Zootaxa 5399 (4): 397–417
https://www.mapress.com/zt/

Article

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

https://doi.org/10.11646/zootaxa.5399.4.6
http://zoobank.org/urn:lsid:zoobank.org:pub:E06327FB-7FB3-4FBA-826B-90E830EF4AB8

Mysidopsis jenseni n. sp. from the Pacific coast of Washington, with first description of female *M. intii* Holmquist, 1957 (Crustacea: Mysida: Mysidae)

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Abstract

Mysidopsis jenseni **n. sp.** is described from the Puget Sound area, Washington, USA from sand/rocky bottoms in depths of 8 to 15 m. This new species increases the number of American Pacific species of *Mysidopsis* to eight. Based on a collection of *M. intii* Holmquist, 1957 from coastal waters of Chile, a supplementary description of the male is presented and the female is described for the first time. The presence of a mid-dorsal lappet near the posterior margin of the carapace of females only distinguishes the new species from all other *Mysidopsis* species except *M. velifera* Brattegard, 1973 from the Caribbean. *M. jenseni* is further separated from its American Pacific congeners by the following combination of characters: antennal scale 3–4 times as long as wide with a rounded apex and distal suture; uropodal endopod with 8–9 spiniform setae along ventromedial margin; telson with 46–54 spiniform setae along all margins. The presence of lobe-like protuberances on the basis and dactylus of thoracic endopods 3–8 was documented for the new species, *M. intii* and other species of *Mysidopsis* as well as species belonging to the other four genera within the Tribe Mysidopsini. A key to the species of *Mysidopsis* of the Pacific coasts of the Americas is given.

Key Words: mysids, new species, Pacific coasts of Americas, taxonomy

Introduction

The genus *Mysidopsis* G. O. Sars, 1864, including the present description, comprises 52 extant species and one subspecies occurring globally (Mees & Meland 2023). Only seven of these species are recorded along the Pacific coasts of the Americas (Alaska to Chile); five have their northern limits in Southern California, but no members of the genus are known from coastlines north of this area. Three (*M. brattegarti* Băcescu & Gleye, 1979; *M. onofrensis* Băcescu & Gleye, 1979; *M. cathengelae* Gleye, 1982;) of the seven Pacific species are found from California only, followed by one species each from California and Mexico (*M. californica* W. Tattersall, 1932), California and Chile (*M. intii* Holmquist, 1957), Costa Rica (*M. gemina* Price, Heard & Vargas, 2019) and Chile (*M. acuta* Hansen, 1913), respectively.

The new species described below was observed and collected by divers in the Puget Sound area, Washington, USA between 2003 and 2020. The most remarkable feature of the new species is the presence of a mid-dorsal lappet near the posterior margin of the carapace of females only. No other species of *Mysidopsis* exhibit this characteristic except *M. velifera* Brattegard, 1973 from the Colombian Caribbean. A first description of the female and a supplementary description of the male is given for *M.intii* from specimens collected in Chilean coastal waters. In addition, a key to the known *Mysidopsis* from the Pacific coasts of the Americas is presented.

Materials and Methods

The new species was collected from open sand bottoms or sand with algae and/or eelgrass, *Zostera marina* (L.) in depths of 8 to 15 m in Mar. 2003 and Feb. 2020 in the Strait of Juan de Fuca and Puget Sound on the Pacific coast of Washington, USA. Samples were collected manually by SCUBA divers using plastic re-sealable zipper storage

Accepted by K. Meland: 7 Dec. 2023; published: 15 Jan. 2024

bags. Some specimens were photographed alive *in situ* or in petri dishes or aquaria with seawater after transport alive to a laboratory. All collected specimens were preserved in 80% ethanol.

Specimens of *Mysidopsis intii* were collected by Richard Heard from a small, protected sand beach just south of Coquimbo, Chile in Oct. 2002 at a depth of 0.5–1.0 m using a hand-held 0.9 mm bottom "kicknet". The sample was preserved initially in 5–10% formalin and later transferred to 70% ethanol.

Body length was measured from the anterior margin of the carapace to the posterior margin of the telson, excluding setae. Larval development was categorized according to Wittmann (1981). Type materials of the new species and specimens of *M. intii* are deposited in the National Museum of Natural History, Smithsonian Institution, Washington D. C (USNM). Additional specimens of *M. intii* are deposited in the Sala de Colecciones Biológicas, Universidad Católica del Norte, Coquimbo, Chile, (SCBUCN).

TABLE 1. Collection and location information for species of *Americamysis*, *Brasilomysis*, *Cubanomysis*, *Metamysidopsis* and *Mysidopsis* used for comparison of thoracopod structure with *Mysidopsis jenseni* and *M. intii*.

Species	Collection location	Depth (m)	Coll. date	Coll. gear
Americamysis alleni Price, Heard & Stuck, 1994	Biloxi, MS, US 30° 23' 28.5'' N, 88° 53' 7.12'' W	1–2	Oct 1991	kicknet
A. almyra (Bowman, 1964)	Tampa Bay, FL US 27° 57' 41.3'' N, 82° 34' 17.9'' W	1–2	July 1981	kicknet
A. bahia (Molenock, 1969)	Tampa Bay, FL US 27° 57' 41.3'' N, 82° 34' 17.9'' W	1–2	July 1981	kicknet
A. bigelowi (W. Tattersall, 1926)	off Ft. Pierce, FL US 27° 29' 04.2'' N, 80° 16' 43.4'' W	7	June 2007	epibenthic sled
A. stucki Price, Heard & Stuck, 1994	Anclote Key, FL US 30° 23' 28.5'' N, 80° 16' 43.4'' W	3	July 1981	epibenthic sled
Brasilomysis castroi Băcescu 1968a	Tampa Bay, FL US 27° 51' 02.2'' N, 82° 24' 10.4'' W	surface	Aug 2000	plankton net
Cubanomysis jimenesi Băcescu 1968b	Puerto Vargas, Costa Rica; 09° 44' 11.3'' N, 82° 48' 32.4'' W	1–5	Nov 1999	epibenthic sled
Metamysidopsi swifti Băcescu 1969	Anna Maria Is. FL US 27° 30' 40.2'' N, 82° 43' 21.4'' W	1–2	May 1981	kicknet
Mysidopsis bispinulata Brattegard 1974	Cemetery Beach, Gr. Cayman Is. BWI 19° 21' 54.3'' N, 81° 23' 54.0'' W	1–2	May 1998	kicknet
M. furca Bowman 1957	Tampa Bay, FL US 27° 37' 34.5'' N, 82° 39' 22.0'' W	3	June 1983	epibenthic sled
M. gemina Price, Heard & Vargas, 2019	Playa Ocotal, Costa Rica; 10° 32' 52.8'' N, 85° 43' 19.2'' W	1	Mar 2014	algal washings
M. californica W. Tattersall, 1932	Mazatlan Port, MX 23° 11' 36.5'' N, 106° 24' 52.9'' W	surface	May 2004	plankton net

Thoracopod structure of the two species of *Mysidopsis* in the present study was compared with four other species of *Mysidopsis* as well as eight species from related genera, *Americamysis* Price, Heard & Stuck, 1994,

Brasilomysis Băcescu, 1968a, *Cubanomysis* Băcescu, 1968b and *Metamysidopsis* W. Tattersall, 1951. For each species, 1–2 adults of each sex were examined. Collection and location information for these 12 species is given in Table 1. Examined specimens of these species are retained in the personal collection of the author.

Taxonomy

Order Mysida Boas, 1883

Family Mysidae Haworth, 1825

Subfamily Leptomysinae Czerniavsky, 1882

Tribe Mysidopsini Wittmann, Ariani and Lagardère, 2014

Genus Mysidopsis G.O. Sars, 1864

***Mysidopsis jenseni* n. sp.**
(Figs 1–5)

Type material. Holotype: adult female (Body length [BL] 10.9 mm), Sekiu, Strait of Juan de Fuca, Washington, USA, 48° 16' 2.40'' N, 124° 17' 51.18'' W, sand, manual collection using SCUBA with re-sealable zipper storage bags, depth 8.0 m, G. Jensen coll., 2 Mar 2003, USNM 1606864; Paratypes: 2 adult males [BL 8.7, 8.1 mm (partially dissected)], USNM 1606865; 1 ovigerous female [BL 8.5 mm (dissected)], USNM 1606866; 2 ovigerous females (BL 9.6, 9.2 mm), 1 subadult female (BL 6.4 mm) USNM 1606867; Alki Point, Puget Sound, Seattle, Washington, USA, 47° 34' 44.82'' N, 122° 34' 54.06'' W, sand/algae/eelgrass, manual collection using SCUBA with re-sealable zipper storage bags, depth 8–15 m, G. Jensen, R. Green coll., 3 Feb 2020.

Diagnosis. Carapace with anterior margin produced into a subtriangular rostrum with a rounded tip extending mid-length to distal end of article 1 of the antennular peduncle; distinct cervical sulcus. Females with ovoid to trilobed lappet attached near midline of postero-dorsal margin of carapace. Antennal scale lanceolate, apex rounded with indistinct suture, 3.4–3.9 times as long as maximum width. Thoracic endopods 3–8 with carpopropodus 3-articulated, middle article 0.3–0.5 length of other two articles. Male pleopod 1 with uniarticulated endopod, about 0.2 length of 10-articulated exopod. Male pleopod 4 exopod with terminal article having one large apical spiniform seta, biserrate along distal 0.4–0.5 of its length. Telson entire, linguiform, 1.4–1.5 times as long as wide at base; lateral margins with 21–25 short spiniform setae along each entire margin; apex rounded, with two pairs of fairly stout spiniform setae, inner pair longer, about 0.08 times length of telson, outer pair shorter, 0.65-0.75 times length of inner setae; spacing between the inner pair of setae at base equal to basal width of either seta; spacing between the inner and outer setae at base less than basal width of either seta. Uropodal endopod with 8–9 spiniform setae along ventro-medial margin extending distally from region of statocyst.

Description. General body form (Figs. 1A–F, 2A, B): robust, adult males to 8.7 mm and females to 10.9 mm in length. Carapace with anterior margin produced into a subtriangular rostrum; carapace with distinct cervical sulcus; postero-dorsal margin broadly emarginate, leaving last 1 or 2 thoracic somites exposed. Females with ovoid to trilobed lappet attached close to midline of margin; antero-lateral and postero-lateral margins rounded.

Eyes (Fig. 2A): Cornea large, globular, slightly broader than eyestalk, occupying distal 0.5–0.6 of eye, extending to distal half of article 3 of antennular peduncle.

Antennulae (Fig. 2C, D): Peduncle more robust in males than females, extending 0.5– 0.75 times length of antennal scale; 3-articulated. Article 1 subrectangular, 1.0–1.5 times length of article 3, disto-lateral epiprocess with 4-6 plumose setae, lobe near disto-medial margin with 3–5 simple (smooth) and 2–4 plumose setae. Article 2 short, lobe near disto-medial margin with 5–7 simple setae and plumose setae in both sexes; 1 long plumose seta on disto-medial margin, reaching distal end of article 3 in females only. Article 3 subquadrangular with 1 long plumose seta near disto-medial margin of females only; in both sexes, 1 long simple seta and 1 short plumose seta in disto-lateral to mid-lateral region; group of 2–3 simple setae on disto-medial margin; distal border with

dorso-medial lobe bearing two large tooth-like processes and 3–5 plumose setae. Ventrally, females with flabellum formed by several long plumose setae; males with male lobe (appendix masculina) large and densely setose, longer than combined distal 2 articles of peduncle. Outer antennular flagellum slightly thicker than inner.

FIGURE 1. *Mysidopsis jenseni* **n. sp.**: in situ images of ovigerous females (A–D) and laboratory images of adult males (E–F) photographed or collected from sand or hard substrates in subtidal habitats of the Puget Sound area, Washington, USA. Photographs by Billy Ball (C)), Gregory Jensen (A, D–F) and Sara Thiebaud (B).

Antennae (Fig. 2F): Scale lanceolate, extending well beyond peduncle; 3.4–3.9 times as long as maximum width; outer margin slightly concave to straight; inner margin moderately convex; apex with indistinct suture, tip about 0.06 times scale length; all margins covered with plumose setae. Peduncle 3-articulated. Article 1 slightly shorter than article 3 and about half as long as article 2. Article 2 with 2 plumose setae and 1–2 simple setae on inner disto-medial margin and 1 simple seta on outer distal margin. Article 3 with 4 simple setae and 2 plumose setae on inner disto-medial margin and 3 plumose setae along outer distal margin. Sympod with rounded process on distolateral corner.

Labrum (Fig. 2G): Well rounded, wider than long, middle 3/4 of bilobed posterior margin with cluster of short fine setae on one side of emargination and short coarse setae on the other.

Labium (Fig. 2E): Paragnaths roughly symmetrical, basis and inner face densely setose, with spine-like bristles anteriorly.

Mandibles (Fig. 2H–J): Palp 3-articulated. Article 1 small with no setae. Article 2 with simple setae on outer, inner, and distal margins. Article 3 0.4–0.5 times as long as article 2, mostly with simple setae, but disto-lateral margin with 6–7 short spiniform setae bilaterally serrate along distal 0.7 of length. Gnathobasic surfaces of both mandibles without molar process. Left mandible, incisor process with 2 large teeth and series of 6–7 smaller rounded or blunt

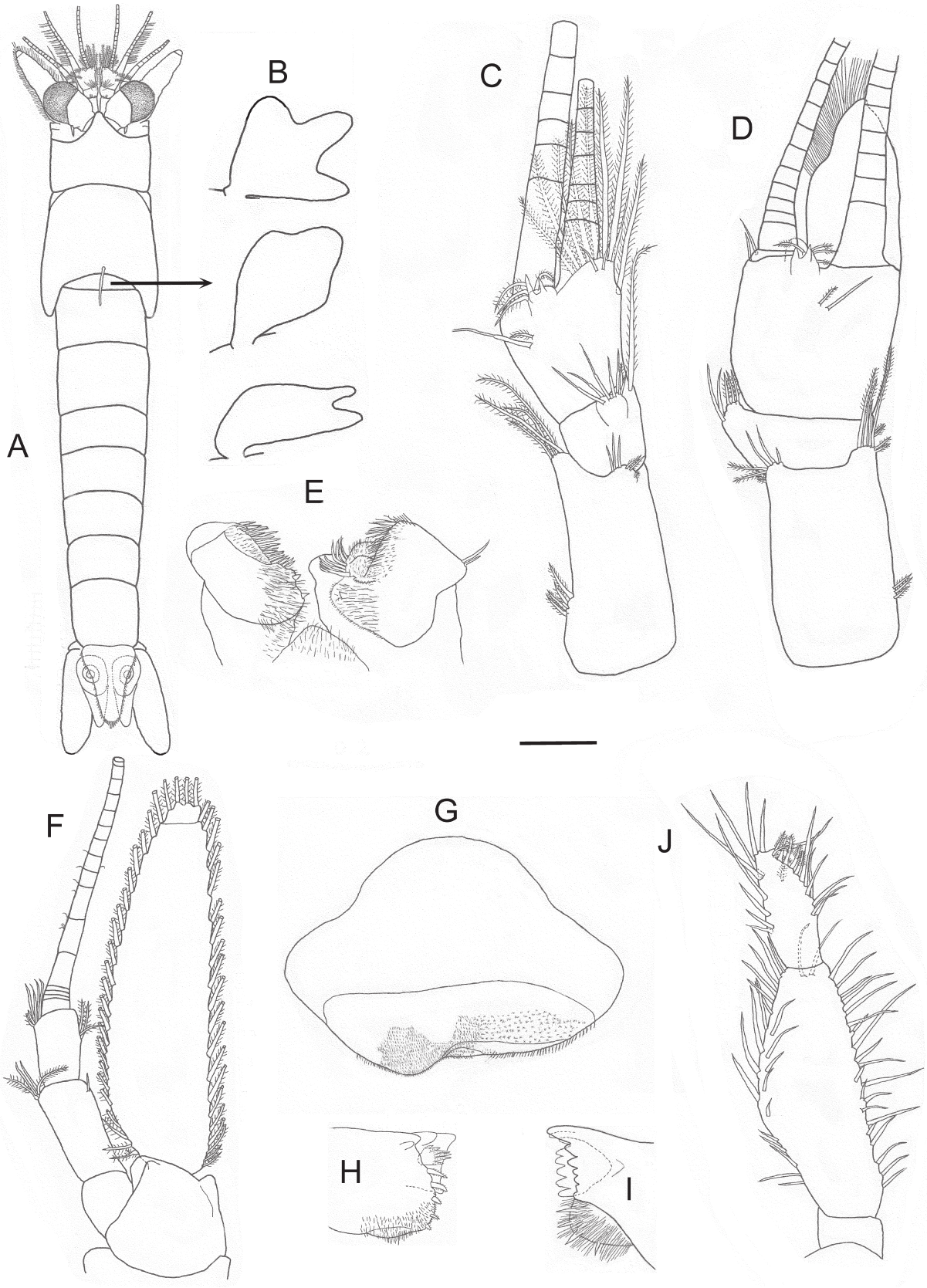

FIGURE 2. *Mysidopsis jenseni* **n. sp.** adult female BL 8.5 mm (A–C, E–J), adult female BL 10.9 mm (B), subadult female BL 6.4 mm (B). adult male BL 8.1 mm (D). A. Dorsal view. B. Lappets, lateral, variation in morphology. C. Left antennula, female, dorsal. D. Right antennula, male, dorsal. E. Labium with part of sternum, posterior. F. Right antenna, dorsal. G. Labrum, posterior. H, I. Gnathobasic parts of right (H) and left (I) mandibles, posterior. J. Left mandibular palp, posterior. Scale: A, 1.0 mm; F, 0.25 mm; B, D, 0.20 mm; C, J, 0.15 mm; E, G–I, 0.10 mm.

teeth; lacinia mobilis with series of 5–6 strong subequal teeth; spine row with bristles and 4 subequal spiniform teeth. Right mandible, incisor process with 5–6 teeth; lacinia mobilis spherical process with cluster of 6–7 tuberculate teeth; spine row with bristles and series of 4–5 fairly equally spaced spiniform teeth decreasing in size distally.

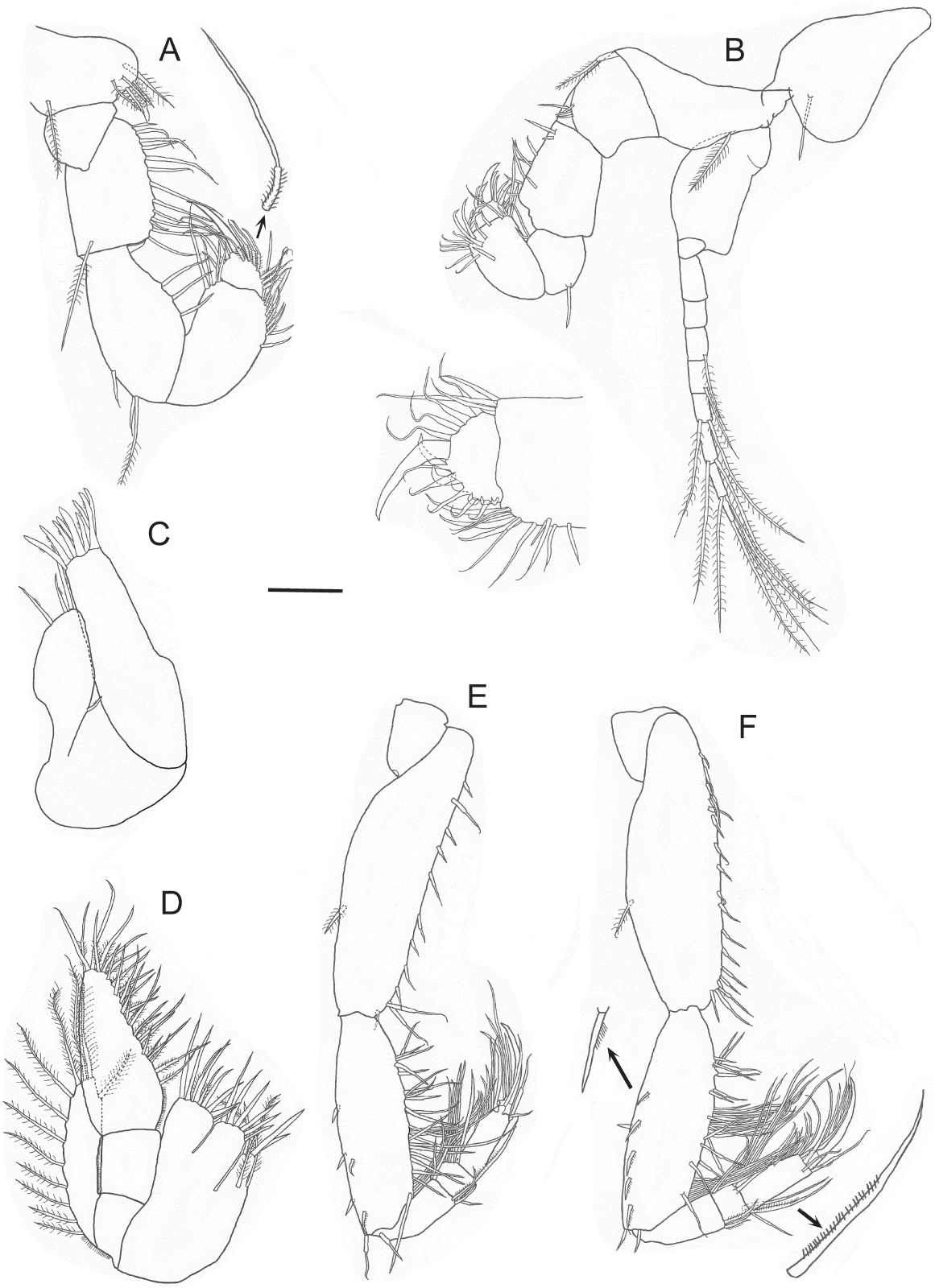

FIGURE 3. *Mysidopsis jenseni* **n. sp.** adult female, BL 8.5 mm (A–F). A. Thoracic endopod 2, posterior with enlargement of modified seta from dactylus. B. Thoracopod 1, anterior with enlargement of distal end (posterior). C. Maxillule. D. Maxilla. E. Right thoracic endopod 3, anterior. F. Right thoracic endopod 4, anterior with enlargement of modified setae from merus and carpopropodus. Scale: A, E, F, 0.2 mm; B, 0.25 mm; C, D, 0.1 mm.

Maxillulae (Fig. 3C): Outer lobe with 9 strong setae on transversely truncate apex; inner lobe with three apical setae and one smaller seta along outer margin. All setae appear microserrated along a part of their distal halves.

Maxillae (Fig. 3D): Exopod relatively narrow, reaching 0.3–0.4 length of terminal article of endopod; with 11–12 plumose setae along most of outer margin, apex and distal 0.10–0.15 of inner margin. Endopod 2-articulated, distal article oval-shaped, narrowing distally, 2.0–2.1 times as long as greatest width; apex and inner margin with series of mostly large basally plumose setae; basal article 0.3-0.4 times length of distal article. Three endites of sympod with mostly simple robust setae; only most distal and most proximal endites with two plumose setae each.

Thoracic endopods (Figs. 3A, B, E, F; 4A–D): Lengths increase from 1 to 4, then decrease from 5 to 8. Distinct dactylus with strong, curved terminal spiniform seta (claw) on all endopods; claw length increasing from endopods 1–4, decreasing discontinuously from 5–8.

Thoracic endopod 1 (Fig. 3B): Short and robust, typical of genus. Epipod leaf-like with large simple seta proximally. Coxa with endite on disto-medial margin terminating in 1 long plumose seta. Basis with group of 4–5 simple setae on disto-medial border. Ischium and merus fused (merischium), about 1.5 times carpus length, slightly shorter than combined propodus and dactylus lengths; simple setae along medial margin. Carpus with 2 simple setae on medial margin, 1 seta on disto-lateral margin. Propodus bent inward, several simple setae on distal half, mostly on disto-lateral and disto-medial borders. Dactylus densely setose with series of distally hooked and distally attenuated, curved simple setae.

Thoracic endopod 2 (Fig. 3A): Ischium about 0.8–0.9 length of merus, mostly long simple setae along medial margin, single long plumose seta disto-laterally. Merus 1.1–1.2 times longer than carpopropodus, with 3 simple setae on distal half of medial margin and 2–3 simple setae and 1 long plumose seta disto-laterally. Carpopropodus with 1 long and 2–3 shorter simple setae on disto-medial corner; dense grouping of simple and biserrate setae (basal part) on distal 0.4 of lateral margin. Dactylus width slightly greater than length, row of simple setae along inner margin and apex, row of biserrate setae on outer margin and apex.

Thoracic endopods 3–8 (Figs. 3E, F, 4A–D): Basis with soft lobe-like process near disto-lateral margin on anterior face. Ischium length as compared to merus length decreases steadily from 1.4 (endopod 3) to 0.8–0.9 (endopods 7, 8); distal 0.6–0.9 of medial margin of ischium of endopods 3–6 with series of simple setae; endopods 7 and 8 with simple setae along distal 0.4 or less of medial margin. Merus 1.1–1.4 times as long as carpopropodus, distal 0.75 of medial margin densely setose with simple setae; endopods 3–5 with 2–5 unilaterally serrate setae (proximal-mid-part) and 1–5 spiniform setae along distal 0.6 of lateral margins. Carpopropodus 3-articulated; middle article 0.3–0.5 length of other two articles. Two unilaterally serrate setae (proximal-mid-part) on disto-lateral corner of first article of endopods 3–5. One unilaterally serrate seta (proximal-mid-part) on disto-lateral corner of second article of endopods 3 and 4. Article 3 apex of endopods 3–8 with 3–4 large simple (paradactylary) setae. Dactylus with simple setae, medial margin with small papilla-like evagination.

Penes (Fig. 5A): Length subequal to length of basis of thoracopod 8; well developed, cylindrical. Each penis with two apical lobes, anterior lobe widest distally with 1 apical and 1 subapical smooth posteriorly bent seta, posterior lobe without setae. Distal half of outer face with series of 4–5 plumose setae.

Thoracic exopods (Figs. 3B, 4C): Basal plates rectangular with rounded outer distal corners. Basal plates 1.5–1.8 times as long as wide for exopods 1–6, 2.2–2.6 times for exopods 7 and 8. Flagella of exopods 1 and 8 each with 8 articles, flagella of exopods 2–7 each with 9 articles. Lengths (basal plate plus flagellum) increasing from exopods 1 to 4 (4–7 subequal) then decreasing from 7 to 8.

Marsupium: Female thoracopods 6–8 with pairs of developed oostegites; first pair smaller than posterior ones.

Abdomen: Abdominal somites 1–5 are 0.9–1.0, 0.6–0.7, 0.6–0.7, 0.6–0.7, and 0.6–0.7 times length of somite 6, respectively.

Pleopods: Female (Fig. 4E– G), uniarticulate, reduced setose plates Pleopod lengths (excluding terminal setae) increasing from 1 to 3, 3 and 4 subequal, increasing to 5; pleopod 5, reaching about 0.5–0.7 length of abdominal somite 6. Male pleopods (Fig. 5B–D) well developed. Lengths (excluding terminal setae) increasing from 1 to 2, 2 to 4 subequal, decreasing to 5; pleopods 4 and 5 reaching 0.1–0.4 length of telson. Basal articles of endopods of all pleopods with rectangular pseudobranchial lobe (exite) bearing 4–5 plumose setae on outer borders. Pleopod 1, uniarticulated endopod with 1 distal simple seta and 1 plumose seta on mid-medial margin; anterior face with group of 5–6 plumose setae; exopod 10-articulated, about 5 times length of endopod. Pleopods 2-5 biramous, endopods and exopods 9–10-articulated. Endopods slightly shorter than exopods; endopod articles each with 2 plumose setae on distal margins; basal articles with 1–2 plumose setae on medial margin and anterior face, respectively; basal

article of pleopod 5 with large plumose seta on distolateral margin. Exopods 1–5, articles each with 2 plumose setae on distal margins, except for terminal article of exopod 4. Exopod 4 with terminal article having one large apical spiniform seta, biserrated along distal 0.4–0.5 of its length; seta as long as the 4–5 distal articles of exopod combined.

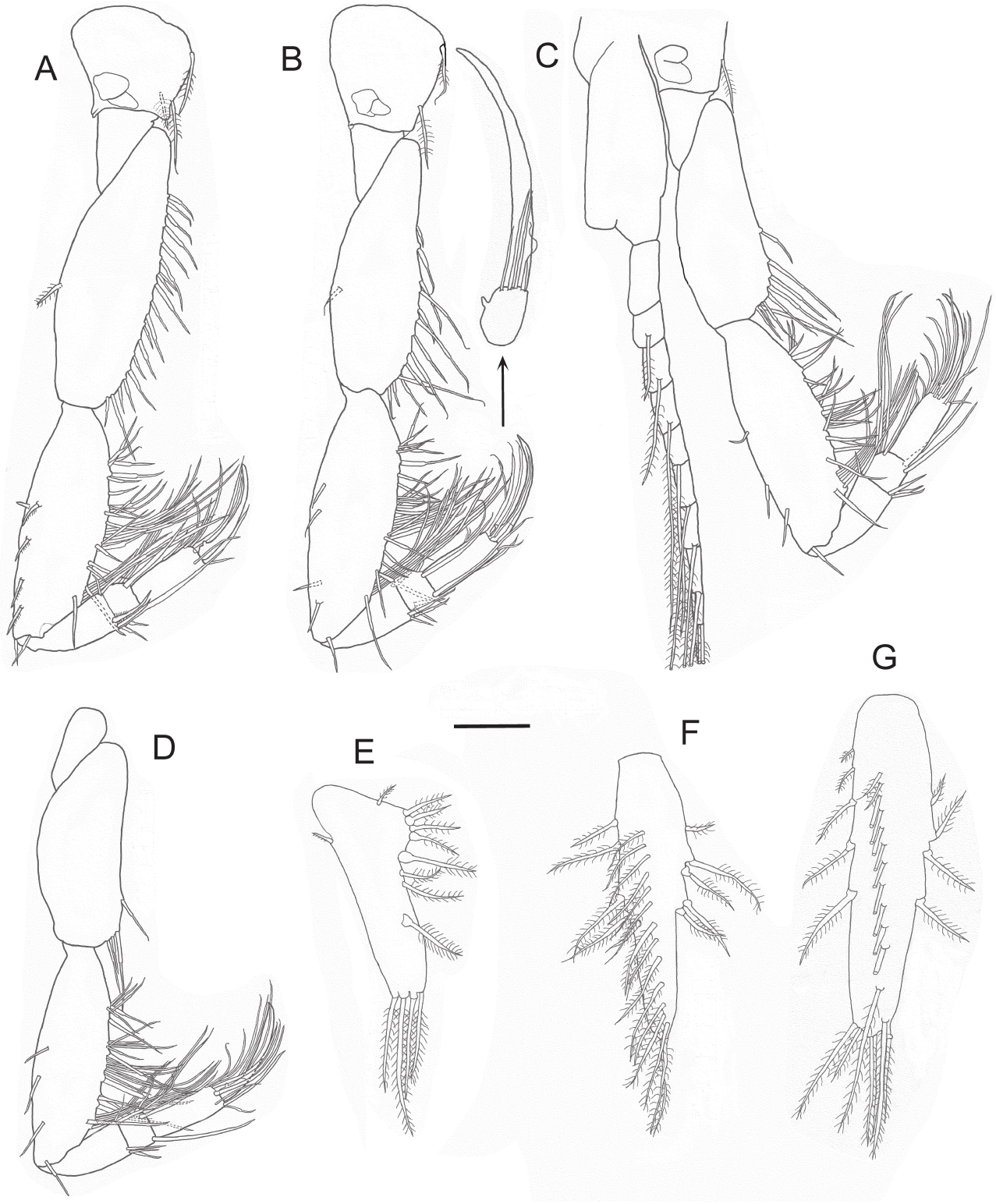

FIGURE 4. *Mysidopsis jenseni* **n. sp.** adult female, BL 8.5 mm (A–G). A. Right thoracic endopod 5, anterior. B. Right thoracic endopod 6 with enlargement of dactylus, anterior. C. Right thoracopod 7, anterior. D. Right thoracic endopod 8, anterior. E. Right pleopod 1, anterior. F, G. Left pleopods 4, 5, anterior. Scale: A–D, 0.2 mm; E–G, 0.1 mm.

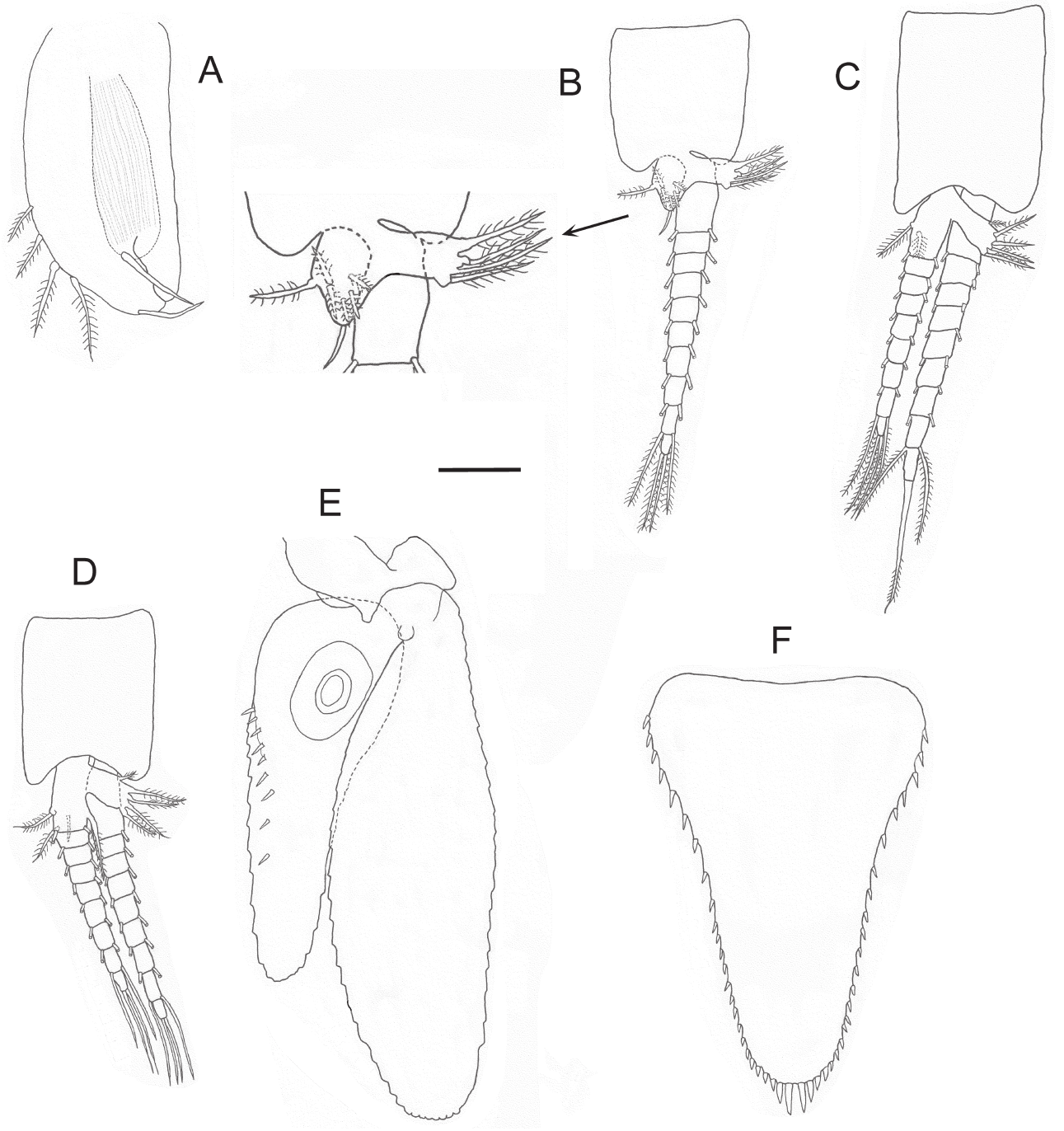

FIGURE 5. *Mysidopsis jenseni* **n. sp.** adult female, BL 8.5 mm (E–F), adult male, 8.1 mm (A–D). A. Penis. B. Right pleopod 1, posterior with enlargement of endopod. C, D. Right pleopods 4, 5, posterior. E. Right uropod, ventral. F. Telson, dorsal. Scale: A, 0.1 mm; B–F, 0.2 mm.

Telson (Fig. 5F): Entire, linguiform, 1.1–1.3 times length of last abdominal somite, 1.4–1.5 times as long as wide at base. Lateral margins moderately concave with 21–25 short spiniform setae along each entire margin, anterior half of margins with 6–7 slightly longer moderately spaced setae, posterior half with shorter more closely spaced setae. Apex rounded, with two pairs of fairly stout spiniform setae, inner pair longer, about 0.08 times length of telson, outer pair shorter, 0.65-0.75 times length of inner setae; spacing between the inner pair of setae at base equal to basal width of either seta; spacing between the inner and outer setae at base less than basal width of either seta. Most posterior pair of lateral setae about 0.6 times length of outer apical setae.

Uropods (Fig. 5E): exopod oblong, outer margin straight to slightly convex, inner margin moderately convex, setose all around; 1.4–1.5 times as long as endopod, 1.2–1.3 times as long as telson, extending about 0.3 times its

length beyond telson. Endopod, outer margin concave, inner margin straight, setose all around; 0.8–0.9 times as long as telson, extending about 0.1 times its length beyond telson. Proximal 0.6–0.7 of ventro-medial margin with a series of 8–9 mostly subequal spiniform setae extending distally from region of statocyst, proximal spines more crowded than distal ones.

Colour. (Fig. 1) The general appearance of live specimens observed *in situ* and the laboratory occurred in four color morphs: brown (raw umber/burnt sienna), yellowish orange, red and pale/translucent. Consistent features for all morphs included the transparency of the posterior portion of the telson and distal portions of the uropods. Also, the antennular and antennal flagellae and scales appeared to be mostly transparent. The most often encountered morph was brown and exhibited a raw umber to burnt sienna cephalothorax, carapace and thoracic legs with numerous torquoise-blue chromatophore spots and patches. Females exhibited raw umber oostegites and brown to raw umber lapettes often with beige distal portions or borders. Live specimens of both sexes had burnt sienna eyes, antennular and antennal peduncles with few turquoise spots. Each abdominal somite showed uniformly raw umber to burnt sienna pigmentation or had lighter pigmentation anteriorly and darker posteriorly. Specimens preserved in ethanol retained some diffuse brown pigmentation on most of the body without torquoise-blue chromatophore spots and patches. Heavier pigmentation persisted at times near postero-ventral margins of abdominal somites 1–5, posterior portion of somite 6, dorsal base of telson, and posterior-most pair of oostegites.

Eggs. An 8.5 mm female carried a full marsupium containing 17 eggs (diameter 0.42–0.48 mm) (n=7).

Etymology. The species name is dedicated to Gregory C. Jensen, who photographed, collected and made observations on behavior and coloration of the new species over a period of two decades. The dedication is also made in recognition of his contributions to the study of the marine invertebrate fauna of the west coast of North America.

Habitat/Behavior. Solitary individuals cruised slowly or hovered just above open sand bottoms or among rocks occasionally landing on scraps of algae or eelgrass, *Zostera marina* in depths of 8 to 15 m. The dorsal lappet of females was kept upright unless folded down when subjected to strong currents or surges.

Type locality. Sekiu, Strait of Juan de Fuca, Washington, USA, 48° 16’ 2.40” N, 124° 17’ 51.18” W, sand, depth 8 m.

Distribution. At present, confirmed specimens are known only from the Puget Sound area along the coast of Washington, USA. A possible occurrence of the new species was recorded in a photograph from Catalina Island, California (https://www.diverkevin.com/NorthAmerica/Invertebrates-Eastern-Pacific/Crustaceans-Eat/i-sd44CrC/A), but confirmation awaits the availability of specimens from this area for morphological study.

Mysidopsis intii Holmquist, 1957

(Figs. 6–9)

Mysidopsis intii Holmquist, 1957: 23, fig. 6; O. Tattersall, 1969: 66, 68 (key); Băcescu & Gleye1979: 131; Gleye 1982: 320; Price *et al.*, 1994: 684 (table); Langdon *et al.* 1996: 1815, figs. 1–3; Brandt *et al*. 1998: 6 (table); Price 2004: 62; Verslycke *et al*. 2007: 207, 208 (table); Hernández-Payán & Hendrickx 2020: 53 (table); Mees & Meland, 2023 (list).

Remarks. Holmquist’s description of *Mysidopsis intii* is based on only two 5.0 mm males collected from Canal Chacao, Ancud, Chile over sand at a depth of 6 m with a plankton net that “touched the bottom and contained benthic as well as planktonic species”. The type material consisting of one intact male (Type-3933) and one dissected male (Type-9794) on a slide is housed in the Swedish Museum of Natural History (NRM). The next records of this species are from Southern California in which Băcescu & Gleye (1979) and Gleye (1982) briefly mention its occurrence. In 1996 (Langdon *et al.* 1996) reported the laboratory culture of *M. intii* collected from the outer harbor of Los Angeles, California for its potential use in toxicity testing of pollutants from Pacific coastal waters. Although this publication includes illustrations of males and females (lateral, anterior and posterior dorsal views), no morphological information is given in the text. Results for toxicity tests for marine pollutants using *M. intii* are provided by Langdon *et al.* (1996) and Harmon & Langdon (1996); Verslycke *et al.* (2007) includes information on this species in their review of mysids as models for testing endocrine-disrupting chemicals.

Because little morphological information has accrued since the original description of the two males of *M. intii*, a supplementary description of the male and a description of the previously unknown female are presented. These new descriptions are based on a collection made at a beach just south of Coquimbo, Chile, approximately 1300 km north of the type locality.

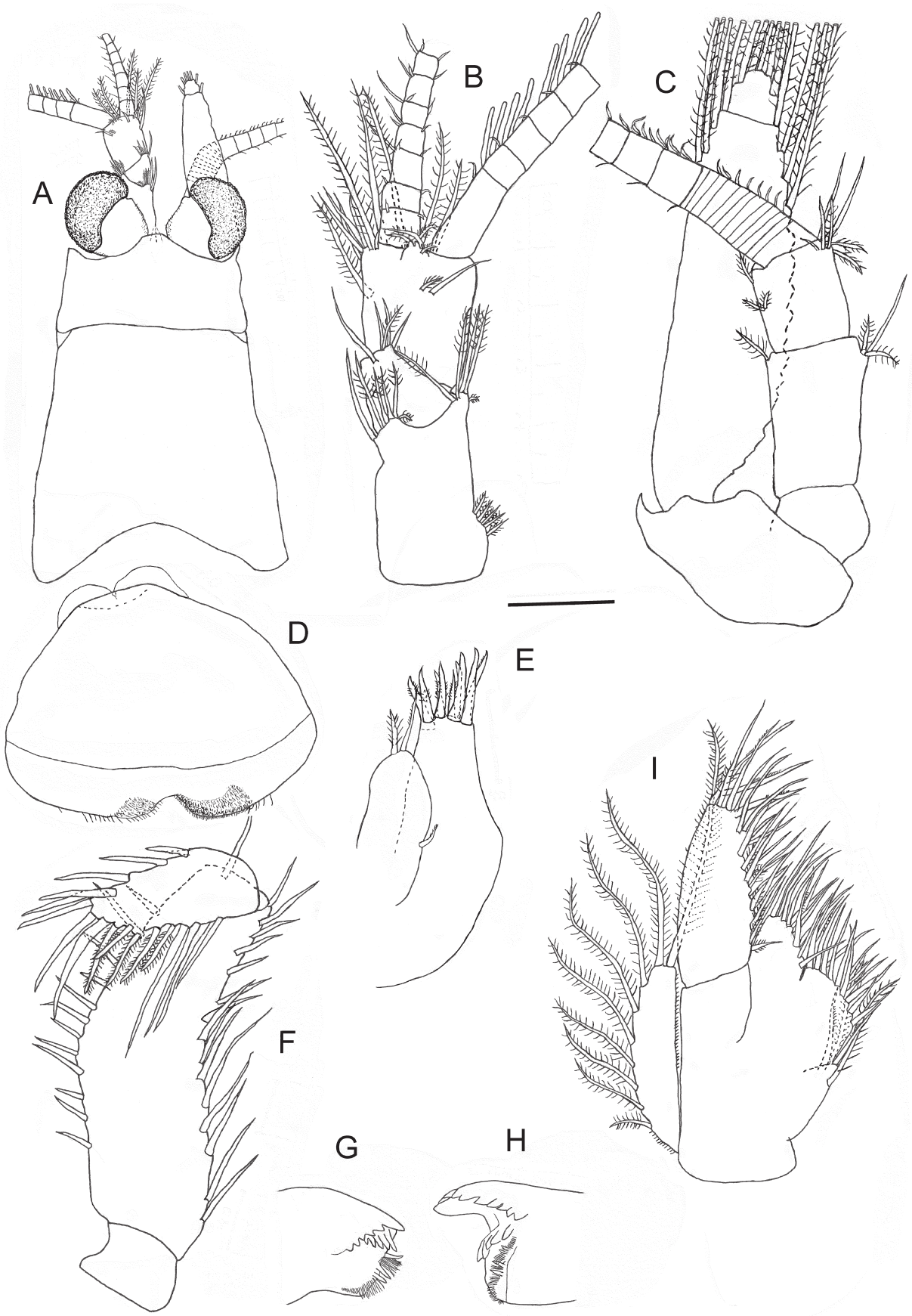

FIGURE 6. *Mysidopsis intii*, adult female, BL (5.4 mm). A. Anterior region, dorsal view. B. Right antennula, dorsal. C. Right antenna, ventral. D. Labrum, posterior. E. Maxillule, posterior. F. right mandibular palp, posterior. G, H. Gnathobasic parts of right (G) and left (H) mandibles, posterior. I. Maxilla, anterior. Scale: A, 0.5 mm; B, C, 0.2 mm; D–I, 0.1 mm.

Material examined. 1 mature male [BL 4.8 mm (partially dissected)], USNM 1606868; 19 ovigerous females (BL 4.5–5.4 mm), 6 non-ovigerous females (BL 4.1– 4.5 mm), 3 mature males (BL 4.7–5.0 mm) USNM 1606869; 3 ovigerous females (BL 4.7–5.3 mm), 2 adult males (4.6, 5.6 mm), SCBUCN 5596; Chile, Coquimbo, Elqui, 30°04'26.9''S, 71°22'30.8''W, low energy sand beach, kicknet, intertidal zone, depth 0.5–1.0 m, R. Heard coll., 5 Oct 2002.

Diagnosis. Carapace with anterior margin produced into a short, bluntly rounded, subtriangular rostrum, barely extending to proximal part of article 1 of antennular peduncle; moderate cervical sulcus. Antennal scale lanceolate, extending well beyond antennal peduncle, apex rounded with moderately distinct suture; 3.7–3.9 times as long as maximum width. Thoracic endopods 3–8 with carpopropodus 2-articulated, first article 1.2–1.4 times length of second. Male pleopod 1 with uniarticulated endopod, 0.1–0.2 length of 7-articulated exopod. Male pleopod 4 exopod with terminal article having one large apical spiniform biserrate seta and one shorter, more slender, simple seta on disto-lateral margin. Telson entire, linguiform, 1.5–1.7 times as long as wide at base. Lateral margins with 44–57 spiniform setae; 6–9 short, moderately spaced setae along anterior 0.4–0.5 of each margin; posterior 0.5–0.6 of telson densely armed with 15–30 larger setae increasing in length posteriorly on each margin. Apex rounded, with three pairs of setae subequal in length, about 0.08 times length of telson. Uropodal endopod with 30-43 short spines in 8–10 groups of 2–7 spines each extending along straight or slightly undulating ventro-medial margin from region of statocyst to apex.

Description of adult female: General body form (Fig. 6A): moderately robust. Body length to 5.4 mm. Carapace with anterior margin produced into a short, bluntly rounded, subtriangular rostrum, barely extending to proximal part of article 1 of antennular peduncle; carapace with moderate cervical sulcus; postero-dorsal margin broadly emarginate, leaving last thoracic somite exposed.

Eyes (Fig. 6A): Cornea large, calotte-shaped in dorsal view, 1.1–1.2 times as wide as eyestalk, occupying distal 0.4–0.5 of eye, extending to proximal half of article 3 of antennular peduncle. Eyestalk anterior and posterior margins with minute setae basally.

Antennulae (Fig. 6B): Peduncle less robust in females than males; extending 0.7–0.8 times length of antennal scale, 3-articulated. Article 1 subrectangular, 1.6–1.7 times as long as wide, 1.1–1.2 times length of article 3 (measured at dorsal midline), disto-lateral epiprocess with 5-6 plumose setae, lobe near disto-medial margin with 6–7 simple (smooth) and plumose setae. Article 2 short, subtriangular, lobe near disto-medial margin with group of 4–5 simple and plumose setae; 1 long simple seta on disto-medial margin. Article 3 subquadrangular with 1 long plumose seta midway along medial margin of females only; 1 long simple seta and 1 short plumose seta in disto-lateral to mid-lateral region; group of 4–5 simple setae on disto-medial corner; distal border with dorso-medial lobe bearing two large and 1–2 small tooth-like processes and 4 plumose setae. Ventrally, terminal article with flabellum formed by 5 long plumose setae. Outer antennular flagellum slightly thicker than inner.

Antennae (Fig. 6C): Scale lanceolate, extending well beyond antennular peduncle; 3.7–3.9 times as long as maximum width; outer margin straight; inner margin moderately convex; apex with suture, tip about 0.10 times scale length; all margins covered with plumose setae. Peduncle 3-articulated, extending 0.6–0.7 scale length. Article 1 slightly shorter than article 3 and about 0.6 times as long as article 2. Article 2 with 2 plumose setae and 1 simple seta on disto-medial margin and 1 plumose seta on distolateral margin. Article 3 with 6–7 simple and plumose setae on disto-medial margin and 2-3 plumose setae along lateral margin. Sympod with spiniform process on disto-lateral corner.

Labrum (Fig. 6D): Well rounded, slightly asymmetrical, wider than long; anterior margin rounded on ventral surface; middle 0.6–0.7 of bilobed posterior margin with clusters of short fine setae.

Labium (not figured): Paragnaths roughly symmetrical, basis and inner face of each lobe densely setose with mostly fine setae, with spine-like bristles anteriorly.

Mandibles (Fig. 6F–H): Palp 3-articulated; article 1 small with no setae; article 2 with simple setae on most of outer and inner margins. Article 3 0.4–0.5 times as long as article 2, mostly with simple setae, apex with one long moderately curved spiniform seta; distal part of outer margin with 4–5 shorter spiniform setae bilaterally serrated along distal 0.8–0.9 of shaft. Gnathobasic surfaces of both mandibles without molar process. Left mandible, incisor process with series of 9–10 acute or rounded teeth; lacinia mobilis with series of 5–6 subequal teeth; spine row with bristles and 2–4 subequal acute teeth. Right mandible, incisor process with series of one large acute tooth and 5–6 smaller acute or rounded teeth; lacinia mobilis with series of 4–5 acute teeth; spine row with fine bristles and 2–3 large subequal spiniform teeth.

Maxillulae (Fig. 6E): Outer lobe, truncate apex with 9 strong spiniform setae, 7 with bilateral microserrations (middle third or distal half of shaft) and 2 simple setae; inner lobe with two apical setae, one sparsely plumose, the other with microserrations; one smaller microserrated seta about halfway along outer margin.

Maxillae (Fig. 6I): Exopod narrow, reaching about 0.1 length of terminal article of endopod; with 8–10 plumose setae along most of outer margin and apex. Endopod 2-articulated, articulation between endopod and basis inconspicuous, but proximal article appears to be about 0.5 length of distal article; distal article oval-shaped, narrowing distally, 1.9–2.2 times as long as greatest width; apex and inner margin with series of mostly long setae, some simple, some plumose on basal halves and others with microserrations on distal halves. Sympod with three endites; distal two endites with series of simple setae and a few setae bearing microserrations on distal halves; apex of most proximal endite with 4 setae, two with microserrations on distal halves and two plumose.

Thoracic endopods (Figs. 7A–G, 8A): Endopod lengths increase from endopods 1 to 3, decrease from 3 to 8. Distinct dactylus with curved terminal spiniform seta (claw) on all endopods, claws 1 and 2 strongest; claw lengths increase from endopods 1 to 2, decrease from 2 to 3, 3–8 subequal.

Thoracic endopod 1 (Fig. 7A): Short and robust, typical of genus. Epipod leaf-like without setae. Inconspicuous articulation between coxa and basis. Coxa with 1 plumose seta on lateral margin near insertion of exopod, 2 plumose setae on medial margin near insertion of epipod. Basis with 2 short plumose setae on proximo-medial margin, 2–3 microserrated setae on disto-medial border. Merischium (ischium and merus fused) and propodus subequal in length, each about 2 times carpus length, simple and microserrated setae along most of medial margin of merischium. Carpus with 3 microserrated setae (mid-part) on medial margin, 1 large spiniform seta on disto-lateral margin. Propodus bent inward, a few simple and microserrated setae on distal half, mostly on disto-medial and disto-lateral borders, with one stout spiniform seta just medial to disto-lateral margin on anterior face. Dactylus densely setose with row of microserrated setae along medial margin and series of distally hooked spiniform setae on apex and lateral margin.

Thoracic endopod 2 (Fig. 7B): Ischium about 0.5–0.8 length of merus, short and longer simple setae along medial margin, three plumose setae along lateral margin. Merus 0.9–1.3 times longer than carpopropodus, with 2–3 simple setae along mid-third of medial margin and 2 simple setae disto-laterally. Carpopropodus with 1 short and 2 longer simple setae on disto-medial corner; series of several simple, sparsely setose and microserrate setae on distal 0.6 of lateral margin and near lateral margin on anterior face; grouping of 5–6 simple setae on mid-distal border of anterior face. Dactylus width and length subequal, row of simple setae along medial margin and apex; row of biserrate setae on lateral margin, apex and anterior face.

Thoracic endopods 3–8 (Figs. 7C–G, 8A): Basis with soft lobe-like process near disto-lateral margin on anterior face. Ischium length as compared to merus length decreases steadily from 0.8–0.9 (endopods 3, 4) to 0.4–0.6 (endopods 7, 8); distal 0.5–0.7 of medial margin of ischium of endopods 3–5 with series of 8 or more simple setae; endopods 6–8 with 2–6 simple setae along distal 0.4 or less of medial margin. Merus, endopods 3 and 4 1.6–1.8 times length of carpopropodus, endopods 5–8 1.3–1.6 times length of carpopropodus; distal 0.8–0.9 of medial margin armed with simple setae; 4–7 simple setae along distal 0.5–0.7 of lateral margins and distolateral corner. Carpopropodus 2-articulated. First article 1.2–1.4 times length of second. Two unilaterally serrated setae (proximal-mid-part) on disto-lateral half of first article of endopods 3–7. Article 2 apex of endopods 3–8 with 3–4 large simple (paradactylary) setae. Dactylus with simple setae, medial margin with small papilla-like evagination.

Thoracic exopods (Fig. 7A, G): Basal plates rectangular with rounded outer distal corners. Basal plates 1.5–1.8 times as long as greatest width for all exopods. Flagella of exopods 1 and 8 each with 8 articles, flagella of exopods 2–7 each with 9 articles. Lengths (basal plate plus flagellum) increasing from exopods 1 to 3 (3–7 subequal), then decreasing from 7 to 8.

Marsupium: Female thoracopods 6–8 with pairs of developed oostegites; first pair smaller than posterior ones.

Abdomen: Abdominal somites 1–5 are 0.8–1.0, 0.6–0.8, 0.6–0.9, 0.6–0.8, and 0.5–0.6 times length of somite 6, respectively.

Pleopods (Fig. 8B–D): Uniarticulate, reduced setose plates. Pleopod lengths (excluding terminal setae) increasing from 1 to 3, 3 and 4 subequal, increasing to 5; pleopod 5, reaching 0.6–0.7 length of abdominal somite 6.

Telson (Fig.8E): Entire, linguiform, 1.1–1.2 times length of last abdominal somite, 1.5–1.7 times as long as wide at base. Lateral margins with 44–57 spiniform setae on posterior 0.8 of telson; 6–9 short, moderately spaced setae along anterior 0.4–0.5 of each margin; posterior 0.5–0.6 of telson densely armed with 15–30 larger setae increasing in length posteriorly on each margin. Apex rounded, with three pairs of setae subequal in length, about 0.08 times length of telson.

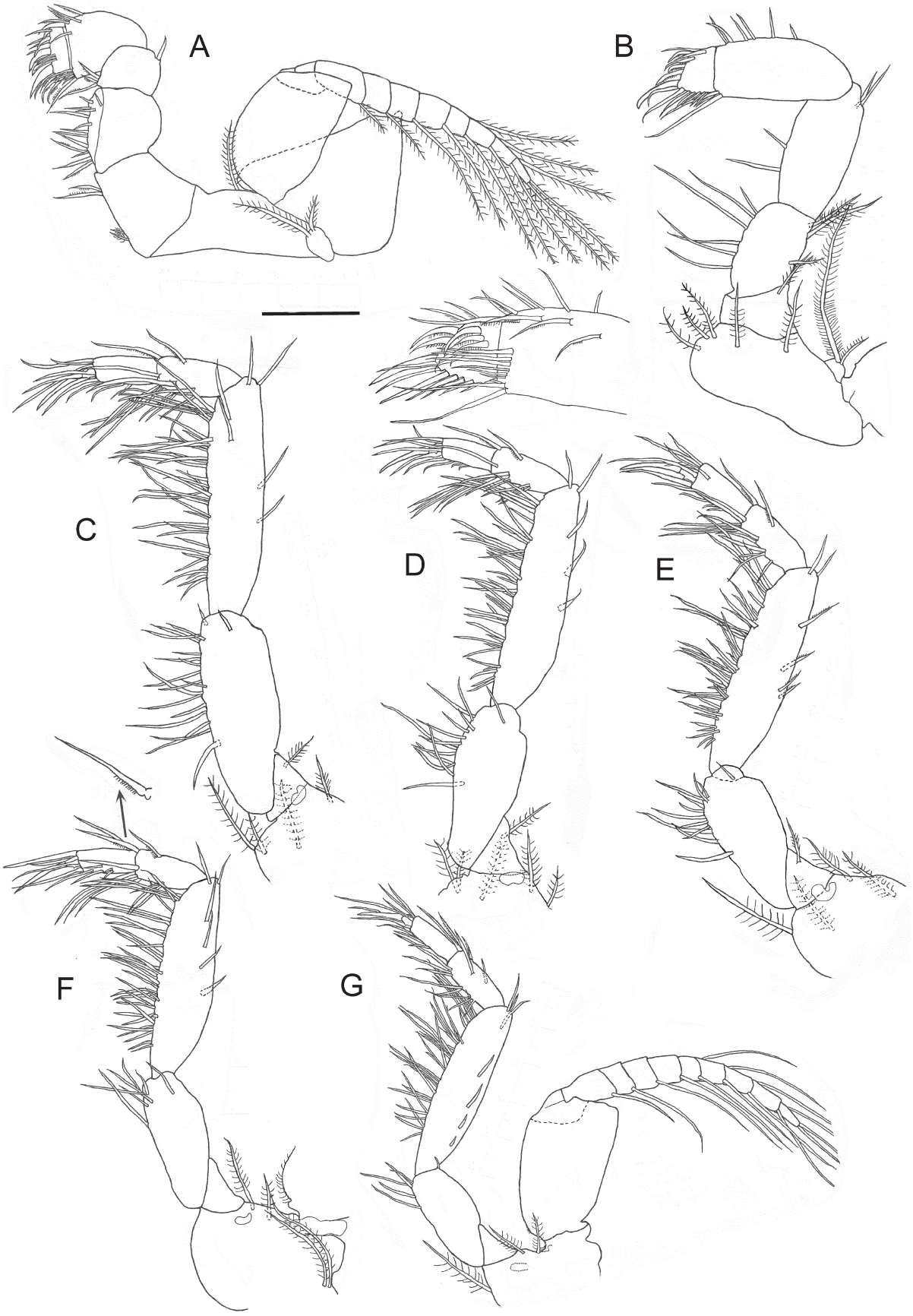

FIGURE 7. *Mysidopsis intii*, adult female, BL (5.4 mm) A. Thoracopod 1, posterior. B. Right thoracic endopod 2, posterior, with enlargement of distal end (anterior). C–F. Right thoracic endopods 3–6, anterior. G. Right thoracopod 7, posterior. Scale: A, G, 0.25 mm; B–F, 0.20 mm.

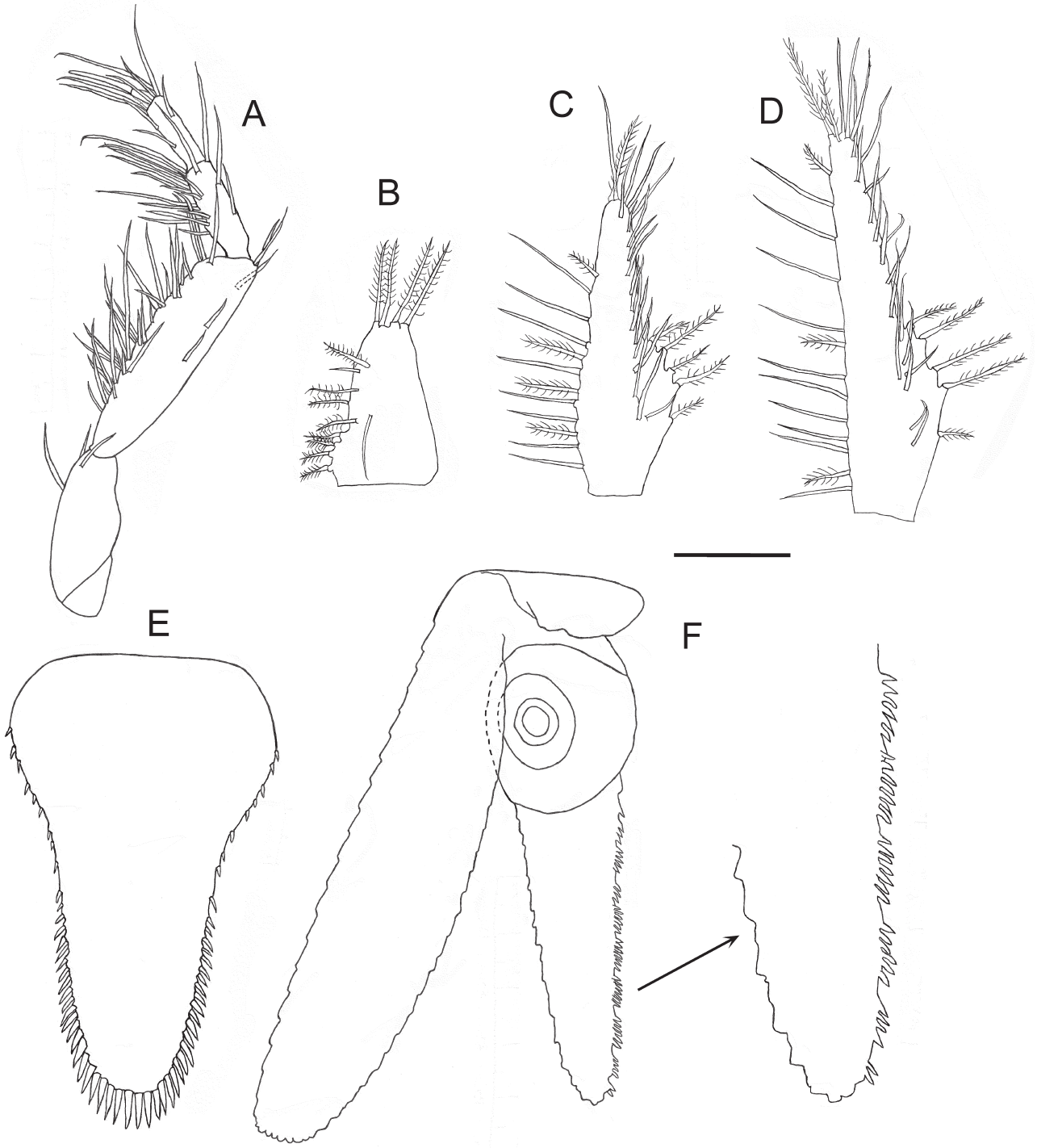

FIGURE 8. *Mysidopsis intii,* adult female, BL (5.4 mm). A. Right thoracic endopod 8. B. Right pleopod 1, anterior. C. Right pleopod 4, anterior. D. Right pleopod 5, anterior. E. Telson, dorsal. F. Right uropod, ventral, with enlargement of spines on medial margin of endopod. Scale: A, E, F, 0.2 mm; B–D, 0.1 mm.

Uropods (Fig. 8F): Exopod leaflike, outer margin straight, inner margin moderately convex, setose all around; 1.2–1.3 times as long as endopod, 1.3–1.5 times as long as telson, extending 0.3–0.4 times its length beyond telson. Endopod, outer margin straight or slightly concave, inner margin straight or slightly undulating, setose all around; 1.2–1.3 times as long as telson, extending 0.2–0.3 times its length beyond telson. Ventro-medial margin with 38-43 short spines in 8–10 groups of 2–7 spines each extending from the region of the statocyst to the apex with a plumose seta inserted between each grouping of short spines.

Description of adult male. Morphological features of the male essentially agree with the description of the

adult female and Holmquist's (1957) original description. The following description of the male refers to differences related to size, individual variation and secondary sexual characteristics.

General body form: moderately robust. Body length to 5.6 mm.

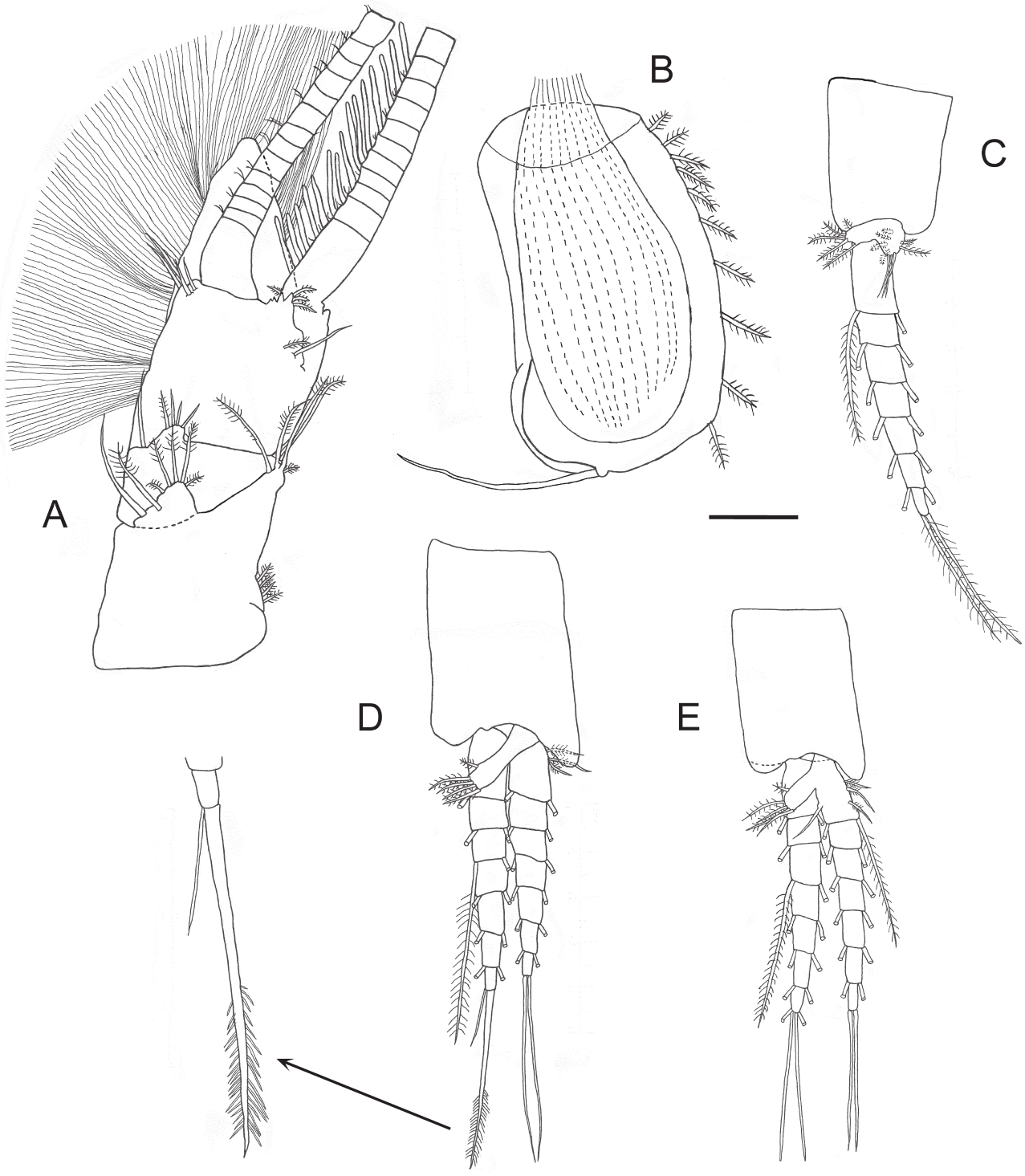

FIGURE 9. *Mysidopsis* intii, adult male, BL (4.8 mm). A. Right antennula, dorsal. B. Penis. C. Left pleopod 1, posterior. D. Left pleopod 4, posterior with enlargement of exopodal terminal seta. E. Left pleopod 5, posterior. Scale: D, 0.25 mm; A, C, E, 0.20 mm; B, 0.10 mm.

Antennulae (Fig. 9A): Article 1 subrectangular, 1.1–1.2 times as long as wide, 0.8–1.1 times length of article 3 (measured at dorsal midline). Article 3 subquadrangular with no long plumose seta near disto-medial margin. Ventrally, terminal article with male lobe (appendix masculina) more than two times longer than wide and densely setose, subequal to combined length of distal 2 articles of peduncle.

Penes (Fig. 9B): Length about 0.7 length of exopodal basal plate of thoracopod 8; well developed, cylindrical. Each penis with two apical lobes with smooth terminal margins. Apex of anterior lobe with 1 long, smooth posteriorly bent seta. Outer face with series of 10 plumose setae.

Thoracic exopods: Lengths (basal plate plus flagellum) increasing from exopods 1 to 3 (3–6 subequal), then decreasing from 6 to 8.

Pleopods (Fig. 9C–E): Pleopod well developed. Lengths (excluding terminal setae) decreasing from 1 to 3, 3 to 5 subequal; pleopods 4 and 5 (excluding terminal setae) reaching 0.5–0.6 length of abdominal somite 6 and end of somite 6, respectively. Basal articles of endopods of all pleopods with rectangular pseudobranchial lobe (exite) bearing 5 plumose setae on outer borders. Pleopod 1, uniarticulated endopod; posterior face with 3 distal simple setae and 1 plumose seta on mid-medial margin; anterior face with group of 5 plumose setae. Exopod 7-articulated, 7–8 times length of endopod. Pleopods 2-5 biramous; endopods and exopods 7-articulated. Endopods slightly shorter than exopods; endopod articles each with 2 plumose setae on distal margins; basal articles with 2–3 plumose setae on medial margin. Basal article of pleopod 5 with large simple seta on lateral margin. Exopods 1–5, articles each with 2 plumose setae on distal margins, except for terminal article of exopod 4. Exopod 4 with terminal article having one large apical spiniform seta and one shorter, more slender, simple seta on disto-lateral margin. Spiniform seta biserrated along distal 0.4–0.5 of its length.

Uropods: Endopod, ventro-medial margin slightly undulating with 30-39 short spines in 8–10 groups of 2–6 spines each extending from the region of the statocyst to the apex with a plumose seta inserted between each grouping of short spines.

Colour. Most ethanol-preserved specimens exhibited moderately heavy black/brown pigmentation on corneas, near postero-ventral margins of abdominal somites 1–5 and dorsally at the base of the telson. Although a few specimens were devoid of pigmentation, diffuse patterns of brown often persisted on the following areas: antennular peduncles, antennal scales, eyestalks, distal articles of thoracic endopods, basal plates of thoracic exopods, posterior-most pair of oostegites, lateral areas of abdominal somites 1–5 and uropods.

Larvae. One female (BL 5.4 mm) carried a full marsupium of 11 postnauplioid larvae, substage P3 (0.93–1.12 mm) (n=5). All other ovigerous females had disturbed marsupia, some with partial broods: one female (BL 4.7 mm with two embryonic larvae, substage E5 (0.31, 0.33 mm); two females (BL 4.60, 4.74 mm) with four or five nauplioid larvae each, substage N3 (0.61–0.78) (n=9).

Habitat. Collected in coastal waters over sand in depths of 0.5–6.0 m by plankton net, epibenthic sled and kicknet.

Type locality. Canal Chacao, Ancud, Chile, 41° 52’ 06’’ N, 73° 50’ 58’’ W, sand, depth 6 m.

Distribution. Chile (Holmquist 1957; present study); Southern California, USA (Băcescu & Gleye 1979; Gleye 1982; Langdon *et al*. 1996).

Discussion

The presence of sclerotized evaginations on the medial margins of the dactylus of thoracic endopods 3–8 of several species (8) of *Mysidopsis* from southern and eastern Africa, Japan and the Mediterranean was noted by Wittmann & Griffiths (2014, 2018). Additionally, Bacescu & Gleye 1979 illustrated the distal part of thoracic endopod 3 (fig. 1J) of *M. onofrensis* (California) with such an evagination but made no mention of it in the description. In the present study, these structures were found in *M. jenseni* and *M. intii* as well as four other species of *Mysidopsis* from the western Atlantic (2) and eastern Pacific (2), and species from related genera, *Americamysis* (5), *Brasilomysis* Bacescu (1), *Cubanomysis* (1) and *Metamysidopsis* (1) from the western Atlantic (Table 1). For these 23 species, evaginations ranged from acute structures to less prominent lobes, mamillations or even undulations. These findings strengthen the suggestion of Wittmann & Griffith (2014) that this character may be more widely distributed within the genus *Mysidopsis*. Since the five genera mentioned above compose the Tribe Mysidopsini, these dactyl evaginations may be common throughout this taxon as well.

Wittmann & Griffiths (2014, 2018) summarized the history of another rarely reported lobe-like structure associated with thoracic endopods 3–8 of the genus *Mysidopsis*, a protuberance located on the disto-lateral corner of the basis. To date this process has been reported for multiple species of *Mysidopsis* and *Metamysidopsis* and at least one species of *Cubanomysis* (Wittmann & Griffiths 2018). In the present study the process was noted for *M. jenseni*, *M. intii* and all species listed in Table 1. As with the dactyl evaginations discussed earlier, it appears that these basal processes are common throughout the Tribe Mysidopsini.

Five members of the genus *Mysidopsis* have median protuberances (nodules) on the carapace, present in both sexes (see Wittmann & Griffiths 2014 for details). Only two species, *M. jenseni*, from the Puget Sound area and *M. velifera* from the Colombian Caribbean, possess a mid-dorsal lappet near the posterior margin of the carapace of females only. The new Pacific species is distinguished from *M. velifera* by a variety of characters, including the (1) larger adult size (female, to 10.9 mm; male, to 8.7 mm) as opposed to 3.9 mm and 3.5 mm in *M. velifera*; (2) Length/width ratio of antennal scale (3.4–3.9); 3.0 in *M. velifera*; (3) dorsal lappet oval to trilobed; lappet bilobed in *M. velifera*; (4) spiniform setae on uropodal endopod (8–9); 2–4 in *M. velifera*; (5) total number of telson setae (46–54); 18–34 in *M. velifera*; (6) setation of posterior third of telson (marginal and apical setae crowded); marginal and apical setae well-spaced in *M. velifera.*

Within the Pacific coast species of *Mysidopsis*, the new species is most morphologically similar to *M. onofrensis*, described off the Southern California coast in depths of 15–75 m. Both species have similar telsons, antennal scales and setation of thoracic endopods 3–5. In addition to the presence of a lappet near the midline of posterior margin of the carapace of *M. jenseni* females only, the new species differs from the California species by having 1) the uropodal endopod with 8–9 spiniform setae along ventro-medial margin rather than 5; 2) the anterior margin of the carapace produced into a strong subtriangular rostrum with rounded apex as opposed to a pointed apex; 3) male pleopod 4 extending posteriorly at least to anterior part of the telson versus male pleopod reaching no more than half of last abdominal somite; 4) mandibular palp, article 3 with long terminal S-shaped simple seta and disto-lateral margin with 6–7 bilaterally serrated spiniform setae as opposed to no S-shaped seta and 4 bilaterally serrated setae.

Mysidopsis intii is only one of eight *Mysidopsis* species that exhibits a 2-articulated carpopropodus in thoracic endopods 3–8 and an antennal scale with a terminal article. The other seven species include *M. ankeli* Brattegard, 1973, *M. bispinulata* Brattegard, 1974, *M. robustispina* Brattegard, 1969, and *M. tortonesei* Bacescu, 1968b known from the Atlantic waters of the Americas; *M. camelina* O. Tattersall, 1955 and *M. suedafricana* O. Tattersall, 1969 from South Africa and *M. californica* from the Pacific waters of the Americas. Although *M. intii* shows some morphological similarities to *M. californica*, its closest affinity is with *M. ankeli*. Both *M. intii* and *M. ankeli* share a similar antennal scale and a linguiform telson with spiniform setae all around, short and moderately spaced anteriorly, becoming longer and denser posteriorly and with apex setae slightly longer than adjacent ones. In addition, both species have uropodal endopods with undulating inner margins armed with groups of short spines extending from the statocyst to the apex. However, *M. intii* differs from the Caribbean species by having 1) the anterior margin of the carapace produced into a short, bluntly rounded rostrum as opposed to a pointed triangular rostrum; 2) the ventro-medial margins of the uropodal endopod armed with a row of 8–10 groups of 2–7 short spines each, but lacking a single longer spiniform seta near the statocyst rather than 6–7 groups of 2–4 spines each with one longer seta near the statocyst; 3) the telson armed with 50–63 spiniform setae, apex with 3 pairs of setae subequal in length as opposed to 35 or fewer telsonal setae, apex with a pair of setae slightly longer than adjacent ones.

Compared to the other seven Pacific coast species of *Mysidopsis*, *M. intii* is morphologically closest to *M. californica*. The two species share a 2-articulated carpopropodus in thoracic endopods 3–8, 7-articulated endopod and exopod for male pleopod 4 and show some similarities with respect to the telson and rostrum. However, *M. intii* can be distinguished from *M. californica* by having 1) the antennal scale 3.7–3.9 times as long as maximum width with its apex somewhat rounded as opposed to 9.0 times as long as wide with an acute apex; 2) uropodal endopod with undulating ventro-medial margin armed with a row of 30–43 short spines in groups extending from the statocyst to the apex versus a dense row of about 50 mostly large blunt spiniform setae extending from the statocyst to the apex.

Key to the species of *Mysidopsis* from Pacific coasts of the Americas

1	Uropodal endopod with 16 or more spiniform setae or spines along ventro-medial margin distal to statocyst 2
-	Uropodal endopod with fewer than 16 spiniform setae along ventro-medial margin distal to statocyst 5
2	Antennal scale apex acutely pointed 3
-	Antennal scale apex rounded 4
3	Antennal scale 7.0–10 times as long as maximum width; carapace, anterior margin produced into a short, bluntly rounded subtriangular rostrum, not covering any part of eyestalks; thoracic endopods 3–8 with 2-articulate carpopropodus; telson apex, median pair of spiniform setae equal to or slightly longer than adjacent pair . . . . . *M. californica* W. Tattersall, 1932 (USA: California; Mexico: Baja California, Sinaola; shallow water)

- Antennal scale about 5 times as long as maximum width; anterior margin produced into a subtriangular rostrum, extending about half the length of eyestalks; thoracic endopods 3–8 with 3-articulate carpopropodus; telson apex, median pair of spiniform setae at least 2 times longer than adjacent pair. . . . . *M. acuta* Hansen, 1913 (Chile, Tierra del Fuego, Patagonian Shelf, Falkland Islands, South Georgia; 0–250 m)

4 Uropodal endopod with 30–43 short spines in 8–10 groups of 2–7 spines each along a straight or slightly undulating ventro-medial margin from the region of the statocyst to the apex; thoracic endopods 3–8 with 2-articulate carpopropodus; telson apex densely armed with 5–6 subequal spiniform setae. . . . . *M. intii* Holmquist, 1957 (Chile: Los Lagos, Coquimbo: USA: California; 1.0–6.0 m)

- Uropodal endopod with 16–20 fairly large spiniform setae along ventro-medial margin from the statocyst to the apex; thoracic endopods 3–8 with 3-articulate carpopropodus; sexual dimorphism exhibited; female telson apex with 2 pairs of long, stout spiniform setae, about 0.3 length of telson; male telson apex with 3 pairs of fairly stout spiniform setae, inner-most pair about 0.2 length of telson . . . . . *M. gemina* Price, Heard and Vargas, 2019 (Costa Rica: Puntarenas, Guanacaste; 0.5–1.0 m)

5 Telson, total number of spiniform setae about 80; telson length (excluding apical setae) about 2.2 times maximum basal width; uropodal endopod with 12 spiniform setae along ventro-medial margin from region of statocyst distally; antennal scale with no distal suture, about 9 times as long as maximum width. . . . . *M. cathengelae* Gleye, 1982 (USA: California; 7–8 m)

- Telson, total number of spiniform setae 30–60; telson length (excluding apical setae) 1.4–1.5 times maximum basal width; uropodal endopod with 5–9 spiniform setae from region of statocyst distally; antennal scale with distal suture, 3.0–4.5 times as long as maximum width 6

6 Telson, total number of spiniform setae about 30, inner-most pair of apical spiniform setae 2 times as long as adjacent pair. . . . . *M. brattegarti* Băcescu and Gleye, 1979 (USA: California; 12 m)

- Telson, total number of spiniform setae 40–60, inner-most pair of apical spiniform setae less than 2 times as long as adjacent pair 7

7 Uropodal endopod with 5 spiniform setae along ventro-medial margin from region of statocyst distally; carapace, anterior margin produced into a strong subtriangular rostrum with acute apex; female carapace lacking lappet near midline of posterior margin. . . . . *M. onofrensis* Băcescu and Gleye, 1979 (USA: California;15–75 m)

- Uropodal endopod with 8–9 spiniform setae along ventro-medial margin from region of statocyst distally; anterior margin produced into a strong subtriangular rostrum with rounded apex; female carapace with ovoid to trilobed lappet near midline of posterior margin . . . . . *M. jenseni* **n. sp.** (USA: Washington; 8–15 m)

Acknowledgements

I wish to thank Gregory C. Jensen and Rhoda Green for collecting the material upon which the description of *Mysidopsis jenseni* is based. Also, I thank Greg for his continued efforts to collect more material, for the in situ and laboratory photographs and field observations he provided and for preparing Figure 1. My sincere thanks to Sara Thiebaud and Billy Ball (www.deepstopphoto.com) for providing in situ photographs of the new species. The late Richard Heard collected specimens of *M. intii* and provided insightful comments in the early stages of this project. Martin Thiel provided essential information concerning the collection of this species in Chile. Maria Mostadius of the Lund University Biological Museum, Lund, Sweden and Bo Delling, Hiie Silberfeldt, Lena Gustavsson and Mattias Forshage of the Swedish Museum of Natural History (NRM), Stockholm, Sweden were essential in providing cataloging, taxonomic, and nomenclatural information concerning the type material of *M. intii*. Type material of *M. jenseni* and specimens of *M. intii* were deposited with the help of Katie Ahlfeld, Karen Osborn and other support staff (NMNH). Additional specimens of *M. intii* were deposited with the assistance of Martin Thiel, Javier Sellanes and Jorge Aviles (SCBUCN). I appreciate the thoughtful and constructive suggestions of two anonymous reviewers.

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