outer border with 1 spine-like distal seta. Fourth segment elongate, bent sternally, 4.6 times longer than broad, with 3 setae and 1 feathered hair distally. Fifth nearly 2.9 times longer than broad, 1 distal seta. Sixth segment very small, conical, with 2 short and 3 long setae.

Labium (Fig. 9): Hood-shaped, covered with fine setules.

Mandibles (Fig. 9): Not strongly calcified, but well developed and of typical shape. Pars molaris reduced, small, thin, with pointed tip. Left mandible with slightly crenulated pars incisiva, lacinia mobilis well developed, with 1 large and 4 small teeth. Right mandible with crenulated pars incisiva, lacinia mobilis fused to pars incisiva, represented only by well-developed edge.

Labium (Fig. 9): Consisting of 1 lobe, outer lobe totally lacking; inner lobe deeply incised at middle.

Maxilla 1 (Fig. 9): Endite bearing circle of 9 spines. One-segmented palp as long as endite, with 2 terminal setae.

Maxilla 2 (Fig. 9): Of typical shape, oval, lacking setae.

Maxilliped (Fig. 9): Well developed, without coxae. Basis fused medially, with a small seta near articulation of palpus; inner lobe of normal size, totally fused, distal margin undulate (wave-like), with 2 rows of 4 setules. Palpus 4-segmented; distal margin of first segment slanted towards inner border, trapezoidal, 1.3 times longer than broad, unarmed; second segment also trapezoidal, but inner border longer than outer, inner border with 2 setae; third segment elongate, about 2.4 times longer than broad, inner border with 3 strong setae. Fourth about 2.6 times longer than broad, outer border with 1 seta, inner border with 4 strong setae.

Epignath (Fig. 9): Of typical shape; elongate, tip rounded and unarmed.

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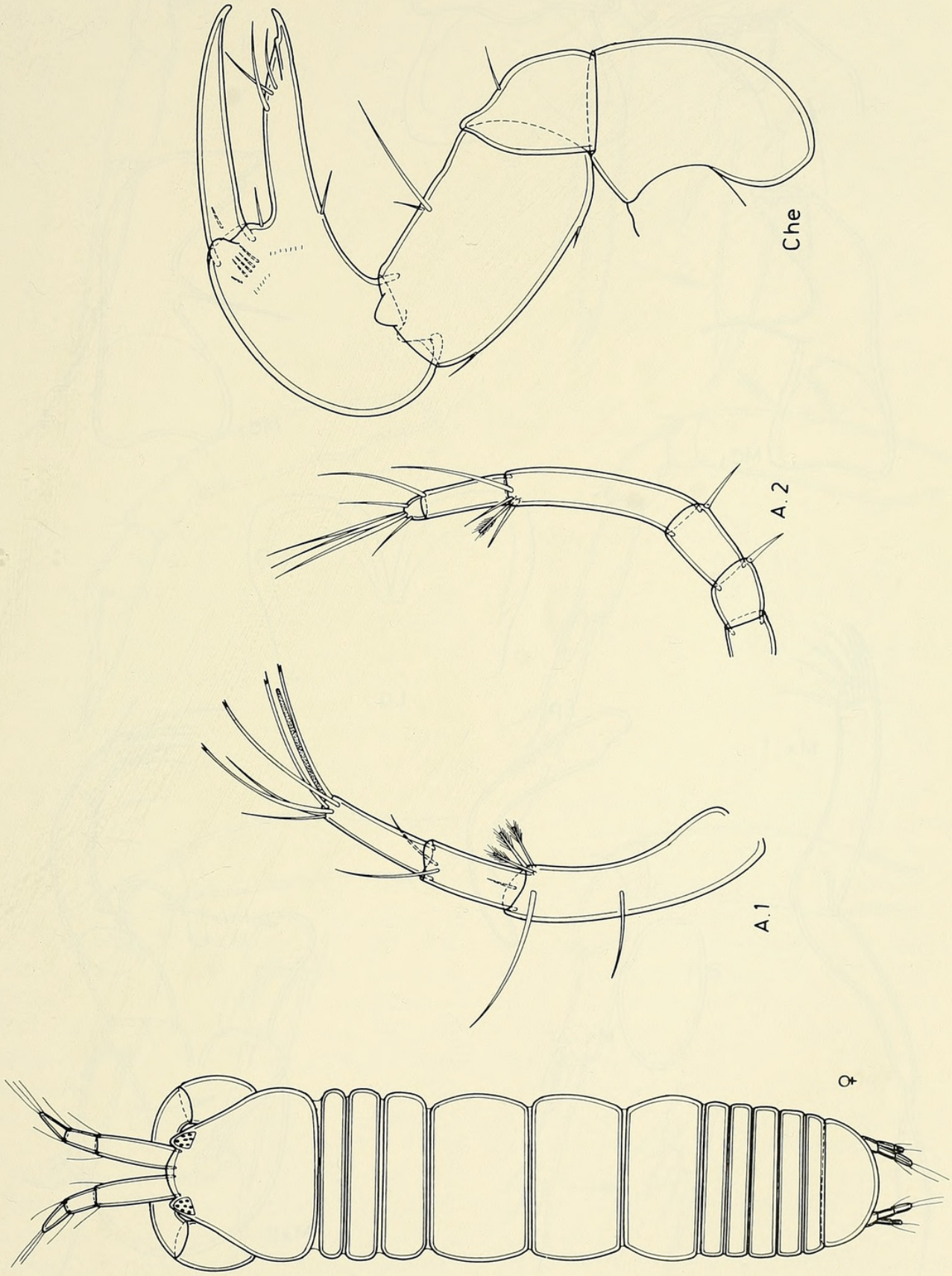
Fig. 8. *Pseudotanais mexikolpos*, n. sp., female, paratype.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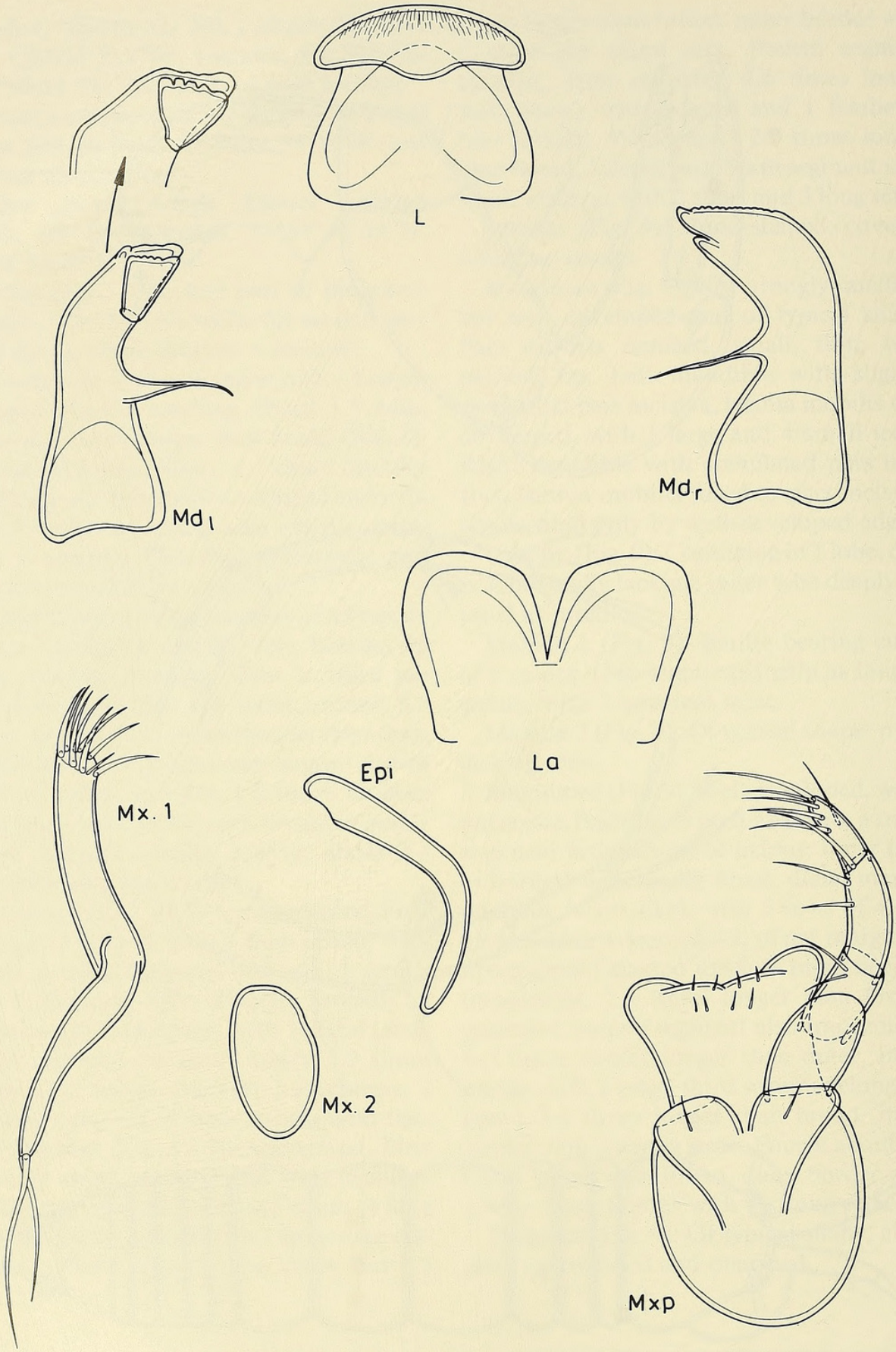

Fig. 9. *Pseudotanais mexikolpos*, n. sp., female, paratype.

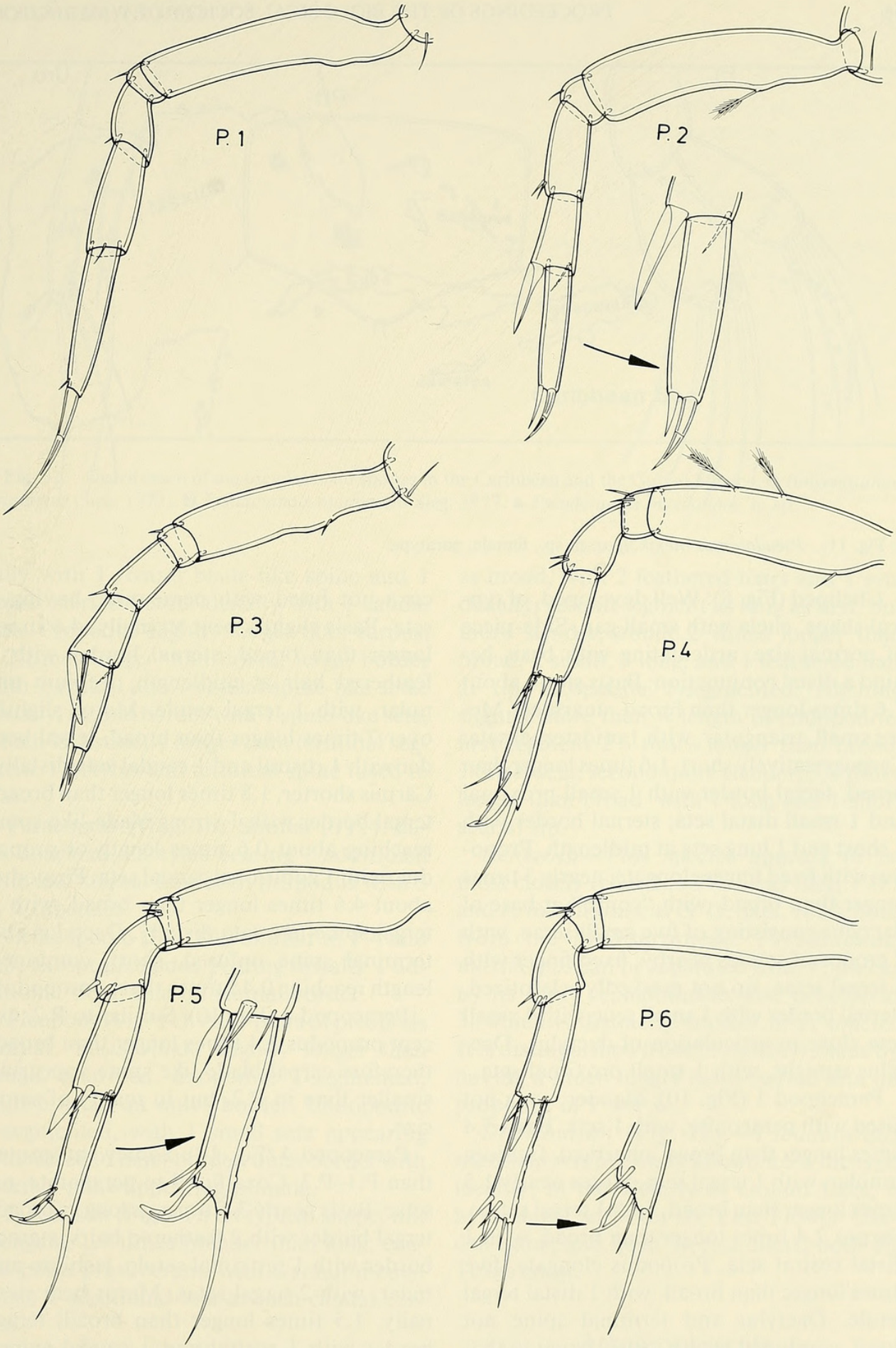

Fig. 10. *Pseudotanais mexikolpos,* n. sp., female, paratype.

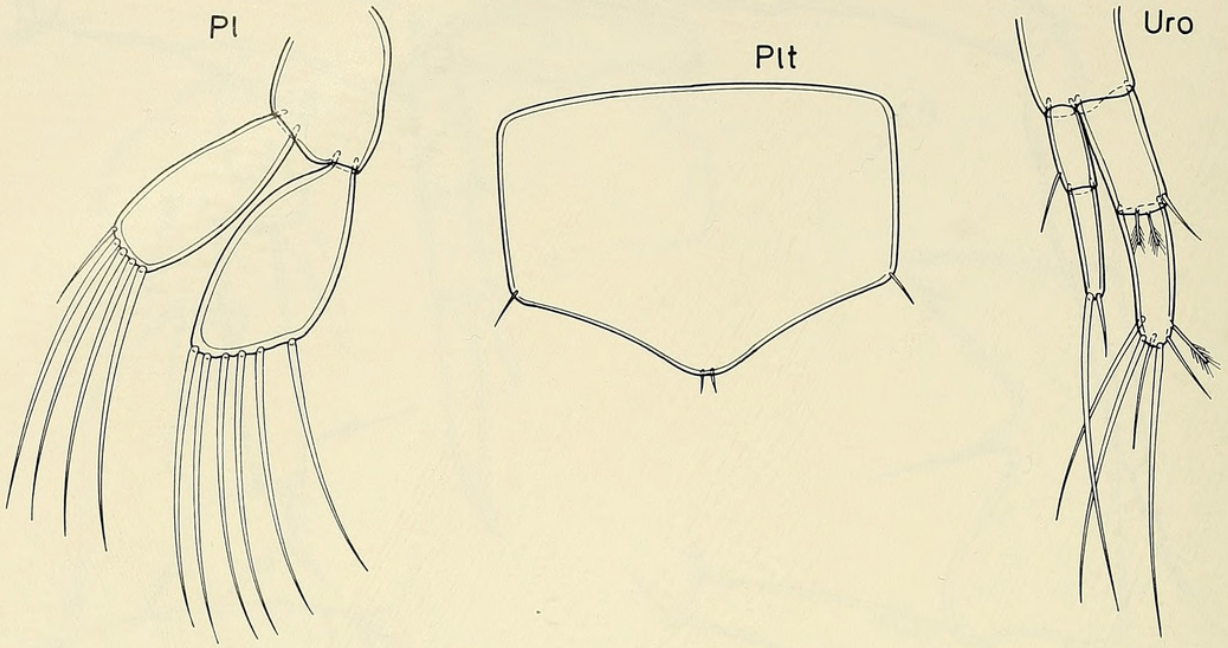

Fig. 11. *Pseudotanais mexikolpos*, n. sp., female, paratype.

Cheliped (Fig. 8): Well developed, of typical shape, chela with small gap. Side-piece of normal size, articulating with basis behind a distal conjunction. Basis stout, about 1.6 times longer than broad, unarmed. Merus small, triangular, with 1 midsternal seta. Carpus relatively short, 1.6 times longer than broad, tergal border with 1 small proximal and 1 small distal seta; sternal border with 1 short and 1 long seta at midlength. Propodus with fixed finger elongate, nearly 3 times longer than broad, with "comb" at base of dactylus consisting of five small setae, with 2 groups of setules nearby; fixed finger with 3 tergal setae, tip not markedly sclerotized, sternal border with 1 small seta; with 1 small seta close to articulation of dactylus. Dactylus straight, with 1 small proximal seta.

Peraeopod 1 (Fig. 10): Slender; coxa not fused with peraeonite, with 1 seta. Basis 5.4 times longer than broad, unarmed. Ischium annular, with 1 tergal seta. Merus nearly 1.5 times longer than broad, with 1 tergal setule. Carpus 2.4 times longer than broad, with 1 distal rostral seta. Propodus elongate, five times longer than broad, with 1 distal tergal setule. Dactylus and terminal spine not fused, combined length nearly equal to that of propodus.

Peraeopod 2 (Fig. 10): Shorter than P.1; coxa not fused with peraeonite, having 1 seta. Basis slightly bent sternally, 4.6 times longer than broad, sternal border with 1 feathered hair at midlength. Ischium annular, with 1 tergal setule. Merus slightly over 2 times longer than broad, tergal border with 1 rostral and 1 caudal seta distally. Carpus shorter, 1.8 times longer than broad, tergal border with 1 strong blade-like spine reaching about 0.6 times length of propodus, with 1 additional caudal seta. Propodus about 4.6 times longer than broad, with 1 tergal spine-like seta distally. Dactylus and terminal spine unfused, short, combined length reaching 0.45 times that of propodus.

Peraeopod 3 (Fig. 10): Similar to P.2, except propodus 2.4 times longer than broad, therefore carpal blade-like spine appearing smaller than in P.2, but in reality of same size.

Peraeopod 4 (Fig. 10): Somewhat stouter than P.1–P.3. Coxa fused to peraeonite, no setae. Basis nearly 3.6 times as long as broad, tergal border with 2 feathered hairs, sternal border with 1 proximal setule. Ischium annular, with 2 tergal setae. Merus bent sternally, 1.5 times longer than broad, tergal border with 1 rostral and 1 caudal spine-like seta distally. Carpus elongate, about 3 times longer than broad, tergal border dis-

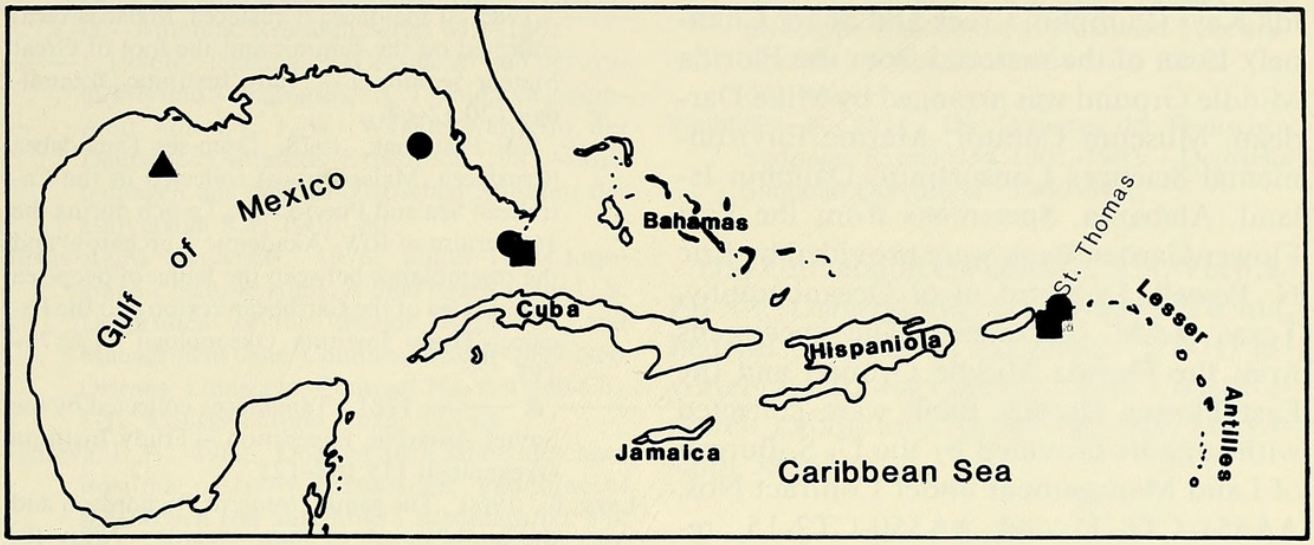

Fig. 12. Distribution of the pseudotanaid species in the Caribbean and the Gulf of Mexico. ● *Iungentitanais primitivus* (Sieg, 1973). ■ *Pseudotanais mortenseni* Sieg, 1977. ▲ *Pseudotanais mexikolpos*, n. sp.

tally with 1 rostral blade-like spine and 1 spine, sternal border distally with 1 caudal seta. Propodus slightly longer than carpus, 4.2 times longer than broad, tergal border with 1 rostral and 1 caudal spine-like setae distally, sternal border with 1 spine-like seta, which is distinctly longer than terminal segment. Dactylus and terminal spine fused to claw.

Peraeopod 5 (Fig. 10): Similar to P.4. Basis unarmed, dactylus bearing 1 additional seta, and sternal border of propodus with 3 to 4 tubercles.

Peraeopod 6 (Fig. 10): Similar to P.4 and P.5, except propodus bearing distally 1 additional small seta on sternal border.

Pleopods (Fig. 11): All 5 pairs of pleopods similar. Basis small, slightly longer than broad, unarmed. Exopodite 1-segmented, with 6 setae on outer border. Endopodite 1-segmented, with 1 small seta appearing articulated to inner border, outer border with 4 setae, none appearing pinnate.

Pleotelson (Fig. 11): Of typical shape, not elongate, 1.4 times broader than long; caudal point protuberant, with 2 small medial setae; 1 additional seta at each caudal corner.

Uropods (Fig. 11): Biramous. Basis short, as long as broad, unarmed. Endopodite 2-segmented; first segment 2.1 times as long as broad, with 2 feathered hairs and 1 seta distally; second segment as long as first, but more slender, about 2 times longer than broad, 2 small, 3 long, and 1 feathered hair at tip. Exopodite 2-segmented, reaching slightly more than ¾ length of endopodite; first segment 2.5 times longer than broad, 1 distal seta; second more slender, 3.8 times longer than broad, with 1 long and 1 short seta at tip.

Remarks.—This species appears to be most closely related to *P. unicus* Sieg, 1977 and *P. mediterraneus* G. O. Sars, 1882, both from the Mediterranean. *Pseudotanais mexikolpos* can be separated from *P. unicus* by its short cephalothorax and peraeopod 3, which is distinctly smaller in *P. unicus*. It is distinguished from *P. mediterraneus* by having a much longer disto-sternal seta on propodus of P.4–P.6.

Distribution (Fig. 12).—*Pseudotanais mexikolpos* is presently known from the type locality, in the vicinity of Golum Lake, a hypersaline seep, on the East Flower Garden Bank, and from Stetson Bank, both off Texas coast.

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Literature Cited

Bačescu, M. 1960. Citera animale neucunescute inca in Marea si descrierea unor Malacostracei noi (*Elaphognathia monodi* n. sp. si *Pontotanais borcei* n. g. n. sp.) provenind din apele pontici prebosforice.—Studii si Cercetari di Biologie (Biologie Animale) 12(2):107–124.

Fee, A. R. 1927. The Isopoda of Departure Bay and vicinity with description of new species, variations and color notes.—Contributions to Canadian Biologie and Fisheries 3:15–46.

Hansen, H. J. 1887. Oversigt over de paa Dijmphatogtet indsamlede krebsdyr. Pp. 183–286, *in* Lueken, C. F. (ed.), Dijmpha togets zoologisk-botaniske udbytte. Kopenhagen.

———. 1913. Crustacea Malacostraca II.—Danish Ingolf-Expedition 3(3):1–145.

Johnson, S. B., & Y. G. Attramadal. 1982. A functional-morphological model of *Tanais cavolinii* Milne-Edwards (Crustacea, Tanaidacea) adapted to a tubicolous life-strategy.—Sarsia 67:29–42.

Kudinova-Pasternak, R. K. 1966. Tanaidacea Crustacea of the Pacific ultra abyssals.—Zoologicheskii Zhurnal 45:516–535.

———. 1975. Tanaidacea (Crustacea, Malacostraca) from the Atlantic sector of Antarctic and Subantarctic.—Trudy Instituta Okeanologii 103: 194–228.

———. 1982. Deep sea Tanaidacea (Crustacea, Malacostraca) from Mediterranean Sea.—Trudy Instituta Okeanologii 117:151–162.

———. 1985. Tanaidacea (Crustacea, Malacostraca) collected on the summit and the foot of Great Meteor seamount.—Trudy Instituta Okeanologii 120:52–64.

———, & F. Pasternak. 1978. Deep-sea Tanaidacea (Crustacea, Malacostraca) collected in the Caribbean Sea and Puerto Rico Trench during the 16th cruise of R/V 'Akademic Kurchatov' and the resemblance between the fauna of deep-sea Tanaidacea of the Caribbean region and the Pacific.—Trudy Instituta Okeanologii 113:178–197.

———, & ———. 1981. Tanaidacea collected by the Soviet Antarctic Expedition.—Trudy Instituta Okeanologii 115:108–125.

Lang, K. 1960. The genus *Oosaccus* Richardson and the brood-pouch of some tanaids.—Arkiv för Zoologi (2)13:77–80.

Lilljeborg, W. 1864. Bidrag till kaennedomen om de inom Sverige och Norrige foerkommande Crustaceer af Isopodernas underordning och Tanaidernas familj. Inbjudningsskrifter Universitetet Uppsala, 31 pp.

Sars, G. O. 1868. Undersogelser over Christianiafjorden dybvandsfauna.—Nytt Magasin for Naturvidenskapene 16:305–362.

———. 1882. Rivision af gruppen: Isopoda Chelifera.—Archiv for Mathematik og Naturvidenskab 7:1–54.

Shiino, S. M. 1978. Tanaidacea collected by French scientists on board the survey ship 'Marion Dufresne' in the region around the Kerguelen Islands in 1972, '74, '75, '76.—Scientific Report Shima Marineland 5:1–122.

Sieg, J. 1973. Ein Beitrag zum Natürlichen System der Dikonophora Lang. Dissertation, Christian-Albrechts Universität Kiel, 298 pp.

———. 1976. Zum natürlichen System der Dikonophora Lang (Crustacea, Tanaidacea).—Zeitschrift für Zoologische Systematik und Evolutionsforschung 14:177–198.

———. 1977. Taxonomische Monographie der Familie Pseudotanaidae (Crustacea, Tanaidacea).—Mitteilungen aus dem Zoologischen Museum in Berlin 53:3–109.

———. 1980. Taxonomische Monographie der Tanaidae Dana, 1849 (Crustacea: Tanaidacea).—Abhandlungen der Senckenbergisch Naturforschenden Gesellschaft 537:1–267.

———. 1983. Tanaidacea.—Crustaceorum Catalogus 6:1–552.

———. 1984. Neuere Erkenntnisse zum natürlichen System der Tanaidacea. Eine phylogenetische Studie.—Zoologica (Stuttgart) 136:1–132.

———. 1986a. Tanaidacea (Crustacea) from the Antarctic and Subantarctic. 1. Material collected from Tierra del Fuego, Isla de los Estados, and

along the west coast of the Antarctic Peninsula.—Antarctic Research Series 45:1–180.

———. 1986b. Tanaidacea (Crustacea) von der Antarktis und Subantarktis. II. Tanaidacea gesammelt von Dr. J.-W. Wägele während der Deutschen Antarktis Expedition 1983.—Mitteilungen aus dem Zoologischen Museum der Universität Kiel 2(4):1–80.

Texas A&M University. 1978. South Texas topographic features study. A final report to the U.S. Department of the Interior Bureau of Land Management Outer Continental Shelf Office New Orleans, Louisiana, Contract No. AA 550-CT-6-18. College Station, Texas 775 pp.

Tzareva, L. A. 1982. Doplonenie k faune kleschnenosnich osslikov (Crustacea, Tanaidacea) schelfovich son antarktiki i subantarktiki. Pp. 40–61, *in* Kavanov, A. I. (eds.), Fauna i Raspredelenie Rakoobranich Notalnich i Antarktitscheskich vod. Akademia Nauk SSSR, Vladivostok.

Vanhöffen, E. 1914. Die Isopoden der Deutschen Südpolar Expedition 1901–1903.—Deutsche Südpolar Expedition 15:449–598.

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