Zootaxa 1599: 87–99 (2007)
www.mapress.com/zootaxa/

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Family Pseudotanaidae Sieg, 1976*

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* *In*: Larsen, K. & Shimomura, M. (Eds.) (2007) Tanaidacea (Crustacea: Peracarida) from Japan III. The deep trenches; the Kurile-Kamchatka Trench and Japan Trench. *Zootaxa*, 1599, 1–149.

Abstract

Two new species from the family Pseudotanaidae were discovered in material collected in the Kurile-Kamchatka Trench and Japan Trench and are described herein. *Cryptocopoides pacificus*, n.sp., of the subfamily Cryptocopinae, is the second species known from the genus heretofore represented only by *C. articus*, a species originating from North Atlantic waters but also reported elsewhere, from which it can be distinguished primarily by differences in body and appendage setation. *Pseudotanais nipponicus*, n.sp. is very similar to the North Atlantic species, *P. longispinus*, but can be distinguished by differences in setation of the mandible pars molaris, setation of the merus and carpus of the first pereopod, and also by having a shorter cephalothorax. A third apparently new species of *Pseudotanais* with forcipate chela was represented by only two specimens and remains undescribed.

Key words: Japan, deep-sea, Tanaidomorpha, *Cryptocopoides*, *Pseudotanais*, Kurile-Kamchatka Trench, Japan Trench.

Introduction

The Family Pseudotanaidae was established by Jurgen Sieg in his dissertation of 1973, although many authors chose to give authority to Sieg (1976) as that was the first time the name appeared in a formal journal.

At present, the systematics of Pseudotanaidae, especially regarding the placement of the subfamily Cryptocopinae, is uncertain partly due to comments by Bird & Holdich (1989) who reported observing some specimens of *Cryptocopoides* cf. *arcticus* that possessed four pairs of oostegites – a finding that will likely be sufficient to remove the subfamily from Pseudotanaidae. A taxonomic review of the family focusing on specimens collected from the Gulf of Mexico and South Atlantic Bight off the east coast of the U.S. is currently underway by this author.

Both subfamilies, the Cryptocopinae and the Pseudotanainae, were present in the Trench samples, represented by 21 specimens. The taxonomic diversity was low however, with only a single species of Cryptocopinae and two of Pseudotanainae. Herein are described the new species *Cryptocopoides pacificus* found in both the Kurile-Kamchatka Trench and the Japan Trench and *Pseudotanais nipponicus* recorded only from the Kurile-Kamchatka Trench. An additional species of *Pseudotanais* was represented by only two specimens and remains undescribed.

Material and Methods

Specimens were examined and illustrated using a Labrolux compound microscope equipped with drawing tube. Dissections were performed using chemically sharpened tungsten needles with mouthparts and appendages mounted in glycerin jelly. Morphological terminology follows that of Larsen (2003).

Accepted by K. Larsen: 13 Aug. 2007; published: 28 Sept. 2007

Systematics
Family Pseudotanaidae Sieg, 1976
Subfamily Cryptocopinae Sieg, 1977
Genus *Cryptocopoides* Sieg, 1977
***Cryptocopoides pacificus*, n.sp.**
Figures 1–3

Material examined. Holotype, non-ovigerous female, 2.2 mm (KMNH IvR 500.183), station XR-5, 42°23.83'N, 145°31.06'E, Kamchatka Trench, North Pacific, 16 September 2001, 3145–3265 metres. **Paratypes**: 1 female, 1.6 mm and one female, 1.6 mm (dissected and slide mounted; KMNH IvR 500.184 and 185), both from type locality; 1 female, 1.3 mm (KMNH IvR 500.186), station TD-4, 39°27.08N' 143°37.79'W, 3146–3272 metres, 28 September 2001; 8 females, 1.6–1.7 mm (KMNH IvR 500.187), station XR-12, 41º37.67'–41º37.08'N 146º54.19'–146º52.72'E, 5473–5484 metres, 4 m ORE beam trawl, 23 September 2001; 1 female, 2.3 mm (KMNH IvR 500.188), station XR-6, 42°21.90'–42°23.50'N 145°50.40'–145°51.81'E, 3393–3395 metres, 3m ORE BT, 16 September 2001.

Diagnosis. *Cryptocopoides* with dorso-lateral and ventro-lateral setae on all pereonites, article 2 of antenna with two distal setae, pair of basal setae and pair of submarginal endite setae on maxilliped, small proximal seta on cheliped dactylus, two carpal setae on pereopod 1, and two ischium setae and spatulate carpal setae present on pereopods 4 and 5.

Etymology. The name refers to the Pacific Ocean.

Description - based on non-ovigerous female holotype and dissected paratype. Body length 1.6–2.3 mm.

Body. 3.6 times as long as broad (Figs. 1A,B).

Cephalothorax. Subequal to pereonites 1–3, rounded, becoming narrower anteriorly, with pair of antero-lateral setae, 25.4 % of total length; eyelobes absent.

Pereon. 51.4 % of total length, no abbreviated pereonites, each pereonite with pair of dorso-lateral setae and pair of ventro-lateral setae (pereonite 1 with two and pereonite 2 with one additional pair of ventrolateral setae). Pereonite 1 with prominent hyposphaenial spur (Fig. 1C). Subsequent pereonites with low crests.

Pleon. Subequal to pereonites 5 and 6 combined, 15.3 % of total length, each pleonite with pair of ventro-lateral setae (pair on pleonite 5 much longer than others, extending beyond pleotelson). Pleonites 4 and 5 with pair of dorso-lateral setae.

Pleotelson. Subequal to pleonites 4 and 5 together, 5.9 % of total length, apex rounded, with one pair of disto-lateral setae.

Antennule (Fig. 1E) 12.4 % of body length, with four articles. First article 46.1 % of total length, 1.7 times as long as broad, with three short medial simple setae, four short distal simple setae (three small hair-like) and one long distal simple seta. Second article 0.9 times as long as broad, with one long and one short distal simple setae, and one distal broom seta. Third article 0.9 times as long as broad, with one short and two long distal simple setae. Distal article 3.5 times as long as broad, terminating with one aesthetasc and five simple setae (four long, one short).

Antenna (Fig. 1F) with six articles, 82.4 % length of antennule. Second article 1.1 times as long as broad, 1.7 times as long as third article, both articles distally with long, slender spiniform seta and article 2 with additional short distal simple seta. Fourth article 3.5 times as long as broad, with three short distal simple setae, one long distal spiniform seta, and one distal broom seta. Fifth article 2.3 times as long as broad, distally with one long simple seta. Sixth article small, terminating with five simple setae (two short, three long).

Mouthparts. Labrum not observed. Mandibles (Figs. 2A,B) with distal margins bearing three blunt terminal teeth, right lacinia mobilis absent, left lacinia mobilis small, narrow, pars molaris broad, with six blunt terminal teeth and two short marginal setae. Labium not observed. Maxillule (Fig. 2C) endite terminating with eight spiniform setae, including one with expanded, slightly bifid tip. Maxilla not observed. Maxilliped (Fig. 2D) bases about half fused, with seta near each palp articulation; endites completely separate, each with two

setae and smooth lateral margins; palp with four articles; article 1 without setae, tapered distally; article 2 with one medial extremely long simple seta, one inner-edge simple seta, one inner-edge setulose spiniform seta, and one outer-edge spiniform seta; article 3 with one short distal simple seta and two inner-edge setulose spiniform setae; article 4 with one small outer-edge simple seta, three inner-edge setulose spiniform setae, and one inner-edge simple seta. Epignath (Fig. 2E) elongate, curved, slightly expanded at proximal end, tip unarmored.

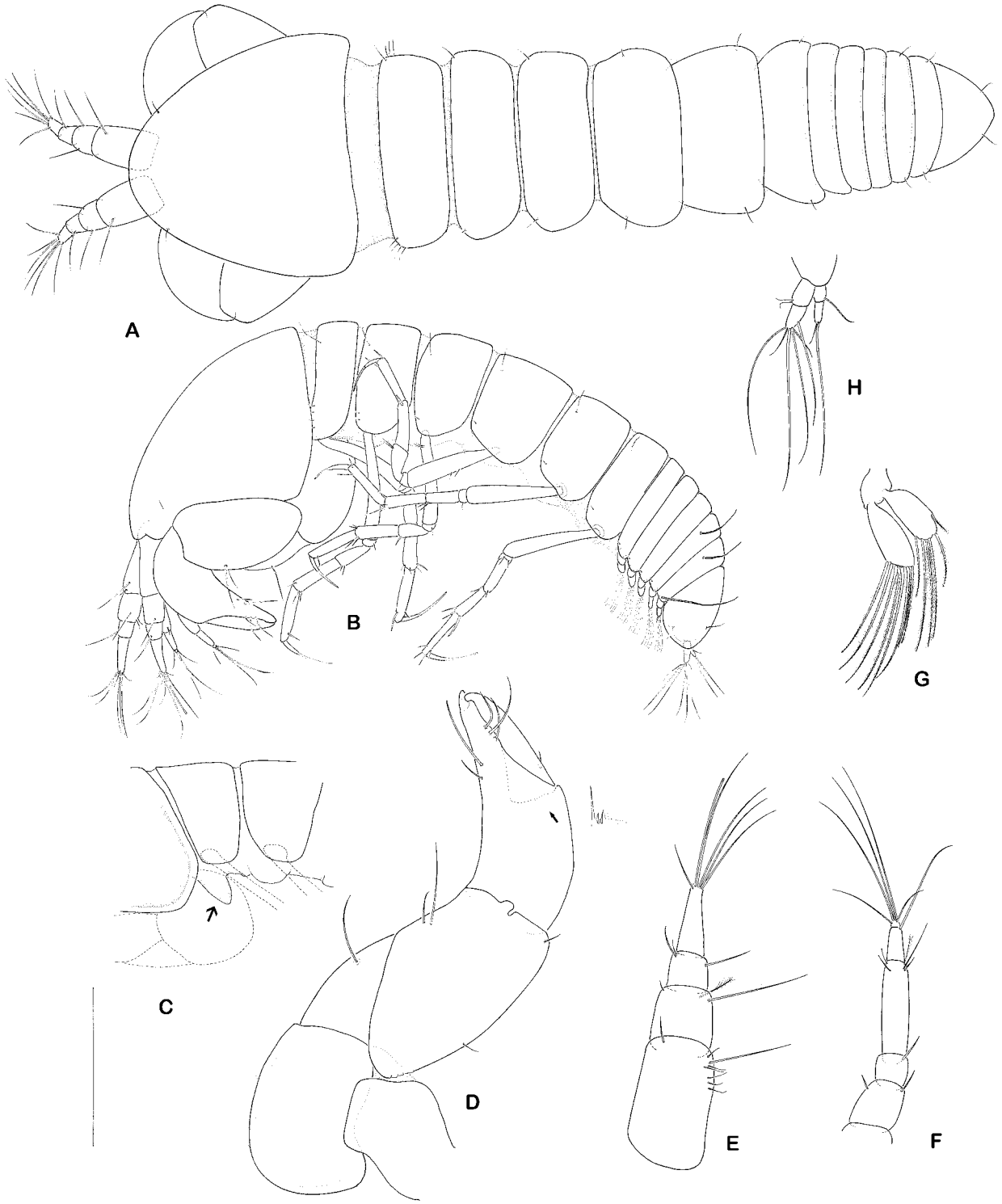

FIGURE 1. *Cryptocopoides pacificus*, n.sp. A, holotype female, dorsal; B, holotype female, lateral; C, lateral view showing hyposphenia on pereonite 1 (arrow), dashed lines indicate positions of cheliped basis and emergence of pereopods 1–2; D, cheliped, arrow shows location of comb setae on reverse side; E, antennule ; F, antenna; G, pleopod; H, uropods. Scale bars: A–C = 0.5mm, D–H = 0.2mm.

FIGURE 2. *Cryptocopoides pacificus*, n.sp. A, left mandible; B, right mandible; C, maxillule endite, inset shows spiniform seta with inflated tip; D, maxilliped, inset shows detail of inner-edge palp setae; E, epignath. Scale = 0.2mm.

Cheliped (Fig. 1D) sclerite attachment well developed. Basis 1.6 times as long as broad, with finely setulose inferior margin. Merus triangular, with inferior seta. Carpus 1.3 times as long as broad, with two unequal medial inferior setae, one distal superior seta and one medial superior seta. Propodus 2.4 times as long as broad, about 1.4 times as long as carpus, palm with one long and two short comb setae plus row of several small setules. Fixed finger with two inferior setae, three superior setae, terminal unguis and subterminal inner-margin notch which receives tip of dactylus. Dactylus 55.2 % of propodus length, width subequal to fixed finger, with one proximal simple seta and terminal unguis.

Pereopod 1 (Fig. 3A) coxa with seta. Basis 9.1 times as long as broad, with proximal superior seta and finely setulose margins. Ischium with small seta. Merus 2.9 times as long as broad, distally with short inferior seta. Carpus 3.2 times as long as broad, 1.3 times as long as merus, with superior marginal spinules, distally with three short spiniform setae (one inferior, one superior, one anterior) and one short superior simple seta. Propodus 4.4 times as long as broad, with superior marginal spinules, distally with two unequal superior spiniform setae, short inferior spiniform seta, and setulose terminal margin at emergence of dactylus. Dactylus without seta, length with unguis subequal to length of propodus.

Pereopod 2 (Fig. 3B) coxa with seta. Basis 8.9 times as long as broad, with two proximal superior setae. Ischium with short inferior seta. Merus 2.3 times as long as broad, distally with long inferior spiniform seta. Carpus 3.3 times as long as broad, about 1.7 times as long as merus, distally with one short superior spiniform seta, one short superior simple seta and two long inferior spiniform setae. Propodus 4.6 times as long as, with faintly setulose inferior margin, superior marginal spinules, two unequal distal superior spiniform setae, one long distal inferior spiniform seta and setulose terminal margin at emergence of dactylus. Dactylus without setae, length with unguis subequal to propodus.

Pereopod 3 (Fig. 3C) basis with medial inferior seta. Carpus with additional short distal spiniform seta; propodus 4.3 times as long as broad. Otherwise similar to pereopod 2.

Pereopod 4 (Fig. 3D) coxa with seta. Basis 5.1 times as long as broad, with two medial superior setae. Ischium with two short setae. Merus 2.1 times as long as broad, distally with two long inferior spiniform setae. Carpus 3.1 times as long as broad, 1.7 times as long as merus, distally with four long spiniform setae and one short spatulate seta. Propodus 4.4 times as long as broad, slightly longer than carpus, distally with two long inferior spiniform setae, one short terminal spiniform seta, one short medial superior simple seta, faintly setulose inferior margin and setulose terminal margin at emergence of dactylus. Dactylus not fused with unguis, length with unguis subequal to propodus.

Pereopod 5 (Fig. 3E) basis with one medial simple seta. Ischium with two unequal setae, propodus 4.9 times as long as broad and lacking superior medial seta. Otherwise similar to pereopod 4.

Pereopod 6 (Fig. 3F) basis 6.4 times as long as broad and lacking setae. Ischium with single short seta. Carpus distally with four spiniform setae (three long, one short) and short simple seta (instead of spatulate seta). Propodus with additional terminal spiniform seta and lacking medial superior seta. Otherwise similar to pereopod 4.

Pleopods (Fig. 1G) rami elongate, with terminal and subterminal setae. Endopod slightly shorter than exopod, with one subterminal and five terminal setae. Exopod with seven terminal setae.

Uropods (Fig. 1H) exopod with two articles, three fourths as long as endopod. Proximal article about half as long as ramus, with one distal simple seta, distal article with two unequal simple setae. Endopod with two articles, proximal article about half as long as ramus, with two short distal setae, distal article with four long and two short simple setae.

Remarks. Specimens examined from this study differed from Sieg's (1977) description of *Cryptocopoides arctica* by the following characters: (1) a somewhat shorter carapace with the presence of antero-lateral setae, (2) the presence of dorso-lateral and ventro-lateral setae on all pereonites - an additional two ventro-lateral setae pairs on pereonite 1 - and ventro-lateral setae on all pleonites, (3) a somewhat longer pleon and pleotelson, (4) antenna article 2 with an additional seta (5) the left mandible's lacinia mobilis is narrow and not

bifid, (6) the maxillule endite has one of its spiniform setae with an expanded, slightly bifid tip, (7) the maxilliped basis is nearly v-shaped, has a seta near each palp, and is fused to a lesser degree, (8) the maxilliped endites each have two sub-marginal setae instead of one, (9) the cheliped dactylus has a small proximal seta and is shorter in relation to the total length of the propodus - 55 vs. 60 %, (10) pereopod 1 has an additional carpal seta, (11) the dactylus plus unguis lengths are subequal to the propodus lengths of all pereopods instead of being shorter, (12) a greater number of distal setae (four or five vs. two) occur on the carpus of pereopods 2 and 3, (13) the presence of setae on the basis of pereopods 2–5, (14) pereopods 4 and 5 have two ischium setae (instead of one) and have a small spatulate carpal seta, and (15) the pleopod endopods possess a subterminal seta in addition to five terminal setae.

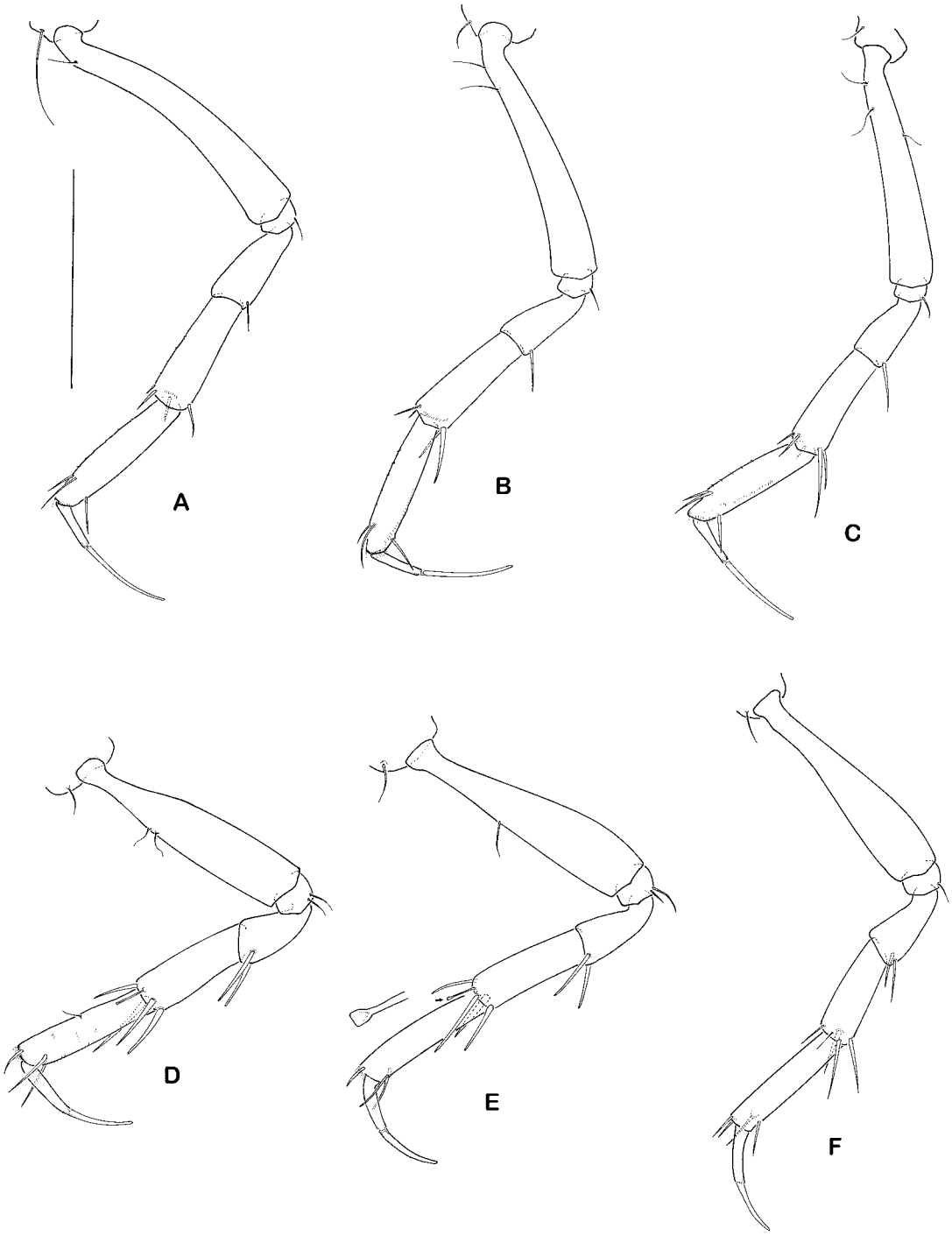

FIGURE 3. *Cryptocopoides pacificus*, n.sp. A–F, pereopods 1–6 respectively. Inset at E shows detail of spatulate seta indicated by arrow. Scale = 0.2mm.

Discussion. The genus *Cryptocopoides* was established by Sieg (1976) to distinguish those specimens in the former genus *Cryptocope* which possessed well-developed pleopods as opposed to those retained in *Cryptocope* which have rudimentary, non-setose pleopods. Other generic diagnostic characters include four-articled first antennae, completely separate maxilliped endites, and maxillule endite with eight terminal spiniform setae. To date the only described species of the genus is the apparently widely distributed *Cryptocopoides arcticus* (Hansen, 1887), reported from several locations in the North Atlantic and North Sea (Hansen 1887,1913; Stebbing 1900; G.O. Sars 1909; Just 1970), off the shelf of Antarctica in the South Atlantic (Vanhöffen 1914; Kussakin 1967; Kudinova-Pasternak 1975), and also from the Kurile-Kamchatka Trench north of Japan (Kudinova-Pasternak 1970). On the evidence of this study it is probable that Kudinova-Pasternak's record from the Kurile-Kamchatka Trench actually refers to *C. pacificus*. Sieg (1977) examined Hansen's (1913) specimens of *Cryptocope arctica* from the north Atlantic and *Cryptocope antarctica* collected off Antarctica by Vanhöffen (1914) and determined the two groups to be nearly identical with only small variations; thus he based his redescription of *Cryptocopoides arctica* (= *arcticus*) on specimens from both areas. Ideally, additional specimens from both polar regions should be re-examined in greater detail to determine if these "variations" could be interpreted as representing two separate species.

Subfamily Pseudotanainae Sieg, 1977
Genus *Pseudotanais* Sieg, 1977
Subgenus *Pseudotanais* Sieg, 1977
***Pseudotanais nipponicus*, n.sp.**
Figures 4–6

Material examined. **Holotype**, non-ovigerous female, 2.2 mm (KMNH IvR 500.189), station XR-5, 42°23.83'N, 145°31.06'W, Kamchatka Trench, North Pacific, 16 September 2001, 3145–3265 metres. **Paratypes**: 1 female, 1.4 mm and 1 juvenile, 0.8 mm (KMNH IvR 500.190), from type locality; 1 female, 1.6 mm (dissected and slide mounted; KMNH IvR 500.191), station XR-7, 42°12.87'–42°12.10'N 145°33.93'–145°32.05'E, 3853–3858 metres, 17 September 2001.

Diagnosis. *Pseudotanais* with carpal blade-like setae on pereopods 2–6 (those on pereopods 2 and 3 greater than half as long as propodus), pereopods 2 and 3 having terminal spiniform setae of propodus subequal to length of dactylus plus unguis, pereopods 5 and 6 having superior carpal setae as long or longer than propodus, pereopod 1 distal superior setae of merus and carpus of unequal lengths, and antenna articles 2 and 3 having short, stout spiniform setae**.**

Etymology. The specific name refers to an alternate name for the island nation of Japan, adjacent to the type locality in the northern Pacific Ocean.

Description - based on non-ovigerous female holotype and dissected paratype. Body length 1.4–2.2 mm, *Body* (Figs. 4A,B) 3.7 times as long as broad.

Cephalothorax shorter than pereonites 1–3, subtrapezoidal, narrowing anteriorly, about equal in width to pereon, with pair of antero-lateral setae, 16 % of total length; eyelobes absent.

Pereon 63.9 % of total length, pereonite 1 abbreviated. Pereonites 1 and 4–6 with pair of dorso-lateral setae, 2–6 with pair of minute antero-lateral setae, and 4–5 with additional pair of medio-lateral setae.

Pleon shorter than pereonites 5 and 6 combined, 18.7 % of total length. Pleonite 5 with pair of dorso-lateral and pair of medio-lateral setae.

Pleotelson subequal to pleonites 4–5, 6.9 % of total length, apex slightly produced, with pair of distolateral setae.

Antennule (Fig. 4D) 22 % of body length, with three articles. First article 56.1 % of total length, 5.6 times as long as broad, with one long and five short medial simple setae, one short distal simple seta, two long

unequal distal simple setae and two distal broom setae. Second article twice as long as broad, with one short and two long, unequal distal simple setae. Distal article 5.2 times as long as broad, terminating with two simple setae (one long, one short) and four bifid-tipped setae.

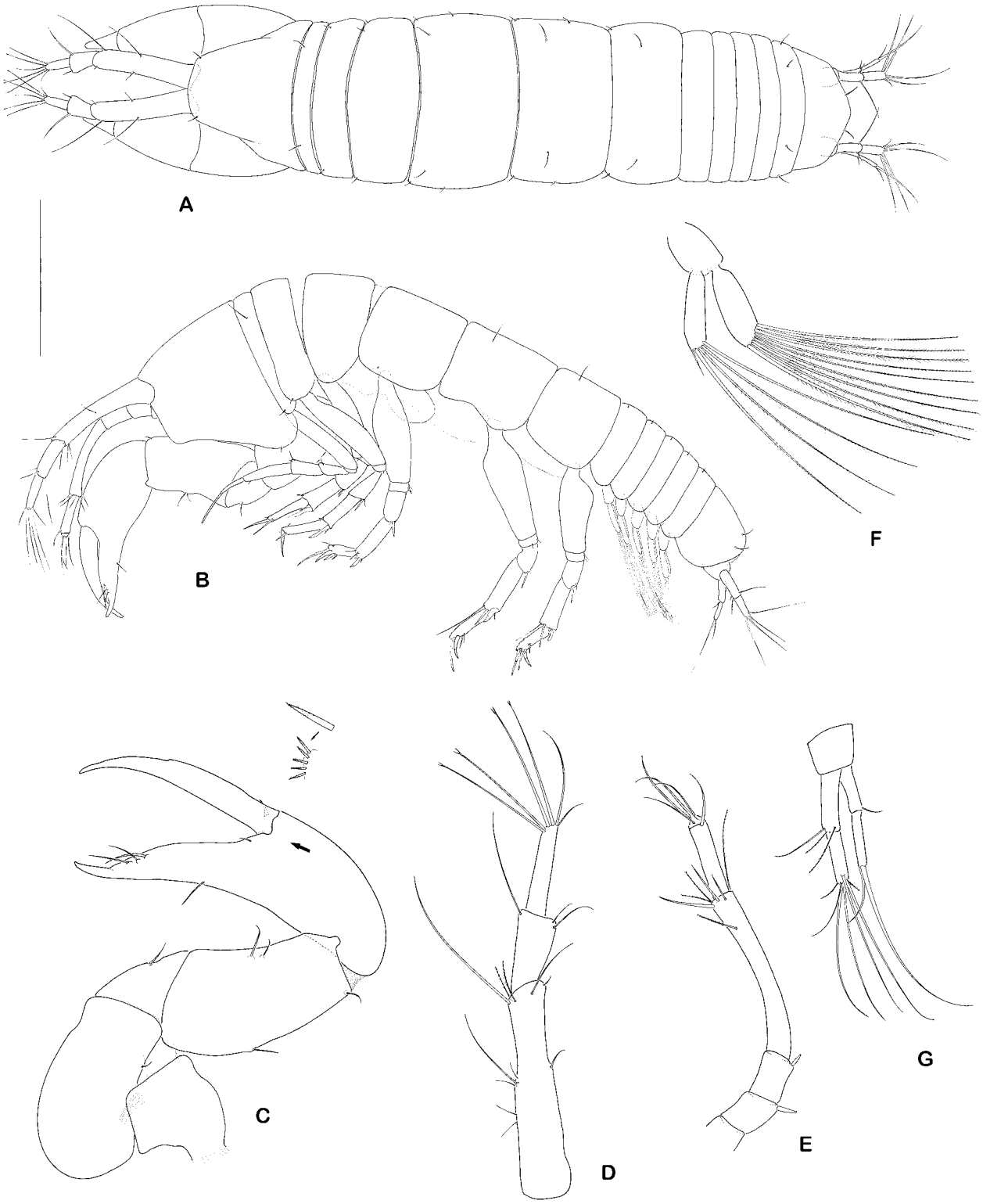

FIGURE 4. *Pseudotanais nipponicus*, n.sp. A, holotype female, dorsal; B, holotype female, lateral; C, cheliped, arrow shows location of comb setae on reverse side; D, antennule; E, antenna; F, pleopods; G, uropods. Scale: A, B = 0.5mm, C–G = 0.2mm

Antenna (Fig. 4E) with six articles, 96.2 % length of antennule. Second article 1.1 times as long as broad, slightly shorter than third article, both articles distally with short, stout spiniform seta (larger on article 2). Fourth article 10.1 times as long as broad, with two long and one short distal simple setae, and three distal broom setae. Fifth article 4.3 times as long as broad, distally with one long simple seta. Sixth article small, terminating with four simple setae.

Mouthparts. Labrum not observed. Mandibles (Figs. 5A,B) with distal margins denticulate (left) and crenulate (right), right lacinia mobilis represented by short, pointed process, left lacinia mobilis well developed and denticulate, pars molaris acuminate, with four to five small subdistal denticles. Labium not observed. Maxillule (Fig. 5E) endite terminating with nine spiniform setae, three of which have a subterminal setule, and two accessory setae. Maxilla not observed. Maxilliped (Fig. 5C) bases completely fused, with small seta near each palp location and two longer medially located setae; endites fused between one third and two thirds their length, each with one short seta and two short cusps, with lateral margins smooth; palp with four articles; article 1 without setae; article 2 with one inner-edge simple seta, two inner-edge spiniform setae, and one outer-edge simple seta; article 3 with three inner-edge spiniform setae and one inner-edge simple seta; article 4 with one small outer-edge simple seta, four inner-edge spiniform setae, and one inner-edge simple seta. Epignath not observed.

Cheliped (Fig. 4C) strongly built, chela not forcipate; sclerite well developed. Basis twice as long as broad, with distal superior seta. Merus triangular, with inferior seta. Carpus 1.9 times as long as broad, with two unequal medial inferior setae, one distal superior seta and one proximal superior seta. Propodus 3.7 times as long as broad, about 1.8 times as long as carpus, palm with five short setulate comb setae. Fixed finger with one inferior seta, three superior setae and one seta near articulation with dactylus. Dactylus 61.3 % of propodus length, width narrower than fixed finger, with proximal spiniform seta.

Pereopod 1 (Fig. 6A) coxa with seta. Basis 7.6 times as long as broad, with eight marginal setae (seven superior, one infero-proximal). Ischium with small seta. Merus 3.8 times as long as broad, distally with long superior seta. Carpus 2.5 times as long as broad, 1.4 times as long as merus, distally with one short superior seta and one long superior seta (about twice as long as that of merus). Propodus 7.6 times as long as broad, distally with short inferior seta. Dactylus without seta, length with unguis slightly longer than propodus.

Pereopod 2 (Fig. 6B) coxa with seta. Basis 6.7 times as long as broad, with medial superior broom seta and eight marginal setae (six inferior, two superior). Ischium with short inferior seta. Merus 2.1 times as long as broad, distally with one short inferior simple seta and one short inferior spiniform seta. Carpus 3.2 times as long as broad, about 1.2 times as long as merus, distally with one short superior simple seta, one inferior blade-like seta of about 65 % length of propodus and one short spiniform seta with broad basal collar. Propodus 6.4 times as long as broad, with inferior and superior marginal spinules and one long distal inferior spiniform seta. Dactylus without setae, length with unguis slightly longer than half as long as propodus.

Pereopod 3 (Fig. 6C) basis with five marginal setae (three inferior, one supero-proximal) and without broom seta. Ischium with short inferior spiniform seta. Carpus with inferior blade-like seta of about 80 % length of propodus and one short spiniform seta with broad basal collar (blade longer than that of pereopod 2). Propodus 5.6 times as long as broad. Dactylus bifid-tipped. Otherwise similar to pereopod 2.

Pereopod 4 (Fig. 6D) coxa with seta. Basis 4.3 times as long as broad, with one medial broom seta and five marginal inferior setae. Ischium with one short setulose spiniform seta and one short simple seta. Merus 2.5 times as long as broad, distally with one short inferior spiniform seta and one short inferior simple seta. Carpus 3.5 times as long as broad, 1.9 times as long as merus, distally with one short superior simple seta, two unequal posterior spiniform setae, one inferior blade-like spiniform seta of about 35 % length of propodus and superior marginal spinules. Propodus five times as long as broad, slightly shorter than carpus, distally with one long supero-terminal spiniform seta with heavily setose distal half, one stout inferior spiniform seta, one short inferior simple seta, one superior broom seta and superior and inferior marginal spinules. Dactylus fused with unguis to form claw, margins slightly setulose, length with unguis less than half as long as propodus.

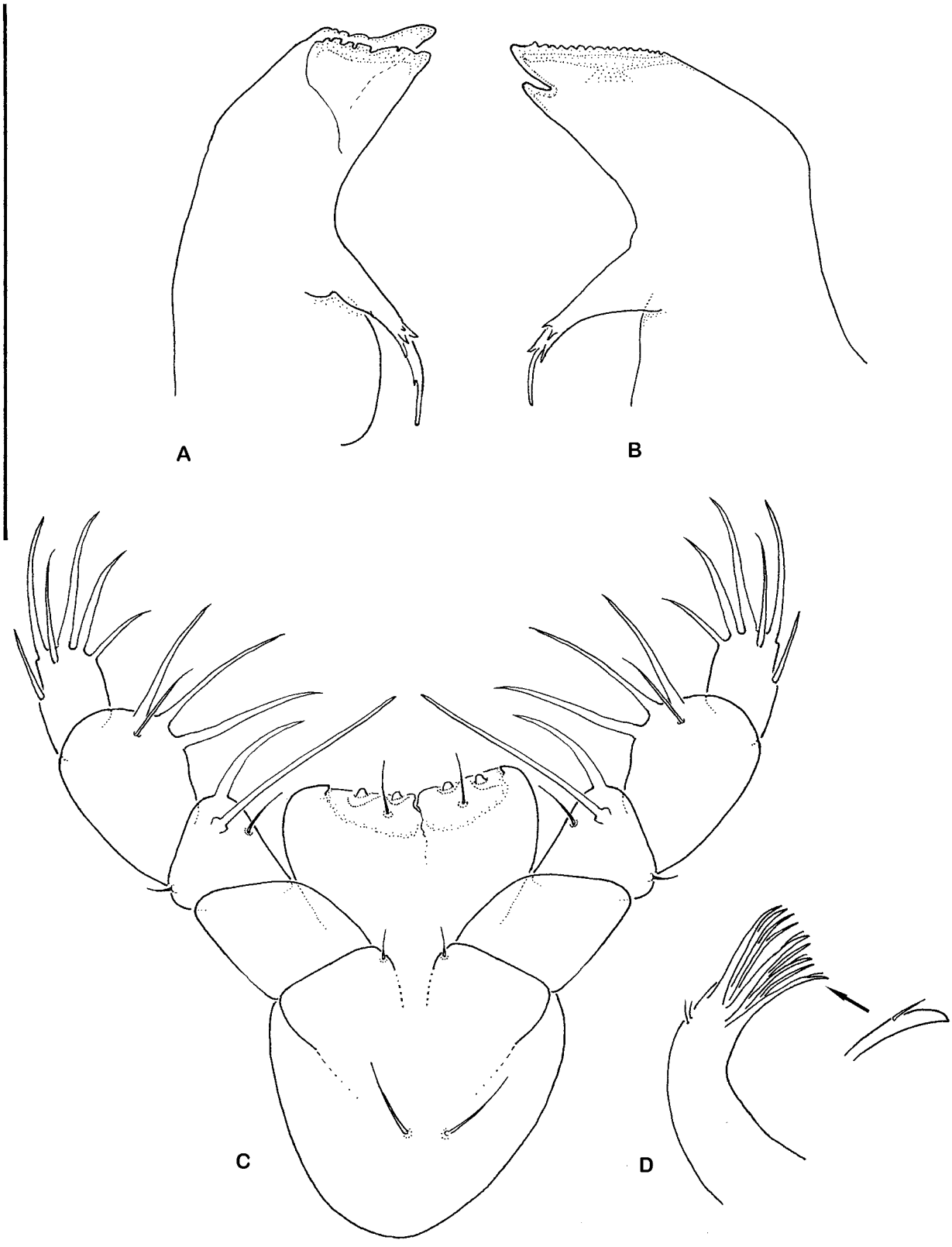

FIGURE 5. *Pseudotanais nipponicus*, n.sp. A, left mandible; B, right mandible; C, maxilliped; D, maxillule endite, inset shows spiniform seta with setule. Scale = 0.2mm.

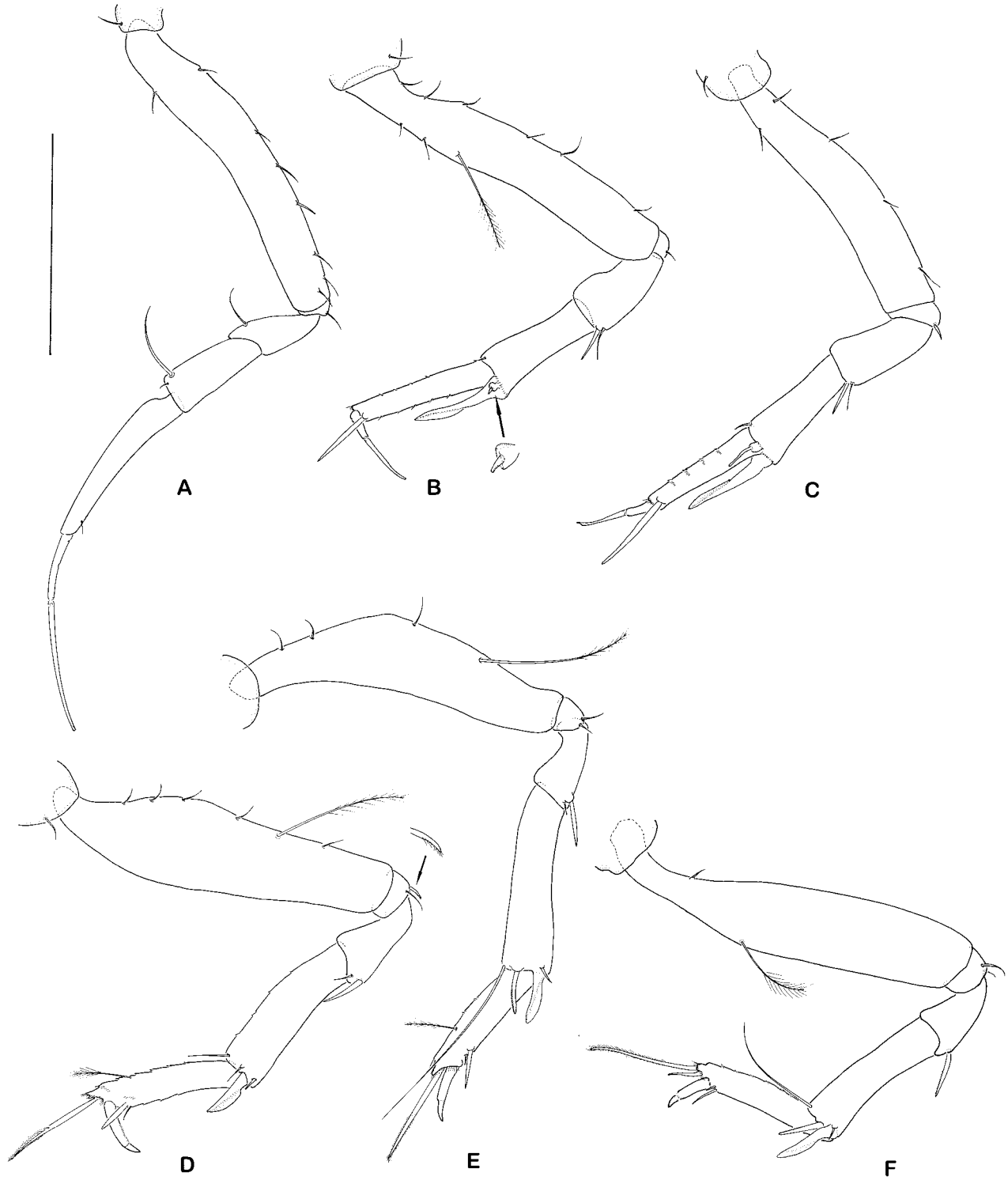

FIGURE 6. *Pseudotanais nipponicus*, n.sp. A–F, pereopods 1–6 respectively. Inset at B shows detail of modified carpal seta. Inset at D shows detail of setulate ischium seta. Scale = 0.2mm.

Pereopod 5 (Fig. 6E) basis with three marginal inferior setae. Ischium with two unequal simple setae. Carpus distally with superior seta extending beyond propodus, stout serrate spiniform seta, and inferior blade-like seta of about 40 % of propodus length. Otherwise similar to pereopod 4.

Pereopod 6 (Fig. 6F) basis with proximal simple seta and superior broom seta. Ischium with two unequal simple setae. Merus lacking distal simple seta. Carpus distally with superior seta subequal to length of propo-

dus, inferior blade-like seta of about 45 % of propodus length, and stout serrate spiniform seta. Propodus with additional terminal spiniform seta and lacking broom setae. Otherwise similar to pereopod 4.

Pleopods (Fig. 4F) rami elongate, with terminal setae only. Endopod about four fifth as long as exopod, with five terminal setae (innermost very short). Exopod with nine terminal setae.

Uropods (Fig. 4G) exopod with two articles, slightly shorter than endopod, proximal article about half as long as ramus, with one distal simple seta, distal article with two unequal simple setae. Endopod with two articles, proximal article about half as long as ramus, with one long distal simple seta and two broom setae, distal article with four long and one short simple setae and two broom setae.

Remarks. Because of its acuminate pars molaris bearing subterminal denticles, this new species appears to belong to a subset of the "affinis group", as defined by Bird & Holdich (1989), that also includes *Pseudotanais longisetosus* Sieg, 1977; *P. longispinus* Bird & Holdich, 1989; and *P. nordenskioldi* Sieg, 1977. The new species appears nearly identical to *P. longispinus* except for minor differences in the setation of the pars molaris, the presence of dorsal and lateral setae on the thoracic and abdominal segments, and unequal merus and carpal superior setae on pereopod 1 (equal lengths in *P. longispinus*). Furthermore, *P. nipponicus* has a cephalothorax which is considerably shorter in proportion to the length of pereonites 1–3 (cephalothorax is subequal to pereonites 1–3 in *P. longispinus*) and has a peculiar spiniform seta with a short, round basal collar on the carpus of pereopods 2–3. Both species feature a pars molaris with subterminal teeth except that the new species apparently has less setation with only four to five small subterminal teeth whereas *P. longispinus* has "one long and about eight short terminal denticles" the longest of which is four times the length of the others and has secondary spinules. Additionally, the distal half of the long terminal setae on the propodus of pereopods 4–6 are heavily setulose in *P. nipponicus* and a few of the spiniform setae of the maxillule endite are equipped with a subterminal setule; both features were not mentioned by Bird & Holdich (1989) for *P. longispinus*. The setation of the pereopods is nearly identical in both species, differing from *P. nordenskioldi* by having a long superior seta on the carpus of pereopods 4–5. The two species appear to have identical maxillipeds which differ from that of *P. longisetosus* by having two small cusps on the endites.

Pseudotanais sp.

Material examined. 2 females, 1.0 mm, station TD-4, 39°27.08'N 143°37.99'W, Kamchatka Trench, North Pacific, 28 September 2001, 3146–3272 metres. These specimens have slightly forcipate chelae with serrate margins, features similar to those of *Mystriocentrus serratus*, Bird & Holdich, 1989, but lack spatulate setae on the pereopods, a defining character of that genus. The carpal blades on pereopods 2–3 are about half as long as propodus. A formal description of this species awaits the acquisition of additional material.

Acknowledgements

I am grateful to Drs. Kim Larsen and Graham Bird for reviewing earlier drafts of the manuscript and greatly improving its structure and content. Partial support was provided by the National Science Foundation under grant no. DEB-0529749.

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