A review of the *Dardanus sinistripes* (Stimpson, 1859) (Decapoda, Anomura, Diogenidae) species complex with the description of five new species from the Mexican Pacific

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Abstract

An exhaustive revision of material identified as Dardanus sinistripes (Stimpson, 1859) in collections in Mexico and the USA, and of new material of Dardanus collected in several localities in the Eastern Pacific revealed the existence of five undescribed species closely related to D. sinistripes. Detailed study of this material allows us to redescribe D. sinistripes based on a neotype selected from a locality in Panama, and to describe D. nudus n. sp., D. stimpsoni n. sp., D. janethaigae n. sp., D. pilosus n. sp. and D. magdalenensis n. sp. The six species of the genus Dardanus in the Eastern Pacific are fully illustrated and compared.

Key words: Decapoda, Anomura, Diogenidae, Dardanus sinistripes, hermit crabs, species complex, Eastern Pacific

Introduction

Pagurus sinistripes Stimpson, 1859 was originally described from the Pacific coast of Panama based on one male specimen collected by the Rev. J. Rowell. It was transferred to Dardanus by Rathbun (1910). A relatively large species of hermit crab (type: total length female, ca 7.5 cm) (Stimpson 1859: 37), often collected in shallow trawls, it has been recorded subsequently from Ecuador (Nobili 1901b), Baja California, Mexico, and Sechura Bay, Peru (Rathbun 1910), San José Island (Schmitt 1924), Arena Bank, Santa Inés Bay, Gorda Bank, Baja California (Glassell 1937b), Magdalena Bay, on the west coast of Baja California, Tenacatita, Jalisco, Acapulco, Guerrero, the area of Salina Cruz, Oaxaca, México, Taboguilla Island, Panama, Bislito Bay, Costa Rica, Cotudo Point, Gorgona Island, Colombia, Galera Point, Ecuador, Sechura Bay and Paita, Peru (Haig et al. 1970; Ball & Haig 1974; Hendrickx & Harvey 1999), Golfo Dulce, Golfo de Nicoya (Castro & Vargas 1996; Vargas et al. 1996) Costa Rica.

The original description by Stimpson (1859) for Pagurus sinistripes was very superficial, based on general characters now known to be widespread within several genera of hermit crabs, and without illustrations. Unfortunately, the type has been lost. Because of the typical aspect of the last two segments of the left, third pereiopod (second walking leg) which are covered by scales, all successive collectors following Stimpson’s description identified their material of Dardanus with D. sinistripes.

Recent review of numerous specimens of Dardanus in the Regional Collection of Invertebrates, Benthic Invertebrate Laboratory, Instituto de Ciencias del Mar y Limnología, UNAM, at Mazatlán, Mexico, prompted us to reconsider the status of Dardanus sinistripes and to revise the identifications of specimens identified as this species in other collections.
Material and Methods

The material examined during this study was collected from various localities in the tropical eastern Pacific and came primarily from the following collections: the Regional Collection of Invertebrates, (EMU), Mazatlán, Mexico; the National Collection of Crustacean, Instituto de Biología (EM), UNAM, Mexico D.F., Mexico; the Collection of Crustaceans in the Centro de Ecología de la Costa (CEC), University of Guadalajara, Melaque, Jalisco, Mexico; the Crustacea Collection of the Los Angeles County Museum of Natural History, (LACM-CR), Los Angeles, U.S.A; the Invertebrates Collection (MCZ) at Harvard University, U.S.A.; the Crustacea Collection in the National Museum of Natural History (USNM), Smithsonian Institution, Washington D.C., U.S.A.; the Invertebrates Collection in the University of Arizona, Museum of Natural History, Tucson, USA (UAZ); and the Crustacean Collections from SCRIPPS, La Jolla, USA (SIO-C).

Specimens were studied during visits to collections (EM, LACM-CR, USNM, SIO-C) or obtained on loan (CEC, MCZ, UAZ). Shield length (SL) was measured from the midpoint of the rostral lobe to the posterior margin of the shield and is used to indicate size. The length of the ocular peduncles includes the cornea. Other abbreviations are: NS, unsexed specimens; juv., juvenile; stn., sampling station. Terminology used herein generally follows McLaughlin (1974), but the terms “upper”, “lower”, “inner” and “outer” are used when referring to the surfaces of the chela and carpus of the chelipeds, because they are rotated from the horizontal plane. This terminology has been used in the descriptions of some diogenid genera, e.g., for *Calcinus* Dana, 1851 by Haig & McLaughlin (1984), Poupin & Lemaitre (2003), and for *Dardanus* by Asakura (2006) and Asakura & Hirayama (2002). The description of the posterior carapace follows the terminology of McLaughlin (2000). McLaughlin (1997) was followed for the description of the fourth pereopod and Schram & Koenemann (2004) for description of pleon.

Key to the species of *Dardanus* from the eastern Pacific

1. Outer face of palm of the left cheliped with spine-like tubercles on proximal 2/3 and, scale-like tubercles on distal third, spines and scales fringed anteriorly with very short simple setae. Palm with numerous rounded spine-like tubercles and scattered tufts of long stiff setae or bristles on the lower margin ...................................................................................................................... 2

   - Outer face of the palm of the left cheliped and outer face of dactyl and propodus of the left third pereopod with scale-like tubercles fringed distally with plumose setae ........................................................................................................ 2

2. Ocular peduncles 0.67 length of shield; left cheliped with 8 to 11 molar teeth on the cutting edge of fixed finger; smaller rounded teeth or granules on subdistal margin of palm ........................................ *Dardanus sinistripes* (Stimpson, 1859)

   - Ocular peduncles less than 0.67 length of shield; left cheliped with 5 or 6 molar teeth on the cutting edge of fixed finger; subdistal margin of the palm without small teeth or granules ........................................................................................................... 3

3. Scales on outer face of left cheliped and left dactyl of third pereopod fringed with long plumose setae ........................................ 4

   - Scales on outer face of left cheliped and left dactyl of third pereopod fringed with short to moderately short plumose setae .................................................................................................................................................. 4

4. Ocular peduncles 0.60 length of shield; antennal acicle terminating in strong, single, corneous-tipped spine, exceeding slightly basis of cornea, dorsomesial margin with 5 small spines .................................. *Dardanus pilosus* n. sp.

   - Ocular peduncle 0.35–0.50 length of shield; antennal acicle short, not reaching base of cornea, terminating in strong, bifid spine, dorsomesial margin with 5–7 small spines ........................................... *Dardanus janethaigae* n. sp.

5. Lower margin of left cheliped with row of strong, triangle-shaped corneous spines on distal middle. Dorso lateral and ventrolateral margins of the left third pereopod dactyl obscured partially with tufts of long setae .................................................................................................................................................................................. 6

   - Row of strong, triangular-shaped corneous spines along lower margin of left cheliped. Marginal setae of scales of the left third pereopod dactyl and propodus never exceeding tip of spines on dorso lateral and ventrolateral margins ........................................... *Dardanus stimpsoni* n. sp.
Results

Dardanus sinistripes (Stimpson, 1859)
(Figs. 1–5, 6A, 13A, 36A–E)

Pagurus sinistripes Stimpson, 1859: 36.
Dardanus sinistripes 1974.—Ball & Haig, 1974: 97 (in part, see material examined).

Material examined. Type material. Neotype male (SL 6.05 mm), Taboguilla Island, 8º48.2’N, 79º30.7’W, Panama, Te Vega XVIII-15, 7 May 1968, 7.5 m, scuba, bottom of coarse gravel interspersed with finer material, LACM CR 1968-427.1.

Additional material. 3 males (SL 3.71–5.18 mm), Taboguilla Island, 8º48.2’N, 79º30.7’W, Panama, Te Vega XVIII-15, 7 May 1968, 7.5 m, scuba, bottom of coarse gravel interspersed with finer material, LACM CR 1968-427.2.

Diagnosis. Merus of third maxilliped with 1 or 2 spines on ventral margin. Left cheliped slender. Setae on outer face of palm of left cheliped moderately long, plumose, reaching basis of the next scale. Scales on the palm of left cheliped small to moderately small and subrectangular. Outer lower angle of carpus of left cheliped bearing a rounded spine. Upper face of dactyl of left cheliped with 2 or 3 irregular rows of scale-like tubercles, fringed anteriorly with rounded granules or ending in spine. Outer face of palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus with moderately long plumose setae. Lateral face of dactyl of left third pereopod with scales interrupted medially by strong, deep, longitudinal groove, and longitudinal scaly ridge below groove, scales fringed with small rounded tubercles or spines and short plumose setae. Corneous-tipped spines present along the entire ventrolateral margin of the left third pereopod dactyl.

Description. Shield (Fig. 1A, B) slightly longer than broad, or as long as broad; anterior margin between rostrum and lateral projections shallowly concave; lateral margins slightly convex, somewhat irregular, with small spines or tubercles on anterior 1/3 and tufts of long setae. Anterolateral margins unarmed or with few small spines or granules. Dorsal surface of shield flat, with few tufts of long setae; weakly calcified Y-shaped line present posteriorly. Rostral tooth weakly produced. Lateral projections large, bluntly triangular, produced, usually bearing a small spine on distal margin. Posterior carapace lateral elements well calcified, unarmed. Branquiofistegites unarmed.

Ocular peduncles (Fig. 1A) ca 2/3 length of shield, thick, weakly compressed at middle, usually with 7 bristles on the superior notch. Cornea moderately to strongly dilated, 1.35–1.48 width of the base of ocular peduncle; corneal length 0.38–0.44 of ocular peduncle length. Ocular acicles (Fig. 1A, B) broad; distal margins each with 4–6 spines, separated by approximately 0.50 width of an acicle. Interocular plate (Fig. 1B) with pair of protrusions.

Antenular peduncles (Fig. 1A) slender; when fully extended, slightly exceeding length of ocular peduncles; ultimate segments with 2 or 3 long stiff setae on dorsal margin; penultimate segments with tufts of setae on dorsal and ventral margins; basal segment (Fig. 1C) with single, small ventrodistal spine, ventrally armed with line of 4 or 5 small spines or spinules.

Antennal peduncles (Fig. 1A, D) long or moderately long, reaching 3/4 of cornea or equal in length to ocular peduncles; fifth segment unarmed; fourth segment with 1 or 2 small spines or spinules on laterodistal margin and tufts of long setae on ventrolateral margin; third segment with ventral margin pronounced, with single, small, ventrodistal spine and tufts of long setae; second segment with dorsomesial distal angle bearing sharp spine, dorsolateral distal angle moderately pronounced, ending in bifid spine, lateral margin unarmed; first segment with a moderately strong tipped-spine on ventrolateral subdistal margin. Antennal acicle (Fig. 1A, B) usually reaching to base of cornea; terminating in bifid spine; mesial margin with 7 or 8 small spines, dorsolateral margin with 1 or 2 small spines distally, ventrolateral margin usually unarmed, occasionally with 1 or 2 small spines.
FIGURE 1. Dardanus sinistripes (Stimpson, 1859), neotype male (SL 6.05 mm), Taboguilla Island, Panama, LACM CR 1968-427.1. A, shield and cephalic appendages, dorsal; B, anterior portion of shield, ocular acicle, first and second segments and acicle of antennal peduncle, right, dorsal, setae omitted; C, penultimate and basal antenular segments, left, lateral; D, antennal segments and antennal acicle, left, lateral, setae omitted; E, anterior lobe of sternite, third pereopod; F, chela and carpus of left fourth pereopod, lateral, setae omitted; G, telson, dorsal. Scale bars: 2 mm.
Maxillule (Fig. 2A) with proximal endite subrectangular, distal endite subrectangular, enlarged distally; internal lobe with 1 proximal seta and 3 stiff setae or bristles distally. Maxilla (Fig. 2B) with endopod wide basally, terminating in acute tip, long and distally exceeding scaphognathite. First maxilliped (Fig. 2C) with endopod reaching approximately 0.80 length of external basal segment. Second maxilliped (Fig. 2D) without distinguishing characters. Third maxilliped (Fig. 2E) basis-ischium incompletely fused; coxa usually with 2 small spines; basis with 1 small spine on ventrolateral distal margin; ischium with well developed crista dentata, with 9 or 10 denticles, ventrolateral distal margin with a strong spine; merus with 1 or 2 spines on ventral margin, dorsodistal margin with 1 small spine.

Chelifeds vastly unequal, left larger. Left chelifed (Figs. 3A, 6A) very stout, 1.50–1.70 times longer than wide. Dactyl (Fig. 3A, B) terminating in large corneous claw; cutting edge with 5 or 6 large, rounded molar teeth; outer face near to cutting edge with simple or double irregular row of moderately strong, rounded tubercles or scale-like tubercles; upper face with 2 or 3 irregular rows of scale-like tubercles, each scale fringed anteriorly with 1–6 small rounded granules, occasionally terminating in small corneous spine and moderately long plumose setae; inner face (Fig. 3C) with 3 irregular rows of tufts of long stiff setae, the upper row bearing flattened tubercles armed with 1 or 2 corneous spines. Fixed finger terminating in large corneous claw; cutting edge with 8–11 molar teeth of different size, smaller rounded teeth or granules on subdistal margin of palm. Palm (Figs. 3A, 6A) with outer face strongly convex, covered with scale-like tubercles of several sizes, largest on distal third and on fixed finger; scales with 1–6 small rounded tubercles or ending in small, corneous spine on distal margin, fringed with moderately long plumose setae, which reach to basis of next scale; upper margin with row of 6 or 7 prominent spines decreasing in size distally; inner face with few flattened tubercles accompanied by tufts of long, stiff setae and scattered, small corneous-tipped spines near lower margin; inner lower margin with row of flattened, triangularly-shaped corneous spines (Fig. 3C). Carpus (Fig. 3A) with upper margin bearing row of 4 prominent spines; upper, outer and lower outer faces with numerous tipped-corneous spines and scattered setae; inner face with scattered tufts of long stiff setae or bristles; inner lower angle with 4 rounded spines. Merus (Fig. 3A) with distal margin of lateral face bearing several corneous-tipped spines, the strongest spine on dorsal face; dorsal face with short transverse subdistal row of small corneous-tipped spines, remainder of dorsal face with tufts of long stiff setae; lateral face with numerous flattened tubercles bearing small corneous spines and tufts of short stiff setae, ventrolateral angle with 1 strong spine; ventromesial margin crested with 6 or 7 teeth or rounded spines, proximal larger. Ischium with ventromesial margin crested with 5 rounded spines and tufts of long setae.

Right chelifed (Fig. 3D) moderately slender, generally setose. Dactyl terminating in large corneous claw; cutting edge with 6 strong, molar teeth; upper face with 2 or 3 irregular rows of moderately strong, corneous spines accompanied with tufts of long stiff setae; outer face with row of small, corneous spines and tufts of long setae. Fixed finger terminating in large corneous claw; cutting edge with 6 large molar teeth. Palm and fixed finger with outer face bearing numerous flattened tubercles, each bearing 1 or 2 corneous spines and tufts of long, tick setae; distal margin of palm with 3 rounded spines; lower face with double irregular row of flattened tubercles bearing triangularly-shaped, corneous spines (Fig. 3E); upper margin of palm generally with two rows of 5 prominent corneous-tipped spines; inner face with scattered tufts of long setae, distal margin with 1 or 2 small, corneous-tipped spines. Carpus with 4 prominent, corneous-tipped spines on upper margin; upper face with few moderately strong or strong, corneous-tipped spines; outer and lower outer faces with few flattened tubercles bearing small, corneous spines and tufts of long stiff setae; inner lower face with 2 rounded spines. Merus with distal margin of lateral face bearing several corneous-tipped spines; dorsal face with tufts of long setae; lateral face rugose and with few small spines or spinules and tufts of short setae; ventrolateral angle with large spine; ventromesial margin crested with 6 teeth or rounded spines. Ischium armed with 5 rounded teeth and tufts of long setae on ventromesial margin.

Second (Fig. 4A, B) and right third (Fig. 5A, B) pereopods generally similar, but armature of dactyls, propodi and carpi somewhat different between second and right third pairs, second pair slender than right third; of second pair, left slightly shorter than right. Dactyls 1.36–1.44 (second) or 1.50–1.60 (right third) length of propodi, each terminating in strong, corneous claw; dorsal faces with 2 rows of corneous-tipped
FIGURE 2. *Dardanus sinistripes* (Stimpson, 1859), neotype male (SL 6.05 mm), Taboguilla Island, Panama, LACM CR 1968-427.1. Bucal parts, left, inner view. A, maxillule; B, maxilla; C, first maxilliped; D, second maxilliped; E, third maxilliped. Scale bars: 1 mm.
Spines decreasing in size distally accompanied with tufts of long stiff setae; mesial faces (Figs. 4B, 5B) each with faint longitudinal groove and two longitudinal rows of tufts of stiff setae, one in midline and another dorsally, the latter accompanied by small corneous spines; lateral faces each with faint longitudinal groove and two longitudinal rows of tufts of long stiff setae; in the left, second pereopod, dorsal row also bearing small corneous spines; ventral margins each with 2–4 (second) or 2 or 3 (right third) small corneous spines distally and rows of tufts of stiff setae; in the left, second pereopod, ventrolateral row of tufts also bearing small corneous spines on proximal 1/4. Propodi 1.38–1.45 (second, Fig. 4A, B) or 1.40–1.46 (right third, Fig. 5A, B) length of carpi; dorsal faces flattened and very broad (second,
Fig. 4C) or comparatively narrower (right third, Fig. 5C), armed with 3 (second) or 2 (right third) irregular rows of flattened tubercles bearing 1 or 2 corneous-tipped spines and tufts of long stiff setae, dorsodistal margins armed with few small corneous spines and setae; lateral faces each with faint longitudinal groove and two rows of long stiff setae, one in midline and another ventral (right third) or both submarginal (second), in the left second pereopod ventral row also bearing small corneous spines, distal margins with 2 or 3 small corneous-tipped spines; mesial faces each with two longitudinal rows of tufts of long, stiff setae, one in midline and another ventrally (right third) or both rows submarginal (second), distal margins with 1 or 2 small corneous-tipped spines; ventral faces each with row of tufts of long stiff setae, in the left second pereopod the tufts are accompanied by small corneous spines. Carpi 0.60–0.70 (second, Fig. 4A) or 0.76–0.86 (right third, Fig. 5A) length of meri; dorsal face of second pereopods with double row of corneous-tipped spines and tufts of thick setae, inner spines larger; dorsal face of right third pereopod with 2 strong corneous-tipped spines distally, remainder of face with flattened spine-like tubercles accompanied with tufts of long stiff setae; dorsodistal angle with 1 spine (second, Fig. 4C) or 2 spines (right third, Fig. 5C); lateral face convex on the median surface, with weak longitudinal faint groove lined by tufts of setae (second and right third), and few short transverse lines of small corneous-tipped spines (second); mesial face flattened, almost naked. Meri with dorsal faces bearing tufts of long setae; ventral faces with double row of small spines (second) and tufts of long setae or only tufts of long setae (right third); second pereopods with 1 corneous-tipped spine at ventrolateral distal angle.

Left third pereopod with dactyl (Figs. 5D, 13A) 1.50–1.60 length of propodus, terminating in a large corneous claw; mesial face convex (Fig. 5E), with a weak middle longitudinal groove and two rows of tufts of long, spine-like stiff setae, one in midline and another dorsally, the latter bearing flattened tubercles with 1 or 2 corneous spines; ventromesial margin with dispersed tufts of setae; ventral face with faint groove and 2 corneous spines distally; lateral face (Figs. 5D, 13A) with scale-like tubercles interrupted by strong, deep, longitudinal groove fainting distally, lined with small tubercles fringed anteriorly with very short setae, below this groove scales forming a longitudinal ridge, each scale with 1–3 small rounded or tipped granules and short plumose setae distally, scales below longitudinal ridge with 1 or 2 small rounded or tipped granules; ventral margin with prominent tipped spines decreasing in size distally and scattered long stiff setae. Scales above groove fringed distally with 1–3 rounded or tipped granules, each scale ending dorsally in strong, corneous-tipped spines partially concealed by tufts of long setae; dorsal face with longitudinal row of flattened tubercles near to dorsomesial margin, each tubercle bearing 1 or 2 corneous spines and tufts of long, spine-like stiff setae. Propodus (Figs. 5D, 13A) 1.25–1.30 length of carpus, very broad; dorsal face (Fig. 5F) flattened, with 2 irregular longitudinal rows of flattened tubercles bearing 1 or 2 corneous-tipped spines and tufts of long stiff setae, dorsodistal margin with few small corneous spines and stiff setae; mesial face (Fig. 5E) flattened, with two longitudinal rows of tufts of short stiff setae, one in midline and another ventrally, distal margin usually with 3 or 4 corneous-tipped spines; lateral face (Fig. 5D) with a moderately to strongly pronounced, medium longitudinal scaly ridge, both areas upper and lower to ridge weakly concave; scales on longitudinal ridge and lower area fringed distally with 2–6 rounded granules or spines and setae, longer toward ventral edge; scales ending in strong corneous-tipped spines ventrally. Concave area above longitudinal ridge with 2 irregular longitudinal rows of scale-like tubercles fringed distally with 1–4 small rounded granules and short setae; vertical rows of scales on upper area terminating dorsally in tubercles bearing 2 corneous spines partially concealed with tufts of long stiff setae, scales fringed distally with 2–4 rounded or tipped granules and plumose setae, longer toward dorsal edge. Carpus (Figs. 5D, 13A) 0.90–1.00 length of merus; upper face with row of spines increasing in size distally; external face convex, with faint longitudinal groove flanked ventrally with short transversal row of corneous spines and tufts of long stiff setae, distal margin with several corneous-tipped spines; mesial face flat, smooth, with scattered tufts of stiff setae. Merus similar to that of right third pereopod. Ischium with 1 small rounded spine on ventromesial margin.
Sternite XII (third pereopods) (Fig. 1E) with anterior lobe bearing elongate projection, with tufts of long setae anteriorly.

Fourth pereopod (Fig. 1F) subchelate; dactyl with 5 corneous spines on the lateral face ventrally; propodal rasp well developed; carpus with dorsodistal spine.

Fifth pereopod chelate; rasp of dactyl and palm well developed.

Male pleon (Fig. 4D) with second to fifth left pleopods fringed with long setae, each with well developed exopod and very small endopod.

Uropods (Fig. 4D) strongly asymmetrical, left larger than right; endopods and exopods with well developed rasps.

FIGURE 4. *Dardanus sinistripes* (Stimpson, 1859), neotype male (SL 6.05 mm), Taboguilla Island, Panama, LACM CR 1968-427.1. Left second peropod. A, lateral; B, dactyl and carpus, mesial; C, propodus and carpus, dorsal. D, left side of pleon. Scale bars: 5 mm.
FIGURE 5. *Dardanus sinistripes* (Stimpson, 1859), neotype male (SL 6.05 mm), Taboguilla Island, Panama, LACM CR 1968-427.1. Right third pereopod. A, lateral; B, dactyl and propodus, mesial; C, propodus and carpus, dorsal. Left third pereopod: D, lateral; E, dactyl and propodus, mesial; F, propodus, dorsal. Scale bars: 5 mm.

Telson (Fig. 1G) with lateral constrictions, asymmetrical; posterior lobes separated by shallow median cleft, left larger than right; terminal margin of left lobule with 3 or 4 strong, corneous spines and stiff setae of various size; terminal margin of right lobule with 4 or 5 strong, corneous spines and stiff setae of various size. Anterior lobe with setae on lateral margins.
**Color.** In life, unknown. In preserved specimen, shield cream; ocular peduncles faint pink; chelipeds faint purple with orange stains on outer face of carpus, on ventrolateral and lateral subdistal margins of merus; ambulatory legs faint purple.

**Distribution.** Panama, 7.5 m (Stimpson, 1859; Ball & Haig, 1974).

**Remarks.** As noted earlier, *Pagurus sinistripes* was described by Stimpson (1859: 36) and its short description did not include illustrations of the material he observed. In the short introduction of his 1859 contribution (Stimpson 1859: 3), he mentioned “The materials used in the preparation of the following paper have been chiefly supplied from the Museum of the Smithsonian Institution,” but there is no way to be sure that the material he used for the description of *Pagurus sinistripes* came from these collections. A search for Stimpson’s type in the Smithsonian Institution (USNM) collections and inquiries at several museums in the U.S.A. were negative, and by all means it appears that it has been lost. According to Manning (1993), William Stimpson moved to the Chicago Academy of Sciences in 1865 and took with him some 10,000 lots of Crustacea from the Smithsonian, including his type specimens. Unfortunately, the entire collection was lost in the great Chicago fire of 1871 (see Manning 1993: 112). It is, therefore, almost certain that the type of *Pagurus sinistripes* was destroyed on that occasion. A neotype, collected in Panama, is therefore selected herein to fix the identity of the species (see below).

Considering that the type of *Pagurus sinistripes* was lost, the question remained of deciding which specimens among the hundreds of specimens reviewed do indeed correspond to Stimpson’s species, i.e., the true “*Dardanus sinistripes*”. According to Stimpson’s statement (1859: 37), *Pagurus sinistripes* is a large species (“Length three inches. Length of carapace along median line, one inch; breadth of front, 0.42 inch.”), and in the last line of its description, he indicated that the male on which he based this new species was “Found in Panama by the Rev. J. Rowell”. According to Stimpson’s short description for *Pagurus sinistripes*, the “acicle of antennae [is] very slender, setose, not spinulose, and shorter than the eyes”. He also described the left cheliped as follows: “hand very thick, surface granulato-squamose, the squamae often spinulose and setose”. Of the left third pereopod Stimpson said: “The last two joints of the left foot of the third pair are flattened, or somewhat excavated on the outer side; this surface is divided along the middle by an obtuse carina, and transversally striated, the striae setose”.

All the specimens available during this study were examined for these characters and one small series of four male specimens collected in Panama closely resembles the description provided by Stimpson for *Pagurus sinistripes*. Consequently, one of these males was selected as neotype, thus allowing making further progresses in the distinction of the six species of *Dardanus* occurring along the Pacific coast of America.

Since its description, *Dardanus sinistripes* has been cited in numerous contributions on decapod crustaceans or hermit crabs of the East Pacific, including catalogues (Kertstitch 1989; Hickman & Zimmerman, 2000), taxonomic lists (Rodriguez de la Cruz, 1987; Villalobos-Hiriart et al., 1989; Lemaître & Álvarez-León 1992; Moran & Dittel 1993; Castro & Vargas 1996; Hendrickx & Harvey 1999; Vargas et al. 1999), and ecology contributions (Snyder-Conn 1980; Moran 1984). A significant number of specimens used in these studies, however, are not available in curated collections and were probably discarded. It is therefore impossible to confirm the identity of these specimens. Careful revision of material of *Dardanus* held in the Los Angeles County Museum of Natural History, at the Smithsonian Institution, in the SCRIPPS Invertebrate Collection in La Jolla, and in the Crustacean Collections of the Instituto de Biología, Mexico D.F., UNAM, the Regional Collection of Invertebrates in Mazatlán, UNAM, the Invertebrates Collection of CICIMAR, La Paz, and the Collection of Crustaceans in the Centro de Ecología de la Costa (CEC), Mexico, failed to uncover additional specimens assignable to *D. sinistripes*.

The structure of the left third pereopod dactyl and propodus in *Dardanus sinistripes*, allows separating it from *D. stimpsoni*, *D. janethaigae D. pilosus* and *D. magdalenensis*. In *D. sinistripes*, on the lateral face of the left third pereopod dactyl, there generally is a scaly, rounded longitudinal ridge which is formed by the rising of scales below the median longitudinal groove, and there also is a weak concavity proximally between this ridge and the ventrolateral margin. These ridge and concavity are not present in the other species (Fig. 36D, Table 1). Armature on lateral face of the left third pereopod propodus is also different. The median concave
area is broader and bears 2 irregular longitudinal rows of scale-like tubercles fringed distally with 1–4 rounded granules, instead of bearing one longitudinal row of small tubercles. The area below the median longitudinal ridge is weakly concave, and this concavity is not present in the other five species. Left cheliped in *D. sinistripes* (Fig. 36A, Table 1) is slender, as in *D. magdalenensis*, but proportionally longer compared to the latter. In the other four species, the left cheliped is shorter and broader than in *D. sinistripes*. Furthermore, the armature on the outer face of palm in *D. sinistripes* is different, scales are smaller and numerous, and spines on upper margin are smaller compared to *D. stimpsoni*, *D. janethaigae*, *D. pilosus* and *D. magdalenensis*. There are one or two irregular rows of small rounded teeth or granules on subdistal margin of palm (Fig. 36C), which are never seen in *D. stimpsoni*, *D. janethaigae*, *D. pilosus* and *D. magdalenensis*. Cutting edge of fixed finger (Fig. 36A) in *D. sinistripes* bears 8–11 teeth, whilst in the other species it is armed with only 5 or 6 teeth. The scale-like tubercles on the upper face of dactyl are smaller than in the other four species, and the armature on the upper face of carpus differs slightly from these four species. There are usually three longitudinal rows of moderately strong spines of same size on the upper face of carpus in *D. sinistripes*, in lieu of two longitudinal rows of small or moderately small and one row of strong or moderately strong spines between these two; besides, the outer distal margin bears small spines, while spines are subdistal in the other species. *Dardanus sinistripes* also features ocular peduncles proportionally longer in relationship to the shield length (ca 2/3 vs. 1/3–3/5) (Table 1). The merus of the third maxilliped is armed with 1 or 2 small spines instead of 3–5 as in the other four species. The spines on distal margin of telson are smaller than in *D. stimpsoni*, *D. janethaigae*, *D. pilosus*, and *D. magdalenensis*.

**Dardanus nudus n. sp.**

(Figs. 6B, 7–12, 13B, 36F–J)

*Dardanus sinistripes*. — Hendrickx, 1994: 27–31 (in part, see material examined and additional material).—Hendrickx *et al.*, 1997a: 9 (in part, see material examined and additional material).—Hendrickx *et al.*, 1997b: 70–72 (in part, see additional material).

**Material examined.** *Type material.* Holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, 15°7.9’N, 92°58.8’W, Mexico, CEMEX P7 R/V “El Puma”, 11 May 1992, 28 m, trawl, EMU-8463. Paratypes: 1 male (SL 12.00 mm), off Puerto Madero, Chiapas, Mexico, 14°42’N, 92°32’W, CEMEX P7 R/V “El Puma”, 13 May 1992, 25 m, trawl, EMU-4809; 3 males (SL 5.38–6.00 mm), off Santa Cruz Bay, Oaxaca, 15°7’N, 95°58’W, Mexico, CEMEX P7 R/V “El Puma”, 11 May 1992, 28 m, trawl, USNM-1123702; 5 males (SL 6.70–12.00 mm), 1 female (SL 11.50 mm), ATLAS II, stn. 5B-08, 16°38’00–18°N, 99°40’24”–99°41’48”W, 17 Apr 1982, 54 m, trawl, EM-3275; 3 males (SL 2.40–5.40 mm), 6 females (SL 3.10–3.90 mm), 4 juvs., off San Jose Light, Guatemala, stn. 930-39, 23 Mar 1939, 22 m, LACM-CR 1939-033.2; 1 male (SL 5.3 mm), 2 NS, TEPE 78-9 Golfo de Fonseca, 13°01.1’N, 88°01.7’W, El Salvador, R/V A. Helix, 04 Apr 1978, trawl, 42 m, SIO-C4085.

**Additional material.** 1 male (SL 14.10 mm), off Boca de San Francisco, Oaxaca, 16°9’N, 94°57’W, Mexico, CEMEX P7 R/V “El Puma”, 9 May 1992, 26 m, trawl, EMU-4798; 2 males (SL 4.40–5.00 mm), 7NS, off Barra Tonala, Chiapas, Mexico, 15°53’N, 93°53’W, CEMEX P7 R/V “El Puma”, 10 May 1992, 34 m, trawl, EMU-4815; 6 males (SL 3.27–9.33 mm), 3 females (SL 2.93–4.67 mm), off Santa Cruz Bay, Oaxaca, 15°7’N, 95°58’W, Mexico, CEMEX P7 R/V “El Puma”, 11 May 1992, 28 m, trawl, EMU-4816; 1 male (SL 7.40 mm), off San Lorenzo River, Sinaloa, Mexico, 24.13°N, 107.48°W, CEMEX P8 R/V “El Puma”, 25 May 1992, trawl, 16 m, EMU-4830A; 1 ovigerous female (SL 4.60 mm), ATLAS II, stn. 1B-01, 16°22’30”–16°21’48”N, 98°39’30”–98°28’42”W, 15 Apr 1982, 20 m, EM-3242; 1 male (SL 7.70 mm), 10 miles SW of Secas Islands, Panama, stn. 944-39, 23 Mar 1939, 55 m, LACM CR 1939-047.2; 9 males (SL 6.90–15.00 mm), 2 females (SL 6.10–9.00 mm), 1 ovigerous female (SL 8.90 mm), Gulf of Panama, Sep 1958, trawl, 27 m, LACM CR 1958-003.1.
**FIGURE 6.** Left cheliped, outer view. A, neotype male *Dardanus sinistripes* (Stimpson, 1859), LACM CR 1968-427.1; B, holotype male *D. nudus* n. sp., EMU-8464; C, holotype male *D. stimpsoni* n. sp., EMU-223; D, holotype male *D. janethaigae* n. sp., EMU-4960; E, paratype ovigerous female *D. pilosus* n. sp., LACM CR 1939-015.1. Scale bars: 5 mm.

**Diagnosis.** Merus of third maxilliped with at least 2 spines on ventral margin. Left cheliped short and broad. Setae on outer face of palm of left cheliped very short, simple. Scales on the palm of left cheliped small and subrectangular. Outer lower angle of carpus of left cheliped bearing a small spine. Upper face of dactyl of left cheliped with 3 to 4 irregular rows of large rounded, spine-like tubercles. Outer face of palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus with very short, simple setae, giving a bare appearance. Lateral face of dactyl of left third pereopod with spine-like tubercles accompanied with very short simple setae on proximal half of the lower and upper areas to longitudinal groove. Corneous-tipped spines on proximal half of ventrolateral margin of the left third pereopod dactyl.
Description. Shield (Fig. 7A, B) 0.92–1.03 times longer than broad; anterior margin between rostrum and lateral projections shallowly concave; lateral margins slightly convex, somewhat irregular, with small spines or tubercles on anterior 0.33 and tufts of long setae. Anterolateral margins usually with few small spines or granules. Dorsal surface of shield flat, with few tufts of short setae; weakly calcified Y-shaped line present posteriorly. Rostral tooth broadly blunt, weakly produced. Lateral projections large, bluntly triangular, produced, usually bearing a small spine on distal margin. Posterior carapace lateral elements well calcified, unarmed. Branquiostegites unarmed.

Ocular peduncles (Fig. 7A) 0.33–0.45 length of shield, thick, weakly compressed at the middle, usually with 7 bristles on the superior notch. Cornea weakly dilated, 1.10 the width of the base of ocular peduncle; corneal length 0.36–0.44 of ocular peduncle length. Ocular acicles (Fig. 7B) broad; distal margins each with 4–7 spines, separated by approximately 0.33 width of an acicle. Interocular plate (Fig. 7B) transversally subrectangular, anterior margin biconvex.

Antenular peduncles (Fig. 7A) slender; when fully extended exceeding by 0.25 length of ocular peduncles; ultimate segment with 3 tufts of long stiff setae on dorsal margin; penultimate segments with tufts of setae on dorsal and ventral margins; basal segment (Fig. 7D) with single small ventrodistal spine and armed ventrally with 3 small setae or spines.

Antennal peduncles (Fig. 7A, C) long or moderately long, 1.50 length of ocular peduncles; fifth segment unarmed; fourth segment with 1 or 2 small spines or spinules on laterodistal margin and tufts of long setae on ventral margin; third segment with ventral margin produced, with single small ventrosubdistal spine and tufts of long setae; second segment with dorsoesial distal angle bearing sharp spine, dorsolateral distal angle more acute than in other species, ending in bifid spine, lateral margin unarmed; first segment with a small spine on ventral margin, unarmed, occasionally with 1 or 2 small spines.

Maxillule (Fig. 8A) with proximal endite subrectangular, distal endite subrectangular, enlarged distally; internal lobe with 1 proximal seta and 4 stiff setae distally. Maxilla (Fig. 8B) with endopod 1.30 length of distal ending of scaphognathite, wide basally and terminating in acute tip with a subdistal seta. First maxilliped (Fig. 8C) with endopod reaching approximately 0.80 length of external basal segment; epipodite usually with a short bristle. Second maxilliped (Fig. 8D) with incompletely fused basis-ischium; coxa and base each usually with 1 strong spine on ventrolateral margin; ischium with well developed crista dentata, with 10 or 11 denticles; ventrolateral margin with a strong spine, occasionally with 1 or 2 small, subdistal spines; ischium with 3–5 spines on ventral margin, dorsodistal margin with 1 strong spine, occasionally with 1 or 2 small subdistal spines.

Chelipeds vastly unequal, left larger. Left cheliped (Figs. 6B, 9A) very stout, 1.50 times longer than wide, proportion and armature generally similar in males and females. Dactyl (Fig. 9A, C) terminating in large corneous claw; cutting edge with 5 or 6 large, rounded molar teeth; outer face with 4–6 irregular longitudinal rows of rounded, spine-like tubercles, outer margin near to cutting edge with row of large rounded, spine-like tubercles; upper face with 3 or 4 irregular rows of large rounded, spine-like tubercles; upper inner face with 2 irregular rows of spine-like tubercles. Fixed finger terminating in large corneous claw; cutting edge with 5 or 6 large, rounded molar teeth, followed by 3 or 4 much smaller proximal teeth, 1 or 2 irregular rows of small rounded, submarginal granules near distal margin of palm. Palm (Figs. 6B, 9A, B) with outer face strongly convex, covered with spine-like tubercles on the proximal 2/3, distal 1/3 and fixed finger covered with scales of different size, scales with 1–5 small rounded tubercles or ending in small, corneous spine on distal margin, scales fringed with fine, short bristles-like setae, giving a nude appearance; upper outer face with 6 or 7 irregular longitudinal rows of spine-like tubercles; upper margin with row of 7–9 prominent spines; lower margin and lower portion of inner face with numerous rounded spine-like tubercles and scattered tufts of long spines or spines (Fig. 9D). Carpus (Fig. 9A, E) with upper margin bearing row of 4 prominent spines; upper face nearly flattened, nude, spiny; outer face convex, with few small corneous spines, distal margin with...
FIGURE 7. *Dardanus nudus* n. sp., holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, Mexico EMU-8464. A, shield and cephalic appendages, dorsal; B, anterior portion of shield, ocular acicles, proximal portion of ocular peduncles, first and second segments and acicle of antennal peduncle, right, dorsal, setae omitted; C, antennal segments and antennal acicle, right, lateral, setae omitted; D, penultimate and basal antenular segments, left, lateral; E, anterior lobe of sternite, third pereopods; F, chela and carpus of left fourth pereopod, lateral, setae omitted; G, telson, dorsal. Scale bars: 2 mm.
FIGURE 8. *Dardanus nudus* n. sp., holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, Mexico EMU-8464. Bucal parts, right, inner view. A, maxillule; B, maxilla; C, first maxilliped; D, second maxilliped; E, third maxilliped. Scale bars: 2 mm.
FIGURE 9. *Dardanus nudus* n. sp., holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, Mexico EMU-8464, B, C, E–G; paratype male (SL 12.00 mm), off Puerto Madero, Chiapas, Mexico (EMU-4809), A, D. Left chela. A, palm and carpus, outer view; B, section of palm, outer view; C, dactyl, upper view, setae omitted; D, chela, inner view; E, carpus and merus, outer view, setae omitted. Right cheliped: F, outer view; G, chela, lower view. Scale bars: A, C–G 5 mm; B 1 mm.
small corneous spines; lower outer face with spine-like tubercles on distal and proximal margins; inner face with scattered tufts of long, stiff setae or bristles; ventromesial angle with 4 corneous spines. Merus (Fig. 9E) with lateral distal face bearing few corneous spines, the strongest spine on dorsal face; ventrolateral angle with 1 strong spine; ventromesial margin crested with 6–8 teeth or rounded spines, proximal larger. Ischium with ventromesial margin crested with 5 rounded spines, increasing in size distally.

Right cheliped (Fig. 9F) moderately slender, generally setose. Dactyl of right cheliped 1.50 length of palm, terminating in large corneous claw; cutting edge with 5 strong, molar teeth; upper face with 2 or 3 irregular rows of moderately strong, corneous spines accompanied with tufts of long stiff setae; outer face with row of small, corneous spines and tufts of long setae. Fixed finger terminating in large corneous claw; cutting edge with 5 large molar teeth. Palm and fixed finger with outer face bearing numerous flattened tubercles, bearing 1 or 2 corneous spines and tufts of long, stick setae; lower face with row of flattened tubercles bearing triangularly-shaped corneous spines (Fig. 9G); upper margin of palm generally with 2 rows of 5 prominent corneous-tipped spines; inner face with scattered tufts of long setae, distal margin with 1 or 2 small, corneous-tipped spines. Carpus with 4 prominent corneous-tipped spines on upper margin; upper face with few moderately strong or strong, corneous-tipped spines; upper distal and outer edges spiny; outer and lower faces with few spine-like tubercles; inner face with scarce tufts of long stiff setae or bristles; inner lower face with 3 strong rounded spines. Merus with few spines on outer distal face, larger spines on dorsal face; dorsal face with tufts of long setae; ventrolateral angle with large spine; ventromesial margin crested, divided into two areas by a fissure, proximal area with 3 teeth or rounded spines, distal area with 5 teeth or rounded spines smaller than proximal. Ischium armed with 5 strong teeth on mesial margin.

Second (Fig. 10A–E) and right third (Fig. 11A–F) pereopods generally similar, but armament of propodi and carpi somewhat different between second pair and right third, second pair slender than right third; of second pair, left slightly shorter than right. Dactyls 1.30–1.50 (second) or 1.20–1.50 (right third) length of propodi, each terminating in strong corneous claw; dorsal surfaces (Fig. 10B) with 1 row of corneous-tipped spines decreasing in size distally, accompanied with tufts of long stiff setae denser on distal third; lateral and mesial faces (Figs. 10A, C, 11 A, C) each with a faint longitudinal groove and two longitudinal rows of tufts of stiff setae, one in midline and another dorsally, the latter accompanied by small corneous spines; ventral margins each with 1 or 2 small corneous spines and rows of tufts of stiff setae. Propodi 1.20–1.50 (second, Fig. 10A, D, E) or 1.30–1.50 (right third, Fig. 11B, D, E) length of carpi; dorsal faces flattened and very broad (second, Fig. 10D) or comparatively narrower (right third, Fig. 11E), armed with 3 (second) or 2 (right third) irregular rows of flattened tubercles bearing 1 or 2 corneous-tipped spines and tufts of long stiff setae, dorsodistal margins armed with few small corneous spines; lateral faces each with two rows of stiff setae one in midline and another ventral, distal margins with 3 or 4 small corneous-tipped spines; mesial faces of second pereopods each with 2 longitudinal rows of tufts of stiff setae, one ventrally and another near midline, in the left pereopod ventral row bearing small corneous spines, right third with two longitudinal rows of tufts of stiff setae, one ventrally and another in midline, distal margins with 1–3 small corneous-tipped spines; ventral faces with row of tufts of long stiff setae, in the left second pereopod the tufts are accompanied by small corneous spines. Carpi 0.70–0.80 (second, Fig. 10A, D) or 0.80–0.90 (right third, Fig. 11F) length of meri; dorsal face with row of strong, corneous-tipped spines and tufts of very thick setae each; dorsodistal angle with 1 spine (right second and third, Fig. 11F) or 2 spines (left second, Fig. 10D); lateral face convex on the median surface, with weak longitudinal groove lined by tufts of setae (right third) or also bearing few short transverse lines of small corneous-tipped spines; mesial face flattened, almost naked. Meri with dorsal faces bearing tufts of long setae; mesial and lateral faces with scattered tufts of short setae; ventral faces with double row of small spines (second) and tufts of long setae or only tufts of long setae (right third); second pereopods with 1 corneous-tipped spine at ventrolateral distal angle.
### Table 1. Comparison of some morphology characters among species of *Dardanus* from the eastern Pacific.

<table>
<thead>
<tr>
<th>Character</th>
<th><em>D. sinistripes</em> (Stimpson, 1859)</th>
<th><em>D. nudus</em> n. sp.</th>
<th><em>D. stimpsoni</em> n. sp.</th>
<th><em>D. janethaigae</em> n. sp.</th>
<th><em>D. pilosus</em> n. sp.</th>
<th><em>D. magdalenensis</em> n. sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shield length/width</td>
<td>As long as broad</td>
<td>0.92–1.03</td>
<td>0.94–1.10</td>
<td>1.00–1.10</td>
<td>As long as broad</td>
<td>0.95–1.10</td>
</tr>
<tr>
<td>Ocular peduncles/length/shield</td>
<td>ca 2/3</td>
<td>0.33–0.45</td>
<td>0.45–0.60</td>
<td>0.35–0.50</td>
<td>0.60</td>
<td>0.55–0.58</td>
</tr>
<tr>
<td>Ocular acicles</td>
<td>With 4–6 marginal spines, separated by 0.50 width of an acicle</td>
<td>With 4–7 marginal spines, separated by 0.33 width of an acicle</td>
<td>With 3–6 marginal spines, separated by 0.35–0.50 width of an acicle</td>
<td>With 5–7 marginal spines; separated by 0.33–0.40 width of an acicle</td>
<td>With 6–8 marginal spines; separated by 0.40 width of an acicle</td>
<td>With 5 marginal spines; separated by 0.40 width of an acicle</td>
</tr>
<tr>
<td>Corneal length</td>
<td>0.38–0.44</td>
<td>0.36–0.44</td>
<td>0.45–0.60</td>
<td>0.35–0.50</td>
<td>0.60</td>
<td>0.55–0.58</td>
</tr>
<tr>
<td>Antenular peduncle</td>
<td>Slightly exceeding length of ocular peduncles</td>
<td>1.25–1.50 length of ocular peduncles</td>
<td>1.25–1.50 length of ocular peduncles</td>
<td>1.33–1.50 length of ocular peduncles</td>
<td>0.40</td>
<td>0.45</td>
</tr>
<tr>
<td>Antennal acicle</td>
<td>Usually reaching to basis of cornea. Dorsomesial margin with 7 or 8 spines. Dorsolateral margin with 1 or 2; terminating in bifid spine</td>
<td>Usually reaching to basis of cornea. Dorsomesial margin with 5–9 spines. Dorsolateral margin with 1 or 2 small spines; terminating in bifid spine</td>
<td>Reaching to basis of cornea. Dorsomesial margin with 4–6 small spines. Dorsolateral margin with 1–4 small spines; terminating in bifid spine</td>
<td>Merus with 2–4 spines on ventral margin</td>
<td>Merus with 2 or 3 spines on ventral margin</td>
<td>Merus with 3 or 4 spines on ventral margin</td>
</tr>
<tr>
<td>3rd maxilliped</td>
<td>Merus with 1 or 2 spines on ventral margin</td>
<td>1.50–1.70 times longer than width</td>
<td>With numerous spine–like tubercles and scale–like tubercles terminating in 1–5 rounded granules or small corneous spines</td>
<td>1.40–1.60 times longer than width</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–13 small rounded granules</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–13 small rounded granules or sharp spines</td>
</tr>
<tr>
<td>Outer face of palm of left cheliped</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–7 small rounded granules or small corneous spines</td>
<td>Usually reaching to basis of cornea. Dorsomesial margin with 5–7 small spines. Dorsolateral margin with 1 or 2 small spines; terminating in bifid spine</td>
<td>Merus with 2–3 spines on ventral margin</td>
<td>1.30–1.40 times longer than width</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–7 small rounded granules or sharp spines</td>
<td>Usually reaching to basis of cornea. Dorsomesial margin with 6 or 7 small spines. Dorsolateral margin with 1 or 2 small spines; terminating in bifid spine</td>
</tr>
<tr>
<td></td>
<td>Usually reaching to basis of cornea. Dorsomesial margin with 5–7 small spines. Dorsolateral margin with 1 or 2 small spines; terminating in bifid spine</td>
<td>Merus with 2 or 3 spines on ventral margin</td>
<td>1.40 times longer than width</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–7 small rounded granules or sharp spines</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–8 rounded granules or corneous tipped spines</td>
<td>Usually reaching to basis of cornea. Dorsomesial margin with 6 or 7 small spines. Dorsolateral margin with 1 or 2 small spines; terminating in bifid spine</td>
</tr>
<tr>
<td></td>
<td>Merus with 3 or 4 spines on ventral margin</td>
<td>1.40–1.50 times longer than width</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–8 rounded granules or corneous tipped spines</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–8 rounded granules or corneous tipped spines</td>
<td>Covered with irregular transverse rows of scales, fringed on their distal edge with 1–9 rounded granules</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 1. Continued.

<table>
<thead>
<tr>
<th></th>
<th><em>Dardanus Sinistripes</em> (Stimpson, 1859)</th>
<th><em>D. nudus</em> n. sp.</th>
<th><em>D. stimpsoni</em> n. sp.</th>
<th><em>D. janethaigae</em> n. sp.</th>
<th><em>D. pilosus</em> n. sp.</th>
<th><em>D. magdalenensis</em> n. sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setae on outer face of palm of left cheliped</strong></td>
<td>Moderately long, plumose, reaching basis of the next scale</td>
<td>Very short, simple</td>
<td>Short, plumose, reaching to base of the next scale</td>
<td>Long, plumose, usually reaching subdistal margin of the next scale</td>
<td>Long, plumose, reaching subdistal margin of the next scale</td>
<td>Moderately long, plumose, reaching to base of the next scale</td>
</tr>
<tr>
<td><strong>Upper face of dactyl of left cheliped</strong></td>
<td>With 2 or 3 irregular rows of scale-like tubercles, fringed anteriorly with mounded granules or ending in spines</td>
<td>With 3 or 4 irregular rows of large rounded, spine-like tubercles</td>
<td>With 2 rows of scale-like tubercles, fringed anteriorly with rounded granules</td>
<td>With 2 rows of strong spine-like tubercles terminating in single or bifid cornaceous-tipped spine</td>
<td>With 2 rows of scale-like tubercles, terminating in rounded granules or tipped spines</td>
<td>With 2 rows of scale-like tubercles, fringed with rounded granules</td>
</tr>
<tr>
<td><strong>Outer face of dactyl of left cheliped</strong></td>
<td>With simple or double irregular row of moderately strong, rounded, scale-like tubercles</td>
<td>With 4–6 irregular longitudinal rows of rounded, spine-like tubercles</td>
<td>With longitudinal row of strong, rounded spine-like tubercles</td>
<td>With longitudinal row of strong spine-like tubercles terminating in a cornaceous or rounded spine</td>
<td>With longitudinal row of strong, rounded spine-like tubercles</td>
<td>With longitudinal row of strong, rounded spine-like tubercles</td>
</tr>
<tr>
<td><strong>Dactyl length/propodus length of left third pereopod</strong></td>
<td>1.50–1.60</td>
<td>1.50–1.60</td>
<td>1.40–1.60</td>
<td>1.40–1.50</td>
<td>1.40</td>
<td>1.40–1.60</td>
</tr>
<tr>
<td><strong>Lateral face of dactyl of left third pereopod</strong></td>
<td>Scales interrupted medially by strong, deep, longitudinal groove and, longitudinal scaly ridge below groove. Scales fringed with small rounded tubercles or spines and short plumose setae</td>
<td>Spine-like tubercles accompanied with very short simple setae on proximal half of the lower and upper areas to longitudinal groove</td>
<td>Scales on both sides of longitudinal groove, which are fringed with small rounded tubercles or spines and short plumose setae</td>
<td>Scales on both sides of longitudinal groove, which are fringed with small cornaceous-tipped spines and long plumose setae</td>
<td>Scales on both sides of longitudinal groove, which are fringed with small cornaceous-tipped spines and long plumose setae</td>
<td>Scales on both sides of longitudinal groove, which are fringed with small cornaceous-tipped spines and short plumose setae</td>
</tr>
<tr>
<td><strong>Telson terminal margin</strong></td>
<td>With 3 or 4 (L) or 4 or 5 (R) cornaceous spines</td>
<td>With 2 or 3 (L) or 3 or 4 (R) cornaceous spines</td>
<td>Left and right lobes each with 4–6 cornaceous spines</td>
<td>With 4 or 5 (L) or 4–6 (R) strong cornaceous spines</td>
<td>With 4 (L) or 4 or 5 (R) cornaceous spines</td>
<td>With 5 (left) or 4–7 (right) cornaceous spines</td>
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FIGURE 10. *Dardanus nudus* n. sp., holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, Mexico EMU-8464, F; paratype male (SL 12.00 mm), off Puerto Madero, Chiapas, Mexico (EMU-4809), A–E; paratype female (SL 3.90 mm), off San Jose Light, Guatemala (LACM-CR 1939-033.2), G, H. Left second pereopod: A, whole, lateral; B, dactyl, dorsal; C, dactyl, mesial; D, propodus and carpus, dorsal; E, propodus, mesial. Left side of pleon: F, male; G, female; H, female membranous protuberance. Scale bars: A–G 5 mm; H 2 mm.
FIGURE 11. Dardanus nudus n. sp., holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, Mexico EMU-8464. Right third pereopod. A, dactyl, lateral; B, propodus, lateral; C, dactyl, mesial; D, propodus, mesial; E, propodus, dorsal; F, carpus, dorsal. Scale bars: 5 mm.

Left third pereopod with dactyl (Figs. 12A, 13B) 1.50–1.60 length of propodus, terminating in a large corneous claw; mesial face convex (Fig. 12D), with a weak middle longitudinal groove and two rows of tufts of long stiff setae, one in midline and another and another dorsally, the latter bearing flattened tubercles with simple or bifid corneous spines; ventromesial margin with dispersed tufts of setae; ventral face with groove on proximal 2/3, distally with 1 or 2 corneous spines; lateral face flattened (Figs. 12A, B, 13B), with a proximally deep longitudinal groove, fainting distally, irregular transversal rows of flattened, corneous spine-like tubercles on both sides of groove, tubercles accompanied with very short, simple, fine setae on proximal 2/3, distal third with tufts of very short, simple, fine setae; dorsal face with longitudinal row of flattened tubercles accompanied with tufts of long stiff setae, which are denser distally, proximal tubercles occasionally bearing small corneous spines; dorsolateral margin (Fig. 12B, C) with strong, black-tipped spines, decreasing in size distally to small corneous spines; ventrolateral margin with rounded spine-like tubercles on the proximal 1/2 or 2/3, unarmed distally. Propodus (Figs. 12A, E, F, 13B) 1.20–1.40 length of carpus, very broad; dorsal face (Fig. 12E) flat, with 2 or 3 irregular longitudinal rows of flattened tubercles bearing 1 or 2 corneous-tipped spines and tufts of long stiff setae, dorsodistal margin with few small corneous spines and short stiff setae; dorsolateral margin with strong flattened tubercles terminating in simple or bifid corneous-tipped spine accompanied by 1 or 2 long stiff setae; mesial face (Fig. 12F) flattened, with two longitudinal rows of tufts of...
FIGURE 12. *Dardanus nudus* n. sp., holotype male (SL 16.00 mm), off Santa Cruz Bay, Oaxaca, Mexico EMU-8463, B, C, E, F; paratype male (SL 12.00 mm), off Puerto Madero, Chiapas, Mexico (EMU-4809), A, D. Left third pereopod. A, lateral; B, section of dactyl, lateral; C, same, dorsolateral margin; D, dactyl, mesial; E, propodus, dorsal; F, same, mesial. Scale bars: B 1 mm; C 500 μm; A, D–F 5 mm.
stiff setae, one in midline and another ventrally, distal margin usually with 6 strong, corneous-tipped spines; lateral face (Figs. 12A, 13B) with uniform middle convex area, with transversal scales on lower area, which are fringed distally with small rounded granules or corneous-tipped spines and short fine setae, and irregular transversal rows of spine-like tubercles on upper area, accompanied with short faint setae, giving a naked appearance to propodus; ventrolateral margin with strong, rounded spine-like tubercles. Carpus (Fig. 12A) 0.90–1.00 length of merus; upper face spiny, larger spines distally; external face convex, with faint longitudinal groove flanked ventrally with flattened tubercles bearing small corneous-tipped spines and tufts of long stiff setae, subdistal margin with numerous small, corneous-tipped spines; mesial face flattened, smooth, with scattered tufts of stiff setae; ventral face unarmed, with two tufts of long stiff setae. Merus similar to that of right third pereopod. Ischium with 1 moderately strong spine on ventromesial margin.

**FIGURE 13.** Left third pereopod, lateral. A, neotype male *Dardanus sinistripes* (Stimpson, 1859), LACM CR 1968-427.1; B, holotype male *D. nudus* n. sp., EMU-8464; C, holotype male *D. stimpsoni* n. sp., EMU-223; D, holotype male *D. janethaigae* n. sp., EMU-4960. Scale bars: 5 mm.

Sternite XII (third pereopods) (Fig. 7E) with anterior lobe rectangular bearing a median subcircular lobule with long setae.

Fourth pereopod (Fig. 7F) subchelate; dactyl with 3–6 ventrolateral corneous spines; propodal rasp well developed; carpus with small dorsodistal spine, occasionally unarmed.

Fifth pereopod chelate; rasp of dactyl and palm well developed.

Male pleon (Fig. 10F) with second to fifth left pleopods fringed with long setae, each with well developed exopod and very small endopod; single, short, subcircular, fleshy membranous protuberance fringed distally with long setae present between fourth and fifth pleopods. Female pleon (Fig. 10G) with second to fifth left pleopods fringed with long setae; second to fourth large, triramous; fifth small, biramous, endopod very small; single, elongate, fleshy membranous protuberance (Fig. 10G, H) fringed with long setae present between fourth and fifth pleopods.

Uropods (Fig. 10F, G) strongly asymmetrical, left larger than right; endopods and exopods with well developed rasp.
Telson (Fig. 7G) with lateral constrictions, asymetrical; posterior lobes separated by shallow median cleft, left larger than right; terminal margin of left lobule with 2–4 strong, corneous spines and stiff setae of various size; right terminal margin with 3 or 4 strong, corneous spines and stiff setae of various size. Anterior lobe with setae on lateral margins.

**Color.** In life unknown. In long time fixed specimens, the abdomen and carapace are cream colored. Ocular peduncles rosaceous, cornea black. Ambulatory legs with faint orange spots on a cream background. Merus and carpus of left cheliped with orange spots on a cream background, orange stronger on distal outer surface; outer surface of the palm, fixed finger, and upper surface of dactyl orange; upper surface of palm faint orange on a cream background; surface near cutting edges of dactyl and fixed finger and their distal faces cream to white. Right cheliped with faint orange spots on a cream background, orange spots stronger on distal outer surface of merus.

**Etymology.** The specific name is derived from *nudus* (nude) to indicate the nude appearance of the palm outer face of the left cheliped, and of the lateral face of the left third pereopod dactyl and propodus.

**Distribution.** From off San Lorenzo River, Sinaloa, Gulf of California, off Michoacan, and in the Gulf of Tehuantepec, Mexico, to Gulf of Panama; 16 to 55 m.

**Remarks.** *Dardanus nudus* n. sp. is easily distinguished from the other five species. The outer face of the palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus bear very short, simple setae (Fig. 36F, I, Table 1), giving a bare appearance, in comparison to long to moderately long plumose setae as observed in the other species. The outer lower median distal third of palm and fixed finger bear scale-like tubercles, and the rest of the outer face of palm is covered with small to moderately strong spine-like tubercles. Such armature is not found in the other species. The lower margin of the left cheliped also bears rounded granules, instead of strong to moderately strong, flattened triangularly-shaped corneous spines (Fig. 36G). The armature on the ventrolateral margin of the left third pereopod dactyl also separates *D. nudus* from the other five species. Row of strong to moderately strong corneous-tipped spines is observed along this margin in *D. sinistripes*, *D. stimpsoni*, *D. janethaigae*, *D. pilosus* and *D. magdalenensis*, while these spines occur only on proximal half in *D. nudus* (Fig. 36I). The sculpture of the lateral face of the left cheliped, and of the lateral face of the left third pereopod dactyl and propodus in *D. nudus* is also different, bearing small rounded spine-like tubercles accompanied with very short setae, in lieu of transverse rows of scales fringed distally with long to moderately long plumose setae as in the other five species. Other differences with respect to the rest of the species are: the antennal acicles bear small spines on mesial margin in *D. nudus*, instead of dorsomesial small spines; the anterior lobe of sternite of third pereopods in *D. nudus* bears a median subcircular lobule with tuft of long setae, vs. elongate projection with tufts of long setae anteriorly; the distal margin of telson (Fig. 36J, Table 1) is armed with 2 or 3 (left) and 3 or 4 (right) corneous-tipped spines, whilst the other species have 4 or 5 (left) and 4–7 (right) spines.

**Dardanus stimpsoni** n. sp. (Figs. 6C, 13C, 14–19, 36K-O)

*Dardanus sinistripes*.—Ball & Haig, 1974; (in part, see material examined and additional material).—Hendrickx, 1990: 41 (in part, see additional material); 1994: 27–31 (in part, see material examined and additional material).—Ayón Parente, 1997: 45 (in part, see additional material).—Hendrickx *et al.*, 1997a: 9 (in part, see additional material).—Hendrickx *et al.*, 1997b: 70–72 (in part, see additional material).—Landa-Jaime *et al.*, 1997: 410 (in part, see additional material).

**Material examined.** Type material. Holotype male (SL 14.50 mm), Gulf of California, Mexico, 28º36’N, 113º06’W, GUAYTEC II R/V “El Puma”, 06 Aug 1987, 72 m, trawl, EMU-223. Paratypes: 3 males (SL 12.00–14.60 mm), 1 ovigerous female (SL 13.40 mm), off Punta San Carlos, BCS, Mexico, 27º59’N, 112º42’W, GUAYTEC II R/V “El Puma”, 04 Aug 1987, 92 m, trawl, EMU-224; 1 male (SL 11.40 mm), 26º47’N, 110º06’W, Gulf of California, GUAYTEC II R/V “El Puma”, 01 Aug 1987, 85 m, trawl, EMU-5491;
6 males (SL 2.86–3.79 mm), 5 females (SL 2.86–4.07 mm), 6 ovigerous females (SL 3.64–5.00 mm), off Barra de Tonala, Chiapas, Mexico, 15º40'N, 94º37'W, CEEMEX P7 R/V “El Puma”, 10 May 1992, 144 m, trawl, EMU-4812; 10 males, (SL 3.29–9.53 mm), 4 females (SL 3.17–5.24 mm), 2 ovigerous females (SL 3.53–4.12 mm), 3 juvens., ATLAS II, 17º07'N, 100º37'W, 20 Apr 1982, 30 m, trawl, EM-3235; 3 males (SL 5.70–9.20 mm), “Te Vega”, stn. XVIII-22, La Manzanilla, 19º17.8'N, 104º48.5'W, Tenacatita Bay, Mexico, 25 May 1968, 9-55 m, LACM CR 1968-372.2; 46 males (SL 2.20–10.00 mm), 15 females (SL 3.10–4.10 mm), 16 ovigerous females (SL 3.10–4.40 mm), Chamela Bay, Jalisco, Mexico, 16 Feb 1938, 46-55 m, USNM-1076122; 2 males (SL 7.11–7.90 mm), Mulegé, BCS, outside Concepción Bay, Mexico, R/V “Te Vega”, stn. 16-48, 47-55 m, UAZ-1547.

Additional material. 5 males (NM), and 3 females (NM), off Teacapán, Sinaloa, Mexico, 22º18'N, 106º10'W, SIPCO II R/V “El Puma”, 22 Aug 1981, 66 m, trawl, EMU-200B; 2 females (SL 3.10–4.50 mm), off Teacapán, Sinaloa, Mexico, 22º14'N, 106º16'W, SIPCO II R/V “El Puma”, 22 Aug 1981, 109 m, trawl, EMU-200C; 1 male (NM), off Teacapán, Sinaloa, Mexico, 22º24'N, 105º54'W, SIPCO I R/V “El Puma”, 23 Apr 1981, 35 m, trawl, EMU-200D; 1 female (4.95 mm), off Mazatlán, Sinaloa, Mexico, 23º8'N, 106º25'W, SIPCO I R/V “El Puma”, 25 Apr 1981, 27 m, trawl, EMU-201A; 1 female (SL 3.00 mm), off Mazatlán, Sinaloa, Mexico, 23º13'N, 106º32'W, SIPCO II R/V “El Puma”, 24 Aug 1981, 78 m, Van Veen dredge, EMU-201B; 1 female (SL 5.30 mm), off Piaxtla Point, Sinaloa, Mexico, 23º34'N, 106º57'W, SIPCO I R/V “El Puma”, 24 Apr 1981, 66 m, trawl, EMU-203; 1 male (SL 8.40 mm), Mazatlán Bay, Sinaloa, Mexico, 23º13'N, 106º27'W, BBMAZ C4 R/V “FC1”, 26 Sep 1979, 15 m, trawl, EMU-204A; 1 male (SL 5.90 mm), Mazatlán Bay, Sinaloa, Mexico, 23º13'N, 106º27'W, BBMAZ C14 R/V “FC1”, 25 Aug 1980, 22 m, trawl, EMU-204B; 1 female (SL 7.10 mm), Mazatlán Bay, Sinaloa, Mexico, 23º13'N, 106º27'W, BBMAZ C17 R/V “FC1”, 20 Jan 1981, 27 m, trawl, EMU-204C; 1 male (SL 14.90 mm), off Altata Bay, Sinaloa, Mexico, 24º30'N, 108º11'W, CICLO I shrimper “Crestón I”, 56 m, trawl, EMU-205; 1 male (SL 14.15 mm), Topolobampo, Sinaloa, Mexico, 25º33'N, 109º7'W, 12 Apr 1984, 0 m, with the hand, EMU-206; 1 juv., off Punta Mita, Nayarit, Mexico, 20º52'N, 105º32'W, CORTES 1 R/V “El Puma”, 14 May 1982, 57 m, trawl, EMU-207A; 9 males (SL 3.07–11.75 mm), 3 females (SL 3.73–4.90 mm), 2 ovigerous females (SL 4.81–4.97 mm), off Punta Mita, Nayarit, Mexico, 20º54'N, 105º28'W, CORTES 1 R/V “El Puma”, 14 May 1982, 37 m, trawl, EMU-207B; 1 male (SL 14.20 mm), 2 females (SL 8.90 mm), off Arboleda Point, Sonora, Mexico, 26º53'N, 110º6'W, CORTES 3 R/V “El Puma”, 31 Jul 1985, 40 m, trawl, EMU-208; 4 males (SL 4.52–16.40 mm), 5 NS, N of Tiburón Island, Sonora, Mexico, 29º11'N, 112º31'W, CORTES 3 R/V “El Puma”, 02 Aug 1985, 77 m, trawl, EMU-209; 4 males (NM), off San Miguel Cape, Baja California, Mexico, 28º8'N, 112º41'W, CORTES 3 R/V “El Puma”, 01 Aug 1985, 53 m, trawl, EMU-210A; 1 male (SL 16.60 mm), off San Miguel Cape, Baja California, Mexico, 28º9'N, 112º42'W, CORTES 3 R/V “El Puma”, 01 Aug 1985, 102 m, trawl, EMU-210B; 1 male (SL 11.50 mm), off Arboleda Point, Sonora, Mexico, 26º51'N, 110º5'W, CORTES 1 R/V “El Puma”, 05 Aug 1982, 53 m, trawl, EMU-211; 1 females (SL 7.15 mm), off Fuerte River, Sinaloa, Mexico, 25º40'N, 109º28'W, CORTES 2 R/V “El Puma”, 14 Mar 1985, 31 m, trawl, EMU-213A; 4 males (SL 5.00–14.70 mm), 3 females (SL 5.50–7.70 mm), off Santa María Bay, Sinaloa, Mexico, 25º2’N, 108º31’W, CORTES 1 R/V “El Puma”, 03 May 1982, 28 m, trawl, EMU-216A; 1 ovigerous female (SL 6.15 mm), off Santa María Bay, Sinaloa, Mexico, 24º59’N, 108º41’W, CORTES 3 R/V “El Puma”, 09 Aug 1985, 52 m, trawl, EMU-216C; 1 male (SL 2.90 mm), 2 females (SL 3.42–3.97 mm), Novillero, Nayarit, Mexico, 22º22’N, 105º56’W, BIOCAPESS VI R/V “El Puma”, 29 Jun 1992, 44 m, trawl, EMU-4830C; 2 males (SL 7.18–12.60 mm), off Presidio River, Sinaloa, Mexico, 23º4’N, 106º19’W, BIOCAPESS VI R/V “El Puma”, 29 Jun 1992, 24 m, trawl, EMU-4830D; 9 males (SL 4.60–10.00 mm), 9 ovigerous females (SL 3.44–7.00 mm), off Copalita River, Oaxaca, Mexico, 15º46’N, 95º59’W, CEEMEX P7 R/V “El Puma”, 14 May 1992, 75 m, trawl, EMU-4831A; 1 male (SL 11.30 mm), off San Mateo del Mar, Oaxaca, Mexico, 16º1’N, 95º22’W, CEEMEX P7 R/V “El Puma”, 09 May 1992, 46 m, trawl, EMU-4831B; 3 ovigerous females (SL 3.34–3.45 mm), off Encrucijada, Chiapas, Mexico, 14º47’N, 93º0’W, CEEMEX P7 R/V “El Puma”, 12 May 1992, 60 m, trawl, EMU-4831C; 1 male (SL 10.80 mm), 1 female (SL 12.90 m), Los Puentes Cuates, Mazatlán, Sinaloa, Mexico, 27 Oct 1995, gill net, EMU-4934A; 1 male (SL 13.50 mm), Bajo Los Cardones, Mazatlán, Sinaloa,
Mexico, 23°10'43"N, 106°24'17"W, 14 Feb 1995, EMU-4936; 1 male (SL 12.73 mm), Capultita Island, Ensenada Altata-Pabellón, Sinaloa, Mexico, 05 Mar 1991, 2 m, EMU-8464; 2 males (SL 2.29–5.43 mm), 3 females (SL 3.57–5.43 mm), Santa María Bay, Sinaloa, Mexico, 09 Jun 2005, 10 m, trawl, EMU-8465; 7 males (SL 2.40–14.10 mm), 2 females (SL 2.33–4.33 mm), 3 ovigerous females (SL 4.17–6.33 mm), Santa María Bay, Sinaloa, Mexico, 09 Jun 2005, 24 m, trawl, EMU-8466; 53 males (SL 1.70–10.25 mm), 10 females (SL 3.40–7.00 mm), Santa María Bay, Sinaloa, Mexico, 17 Mar 2006, 10 m, trawl, EMU-8467; 1 female (SL 8.39 mm), Santa María Bay, Sinaloa, Mexico, 27 Mar 2007, 10 m, trawl, EMU-8468; 2 males (SL 10.50–13.10 mm), SE Tiburón Island, GUAYTEC I R/V “El Puma”, 28°39.9’N, 112°12.8’W, 19 Feb 1987, EMU-8469; 1 male (SL 3.30 mm), 1 female (SL 5.1 mm), 2 ovigerous females (SL 4.20–5.40 mm), CEEMEX P8 R/V “El Puma”, 28 Jun 1992, 44 m, trawl, EMU-8470.

(All specimens in holdings of CEC; all samples collected in shrimp trawl)

2 males (SL 7.13–7.33 mm), 1 female (SL 4.13 mm), off Manzanillo, Colima, Mexico, 19°04.89’N, 104°21.23’W, DEM III cruise, 08 Mar 1996, 37 m; 3 males (SL 6.93–12.20 mm), 2 ovigerous females (SL 6.20–9.13 mm), off Cuyutlán, Colima, Mexico, 18°55.95’N, 104°07.07’W, DEM I-7 cruise, 07 Jun 1995, 37 m; 3 males (SL 5.00–7.80 mm), 1 ovigerous female (SL 4.93 mm), off El Coco, Jalisco, Mexico, 19°09.13’N, 104°38.13’W, 27 Jun 1995, 18 m; 2 males (SL 11.30–14.00 mm), 1 female (SL 5.33 mm), off Cuitzmala, Jalisco, Mexico, 19°21.74’N, 105°01.25’W, DEM I cruise, BIP V, 13 Jun 1995, 37 m; 1 male (SL 5.40 mm), off Cuitzmala, Jalisco, Mexico, 19°21.74’N, 105°01.25’W, DEM I cruise, BIP V, 13 Jun 1995, 37 m; 3 males (SL 5.53–13.80 mm), 1 female (SL 4.20 mm), 1 ovigerous female (SL 5.60 mm), off Cuyutlán, Colima, Mexico, 18°56.01’N, 104°07.64’W, DEM I cruise, 07 Jun 1995, 55 m; 5 males (SL 5.67–9.70 mm), off Navidad Bay, Jalisco, Mexico, 19°10.09’N, 104°42.06’W, DEM IV-3 cruise, 20 Jun 1996; 3 males (SL 4.40–10.00 mm), 1 female (SL 4.67 mm), off Cuyutlán, Colima, Mexico, 18°56.01’N, 104°07.64’W, DEM I cruise, 07 Jun 1995, 55 m; 5 females (SL 3.92–9.17 mm), 2 females (SL 5.67–6.58 mm), ATLAS II cruise, 16°37’18” to 16°37’06”N, 99°17’12” to 99°16’W, 08 Feb 1989, 22 m, EM-3242; 3 males (SL 6.50–18.00 mm), 2 females (SL 5.83–7.92 mm), 1 ovigerous female (SL 8.50 mm), ATLAS III cruise, 16°36’36” to 16°36’56”N, 99°32’36” to 99°33’30”W, 17 Jan 1983, 57 m, EM-3272; 4 males (SL 3.92–9.17 mm), 2 females (SL 5.67–6.58 mm), ATLAS II cruise, 16°38’ to 16°38’18”N, 99°40’24” to 99°41’48”W, 17 Apr 1982, 54 m, EM-3275; 2 males (SL 8.50–9.17 mm), 1 ovigerous female (SL 7.50 mm), ATLAS I cruise, 17°34’ to 17°34’36”N, 101°30’ to 101°31’W, 12 Feb 1982, 60 m, EM-3278; 4 males (SL 6.08–7.33 mm), 4 females (SL 3.42–9.33 mm), ATLAS I cruise, 17°58’12” to 17°51’48”, and 102°12’48” to 102°11’36”W, 02 Feb 1982, 44 m, EM-3285; 6 males (SL 5.25–15.75 mm), ATLAS II cruise, 16°58’12” to 16°54’36”N, 100°05’54” to 100°04’54”W, 02 May 1989, 123 m, EM-3305; 2 males (SL 9.25–12.88 mm), ATLAS III cruise, 16°34’36” to 16°34’48”N, 99°05’06” to 99°06’18”W, 16 Jan 1983, 53 m, EM-3306; 2 males (SL 6.38–9.38 mm), ATLAS II cruise, 17°28’ to 17°28’18”N, 101°18’48” to 100°22’06”W, 22 Apr 1982, 22 m, EM-3315; 4 males (SL 4.86–8.13 mm), 1 female (SL 10.63 mm), ATLAS II cruise, 17°45’ to 17°44’36”N, 101°42’ to 101°41’W, 22 Apr 1982, 22 m, EM-3335; 3 males (SL 5.50–13.00 mm), ATLAS III cruise, 17°15’30” to 17°16’12”N, 01°05’ to 101°06’06”W, 13 Jan 1983, 72 m, EM-3336; 8 males (SL 2.89–6.89 mm), 3 females (SL 3.22–4.89 mm), ATLAS I cruise, EM-4253; 10 males (SL 4.67–9.11 mm), 5 females (SL 3.56–7.22 mm), ATLAS I cruise, EM-4259; 1 male (SL 15.22 mm), ATLAS II cruise, 16°58’54” to 16°59’48”N, 100°18’54” to 100°20’W, 19 Apr 1985, EM-4285; 8 males (SL 7.78–13.89 mm), 3 females (SL 7.00–9.22 mm), ATLAS III cruise, EM-4287; 1 female (SL 4.16 mm), ATLAS II cruise, 21°37’18” to 21°40’N, 106°09’ to 107°07’30”W, 27 Apr 1982, 114 m, EM-3757; 1 male (SL 4.22 mm), 4 females (SL 3.44–4.44 mm), ATLAS II cruise, 21°24’ to 21°23’N, 105°40’ to 105°37’54”W, 26 Apr 1982, 56 m, EM-3759; 6 males (SL 2.78–6.67 mm), ATLAS II cruise, 21°47’48” to 21°46’30”N, 105°56’ to 105°55”W, 27 Apr 1982, 54 m, EM-3767; 5 males (SL 8.33–11.44 mm), 3 females (SL 11.12–12.56 mm), ATLAS IV
cruise, 18º08’02” to 18º07’59”N, and 103º09’22” to 103º10’12”W, 09 Jul 1983, EM-3813; 5 males (SL 3.22–6.00 mm), 2 females (SL 2.78–3.22 mm), ATLAS III cruise, 57 m, EM-4062; 1 male (SL 11.56 mm), 2 ovigerous females (SL 4.78 mm), ATLAS III cruise, 16 Jan 1983, 100 m, EM-4327; 6 males (SL 2.89–5.33 mm), 14 females (SL 2.67–5.33 mm), ATLAS II cruise, 21º29’ to 21º27.4’N, 105º32.42’ to 105º30.42’W, 52 m, EM-4070; 1 male (SL 9.78 mm), ATLAS III cruise, 17º48’12” to 17º48’36”N, 101º48’ to 101º49’06”W, 19 Jan 1983, 100 m, EM-4323; 4 males (SL 6.44–9.33 mm), ATLAS III cruise, 17º00’24” to 17º00’00”N, 100º26’48” to 100º25’30”W, 17 Jan 1983, EM-4350; 1 male (SL 7.78 mm), ATLAS V, 21º01.6’N, 105º33.7’W, 27 Aug 1988, 36 m, EM-10309; 1 ovigerous female (SL 5.44 mm), ATLAS V, 21º01.6’N, 105º33.7’W, 27 Aug 1988, 36 m, EM-10310.

(All specimens in holdings of LACM CR) 1 male (SL 11.80 mm), off Robelar, Sinaloa, Gulf of California, stn. VS-BII-30, no date available, 88 m, LACM CR 1959-001.1; 5 males (SL 5.00–6.70 mm), 1 female (SL 5.2 mm), off San Lorenzo River, Sinaloa, Gulf of California, 10 May 1959, 49–57 m, LACM CR 1959-001.2; 12 males (SL 6.60–11.10 mm), 2 ovigerous females (SL 5.90–6.10 mm), off Piaxtla Point, 23º33.3’N, 106º52.6’W, Sinaloa, Gulf of California, stn. VS-BII-33, 13 May 1959, 44–48 m, LACM CR 1959-001.3; 2 males (SL 8.90–9.70 mm), 5 females (SL 8.10–9.10 mm), off Concepción Bay, Gulf of California, stn. 681-37, 15 Mar 1937, 5.5 m, LACM CR 1937-083.2; 9 males (SL 3.20–5.80 mm), Tenacatita Bay, Mexico, 18 Feb 1938, 46–73 m, LACM CR 1938-001.1; 1 male (SL 7.30 mm), off Punta Bahía Kino, Sonora, 27 Mar 1960, 24 m, LACM CR 1960-005.1; 1 female (SL 4.60 mm), N of Lobos Point, Sonora, Gulf of California, stn. 725-37, 26 Mar 1937, 18 m, LACM CR 1937-128.2; 1 male (SL 7.40 mm), S of Tiburón Island, Gulf of California, stn. 104-40, 25 Jan 1940, 4 m, LACM CR 1940-016.1; 1 female (SL 5.50 mm), S. of Tiburón Island, Gulf of California, stn. 566-36, 11 Mar 1936, 37 m, LACM CR 1936-080.1; 1 male (SL 3.00 mm), 1 female (4.7 mm), Angeles Bay on spit, Gulf of California, stn. 539-36, 3 Mar 1936, 2 m, LACM CR 1936-053.2; 2 males (SL 10.00–13.70 mm), 1 female (SL 8.20 mm), off Acapulco, Mexico, 26 Jan 1860, coll. A. Agassiz, MCZ-1124.

(All specimens in holdings of USNM) 1 juv., Gulf of California, Mexico, 27º45’N, 110º45’W, R/V “Albatross”, 31 Mar 1889, 37 m, beam trawl, USNM-265369; 1 female (SL 4.00 mm), Gulf of California, Mexico, 27º45’N, 110º45’W, R/V "Albatross", 31 Mar 1889, 37 m, beam trawl, USNM-265363; 2 males (SL 14.80–17.50 mm), Concepción Bay, Gulf of California, no date available, USNM-1076123; 2 males (SL 7.10–7.84 mm), Tenacatita Bay, Jalisco, Mexico, 19º18’N, 104º51’W, 11 Apr 1937, 13 m, USNM-1075613; 2 males (SL 5.70–6.20 mm), 1 female (SL 5.2 mm), 14 juvs., Isabela Island, Nayarit, Mexico, Allan Hancock Expedition, stn. 277-34, 05 Mar 1934, USNM-1076119.

**Diagnosis.** Merus of third maxilliped with at least 2 spines on ventral margin. Left cheliped short and broad. Setae on outer face of palm of left cheliped short, plumose, reaching to base of the next scale. Scales on the palm of left cheliped large and evenly subcircular. Outer lower angle of carpus of left cheliped bearing a small spine. Upper face of dactyl of left cheliped with 2 rows of scale-like tubercles, fringed anteriorly with rounded granules. Outer face of palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus with short to moderately short plumose setae. Lateral face of dactyl of left third pereopod with scales on both sides of longitudinal groove, fringed with small rounded tubercles or spines and short plumose setae. Corneous-tipped spines along entire ventrolateral margin of the dactyl of the left third pereopod.

**Description.** Shield (Fig. 14A, B) 0.94–1.10 times larger than broad; anterior margin between rostrum and lateral projections shallowly concave; lateral margins convex, somewhat irregular, with scattered small spines or tubercles on anterior 0.20 and tufts of long setae. Posterior margin rounded. Anterolateral margins usually with a few granules or small spines. Dorsal surface of shield flat, with tufts of long setae; weakly calcified; Y-shape line present posteriorly. Rostral tooth indistinct or weakly produced. Lateral projections large, obtusely triangular or rounded, produced, usually with 1 small submarginal spine. Posterior carapace lateral elements well calcified, unarmed. Branchiostegites unarmed.
FIGURE 14. *Dardanus stimpsoni* n. sp., holotype male (SL 14.50 mm), Central Gulf of California, Mexico EMU-223, A, C–H; paratype ovigerous female (SL 4.64 mm), off Barra of Tonala, Chiapas, Mexico EMU-4812, B. A, B, shield and cephalic appendages, dorsal; C, ocular acicle, proximal portion of ocular peduncle, segments 1–4 and acicle of antennal peduncle, right, dorsal, setae omitted; D, penultimate and basal antenular segments, left, lateral; E, segments 1–5 and acicle of antennal peduncle, right, lateral, setae omitted; F, anterior lobe of sternite, third pereopods; G, chela and carpus of left fourth pereopod, lateral, setae omitted; H, telson, dorsal. Scale bars: A–E, G, H 5 mm; F 2 mm.
Ocular peduncles (Fig. 14A, B) 0.40–0.60 length of shield, moderately to very thick and weakly compressed in the middle, with 7 long setae on the upper notch. Cornea moderately to strongly dilated, 1.20–1.45 the width of the base of ocular peduncle; corneal length 0.36–0.55 of ocular peduncle length. Ocular acicles (Fig. 14A–C) broad, distal margins each with 3–6 spines, separated by 0.33–0.50 width of an acicle. Interocular plate (Fig. 14C) subrectangular transversally, with pair of protrusions.

Antenular peduncles (Fig. 14A, D) slender; when fully extended exceeding to ocular peduncles by 1.25–1.50 length of ultimate segment; ultimate segment with 3 or 4 long stiff setae dorsally; penultimate segment with tufts of long setae on ventral and dorsal surfaces; basal segment (Fig. 14D) with ventromesial distal angle bearing small spine, ventral margin with 4–6 small spines.

Antennal peduncles (Fig. 14A, B, E) when fully extended reaching 3/4 or exceeding by 1/4 length of ocular peduncles; fifth segment unarmed, with tufts of short setae on ventral and dorsal surfaces; fourth segment with 1 or 2 very small spines or spinules on laterodistal margin and tufts of long setae on the ventrolateral margin; third segment with 1 spine at ventral subdistal margin and tufts of long setae; second segment with dorsolateral distal angle produced, ending in strong simple or bifid spine, lateral margin unarmed, dorsomesial distal angle bearing 1 or 2 spines, mesial margin setose; first segment with ventrolateral distal angle with 1 or 2 small spines, ventral surface produced, rounded. Antennal acicle (Fig. 14A–C, E) reaching 1/2 ocular peduncle length up to 1/4 length of cornea; dorsomesial margin with 4 or 5 small spines, occasionally with 6; dorsolateral margin usually with 1 or 2 small spines, ventrolateral margin unarmed or with 1 or 2 small spines; terminating in bifid spine. Antennal flagella with very short setae on each articulation.

Maxillule (Fig. 15A) with internal lobe bearing 1 proximal seta and 4–8 stiff setae or bristles distally. Maxilla (Fig. 15B) with endopod exceeding slightly in distal extension the scaphognathite; scaphognathite moderately broad. First maxilliped (Fig. 15C) with endopod reaching approximately 3/4 length of external basal segment and occasionally bearing a long apical bristle. Second maxilliped (Fig. 15D) without distinguishing characters. Third maxilliped (Fig. 15E) with basis-ischium incompletely fused; basis with 1 or 2 moderately strong spines on ventrolateral distal margin, spines concealed by tufts of long setae; ischium with well developed crista dentata, with 8–11 denticles; ventrolateral distal margin with strong spine; merus with 2–4 spines on ventral margin, dorsal distal margin with small spine.

Chelipeds vastly unequal, left larger. Left cheliped (Figs. 6C, 16A) very stout, 1.30–1.60 times longer than wide, more elongate in males than in females, armature generally similar in males and females. Dactyl (Figs. 16C) terminating in large corneous tooth; cutting edge with 5 strong molar teeth; outer face with row of strong spine-like tubercles; upper face with 2 rows of scale-like tubercles, fringed anteriorly with 1–4 small granules and short plumose setae; upper inner face with row of corneous-tipped tubercles and two longitudinal rows of short setae. Fixed finger terminating in large corneous tooth; cutting edge with 6 molar teeth. Palm (Fig. 16A–B) with outer face strongly convex; outer face of palm and fixed finger covered with scales fringed on their distal edge with 1–13 small rounded granules and short plumose setae; inner surface with numerous rounded spine-like tubercles accompanied with long stiff setae; lower margin (Fig. 16D) bearing row of strong, triangular-shaped corneous spines; upper margin with double row of 5–9 prominent, corneous-tipped spines. Carpus (Fig. 16A) with upper margin bearing 4 prominent, corneous-tipped spines; upper face with 3 irregular rows of corneous-tipped spines, the middle row with larger spines; outer face slightly convex with few corneous-tipped spines, lower, outer face with corneous-tipped spines on distal and proximal margins; inner surface with scattered tufts of long setae; ventromesial distal angle with 3 or 4 teeth or rounded spines. Merus (Fig. 16E) with distal margin of lateral face bearing several corneous-tipped spines, larger on dorsal face; dorsal face with tufts of long stiff setae, subdistal margin with short transverse row of small corneous-tipped spines; ventrolateral distal angle with 1 large spine, occasionally a second, smaller spine present; ventromesial margin crested with 5–8 rounded teeth, proximal larger. Ischium with 5 teeth on the ventromesial margin.
FIGURE 15. *Dardanus stimpsoni* n. sp., holotype male (SL 14.50 mm), Central Gulf of California, Mexico EMU-223. Bucal parts, left, inner view. A, maxillule; B, maxilla; C, first maxilliped; D, second maxilliped; E, third maxilliped. Scale bars: 2 mm.
FIGURE 16. *Dardanus stimpsoni* n. sp., holotype male (SL 14.50 mm), Central Gulf of California, Mexico EMU-223. Left cheliped. A, chela and carpus, outer view; B, section of palm, outer view; C, dactyl, upper view, setae omitted; D, chela, inner view; E, merus, outer view. Right cheliped: F, outer view; G, chela, lower view. Scale bars: A 2 mm; B 1 mm; C–G 5 mm.
Right cheliped (Figs. 16F–G) moderately slender, setose. Dactyl terminating in large corneous tooth; cutting edge with 4 or 5 molar teeth; upper margin with 3 rows of moderately large, corneous-tipped spines and tufts of long setae; outer face with tufts of long setae and small corneous-tipped spines. Fixed finger terminating in large corneous tooth; cutting edge with 5 or 6 molar teeth, proximal smaller. Palm with 2 rows of strong, corneous-tipped spines on upper face; outer face with longitudinal rows of flattened tubercles fringed anteriorly with 1 or 2 small spines, at least 3 rows of tubercles extending on fixed finger and many long stiff setae flanked by short setae; lower face with row of strong, triangular corneous spines and tufts of long setae. Carpus with 8 or 9 strong, peripheral, corneous-tipped spines on upper face; outer face convex, with few corneous-tipped spines; lower outer face with scaly tubercles fringed distally with small corneous spines; inner face naked; ventromesial margin with 1 or 2 rounded spines. Merus with tufts of long setae on dorsal margin; dorsodistal margin with 1 strong, corneous-tipped spine; outer face with few flattened tubercles fringed distally with spinules, distal margin with few small corneous spines; laterodistal angle with 1 strong, corneous-tipped spine; ventromesial margin crested with 5 or 6 rounded teeth or spines, proximal larger. Ischium with 4 or 5 spines on ventromesial margin.

Second pereopods (Fig. 17A–E) and right third pereopod (Fig. 18A–C) generally similar, but armament of dactyls, propodi and carpi somewhat different between second pair and right third; second pair more slender than right third. Dactyls 1.30–1.40 (second) or 1.40–1.50 (right third) length of propodi, each terminating in strong corneous claw; dorsal surfaces (Fig. 17B) each with double row of corneous-tipped spines, inner row extending on proximal 0.60, spines accompanied by tufts of stiff setae which on distal third become long, thick spine-like setae; lateral (Figs. 17A, 18A) and mesial faces (Figs. 17C, 18B) each with weak longitudinal groove and two rows of tufts of long stiff setae, one in midline and another dorsally, the latter is usually accompanied by small to moderately strong corneous-tipped spines; ventral margins each with 3–7 (second, Figs. 17A, C) or 2 or 3 (right third, Fig. 18A, B) moderately to strong corneous spines distally and tufts of long stiff setae; ventrolateral margin of the left second pereopod with small corneous spines on proximal third. Propodi 1.30–1.40 length of carpi; dorsal faces flattened and very broad (second, Fig. 17E) or comparatively narrower (right third, Fig. 18C), each with 3 (second) or 2 (right third) irregular longitudinal rows of flattened tubercles bearing 1 or 2 small corneous spines accompanied by one long thick setae and 1–3 very short setae, dorsodistal margin with few small corneous spines and thick setae; lateral faces each with two longitudinal rows of tufts of stiff setae, one in midline and another ventrally, the former (in left second) usually bearing small corneous-tipped spines, right third (Fig. 18B) with one longitudinal row of stiff tufts in midline and another ventrally, distal margins with 1 small corneous-tipped spine; ventral faces each with tufts of long setae, on left second pereopod the tufts also bearing small corneous spines. Carpi 0.60–0.90 (second, Fig. 17A) or 0.80–1.00 (right third, Fig. 18A) length of meri; lateral faces convex with weak longitudinal groove flanked ventrally only with tufts of setae (right third) or tufts of setae accompanied by small corneous spines (second); dorsal margins each with several large, tipped-corneous spines, larger on second pereopods (Fig. 17E), accompanied by one row of smaller spines. Meri each with tufts of thick setae on dorsal margin; ventrolateral distal margin with 1 strong, corneous-tipped spine; ventral face with irregular simple or double row of small spines or denticles (second) or few small spines or denticles distally (right third) and tufts of long setae. Ischia usually with 1 or 2 small spines ventrodistally.

Left third pereopod (Figs. 13C, 19A) stout. Dactyl 1.40–1.50 length of propodus, terminating in large corneous claw; dorsal face with longitudinal row of flattened tubercles bearing 1 or 2 small corneous spines and tufts of stiff setae, running close to dorsolateral margin on proximal 3/4; mesial face (Fig. 19D) convex, with weak longitudinal median groove and two rows of tufts of long, thick stiff setae, one in midline and the other dorsally, the latter bearing 1 or 2 corneous-tipped spines, ventromesial margin with tufts of long setae; lateral face (Figs. 13C, 19A, B) flattened, with shallow, broad, median longitudinal groove, vanishing distally and bearing small flattened tubercles fringed distally by short plumose setae, transverse scales on both sides of groove; scales with small, rounded or tipped granules and short plumose setae on distal edge, setae longer...
FIGURE 17. *Dardanus stimpsoni* n. sp., holotype male (SL 14.50 mm), Central Gulf of California, Mexico EMU-223, A–F; paratype, ovigerous females (SL 4.64 mm), off Barra of Tonala, Chiapas, Mexico (EMU-4812), G. Left second pereopod. A, lateral; B, dactyl, dorsal; C, dactyl, mesial; D, propodus, mesial; E, propodus and carpus, dorsal. Left side of pleon. F, male; G, female, eggs omitted. Scale bars: 5 mm.
FIGURE 18. *Dardanus stimpsoni* n. sp., holotype male (SL 14.50 mm), Central Gulf of California, Mexico EMU-223. Right third pereopod: A, lateral; B, dactyl and propodus, mesial; C, propodus, dorsal. Left third pereopod. D, propodus, mesial; E, same, dorsal. Scale bars: A–E 5 mm.
FIGURE 19. Dardanus stimpsoni n. sp., holotype male (SL 14.50 mm), Central Gulf of California, Mexico EMU-223, B–C; paratype male (SL 12.48 mm), off Punta San Carlos, BCS, Mexico EMU-224, A, D. Left third pereopod. A whole, lateral; B, section of dactyl, lateral; C, section of dactyl, dorsolateral margin; D, dactyl and propodus, mesial. Scale bars: C 500 μm; B 1 mm; A, D 2 mm.
toward edges of dactyl; scales terminating in strong, rounded or tipped, spine-like tubercles on ventrolateral margin (Fig. 19A, B), and in strong, corneous-tipped spines on dorsolateral margin (Fig. 19B, C), spines becoming small corneous spines distally, concealed by long, spine-like, thick setae; ventral face with moderately deep longitudinal groove and 1 or 2 strong corneous spines distally. Propodus (Figs. 13C, 19A) 1.30–1.40 length of carpus, very broad; dorsal face (Fig. 18E) with two irregular longitudinal rows of flattened tubercules bearing 1 or 2 small corneous spines, one long thick setae, and 2 or 3 very short setae, distal margin with long thick setae and few small corneous spines; mesial face (Figs. 18D, 19D) with two longitudinal rows of tufts of short setae, one in midline and another ventrally; lateral face (Figs. 13C, 19A) convex, with transverse scales on both sides of a bare, middle area; scales fringed distally with small, rounded or tipped spine-like tubercles and short plumose setae, setae longer toward edges of propodus; scales terminating in strong, rounded or tipped spine-like tubercles on ventrolateral margin, and in tubercles bearing 2 corneous-tipped spines on dorsolateral margin. Carpus (Fig. 19A) 0.80–0.90 length of merus; lateral face convex with short transverse rows of small tipped-corneous spines scarce accompanied by long stiff setae, subdistal margin with few tipped-corneous spines; dorsal margin with row of tipped-corneous spines, larger distally; dorsolateral angle usually with 1 moderately strong, corneous-tipped spine. Merus with tufts of long, thick bristle-like setae on dorsal face; lateral and mesial faces with few tufts of short setae; ventral face with few small rounded spines distally, laterodistal angle usually with 1 small tipped-corneous spine. Ischium usually with 1 ventrodistal spine.

Sternite XII (third pereopods) (Fig. 14F) with anterior lobe rectangular, bearing prolonged projection, with tuft of long setae anteriorly. Fourth pereopod (Fig. 14G) subchelate; dactyl with 5 or 6 corneous ventral spines on lateral face; propodal rasp well developed; carpus with sharp dorsodistal spine. Fifth pereopod chelate; rasps of dactyl and propodus well developed. Male pleon (Fig. 17F) with second to fifth left pleopods fringed with long setae, each with well developed exopod; small subcircular fleshy membranous protuberance between fourth and fifth pleopods, fringed anteriorly with short setae. Female pleon (Fig. 17G) with second to fifth left pleopods fringed with long setae; second to fourth triramous; fifth biramous, endopod very small; single, elongate, triangular fleshy membrane fringed with long setae present between fourth and fifth pleopods. Uropods (Fig. 17F, G) strongly asymmetrical, left larger than right; endopods and exopods with well developed rasps. Telson (Fig. 14H) with lateral constrictions; marginal area partially calcified; posterior lobes separated by median cleft, left larger than right, each with 4 or 5 corneous spines and long setae on terminal margin; anterior lobes with long setae on lateral margins. 

**Color.** In life (Fig. 26B), carapace light orange with reddish stains on dorsal and lateral faces; shield purple with scattered red spots; ocular peduncles purples with two reddish bands, one distal and one median, ventral face reddish with one median purple band and another purplish-white band distally; cornea golden; antennal segments light purple; antennal and peduncular flagella light orange; chelipeds reddish-purple with many purples tubercules, merus with a red line distally; smaller cheliped with yellow setae with red tip and white stains on distal and proximal margins of carpus and palm, respectively; walking legs light reddish-purple with purples tubercules; carpus and merus each with a median red band, inner face whitish on proximal half.

**Etymology.** The species is named to honor William Stimpson (1832–1872) in recognition of his enormous contribution to the study of crustaceans, in particular the hermit crabs.

**Distribution.** Throughout the Gulf of California and along the west coast of Mexico south to off Tonala, Chiapas; 2–144 m.

**Remarks.** Based on the numerous specimens of this species found in several collections, it appears that *D. stimpsoni* is widely spread and the most common species of *Dardanus* in the eastern Pacific. It also features a very ample bathymetric distribution.
Based on the material examined, ovigerous females of *D. stimpsoni* range in size from 2.94 to 10.00 mm SL. Minimum size of mature females is very small compared with other species of *Dardanus* from the eastern Pacific (Table 1).

Small differences are observed when comparing specimens collected in SW Mexico and specimens from the Gulf of California. Southern specimens present ocular peduncles proportionally longer (0.45–0.60 SL) than those from the Gulf of California (0.40–0.45 SL). The former also feature stouter ocular peduncles and a more dilated cornea (1.33–1.45 width of ocular peduncle basis) than Gulf specimens (1.20–1.25). Compared to ocular peduncle length, corneal length (measured along inner side) is proportionally larger in southern specimens (0.40–0.55) than in Gulf specimens (0.36–0.40). The posterior portion of shield in southern specimens is somewhat narrower than in the Gulf specimens and the latter also feature thinner and longer antennal acicles, usually reaching to ¼ the length of the cornea in lieu of the basis of cornea as in the southern material examined. However, all other characters (e.g., chelipeds, pereiopods 2 and 3, telson) are strikingly similar and these variations are considered intraspecific. Armature on outer face of left cheliped and lateral face of left third pereopod dactyl and propodus, considered diagnostic characters to separate species of eastern Pacific *Dardanus*, are similar. Although in examined specimens the tuberculation of palm showed some variations in the size of scales and number of granules on distal margin of scales, the type and location of granules is constant. The density and length of setae in scales are also similar (except in juveniles where setae were less dense). The pattern of scales and fringes of setae on lateral faces of dactyl and propodus in the left third pereopod is also similar; setae on these segments are always short and never exceeded length of spines on ventralateral and dorsalateral margins. Proportion between width of dactyl and propodus of third left pereopod is also similar among all specimens examined.

The sculpture on the palm of the left cheliped, left third pereopod dactyl and propodus distinguishes *D. stimpsoni* n. sp. from *D. sinistripes*, *D. janethaigae*, *D. pilosus*, and *D. magdalenensis*. The scales on the palm are larger and more evenly circular in *D. stimpsoni*, with a major number of granules on the anterior margin; besides, the fringe of setae in scales scarcely reach the basis of the next scale (Fig. 36K, Table 1). The armature of the inner lower margin of the left cheliped (Fig. 36L) in *D. stimpsoni* is different from *D. janethaigae*, *D. pilosus*, and *D. magdalenensis*. The setation on the lateral face of the left third pereopod dactyl and propodus also differentiates *D. stimpsoni* from the other four species, and the marginal setae of scales are shorter and never exceeding tip of spines on dorsolateral and ventrolateral margins. Moreover, in *D. stimpsoni* the left third pereopod propodus is slender and is slightly broader than dactyl, whilst in the other species it is moderately broader than dactyl (Fig. 36N).

**Dardanus janethaigae** n. sp. (Figs. 6D, 13D, 20–25, 37A–E)

*Dardanus sinistripes*.—Ayón Parente, 1997: 45 (in part, see material examined and additional material). Hendrickx, 1990; 41 (in part, see additional material); 1994: 27–31 (in part, see material examined and additional material). Hendrickx et al., 1997a: 9 (in part, see additional material).

**Material examined.** *Type material.* Holotype male (SL 15.30 m), off Rocos Hermanas, Sinaloa, Mexico, 23°11’07’’N, 106°20’21’’W, 13 Jun 1996, 6 m, gill net, EMU-4960. Paratypes: 1 ovigerous female (SL 11.90 mm), off Hermanas Rocks, Sinaloa, Mexico, 23°11’07’’N, 106°20’21’’W, 13 Jun 1996, 6 m, gill net, EMU-8471; 4 males (SL 4.50–7.80 mm), 1 female (SL 4.30 mm), 3 juvs., off Punta Piaxtla, Sinaloa, Mexico, 23°34’N, 106°57’W, SIPCO I, R/V “El Puma”, 24 Apr 1981, 66 m, trawl, EMU-203; 3 males (SL 9.60–12.00 mm), 1 ovigerous female (SL 12.90 mm), off El Delfin “Oceanica”, Sinaloa, Mexico, 23°20’15’’N, 106°29’26’’W, 11 Aug 1995, gill net, EMU-4775; 1 male (SL 4.22 mm), ATLAS II 1A–01, 21°15’36’’N, 105°16’30’’W, 20 m, EM-10629; 2 males (SL 2.30–4.00 mm), 2 females (SL 3.00–4.20 mm), Gulf of California, 28°28’N, 112°04’30’’W, 23 Mar 1889, “Albatros” R/V, trawl, 53 m, USNM-265359; 2 males (SL
8.60–8.70 mm), 1 ovigerous female (SL 8.20 mm), Guaymas Area, Sonora, Gulf of California, 19 Aug 1982, 3 m, LACM CR 1982-003:1; 1 male (SL 10.63 mm), San Agustin Beach (30 mi N of San Carlos), Sonora, Mexico, 21 Nov 1982, UAZ-1416.

Additional material. 12 juvs., off Teacapán, Sinaloa, Mexico, 22º17'N, 106º10'W, SIPCO I R/V “El Puma”, 23 Apr 1981, 61 m, trawl, EMU-200A; 2 males (SL 6.70–7.56 mm), 2 NS, off Punta de Mita Nayarit, Mexico, 20º53'N, 105º27'W, CORTES 1 R/V “El Puma”, 23 Mar 1985, 48 m, trawl, EMU-207C; 2 NS, north of Tiburón Island, Sonora, Mexico, 29º11'N, 112º31'W, CORTES 3 R/V “El Puma”, 02 Aug 1985, 77 m, trawl, EMU-209; 1 male (SL 4.50 mm), off San Miguel Cape, BC, Mexico, 28º10'N, 112º47'W CORTES 2 R/V “El Puma”, 13 Mar 1985, 27 m, trawl, EMU-218A; 2 males (SL 6.80–8.50 mm), 2 females (SL 4.00–5.90 mm), and 4 NS, off San Miguel Cape, BC, Mexico, 28º6'N, 112º47'W, CORTES 3 R/V “El Puma”, 01 Aug 1985, 25 m, trawl, EMU-218B; 1 female (SL 5.50 mm), off Santa María Bay, Sinaloa, Mexico, 25º2'N, 108º31'W, CORTES 1 R/V “El Puma”, 03 May 1982, 28 m, trawl, EMU-216A; 1 male (SL 6.40 mm), 1 female (SL 5.50 mm), off Santa María Bay, Sinaloa, Mexico, 24º56'N, 108º44'W, CORTES 2 R/V “El Puma”, 10 May 1985, 64 m, trawl, EMU-216B; 1 male (SL 3.60 mm), off Gorda Bank, BCS, Mexico, 23º5'N, 109º31'W, CORTES 1 R/V “El Puma”, 13 May 1982, 56 m, trawl, EMU-214A; 1 male (SL 5.30 mm), off Santa Inés Bay, BCS., Mexico, 26º58'N, 111º53'W, CORTES 2 R/V “El Puma”, 19 Mar 1985, 68 m, trawl, EMU-214B; 2 females (SL 3.70–9.10 mm), off Santa Inés Bay, BCS, Mexico, 26º58'N, 111º53'W, CORTES 2 R/V “El Puma”, 19 Mar 1985, 68 m, trawl, EMU-214C; 1 male (SL 3.80 mm), off Fuerte River, Sinaloa, Mexico, 25º46'N, 109º35'W, CORTES 2 R/V “El Puma”, 20 Mar 1985, 97 m, trawl, EMU-214D; 3 females (SL 4.80–7.30 mm), off Punta Arboleda, Sonora, Mexico, 26º52'N, 110º3'W, CORTES 2 R/V “El Puma”, 12 Mar 1985, 24 m, trawl, EMU-217A; 1 male (SL 6.90 mm), off Punta Arboleda, Sonora, Mexico, 26º52'N, 110º1'W, CORTES 3 R/V “El Puma”, 31 Jul 1985, 22 m, trawl, EMU-217B; 1 female (SL 4.60 mm), off Fuerte River, Sinaloa, Mexico, 25º40'N, 109º28'W, CORTES 2 R/V “El Puma”, 14 Mar 1985, 31 m, trawl, EMU-213A; 1 female (SL 4.50 mm), off Fuerte River, Sinaloa, Mexico, 25º43'N, 109º29'W, CORTES 3 R/V “El Puma”, 08 Aug 1985, 23 m, trawl, EMU-213B; 11 NS, off Punta Arboleda, Sonora, Mexico, 26º51'N, 110º5'W, CORTES 3, R/V “El Puma”, 05 May 1982, 53 m, trawl, EMU-211; 2 males (SL 2.50–3.50 mm), 2 females (SL 3.30–3.90 mm), 1 NS, South of Carmen Island, BCS, Mexico, 25º34'N, 111º8'W, CORTES 1 R/V “El Puma”, 04 May 1982, 55 m, oyster dredge, EMU-212A; 3 females (SL 5.10–6.70 mm), South of Carmen Island, BCS, Mexico, 25º58'N, 111º07'W, CORTES 1 R/V “El Puma”, 04 May 1982, 50 m, oyster dredge, EMU-212B; 1 male (SL 6.97 mm), North of Tiburón Island, Sonora, Mexico, 29º12'N, 112º31'W, CORTES 1 R/V “El Puma”, 07 May 1982, 75 m, trawl, EMU-212C; 1 female (SL 6.10 mm), North of Tiburón Island, Sonora, Mexico, 29º20'N, 112º26'W, CORTES 1 R/V “El Puma”, 07 May 1982, 47 m, trawl, EMU-212D; 3 males (SL 7.60–13.00 mm), 1 female (SL 11.20 mm), off San Miguel Cape, BC, Mexico, 28º09'N, 112º46'W, CORTES 1 R/V “El Puma”, 06 May 1982, 34 m, oyster dredge, EMU-231; 5 males (SL 9.80 mm), 2 females (SL 9.35–11.20 mm), 4 ovigerous females (SL 6.50–6.90 mm), off River, Sonora, Mexico, 27º38'N, 110º44'W, GUAYTEC II R/V “El Puma”, 01 Aug 1987, 82 m, trawl, EMU-229; 5 males (SL 9.20–12.80 mm), 1 female (SL 11.40 mm), 2 ovigerous females (SL 10.50–12.10 mm), Los Puentes Cuates, Sinaloa, Mexico, 28 Sep 1996, gill net, EMU-4934B; 1 male (SL 6.40 mm), off Mazatlán, Sinaloa, Mexico, 23º8'N, 106º25'W, SIPCO I R/V “El Puma”, 25 Apr 1981, 27 m, trawl, EMU-3835A; 1 NS, off Estero Tastiota, Sonora, Mexico, 28º16'N, 111º36'W, CORTES 3 R/V “El Puma”, 06 Aug 1985, 57 m, trawl, EMU-3839D; 2 males (SL 4.50 mm), off Punta San Marcial, BC, Mexico, 25º33'N, 110º58'W, CORTES 3 R/V “El Puma”, 05 May 1982, 41 m, female oyster dredge, EMU-3839A; 1 female (SL 5.40 mm), off Punta Arboleda, Sonora, Mexico, 26º56'N, 110º5'W, CORTES 1 R/V “El Puma”, 05 May 1982, 28 m, trawl, EMU-3841A; 2 males (SL 4.20–7.00 mm), 1 female (SL 4.10 mm), off Cabo San Miguel, BC, Mexico, 28º9'N, 112º46'W, CORTES 1 R/V “El Puma”, 06 May 1982, 34 m, oyster dredge, EMU-3841B; 6 juvs., off Tepoca Bay, Sonora, Mexico, 30º3'N, 112º55'W, 100 m, trawl, EMU-3841C; 3 NS, off Estero Tastiota, Sonora, Mexico, 28º16'N, 111º31'W, CORTES 1 R/V “El Puma”, 11 May 1982, 49 m, trawl, EMU-3841D; 1 NS, off Río Baluarte, Sinaloa, Mexico, 22º39'N, 106º14'W, BIOCAPESS VI R/V “El Puma”, 28 Jun 1992, 79 m, trawl, EMU-4830B; 2 females (SL 4.10–4.60 mm), Novillero, Nayarit, Mexico, 22º22'N, 105º56'W, BIOCAPESS
VI R/V “El Puma”, 29 Jun 1992, 44 m, trawl, EMU-4830C; 1 male (SL 6.26 mm), off Puerto Madero, Chiapas, Mexico, 14°37′N, 92°57′W, CEMEX P7 R/V “El Puma”, 12 May 1992, 118 m, trawl, EMU-4831D; 1 male (SL 9.80 mm), Venados Island, Mazatlán, Sinaloa, Mexico, 17 May 1996, EMU-4959; 1 female (NM), Rocos Hermanas, 23°11′06″N, 106°26′22″W, 22 Mar 2005, Van Veen dredge, 4 m, EMU-8472; 1 male (SL 11.60 mm), Rocos Hermanas, Mazatlán, Sinaloa, Mexico, 23°11′02″N, 106°26′24″W, 10 Nov 2007, 6 m, gill net, EMU-8473; 2 males (SL 5.30–7.40 mm), off Huatabampo, Sonora, Mexico, 26°47′N, 110°6′W, GUAYEC II R/V “El Puma”, 01 Aug 1987, 85 m, trawl, EMU-223.

(All specimens in holdings of EM) 1 male (SL 8.24 mm), ATLAS II, 17°07′N, 100°37′W, 20 Apr 1982, 30 m, trawl, EM-3235; 1 male (SL 3.58 mm), ATLAS I, stn. 8B-21, 16°13′24″ to 16°14′06″N, 98°44′36″ to 98°45′36″W, 16 Feb 1982, 40 m, trawl, EM-3251; 1 male (SL 11.00 mm), ATLAS III, stn. 5B-0B, 16°36′36″ to 16°38′56″N, 99°32′36″ to 99°33′30″W, 17 Jan 1983, 57 m, trawl, EM-3272; 1 male (SL 6.50 mm), 3 NS, ATLAS III 6B-04, 16°34′48″ to 16°34′54″N, 99°04′48″W, 17 Jan 2003, 32 m, EM-3339.

(All specimens in holdings at Smithsonian, USNM) 1NS, Gulf of California, 24°11′30″N, 109°55′W, 30 Apr 1888, R/V "Albatross", oyster dredge, 18 m, USNM-265364; 1 female (SL 6.00 mm), Gulf of California, 30°58′30″N, 113°17′15″W, 24 Mar 1889, R/V "Albatross", beam trawl, 20 m, USNM-265361; 1 female (3.60 mm), Gulf of California, 25°02′15″N, 110°43′30″W, 17 Mar 1889, R/V "Albatross", oyster dredge, 31 m, USNM-265365; 1 male (SL 9.80 mm), San Jose Island, Gulf of California, 24°54′45″N, 110°39′30″W, 1889, R/V "Albatross", stn. 3000, USNM-1076127; 1 male, (SL 7.30 mm), San Jose Island, off NW shore, Amortajada Anchorage, Gulf of California, stn. UH 04167, USNM-1076131; 2 males, (SL 8.40–9.90 mm), 2 NS, Isabela Island, Nayarit, Mexico, Allan Hancock Expedition, R/V "Velero III", stn. 277-34, 5 Mar 1934, USNM-1076119; 1 female (SL 3.80 mm), Carmen Island, Gulf of California, 15 Dec 1931, 73 m, USNM-1107136.

(All specimens in holdings of LACM CR) 1 male (SL 4.00 mm), 4 females (3.30–7.90 mm), stn. 673-37, 14 Mar 1937, 37 m, LACM CR-1937-075.2; 1 female (SL 11.50 mm), Searcher Expedition 499-1, shore, LACM CR-1972-071.1; 1 male (SL 7.90 mm), south side Tiburon Island, Gulf of California, stn. P-194-60, 27 Mar 1960, Parker dredge, 12 m, LACM CR-1960-005.2; 2 females (SL 3.2–4.0 mm), off Robelar, Sinaloa, Gulf of California, stn. VS-BII-30, 12 Mar 1959, 88 m, LACM CR-1959-001.4; 1 female (SL 9.70 mm), Puerto Refugio, Angel de la Guarda Island, Gulf of California, stn. 1051-40, 27 Jan 1940, 38 m, LACM CR-1940-023.2; 1 female (5.00 mm), south of San Francisco Island, Gulf of California, stn. 514-36, 24 Feb 1936, 27 m, LACM CR-1936-028.1; 1 female (SL 7.40 mm), east of San Francisco Island, Gulf of California, stn. 514-36, 24 Feb 1936, shore, LACM CR-1936-028.2; 3 males (SL 8.60–9.40 mm), 1 female (SL 8.70 mm), off Concepción Bay, Gulf of California, stn. 681-37, 15 Mar 1937, 5 m, LACM CR-1937-083.1; 2 males (SL 4.00–7.60 mm), 1 female (4.30 mm), south of Tiburón Island, Gulf of California, stn. 1044-40, 25 Jan 1940, 29 m, LACM CR-1940-016.2; 1 female (SL 4.00 mm), 2 juvs., San Ignacio Bay, Sinaloa, Gulf of California, stn. 742-37, 31 Mar 1937, 55–91 m, LACM CR-1937-145.1; 1 female (SL 6.50 mm), off Concepción Bay, Gulf of California, stn. 680-37, 37 m, LACM CR-1937-082.1; 1 female (SL 4.50 mm), San Francisco Island, Gulf of California, stn. 653-37, 9 Mar 1937, LACM CR-1937-055.1; 2 males (SL 3.50–7.10 mm), 1 juv., off Pulpito Point, Gulf of California, stn. 674-37, 14 Mar 1937, 26 m, LACM CR-1937-076.1; 3 males (SL 6.30–9.60 mm), off Punta Piaxtla, Sinaloa, Gulf of California, stn. VS-BII-33, 23°33′3.3″N, 106°52′.6″W, 13 May 1959, 46 m, LACM CR-1959-001.5; 2 males (SL 5.10–5.50 mm), 1 female (5.80 mm), 2 juvs. (SL 3.20–3.30 mm), off Punta Bahía Kino, Sonora, stn. P-196-60, 27 Mar 1960, 24 m, LACM CR-1960-005.3.

(All specimens in holdings at University of Arizona, UAZ) 1 ovigerous female (SL 4.21 mm), stn. 16-25, 24°16′N, 110°24′W, R/V “Te Vega”, 44–66 m, UAZ-794; 1 male (SL 4.04 mm), NW of San Carlos, Algodones Bay, Guaymas, Sonora, Mexico, 24 Mar 1970, trawl, 55 m, UAZ-806.

**Diagnosis.** Merus of third maxilliped with at least 2 spines on ventral margin. Left cheliped short and broad. Setae on outer face of palm of left cheliped long, plumose, usually reaching subdistal margin of the next scale. Scales on palm of left cheliped large and subrectangular, to subcircular concealed by long plumose setae. Outer lower angle of carpus of left cheliped bearing a strong spine. Upper face of dactyl of left cheliped with 2 rows of strong spine-like tubercles terminating in single or bifid cornaceous-tipped spine. Outer
face of palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus concealed with long plumose setae. Lateral face of dactyl of left third pereopod with scales on both sides of longitudinal groove, fringed with small corneous-tipped spines and long plumose setae. Corneous-tipped spines along entire ventrolateral margin of the dactyl of the left third pereopod.

**Description.** Shield (Fig. 20A, B) 1.00–1.10 times longer than broad; anterior margin between lateral projections and rostrum almost straight to moderately concave; lateral margins convex, somewhat irregular, with small spines or teeth on anterior 1/4 and tufts of long setae; anterolateral margins usually spiny or toothed; dorsal face of shield flat, with tufts of long setae; weakly calcified Y-shaped line present posteriorly; posterior margin rounded. Rostral lobe indistinct or only weakly produced. Lateral projections moderately pronounced, usually with one (occasionally two) small spine on distal margin and denticles on lateral margin. Posterior carapace lateral elements well calcified, unarmed. Branchiostegites unarmed.

Ocular peduncles (Fig. 20A) 0.35–0.50 length of shield, stout, slightly compressed in middle, usually bearing 11 bristles on the superior notch; cornea dilated, 1.16–1.25 width of base of ocular peduncle; corneal length 0.37–0.40 of ocular peduncle length. Ocular acicles (Fig. 20A, B) broad; distal margins each with 5–7 spines, tips often black; separated by 0.33–0.40 width of an acicle. Interocular plate (Fig. 20A, B) transversally subrectangular with pair of protrusions.

Antenular peduncles (Fig. 20A, ) slender, 1.33–1.50 length of ocular peduncles; ultimate segment with 3 long stiff setae on dorsal margin, penultimate segment with tufts of long stiff setae dorsally; basal segment (Fig. 20C) with ventromesial distal angle bearing small spines and armed ventrally with row of 4–7 small spines.

Antennal peduncles (Fig. 20A, D) when totally extended 1.00–1.33 length of ocular peduncles; fifth segment unarmed, with tufts of short setae on dorsal and ventral faces; fourth segment with 1 or 2 small spines or spinules on laterodistal margin and tufts of long setae on ventrolateral margin; third segment with small spine on ventral subdistal margin and tufts of long stiff setae; second segment with dorsomesial distal angle bearing spines, dorsolateral distal angle pronounced, ending in bifid spines, lateral margin unarmed; first segment with 1 small spine on ventrolateral subdistal margin, ventral surface strongly pronounced, rounded. Antennal acicle (Fig. 20A, B, D) short, not reaching base of corneas, terminating in bifid spine; dorsomesial margin with 5–7 small spines; dorsolateral margin with 1 or 2 small spine on distal third; ventrolateral margin occasionally with 1 or 2 small spines.

Maxillule (Fig. 21A) with internal lobe bearing 1 proximal seta and 3 or 4 stiff setae or bristles distally. Maxilla (Fig. 21B) with endopod moderately long, exceeding scaphognathite in distal extension. First maxilliped (Fig. 22C) with endopod shorter than basal segment. Second maxilliped (Fig. 21D) without distinguishing characters. Third maxilliped (Fig. 21E) with basis-ischium incompletely fused; coxa with 1 moderately strong spine on lateral proximal margin accompanied with tufts of long setae; ischium with well developed crista dentata, with 9–11 denticles; ventrolateral margin with strong distal spine; merus with 2 or 3 spines on ventral margin, dorsodistal margin with small spine; propodi and dactyli usually unarmed propodus and dactyl of left maxilliped of male holotype bearing 2 and 1 moderately strong spines on dorsal face, respectively.

Chelipeds vastly unequal, left larger. Left cheliped (Figs. 6D, 22A) very stout, 1.30–1.40 times longer than wide, proportion and armature generally similar in males and females. Dactyl terminating in large corneous claw; cutting edge with 5 strong molar teeth; outer face (Fig. 22C) with row of strong spine-like tubercles terminating in a corneous spine or rounded; upper face (Fig. 22C) with 2 rows of strong spine-like tubercles terminating in single or bifid corneous-tipped spine, occasionally the middle row consists of scale-like tubercles usually terminating in small, rounded or corneous-tipped spines, tubercles fringed anteriorly with tufts of long plumose setae; inner face (Fig. 22D) with two rows of tufts of stiff setae, the row near upper margin bearing corneous spine-like tubercles. Fixed finger terminating in strong corneous claw; cutting edge with 5 or 6 strong molar teeth. Palm (Figs. 6D, 22A, B) with outer face strongly convex, with 2 longitudinal rows of 7–9 prominent spines on the upper face, generally a row of smaller spines present between these two rows; upper outer face with several longitudinal, irregular rows of both, spine-like and scale-like tubercles
FIGURE 20. *Dardanus janethaigae* n. sp., holotype male (SL 15.30 mm), Rocas Hermanas, Sinaloa, Mexico EMU-4960. A, shield and cephalic appendages, dorsal; B, anterior portion of shield, ocular acicles, proximal portion of ocular peduncles, first and second segments and acicle of antennal peduncle, right, dorsal, setae omitted; C, penultimate and basal antenular segments, left, lateral; D, segments 1–5 and acicle of antennal peduncle, right, lateral, setae omitted; E, anterior lobe of sternite of third pereopods; F, chela and carpus of left fourth pereopod, lateral, setae omitted; G, telson, dorsal. Scale bars: A–D, F, G 5 mm; E 2 mm.
FIGURE 21. Dardanus janethaigae n. sp., holotype male (SL 15.30 mm), Rocos Hermanas, Sinaloa, Mexico EMU-4960. Bucal parts, right inner view. A, maxillule; B, maxilla; C, first maxilliped; D, second maxilliped; E, third maxillipeds. Scale bars: 2 mm.
FIGURE 22. Dardanus janethaigae n. sp., holotype male (SL 15.30 mm), Rocos Hermanas, Sinaloa, Mexico EMU-4960, B, C, E, F; paratype ovigerous female (SL 11.90 mm), same locality EMU-8471, A, D. Left cheliped. A, chela and carpus, outer view; B, section of palm, outer view; C, dactyl, upper view; D, chela, inner view. Right cheliped. E, outer view; F, chela, lower view. Scale bars: 5 mm.
terminating in rounded or corneous spines; outer faces of palm and fixed finger covered with scales; each scale fringed anteriorly with 1–7 small granules or corneous-tipped spines and tufts of long plumose setae which usually reaching the subdistal margin of the next scale; inner lower portion with numerous flattened tubercles bearing 1 or 2 rounded spines; lower margin (Fig. 22D) with very strong, triangle-shaped corneous spines. Carpus (Fig. 22A) with upper margin bearing one row of prominent corneous-tipped spines; upper face with several corneous-tipped spines, spines larger near upper margin; outer face with numerous corneous-tipped spines; lower outer faces with corneous-tipped spines on proximal and distal margins; inner face with scarce tufts of short setae, inner distal angle usually with 4 strong or moderately strong spines or teeth and scarce tufts of long setae. Merus with distal margin of the lateral face bearing several corneous-tipped spines, larger spine dorsally; dorsal face with tufts of long stiff setae, subdistal margin with short transversal row of small corneous-tipped spines; lateral face with numerous flattened tubercles bearing small corneous spines and tufts of scarce, long, stiff setae; ventrolateral angle with 1 or 2 strong corneous-tipped spines; ventromesial margin crested with 6 teeth, 3 proximal larger than distal. Ischium with moderately strong rounded spines on ventromesial margin.

Rigth cheliped (Fig. 22E, F) moderately slender, generally setose. Dactyl terminating in large corneous claw; cutting edge with 4 or 5 molar teeth; upper face with 3 irregular longitudinal rows of strong or moderately strong corneous-tipped spines accompanied with tufts of long stiff setae; outer face with longitudinal row of 3–5 corneous-tipped spines accompanied with tufts of long stiff setae. Fixed finger terminating in large corneous claw; cutting edge with 5 or 6 molar teeth. Palm with 2 irregular rows of prominent corneous-tipped spines accompanied by tufts of long stiff setae on upper margin; upper outer face near upper margin with several moderately strong corneous-tipped spines; outer face of palm and fixed finger with numerous flattened tubercles bearing triangle-shaped corneous spines; lower face with 2 irregular longitudinal rows of strong, flattened, triangle-shaped corneous spines accompanied with tufts of long stiff setae (Fig. 22F). Carpus with 8 or 9 peripheral, strong corneous-tipped spines on upper face; outer and lower outer faces with several flattened tubercles bearing small corneous-tipped spines; ventrolateral angle with 1 strong, corneous-tipped spine; inner lower angle with 3 teeth or rounded spines. Merus with distal margin of lateral face bearing several corneous-tipped spines, larger spine dorsally; dorsal face with tufts of long stiff setae; lateral faces with tufts of stiff setae; ventrolateral angle with 1 strong corneous-tipped spine; ventromesial margin crested with 6 rounded teeth, proximal larger. Ischium with 5 rounded teeth or spines on ventromesial margin.

Second pereopods (Fig. 23A–D) and right third pereopod (Fig. 24A–D) generally similar, but armament of dactyls, propodi and carpi somewhat different between second pair and right third; second pair generally more slender than right third; of second pair, left slightly shorter than right. Dactyls 1.30–1.40 (second) or 1.30–1.50 (right third) length of propodi; each terminating in large corneous claw; dorsal surfaces (Fig. 23C) each with row of flattened tubercles, bearing 2 corneous spines and tufts of long, stiff setae; lateral and mesial faces each with median weak longitudinal groove and two rows of tufts of stiff setae, one in midline and another dorsally, the latter generally accompanied with corneous spines; ventral margins with rows of tufts of long stiff setae, ventrolateral angle of left second pereiopod (Fig. 23A) also with small corneous spines on proximal third, of right third (Fig. 24A) with corneous spines in each tuft, each with 5–7 (second) or 2 or 3 (right third) distal, corneous spines. Propodi 1.30–1.40 length of carpi; dorsal faces flattened and very broad (second, Fig. 23D) or comparatively narrower (right third, Fig. 24D), each with 3 irregular longitudinal rows of flattened tubercles bearing 1 or 2 corneous spines and tufts of long stiff setae; lateral faces each with 2 rows of tufts of stiff setae, one in midline and another ventrally, in the left second (Fig. 23A) both rows of tufts bearing small corneous spines; mesial faces (Figs. 23B, 24C) each with 2 rows of tufts of stiff setae, one row in midline, another ventrally (right third), both rows submarginal in second pereiopod, upper row generally bearing corneous spines; ventral margin with tufts of long, stiff setae, that on left second bearing corneous spines. Carpi 0.70–0.80 (second) or 0.90–1.00 (right third) length of meri; dorsal faces each with row of corneous-tipped spines increasing in size distally and tufts of scarce long stiff setae, one row of flattened tubercles bearing small corneous-tipped spines running near dorsal margin (second, Fig. 23D), dorsolateral
FIGURE 23. *Dardanus janethaigae* **n. sp.**, holotype male (SL 15.30), Rocos Hermanas, Sinaloa, Mexico EMU-4960, A–E; paratype ovigerous female (SL 11.90 mm), same locality EMU-8471, F. Left second pereopod. A, whole, lateral; B, dactyl and propodus, mesial; C, dactyl, dorsal; D, propodus and carpus, dorsal. Left side of pleon. E, male; F, female, eggs omitted. Scale bars: 5 mm.
FIGURE 24. Dardanus janethaigae sp. nov., holotype male (SL 15.30 mm), Rocas Hermanas, Sinaloa, Mexico EMU-4960. Right third pereopod: A, lateral; B, dactyl, mesial; C, propodus, mesial; D, propodus, dorsal. Left third pereopod. E, marginal section of dactyl, dorsolateral; F, section of dactyl, ventrolateral. Scale bars: E, F 500 μm; A–D 5 mm.
FIGURE 25. *Dardanus janethaigae n. sp.*, holotype male (SL 15.30 mm), Rocas Hermanas, Sinaloa, Mexico EMU-4960, B, D; paratype ovigerous female (SL 11.90 mm), same locality EMU-8471, A, C. Left third pereopod: A, lateral; B, section of dactyl, lateral; C, dactyl and propodus, mesial; D, propodus, dorsal. Scale bars: B 1 mm; A, C, D 5 mm.
angles each usually bearing 1 small, corneous-tipped spine; lateral faces convex, with weak longitudinal groove flanked ventrally by flattened tubercles bearing corneous spines and tufts of long stiff setae (second, Fig. 23A) or only tufts of setae (right third, Fig. 24A). Meri laterally compressed, each with tufts of very thick setae on dorsal face; lateral and mesial faces with scarce tufts of short setae; ventrolateral distal margin usually with 1 moderately strong corneous-tipped spine; ventral faces with double irregular row of small spines or granules (second) or scarce small spines or granules distally (third) and tufts of long setae.

Left third pereopod (Figs. 13D, 25A–D) generally very stout. Dactyl 1.40–1.50 length of propodus, very broad, terminating in a strong corneous claw; dorsal face with longitudinal row of flattened tubercles bearing corneous spines and tufts of stiff setae, larger and denser distally; mesial face (Fig. 25C) convex, with two longitudinal rows of tufts of stiff setae, one in midline and another dorsally, the latter usually bearing corneous spines; lateral face (Figs.13D, 25A, B) flattened, with deep longitudinal median groove vanishing distally, lined with row of small flattened tubercles distally with long plumose setae; both sides of groove are transverse scales, fringed on their distal edge with small corneous-tipped spines and long plumose setae, scales terminating in strong corneous spine-like tubercles on dorsal and ventral margins of dactyl, spines partially concealed by tufts of long setae (Figs. 24E, F, 25B); ventral margin with tufts of long corneous-tipped spines and tufts of long stiff setae, shorter and denser distally. Propodus 1.30–1.40 length of merus, very broad; dorsal face (Fig. 25D) with 2 irregular longitudinal rows of flattened tubercles bearing 1 or 2 strong corneous spines and tufts of long stiff setae, dorsodistal margin with few corneous spines and long stiff setae; lateral face (Fig. 25A) convex with two rows of scales on both sides of a bare, median area; scales fringed with small corneous-tipped spines and plumose setae on distal edge, setae longer toward edges of propodus. Scales on lower face terminating in strong, corneous-tipped, spine-like tubercles on ventral margin, scales partially concealed by tufts of long plumose setae and scarce long stiff setae, scales on dorsolateral margin terminating in strong tubercles bearing 2 strong, corneous-tipped spines partially concealed by tufts of long, plumose setae and scarce, long stiff setae; mesial face (Fig. 25C) with two longitudinal rows of short stiff setae, one in midline and another ventrally, distal margin with 3 or 4 corneous-tipped spines. Carpus 0.80–0.90 length of merus; dorsal face bearing row of strong, corneous-tipped spines; dorsodistal angle usually bearing 1 moderately strong, corneous-tipped spine; lateral face convex, with weak longitudinal groove flanked ventrally by flattened tubercles bearing small corneous spines and tufts of long stiff setae, laterosubdistal margin spiny; ventral margin usually with 2 small, corneous-tipped spines accompanied by tufts of long stiff setae. Merus laterally compressed, with armament and setation similar to those of right third.

Sternite XII (third peropods) (Fig. 20E) with anterior lobe rectangular, bearing an elongate protuberance with tuft of long setae anteriorly.

Fourth pereopod (Fig. 20F) subchelate; dactyl with 6–8 corneous, ventral spines on lateral face; propodal rasp well developed; carpus with sharp dorsodistal spine.

Fifth pereopod chelate; rasps of dactyl and propodus well developed.

Male pleon (Fig. 23E) with second to fifth left pleopods fringed with long setae, each with well developed exopod; single, small, triangular, fleshy membranous protuberance fringed distally with long setae present between fourth and fifth pleopods. Female pleon (Fig. 23F) with second to fifth left pleopods fringed with long setae; second to fourth triramous; fifth biramous, endopod very small; single, elongate, fleshy membranous protuberance fringed with long setae present between fourth and fifth pleopods.

Uropods (Fig. 23E, F) strongly asymmetrical, left larger than right; endopods and exopods with well developed rasps.

Telson (Fig. 20G) with lateral constrictions; marginal area partially calcified; posterior lobes separated by median cleft, left larger than right, with 4 or 5 (left) or 4–6 (right) corneous spines and long setae on terminal margin; anterior lobes with long setae on lateral margins.

**Color.** In life (Fig. 26A). Carapace yellowish-pink with purplish-brown stains on middle dorsal and lateral faces; shield purplish-brown with yellowish-pink stains principally on lateral margins and small purplish spots dorsally, yellow setae with red tip; ocular acicles yellowish-pink; antennal and peduncular segments purplish-brown; antennal and peduncular flagella orange; ocular peduncles purplish-brown with two
light purple bands, one proximal and another subdistal, bands ventrally darker, a tuft of yellow setae on notch of cornea; cornea golden; left cheliped purplish-brown, tubercles purples; merus pinkish-purple with a dark red band distally; color of smaller cheliped similar, with some white tubercles on outer face of palm and red, yellow-tipped, or yellow, red-tipped hairs; cutting edge of fingers white, with a narrow, longitudinal line of red. Walking legs purplish-brown with purples tubercles; ischium and proximal half of merus yellowish-pink. Left third pereopod with transverse ridges of purple across flattened surface of propodus and dactyl.

**FIGURE 26.** Coloration in live specimens. Male (SL 11.60 mm) of *Dardanus janethaigae* n. sp., Rocas Hermanas, Sinaloa, Mexico; female (SL 8.39 mm) of *Dardanus stimpsoni* n. sp., Santa María, La Reforma, Sinaloa, Mexico. Photos by M. Ayón Parente.

**Etymology.** This species is named in honor to Janet Haig in recognition of her outstanding contribution to the taxonomy of Paguroidea and the countless occasions in which she shared her experience and knowledge on anomuran with one of us (MEH).

**Distribution.** Throughout the Gulf of California and south of Guerrero, Mexico; 3–118 m.

**Remarks.** *Dardanus janethaigae* n. sp. and *D. pilosus* are somewhat similar in their general aspect, but the left third pereopod propodus of *D. janethaigae* (Fig. 37D) is stouter (Fig. 37D, I). Marginal setae of scales on lateral face of dactyl usually reach the distal margin of the next scale in *D. pilosus*, instead of reaching to half of the next scale as in *D. janethaigae*, and setae on ventrolateral margin of dactyl and propodus are longer in *D. pilosus*. Sculpture on the outer face of palm of left cheliped are similar in these two species, fringed with long plumose setae reaching subdistal or distal margin of the next scale, but cheliped of *D. janethaigae* is stouter (Fig. 37A, F, Table 1). Lower inner face of left cheliped (Fig. 37G) in *D. pilosus* bears numerous corneous spine-like tubercles; in *D. janethaigae* there are only rounded granules (Fig. 37B). The dactyl of left cheliped is proportionally larger and slender in *D. janethaigae* (Fig. 37C) than in *D. pilosus* (Fig. 37H). The outer lower angle of carpus of left cheliped in *D. janethaigae* bears one strong spine, in lieu of a small spine (*D. nudus, D. stimpsoni* and *D. pilosus*) or a rounded spine (*D. sinistripes and D. magdalenensis*). Ocular peduncles and antennal acicles are proportionally longer in *D. pilosus* than in *D. janethaigae* (Table 1), and the armature of telson shows some obvious differences between these species (Fig. 37E, J).
Dardanus pilosus n. sp.  
(Figs. 6E, 27–30, 35A, 37F-J)

Material examined. Type material. Holotype male (SL 7.48 mm), Clarion Island, Mexico, 24 Mar 1938, coll. S. A. Glassell, 73–110 m (USNM acc. No. 207834). Paratype, 1 ovigerous female (SL 9.20 mm), Sulphur Bay, Clarion Island, Revillagigedo Islands, Mexico, stn. 917-39, 16 Mar 1939, 51–82 m (LACM CR 1939-015.1).

Diagnosis. Merus of third maxilliped with at least 2 spines on ventral margin. Left cheliped short and broad. Setae on outer face of palm of left cheliped long, plumose, usually reaching subdistal margin of the next scale. Scales on the palm of left cheliped small and subrectangular concealed with long plumose setae. Outer lower angle of carpus of left cheliped bearing a small spine. Upper face of dactyl of left cheliped with 2 rows of scale-like tubercles, terminating in rounded granules or tipped spines. Outer face of palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus concealed with long plumose setae. Lateral face of dactyl of left third pereopod with scales on both sides of longitudinal groove, which are fringed with small corneous-tipped spines and long plumose setae. Corneous-tipped spines along entire ventrolateral margin of the left third pereopod dactyl.

Description. Shield (Figs. 27A, 35A) as long as broad; anterior margin between rostrum and lateral projections shallowly concave; lateral margins convex, somewhat irregular, with row of small spines on anterior 1/3 and tufts of long setae. Dorsal face with scarce stuffs of setae; weakly calcified Y-shaped linea present posteriorly. Rostral lobe indistinct. Lateral projections produced, obtusely triangular, bearing 1 small marginal spine. Posterior carapace lateral elements well calcified, unarmored. Branchiostegites unarmored.

Ocular peduncles (Figs. 27A, 35A) 0.60 length of shield, stout, usually with 12 bristles on the superior notch; corneas dilated, 1.40–1.45 the width of the base of ocular peduncle; corneal length 0.40 of ocular peduncle length. Ocular acicles (Fig. 27A, B) broad; distal margins each with 6–8 spines, inner margins with 1 spine, tips corneous; separated by approximately 0.40 width of an acicle. Interocular plate (Fig. 27B) transversally subrectangular, with pair of protrusions.

Antenular peduncles (Fig. 27A) slender, when fully extended, exceeding by 1.33 length of ocular peduncles; ultimate segment with 4 long stiff setae dorsally; penultimate segment with 2 long, stiff, distal setae in dorsal margin and tufts of long setae proximally; basal segment (Fig. 27C) with ventromesial distal angle bearing 1 small spine, ventral margin bearing usually 4 small spines.

Antennal peduncles (Fig. 27A, D) as long as ocular peduncles; fifth segment unarmed; fourth segment with 1 or 2 small spines or spinules on dorsodistal margin; third segment produced ventrodistally, with 1 spine at ventrosubdistal margin; second segment with dorsomesial distal angle bearing one spine and one smaller subdistal spine, dorsolateral distal angle produced, terminating in bifid corneous-tipped spine; first segment with ventrolateral distal margin bearing 1 or 2 small spines. Antennal acicle (Fig. 27A, B, D) terminating in strong, single, corneous-tipped spine, exceeding slightly basis of cornea; dorsomesial margin with 5 small spines, dorsolateral margin with 1 or 2 small spines, ventrolateral margin bearing 1 or 2 small spines. Antennal flagellum very long, each segment with very short setae.

Third maxilliped (Fig. 27E) with basis-ischium incompletely fused; coxa with 2 moderately strong spines on ventrodistal margin; basis unarmed; ischium with well developed crista dentata, with 11 or 12 denticles; ventrolateral distal margin with 1 strong spine. Merus with 2 or 3 spines on ventral margin, dorsodistal margin with 1 strong spine.

Chelipeds vastly unequal, left larger. Left cheliped very stout, 1.40 times as long as wide, proportion similar in male and female, but not similar in armature. Cheliped in female (Figs. 6E, 28A): dactyl terminating in large corneous claw; cutting edge with 5 strong, calcareous molar teeth; outer face with row of strong, rounded, spine-like tubercles; upper face with 2 rows of scale-like tubercles, scales on inner row are margined anteriorly with 1 or 2 strong, corneous-tipped spines and small granules, median row with scales fringed anteriorly with 1–5 small granules and tufts of long plumose setae; inner face with longitudinal row of simple or bifid, corneous spine-like tubercles near upper margin. Fixed finger terminating in large corneous claw;
FIGURE 27. *Dardanus pilosus n. sp.*, paratype ovigerous female (SL 9.20 mm), Sulphur Bay, Clarion Island, Revillagigedo Islands, Mexico LACM CR 1939-015.1. A, shield and cephalic appendages, dorsal; B, anterior portion of shield, ocular acicles, proximal portion of ocular peduncles, first and second segments and acicle of antennal peduncle, right, dorsal, setae omitted; C, penultimate and basal antenular segments, left, lateral; D, antennal segments and antennal acicle, right, lateral, setae omitted; E, left third maxilliped, inner view; F, anterior lobe of sternite of third pereopods; G, chela and carpus of left fourth pereopod, lateral, setae omitted; H, telson, dorsal. Scale bars: A, B, D, G 5 mm; C, E, F, H 1 mm.
FIGURE 28. *Dardanus pilosus* n. sp., holotype male (SL 7.48 mm), Clarion Island, Mexico, USNM-Acc. No. 207834, C; paratype ovigerous female (SL 9.20 mm), Sulphur Bay, Clarion Island, Revillagigedo Islands, Mexico LACM CR 1939-015.1. A, B, D, E. Left cheliped: A, outer view; B and C, chela, inner view. Right cheliped: D, outer view; E, chela, lower face. Scale bars: 2 mm.
cutting edge with 6 strong, calcareous molar teeth. Palm with 2 irregular rows of strong to prominent corneous-tipped spines on upper face; upper outer face with 5 irregular longitudinal rows of scale-like tubercles, each scale bearing 1 strong rounded spine and 1–3 small granules; outer face strongly convex, bearing irregular numerous transversal rows of scale-like tubercles; scales larger on distal 1/3 and fixed finger, each scale fringed distally with 1–8 rounded granules and long plumose setae, setae reaching to half of contiguous scale; lower margin and lower portion of inner face (Fig. 28B) with several flattened, triangle-shaped, spine-like tubercles. Carpus with upper margin bearing 1 row of prominent, corneous-tipped conical spines; outer face with several prominent corneous-tipped spines, lower outer face with several strong corneous-tipped conical spines on distal and proximal margins; ventromesial distal margin usually with 4 moderately strong rounded spines. Merus with distal margin of lateral face bearing several corneous-tipped spines; dorsal face with short, transverse subdistal row of small, corneous-tipped spines, rest of margin with tufts of long stiff setae; ventromesial margin crested with 7 strong rounded spines or teeth; lateral faces with several flattened tubercles bearing small corneous spines, ventrolateral distal angle with 1 strong, corneous-tipped spine. Ischium with 5 strong rounded spines on ventromesial margin.

Left cheliped of holotype male (Figs. 35A) very stout. Dactyl terminating in large corneous claw; upper face with 2 longitudinal rows of strong, corneous-tipped conical spines, spines on inner row generally terminating in bifid spine; outer face with one row of strong, corneous-tipped spines, all spines fringed anteriorly with tufts of long plumose setae; inner face with 2 rows of tufts of long stiff setae, upper row accompanied with corneous-tipped spines; cutting edge with row of 5 large, calcareous molar teeth. Fixed finger terminating in large corneous claw; cutting edge with row of 6 large, calcareous molar teeth. Palm with outer face strongly convex; outer faces of palm and fixed finger covered with numerous corneous-tipped conical spines and scale-like tubercles, the latter mostly on fixed finger, each scale fringed distally with 1–3 small corneous spines; spines and scales fringed anteriorly with tufts of long plumose setae; upper face of palm with 2 rows of prominent corneous-tipped spines; inferior margin and lower portion of inner face (Fig. 28C) with several flattened, triangle-shaped, spine-like tubercles. Armament and setation of carpus and merus similar to those of female.

Right cheliped (Fig. 28D, E) in males and females moderately slender, generally setose. Dactyl terminating in large corneous claw; cutting edge with row of 5 molar teeth; upper face with 3 irregular longitudinal rows of corneous-tipped spines; outer face with 4 small corneous-tipped spines accompanied by tufts of long, stiff setae. Fixed finger terminating in large corneous claw; cutting edge with 6 molar teeth. Palm and fixed finger with outer face bearing numerous flattened triangle-shaped, spine-like tubercles; lower face with row of flattened triangle-shaped, spines-like tubercles (Fig. 28E); upper margin of palm with 2 rows of prominent corneous-tipped conical spines. Carpus with 10 peripheral, strong corneous-tipped spines on upper face; outer and lower outer faces with flattened tubercles bearing moderately strong, corneous-tipped spines; ventromesial distal margin usually with 3 rounded spines. Merus with distal margin of lateral face bearing several corneous-tipped spines; dorsal face with short transverse subdistal row of small, corneous-tipped spines; ventromesial margin crested with 7 rounded spines or teeth, 3 proximal larger; lateral faces with several flattened tubercles bearing small corneous spines, ventrolateral distal angle with 1 strong, corneous-tipped spine. Ischium with 5 strong rounded spines on ventromesial margin.

Second (Fig. 29A–D) and right third (Fig. 35A) pereopods generally similar; of second pair, left slightly shorter than right. Dactyls 1.30–1.40 (second) or 1.60 (right third) length of propodi, each terminating in large corneous claw; dorsal surfaces (Fig. 29C) each with 1 or 2 rows of corneous spines and tufts of stiff setae, setae denser distally; lateral and mesial faces (Figs. 29A, B, 30H) each with two longitudinal row of tufts of long stiff setae, one in midline and another dorsally, the latter bearing small corneous spines; ventral margins each with 3–6 (second) or 3 (third) corneous spines distally and rows of tufts of stiff setae. In the paratype female, lateral face (Fig. 30E) of right third pereopod dactyl with weak longitudinal furrow, lined in midline with tufts of long stiff setae, dorsal and ventral margins with short, transverse rows of small corneous spines accompanied with short plumose setae and scarce long stiff setae. Propodi 1.40 length of carpi; dorsal faces flattened and very broad (second, Fig. 29D) or comparatively narrower (right third, Fig. 30G), each armed
FIGURE 29. Dardanus pilosus n. sp., holotype male (SL 7.48 mm), Clarion Island, Mexico, USNM acc. No. 207834, E; paratype ovigerous female (SL 9.20 mm), Sulphur Bay, Clarion Island, Revillagigedo Islands, Mexico LACM CR 1939-015.1, A–D. Left second pereopod. A, lateral; B, dactyl and carpus, mesial; C, dactyl, dorsal; D, propodus and carpus, dorsal. Left side of pleon. E, male; F, female membranous protuberance. Scale bars: 2 mm.
FIGURE 30. *Dardanus pilosus* n. sp., holotype male (SL 7.48 mm), Clarion Island, Mexico, USNM acc. No. 207834, A–D; paratype ovigerous female (SL 9.20 mm), Sulphur Bay, Clarion Island, Revillagigedo Islands, Mexico LACM CR 1939-015.1, E–I. Left third pereopod. A, dactyl and propodus, lateral; B, carpus and merus, lateral; C, dactyl and propodus, mesial; D, dactyl and propodus, dorsal. Right third pereopod. E, dactyl, lateral; F, propodus, carpus and merus, lateral; G, propodus, dorsal; H, dactyl, mesial; I, propodus, mesial. Scale bars: 2 mm.
with 3 irregular longitudinal rows of flattened tubercles bearing 1–3 corneous spines and tufts of stiff setae, dorsodistal margins with several small corneous spines and stiff setae; lateral faces each with two rows of tufts of long stiff setae, one in midline and another ventrally, in the left second (Fig. 29A) both rows of tufts also bearing small corneous spines, laterodistal margins with 1–3 small corneous-tipped spines; mesial faces (Figs. 29B, 30I) each with 2 longitudinal rows of tufts of long stiff setae, one in midline and another ventrally (right third) or one sub-medium and another ventrally (second), in the second pair upper row generally bearing small corneous spines; ventral margins with rows of tufts of long stiff setae, in the left second also bearing small corneous spines. Lateral face of right third pereopod propodus of paratype female (Fig. 30F) bearing one weak longitudinal furrow lined with tufts of long stiff setae, both sides of furrow with transverse rows of 1–3 small corneous spine and very short, fine setae. Carpi 0.70 (second) or 0.90 (right third) length of meri; dorsal margins each with several corneous-tipped conical spines, distal larger; one row of small corneous spines running near dorsal spines; dorsolateral distal angles each usually bearing 1 moderately strong, corneous-tipped spine; lateral faces convex, with weak longitudinal furrow flanked ventrally by flattened tubercles bearing tufts of stiff setae and few small corneous spines distally (right third, Fig. 30F) or with short vertical rows of small corneous spines and tufts of stiff setae (second, Fig. 29A). Meri laterally compressed, each with tufts of long stiff setae on dorsal face; ventrolateral margins usually with 1 distal, moderately strong corneous-tipped spine; ventral faces with double irregular row of small spines or granules (second) or scarce small spines or granules distally (third) and tufts of long stiff setae.

Left third pereopod (Figs. 30A–D, 35A) stout. Dactyl 1.40 length of propodus, terminating in large corneous claw; dorsal face (Fig. 30D) with row of flattened tubercles bearing 1 corneous spine and tufts of stiff setae, setae denser distally; mesial face (Fig. 30C) convex, with two longitudinal rows of tufts of long stiff setae, one in middle line and another dorsally, the latter generally bearing small corneous spines; lateral face (Figs. 30A, 35A) flattened, with deep longitudinal groove vanishing distally, lined with small flattened tubercles fringed anteriorly with long plumose setae; either sides of longitudinal groove are transverse rows of scales; scales are fringed distally with small corneous-tipped spines and long plumose setae, setae reaching distal margin of contiguous scale and longer near edges of dactyl; scales terminating in strong corneous-tipped spines on ventral and dorsal margins, decreasing in size distally, concealed by tufts of long plumose setae; ventral margin with 3 strong corneous spines distally and rows of tufts of long setae. Propodus 1.30 length of carpus; lateral face (Figs. 30A, 35A) strongly convex with two rows of scales on both sides of a bare median area, lower area narrower than upper area. Scales fringed distally by small corneous-tipped spines and plumose setae, setae longer toward edges of propodus; scales terminating in strong, corneous-tipped spines on ventrolateral margin, and large tubercles armed with 2 strong corneous-spines on dorsolateral margin, partly concealed by tufts of long plumose setae and scarce long stiff setae; mesial face (Fig. 30C) with two longitudinal rows of flattened tubercles bearing 1 or 2 moderately strong corneous spines and tufts of stiff setae, dorsodistal margin with few small corneous spines and stiff setae. Carpus (Fig. 30B) 0.90 length of merus; dorsal margin with row of corneous-tipped spines increasing in size distally; dorsodistal angle bearing 1 moderately strong corneous-tipped spine; lateral face convex, with longitudinal weak groove flanked ventrally by flattened tubercles bearing small corneous spines and tufts of stiff setae, laterodistal margin spiny. Merus laterally compressed, with tufts of long stiff setae on dorsal face; ventrolateral distal margins usually with 1 moderately strong corneous-tipped spine; ventral face with scarce small spines or granules distally and tufts of long stiff setae.

Sternite XII (third pereopods) (Fig. 27F) with anterior lobe subrectangular, bearing an elongate protuberance with tuft of long setae anteriorly.

Fourth pereopod (Fig. 27G) subchelate; dactyl with 6 or 7 corneous spines on lateral face ventrally; propodal rasp well developed; carpus with sharp dorsodistal spine.

Fifth pereopod chelate; rasps of dactyl and propodus well developed.

Sternite XII (third pereopods) (Fig. 27F) with anterior lobe subrectangular, bearing an elongate protuberance with tuft of long setae anteriorly.

Fourth pereopod (Fig. 27G) subchelate; dactyl with 6 or 7 corneous spines on lateral face ventrally; propodal rasp well developed; carpus with sharp dorsodistal spine.

Fifth pereopod chelate; rasps of dactyl and propodus well developed.
Male pleon (Fig. 29E) with second to fifth left pleopods fringed with long setae, each with well developed exopod. Female pleon with second to fifth left pleopods fringed with long setae; second to fourth triramous; fifth biramous, endopod very small; single, slightly curved, elongate fleshy membranous (Fig. 29F) fringed with long setae present between fourth and fifth pleopods.

Uropods (Figs. 29E, 35A) strongly asymmetrical, left larger than right; endopods and exopods with well developed rasps.

Telson (Fig. 27H) with lateral constrictions; marginal area partially calcified; posterior lobes separated by median cleft, left larger than right; terminal margin with 4 (left) or 4 or 5 (right) corneous spines and setae of different sizes; anterior lobes with long setae on lateral margins.

**Color.** In life, unknown. In fixed specimen the shield is cream with light orange spots anteriorly. Ocular peduncles rosaceous; cornea dark brown or black. Ocular acicles, antennal segments 1–4, and antennal acicles cream; ultimate antennal segment, antennal flagella and antennal peduncles straw yellow or pale. Chelipeds with outer and inner faces of palm light orange over ground cream; dactyl and fixed finger orange over ground cream; scales on fixed finger with proximal half orange and cream distally. Carpus cream and orange spotted on inner lower face and outer lower face. Merus cream with subdistal orange band. Ambulatory legs with dactyls and propodi light orange over ground cream; carpi with ventral face orange over ground cream, rest of surface cream with orange thin band on distal third. Meri cream with orange spots on distal margin and light, subdistal orange band.

**Etymology.** The specific name is derived from *pilosus* (hairy, covered with hair), in reference to the long setae on the lateral face of the left third pereopod dactyl and propodus and on the palm outer face of the left cheliped.

**Distribution.** Know only from Clarion Island, Revillagigedo Archipelago, Mexico; 51–110 m.

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**Dardanus magdalenensis n. sp.**

*(Figs. 31–34, 35B,C, 37K–N)*

*Dardanus sinistripes*.— Haig et al., 1970: 16 (in part, see material examined). Ball & Haig, 1974: 97 (in part, see additional material).

**Material examined.** *Type material.* Holotype male (SL 7.50 mm), Magdalena Bay, Baja California, Mexico, 24°37′59″N, 112°05′30″W, 09 Apr 1889, R/V "Albatross", beamtrawl, 31 m, USNM-1123701. Paratypes, 1 ovigerous female (SL 19.00 mm), Cedros Island, Baja California, Mexico, USNM-39125; 1 female (SL 9.00 mm), Magdalena Bay, Baja California, Mexico, 24°37′59″N, 112°05′30″W, 09 Apr 1889, R/V "Albatross", beamtrawl, 31 m, USNM-39126; 2 females (SL 4.20-4.90 mm), Santa Margarita Island, Baja California, 18 Apr 1889, 24°24′N, 111°53′W, Mexico, R/V "Albatross", 57 m, USNM-110998; 1 female (SL 3.80 mm), North Pacific Ocean, off Central California, 37°58′25″N, 122°26′30″W, R/V "Albatross", 05 Mar 1890, beamtrawl, 24 m, USNM-265355; 1 male (SL 3.30 mm), 1 female (SL 2.70 mm), off Baja California, 22°52′N, 109°55′W Mexico, R/V "Albatross", 01 May 1882, tangles, 57 m, USNM-265357; 1 male (SL 9.40 mm), 1 female (SL 5.30 mm), between Magdalena Bay and Punta Abreojos, Lower California, Mexico, stn. 15, 29 Jan 1971, LACM CR 1971-007.1; 1 male (SL 8.40 mm), 1 female (SL 7.60 mm), Santa Maria Lagoon, BCS., 24°48′N, 112°16′W, Mexico, 29 Jan 1964, 1.2 m, scuba, SIO C-3610.

**Additional material.** (All specimens in holdings of LACM CR) 7 males (SL 4.7–11.0 mm), and 10 females (SL 3.20–6.50 mm), off Santa María Bay, Lower California, Mexico, 24°44′N, 112°14′48″W, stn. 1031-40, 19 Jan 1940, 33–46 m, LACM CR 1940-003.2; 5 males (SL 5.90–16.00 mm), 2 females (SL 5.30–13.90 mm), 0.9 km SE of Huges Point. Santa María Bay, Lower California, Mexico, 24°44′45″N, 112°15′25″W, stn. 1787-49, 04 Apr 1949, 9–33 m, LACM CR 1949-105.2; 1 male (SL 5.90 mm), 3 females (SL 5.50–10.40 mm), Magdalena Bay, Lower California, Mexico, 24°24′N, 112°04′W, 02 Jun 1968, R/V "Te Vega", XVIII-23, 3–8 m, 1968-408.2; 1 male (SL 6.80 mm), E. of Cabeza Ballena, Gulf of California, 22°53′50″N, 109°49′45″W, stn. 620-37, 03 Mar 1937, 46 m, LACM CR 1937-021.1; 5 males (SL 3.80–7.00
mm), 4 females (SL 5.20–5.70 mm), 1 ovigerous female (SL 4.3 mm), 2 juvs., SE of Punta Tosca, Lower California, Mexico, strn. 34, 27 m, LACM CR 1971-007.2.

**Diagnosis.** Merus of third maxilliped with at least 2 spines on ventral margin. Left cheliped slender. Setae on outer face of palm of left cheliped moderately long, plumose, reaching to base of the next scale. Scales on the palm of left cheliped small and subcircular. Outer lower angle of carpus of left cheliped bearing a rounded spine. Upper face of dactyl of left cheliped with 2 rows of scale-like tubercles, fringed with rounded granules. Outer face of palm of the left cheliped and the lateral face of the left third pereopod dactyl and propodus with short to moderately short plumose setae. Lateral face of dactyl of left third pereopod with scales on both sides of longitudinal groove, fringed with small corneous-tipped spines and short plumose setae. Corneous-tipped spines along entire ventrolateral margin of the left third pereopod dactyl.

**Description.** Shield (Fig. 31A) 0.95–1.10 times longer than wide; anterior margin between rostrum and lateral projections shallowly concave; lateral margins convex, somewhat irregular, with tufts of long setae; dorsal face of shield flat, with tufts of long setae; weakly-calcified Y-shaped linea present posteriorly. Rostral lobule weakly produced. Lateral projections produced, bluntly triangular, usually with 1 small marginal spine. Posterior carapace lateral elements well calcified, unarmored. Branchiostegites unarmored.

Ocular peduncles (Fig. 31A) 0.55–0.58 length of shield, very stout; corneas dilated 1.36 the width of the base of ocular peduncle; corneal length 0.45 of ocular peduncle length. Ocular acicles (Fig. 31A, B) broad; distal margins each with 5 spines, tips often corneous. Interoculeral plate with pair of protrusions.

Antenular peduncles (Fig. 31A) slender; when fully extended exceeding by 1.25–1.50 length of ocular peduncles; ultimate and penultimate segments unarmored; basal segment (Fig. 31C) with 5 or 6 small spines on ventral margin, 1 small spine at ventromesial distal angle.

Antennal peduncles (Fig. 31A, D), when fully extended, equaling or slightly overreaching ocular peduncles; fifth segment unarmored; fourth segment with 1 or 2 small spines or spinules dorsodistally; third segment weakly pronounced ventrally, with 1 small subdistal spine; second segment with dorsomesial distal angle bearing 1 spine; dorsolateral angle pronounced, terminating in bifid spine; first segment with ventrolateral distal angle with 1 spine. Antennal acicles (Fig. 31A, B, D) moderately large, usually reaching basis of corneas, terminating in bifid spines; dorsomesial margin with 6 or 7 corneous-tipped spines; dorsolateral margin with 2 corneous-tipped spines; ventromesial margin usually with 1 small corneous-tipped spines on middle distal. Antennal flagellum with very short setae on each articulation.

Third maxilliped (Fig. 31E) with basis-ischium fusion incomplete; coxa with several small spines on ventrolateral distal margin; basis with 2 small, corneous-tipped spines; ischium with well developed crista dentata, ventrolaterodistal margin with 1 spine; merus with 2–4 spines on ventral margin, dorsodistal margin with 1 spine.

Chelipeds vastly unequal, left larger. Left cheliped (Figs. 32A, 35Ba, Ca) very stout, 1.40–1.50 times longer than wide, proportion and armature generally similar between males and females. Dactyl terminating in large corneous claw; cutting edge with 5 molar teeth; upper face (Fig. 32B) with 2 irregular rows of scale-like tubercles fringed distally with small rounded granules and moderately long plumose setae, scales on inner edge usually bearing strong, corneous-tipped spines; outer face with row of strong, rounded spine-like tubercles; inner face with three longitudinal rows of tufts of long setae, upper row also bearing small corneous spines. Fixed finger terminating in large corneous claw; cutting edge with 5 or 6 molar teeth. Outer face (Fig. 32A) of palm and fixed finger with somewhat irregular transverse rows of scale-like tubercles; larger scales on distal third of palm and fixed finger, each scale fringed distally with 1–9 small rounded granules and moderately long plumose setae, which reach base of next scale; upper margin of palm with row of prominent spines; upper outer surface with 5 or 6 irregular longitudinal rows of rounded spine-like tubercles becoming in scale-like tubercles distally, scales fringed distally with 2–4 rounded granules and plumose setae; lower inner face with numerous flattened tubercles terminating in 1 or 2 rounded spines; lower margin with row of flattened triangularly-shaped corneous spines on distal half (Fig. 32C). Carpus (Fig. 32A, D) with upper margin bearing 4 strong, corneous-tipped spines; upper outer face with numerous corneous-tipped spines;
FIGURE 31. *Dardanus magdalenensis* n. sp., holotype male (SL 7.50 mm), Magdalena Bay, Baja California, Mexico USNM-1123701. A, shield and cephalic appendages, dorsal; B, ocular acicles, segments 1–5 and acicle of antennal peduncle, right, dorsal, setae omitted; C, penultimate and basal antenular segments, left, lateral; D, segments 1–5 and acicle of antennal peduncle, right, lateral, setae omitted; E, left third maxilliped, inner view; F, anterior lobe of sternite of third pereopods; G, chela and carpus of left fourth pereopod, lateral, setae omitted; H, telson, dorsal. Scale bars: 2 mm.
FIGURE 32. Dardanus magdalenensis n. sp., holotype male (SL 7.50 mm), Magdalena Bay, Baja California, Mexico USNM-1123701, D, E, F; paratype male (SL 8.40 mm), Laguna Santa Maria, BCS, Mexico, SIO-C3610, A, B, C. Left cheliped. A, chela and carpus, outer view; B, dactyl, upper view; C, chela, inner view; D, carpus and merus, outer view. Right cheliped. E, outer view; F, chela, lower view. Scale bars: 2 mm.
lower outer face with small, corneous-tipped spines on proximal and distal margins; ventromesial distal angle usually bearing 4 moderately strong rounded spines. Merus (Fig. 32D) with distal margin of lateral face bearing several corneous-tipped spines, spines larger on dorsal margin; dorsal face with tufts of long stiff setae; lateral face with flattened tubercles fringed distally with 1 or 2 small corneous spines and tufts of moderately long stiff setae; ventrolateral angle bearing 1 strong corneous-tipped spine; ventromesial margin crested with 6 or 7 rounded spines or teeth, anterior larger than posterior. Ischium with 5 denticles on ventromesial margin.

Rigth cheliped (Fig. 32E, F) moderately slender, generally setose. Dactyl terminating in large corneous claw; cutting edge with 5 molar teeth; upper face with 3 irregular longitudinal rows of corneous-tipped spines accompanied by tufts of stiff setae; outer face with 1 row of smaller corneous-tipped spines accompanied by tufts of long stiff setae. Fixed finger terminating in large corneous claw; cutting edge with 6 molar teeth. Palm and fixed finger with outer face bearing numerous flattened tubercles fringed anteriorly with 1 or 2 small triangularly-shaped corneous spines and 1 very long stiff setae and 1 or 2 very short setae; lower margin (Fig. 32F) with row of spine-like tubercles terminating in triangle-shaped corneous spines; inner face with several flattened tubercles terminating in 1 or 2 rounded spines; upper face of palm usually with 2 rows of prominent corneous-tipped spines accompanied by tufts of long stiff setae. Carpus with upper face bearing 8 strong, peripheral corneous-tipped conical spines; outer and lower outer faces with corneous-tipped spines. Merus with distal margin of lateral face bearing several corneous-tipped spines, larger spines dorsally; ventrolateral angle with 1 strong corneous-tipped spine; ventromesial margin crested with 6 rounded spines or teeth. Ischium with 5 rounded spines on ventromesial margin.

Second (Figs. 33A–F, 35Be, Cc) and right third (Fig. 34A–C) pereopods generally similar, but armament of dactyls, propodi and carpi somewhat different between second pair and right third; second pair more slender than right third; of second pair, left slightly shorter than right. Dactyls 1.30–1.50 (second) or 1.40–1.50 (right third) length of propodi, each terminating in large corneous claw; dorsal faces (Fig. 33E) each with row of flattened tubercles bearing corneous spines, those on dorsolateral margin larger and tufts of stiff setae, which are denser distally; lateral (Figs. 33A, 34A) and mesial faces (Fig. 33C) each with two longitudinal rows of long stiff setae, one in midline and another dorsally, the latter bearing 1 or 2 corneous spines; ventral margin with 5–7 (second) or 1 or 2 (right third) strong corneous spines distally and rows of tufts of stiff setae. Propodi 1.40–1.60 (second) or 1.40–1.50 (right third) length of carpi; dorsal faces flattened and very broad (second, Fig. 33F) or relatively narrower (right third, Fig. 34C), each armed with 3 irregular rows of flattened tubercles bearing 1 or 2 moderately strong corneous-tipped spines accompanied by 1 very long stiff setae and rows of tufts of stiff setae. Meri (Fig. 33B) with distal margin of lateral face convex bearing weak longitudinal sulcus flanked ventrally with tufts of long stiff setae and corneous spines distally; dorsal margin of second pereopods (Fig. 33F) with row of corneous-tipped conical spines increasing in size distally and flanked laterally by line of smaller spines, right third pereopod with 2 strong corneous-tipped distally, dorsodistal angle usually bearing 2 small corneous-tipped conical spines. Meri with dorsal face with tufts of long stiff setae; ventral margins with double irregular row of denticles (second) or scarcely small spines or spinules distally (right third) and tufts of long stiff setae, laterodistal angle with 1 corneous-tipped spine.

Left third pereopod (Figs. 34D, E, 35Bb, Cb) stout. Dactyl 1.40–1.60 length of propodus, broad, terminating in large corneous claw; lateral face (Fig. 34D) flattened with a deep longitudinal furrow lined with small flattened tubercles fringed distally with short plumose setae; both sides of furrow with scales, which are fringed distally with small corneous-tipped spines and plumose setae, setae longer toward margins of dactyl; lower lateral edge with strong corneous-tipped spines partially obscured by tufts of long plumose setae and scarce long stiff setae; dorsal face with row of flattened tubercles bearing moderately strong corneous-tipped spines on dorsolateral margin on proximal three-fourths, distal fourth with small corneous spines accompanied by long spine-like stiff setae, and with corneous spines on dorsomesial margin; mesial face
(Fig. 34E) convex, with short longitudinal groove subproximally and 2 rows of tufts of long stiff setae, upper row of tufts usually is accompanied by coeneus spines; ventral face with moderately deep longitudinal furrow, with 2 strong corneous spines distally and tufts of long stiff setae on margins. Propodus 1.30–1.40 length of carpus, very broad; lateral face (Figs. 34D, 35Bb, Cb) with longitudinal median ridge strongly pronounced, with transverse scales on both sides of a smooth area; scales fringed distally with small corneous-tipped spines and plumose setae, setae longer toward edges of propodus; scales terminating in strong corneous-tipped spines on ventrolateral edge, and in large tubercles bearing 2 strong corneous spines on dorsolateral margin; dorsal face with 2 irregular longitudinal rows of flattened tubercles bearing 1 or 2 moderately strong corneous spines, dorsodistal margin with several small corneous spines and long stiff setae; mesial face (Fig. 34E) with 2 rows of tufts of stiff setae, one in midline and another near ventral margin, distal margin with 3 or 4 corneous spines. Carpus 0.90 length of merus. Armament and setation of carpus and merus similar to those of right third.

**FIGURE 33.** *Dardanus magdalenensis n. sp.*, holotype male (SL 7.50 mm), Magdalena Bay, Baja California, Mexico USNM-1123701, A–G; paratype female (SL 9.00 mm), Magdalena Bay, Baja California, Mexico USNM-39126, H, I. Left second pereopod. A, dactyl, lateral; B, propodus, lateral; C, dactyl, mesial; D, propodus, mesial; E, dactyl, dorsal; F, propodus and carpus, dorsal. Left side of pleon. G, male; H, female; I, female membranous protuberance. Scale bars: 5 mm.
FIGURE 34. Dardanus magdalenensis n. sp., holotype male (SL 7.50 mm), Magdalena Bay, Baja California, Mexico USNM-1123701, A–C; paratype female SL 9.00 mm, Magdalena Bay, Baja California, Mexico USNM-39126, E; paratype male (SL 8.40 mm), Laguna Santa María, BCS, Mexico, SIO-C3610, D. Right third pereopod. A, dactyl, lateral; B, propodus, lateral; C, propodus, dorsal. Left third pereopod. D, lateral; E, dactyl and propodus, mesial. Scale bars: 5 mm.

Sternite XII (third pereopods) (Fig. 31F) with anterior lobe rectangular, bearing a median elongate protuberance with tuft of long setae anteriorly.

Fourth pereopod (Fig. 31G) subchelate; dactyl with 5–9 corneous spines on lateral face ventrally; propodal rasp well developed; carpus with sharp dorsodistal spine.

Fifth pereopod chelate; rasps of dactyl and propodus well developed.

Male pleon (Fig. 33G) with second to fifth left pleopods, fringed with long setae, each with well developed exopod. Female pleon (Fig. 33H) with second to fifth left pleopods, fringed with long setae; second to fourth triramous; fifth biramous, endopod very small; single, triangular, elongate fleshy membranous fringed with long setae present between fourth and fifth pleopods (Fig. 33I).

Uropods (Fig. 33G, H) strongly asymmetrical, left larger than right; endopods and exopods with well developed rasps.
FIGURE 35. A, *Dardanus pilosus* n. sp., holotype male (SL 7.48 mm), Clarion Island, Mexico, USNM-Acc. No. 207834. B, *Dardanus magdalenensis* n. sp., holotype male, (SL 7.50 mm), Magdalena Bay, Baja California, Mexico, USNM-1123701: a, left cheliped, outer view; b, left third pereopod, lateral; c, left second pereopod, lateral. C, paratype female (SL 9.00 mm), Magdalena Bay, Baja California, Mexico, USNM-39126: a, left cheliped, outer view; b, left third pereopod, lateral; c, left second pereopod, lateral. Photos by R. Gulledge.
Telson (Fig. 31H) with lateral constrictions; marginal area partially calcified; posterior lobes separated by median cleft, left larger than right, each with 5 (left) or 4–7 (right) corneous spines and setae of different sizes on terminal margin; anterior lobes with long setae on lateral margins.

**Color.** In life, unknown.

**Etymology.** The specific name is derived from the name of the type locality, Magdalena Bay, western coast, Baja California Sur, Mexico.

**Distribution.** Off Central California, U.S.A., along the western coast of Baja California, and off Cabeza Ballena, Gulf of California, Mexico; 3 to 57 m.

*Remarks.* *Dardanus magdalenensis* n. sp. features a unique character that separates it from all other species. The inner lower margin of palm of left cheliped (Fig. 37L) is only armed on distal half, while the lower margin in the other five species is armed along its entire margin. The sculpture of the left third pereopod dactyl and propodus of *D. magdalenensis* is similar to that of *D. stimpsoni*, but setae on ventrolateral and dorsolateral margins of both segments are longer in the former. Moreover, longitudinal median ridge of propodus is more pronounced in *D. magdalenensis* than in *D. stimpsoni* and *D. janethaigae* (Figs. 36N, 37D, N). Contour of ventral margin of left cheliped is straight in *D. magdalenensis* (Fig. 37K) and slightly curved in *D. janethaigae* and *D. pilosus* (Fig. 37A, F), particularly in its proximal part. *Dardanus magdalenensis* features ocular peduncles and cornea proportionally much longer than *D. janethaigae*. The antennule is proportionally longer in *D. janethaigae*; however, antennal acicles are shorter and do not reach to basis of cornea (Table 1).

**General remarks**

In order to facilitate the comparison of the six species of *Dardanus* treated in this study, a series of comparative illustrations of major body parts of each species has been included in two figures (Figs. 36, 37).

Based on the revision of the genus *Dardanus* in the eastern Pacific, six species are now considered within the “*Dardanus sinistripes*” complex: *Dardanus sinistripes*, *D. nudus* n. sp., *D. stimpsoni* n. sp., *D. janethaigae* n. sp., *D. pilosus* n. sp., and *D. magdalenensis* n. sp. They all share many characters including stout ocular peduncles, long slender antennal peduncles, vastly unequal chelipeds, left cheliped with scale-like tubercles on outer face of palm, a broad left third pereopod with dactyl bearing a deep to moderately deep longitudinal groove with scales on both sides of the groove, propodus with an uniform median, bare, convex area with transverse scales on both sides, and a telson with strong to moderately strong corneous-tipped spines on margin of posterior lobes.

Traditionally, species within the genus have been separated in two major groups based on ocular peduncles length. Those with short ocular peduncles where the cornea occupies a third or more of ocular peduncle length, and those with long ocular peduncles where the cornea occupies a quarter or less of the ocular peduncle length (Cook 1989). According to this criteria, all species of the *Dardanus sinistripes* complex feature short ocular peduncles.

The six species considered herein are separated in two groups based on the sculpture of the outer face of the palm of left cheliped, and on the lateral face of the left third pereopod dactyl and propodus. In *Dardanus*
**nudus** n. sp., the outer face of left cheliped and lateral face of the left third pereopod dactyl and propodus principally bear small spine-like tubercles, while the rest of the species bear scale-like tubercles.

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