

***PROCAMPYLASPIS ANDAMANENSIS* SP. NOV. (CRUSTACEA, CUMACEA), FIRST
RECORD OF THE GENUS FROM THE INDO-POLYNESIAN
BIOGEOGRAPHIC PROVINCE**

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ABSTRACT

Procampylaspis andamanensis sp. nov. is described from shallow waters off Thailand in the Andaman Sea. This is the first record of the genus *Procampylaspis* from continental shelf waters of the Indian Ocean. *Procampylaspis andamanensis* has a rather smooth, though strongly sediment-covered, carapace, rather obsolete maxillae 1 and 2, and an unusual mandible molar.

INTRODUCTION

To date, more than 30 species of *Procampylaspis* are known (Băcescu, 1992). Most have been described from depths greater than 300 m. Only three species, from Australia and Africa, have been found at depths less than 100 m. Species of *Procampylaspis* are generally dwellers of muddy sediments, and specimens are almost always covered with a layer of silt-sized grains. In this paper we describe a new species from shallow water in the Andaman Sea, taken during the BIOSHELF Survey, the details of which can be found elsewhere in this volume. The initial work on this species was conducted during the PMBC–DANIDA Workshop on the Biodiversity of Crustacea in the Andaman Sea, held at the Phuket Marine Biological Center, 29 November – 20 December, 1998.

TAXONOMY

Family Nannastacidae

Genus *Procampylaspis* Bonnier, 1896

Type species

Procampylaspis echinata Bonnier, 1896, by original designation.

Diagnosis

Carapace somewhat vaulted, as in *Campylaspis*, often with one or a pair of spines mid-dorsally, and usually festooned with sediment grains; pseudorostral lappets upturned in females, but siphon not directed dorsally. Eyelobe present, united in midline, lenses absent. Mandible truncate, molar styliform. Maxilliped 1 terminal article minute. Maxilliped 2 dactyl modified, claw-shaped. Maxilliped 3 basis not greatly expanded, longer than remaining endopod articles combined; ischium unusually elongate.

Remarks

This genus is a typical member of the 'Campylaspis-group' of genera within the Nannastacidae, all of which have modified mouthparts, including the styliform mandible molar (Jones, 1984). In *Procampylaspis*, however, several species show a mandible molar which, while styliform in general outline, still has vestiges of the more typical crushing molar surface (e.g., *P. unicornis* Gamô, 1977). Further analysis may show that *Procampylaspis* is one of the more primitive members of this group. Four other species of *Procampylaspis* are known from the Indian Ocean, viz., *P. bispinosa* Ledoyer, 1989, *P. comoroensis* Ledoyer, 1989, *P. dentifera* Ledoyer, 1989, *P. tuberculata* Ledoyer, 1989. All are from 300 to 3700 m stations in the Mozambique Channel. All other species are known from deep waters in the Atlantic, Pacific, and Antarctic Oceans.

Procampylaspis andamanensis sp. nov.**Material examined**

Holotype: PMBC 14940, 1 female, BIOSHELF St. PB7, 07°45' N, 098°41' E, BC, 29 m, coll. S. Bussarawit, 22.04.1997.

Paratypes: PMBC 15325, 3 females, 1 male, BIOSHELF St. PB4, 07°52' N, 098°40' E, TD, 28 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; PMBC 15326, 3 females, 1 male, 9 juveniles, BIOSHELF St. A1, 09°30' N, 097°56' E, TD, 49 m, coll. S. Bussarawit and C. Aungtonya, 18.02.1998; PMBC 15327, 4 females, 1 male, 1 juvenile, BIOSHELF St. B1, 09°14' N, 098°00' E, OS, 45 m, coll. S. Bussarawit and C. Aungtonya, 17.02.1998.

Other material: From BIOSHELF collections: PMBC 15328, 1 juvenile, BIOSHELF St. PB6, 07°44' N, 098°33' E, TD, 34 m, coll. S. Bussarawit and C. Aungtonya, 21.02.1998; PMBC 15329, 1 female, BIOSHELF St. D1, 08°45' N, 098°05' E, TD, 38 m, coll. S. Bussarawit and C. Aungtonya, 19.02.1998; PMBC 15330, 1 male, BIOSHELF St. I2, 07°31' N, 098°30' E, TD, 58 m, coll. S. Bussarawit and C. Aungtonya, 22.02.1998; PMBC 15331, 1 female, 1 juvenile, BIOSHELF St. K3, 07°02' N, 098°49' E, TD, 76 m, coll. S. Bussarawit and C. Aungtonya, 24.02.1998.

Description

Adult female, 3.2 mm body length.

Carapace approximately equal in length to pereon and pleon combined; pseudorostral lobes pronounced, upturned; antennal notch deep, acute; eyelobe small, insignificant, no lenses; ventral margin of carapace generally obscured by debris; no spines or mid-dorsal ridge.

Antenna 1 peduncle article 1 elongate, longer than articles 2 and 3 combined, with large distal protuberance; article 3 with minute distal tubercle bearing 2 setae; flagellum 3-articulate, terminal article with 2 long aesthetascs.

Antenna 2 uniarticulate, bearing single simple seta.

Mandible incisor blunt, seta row with 5 serrate blade setae; molar elongate, apparently serrate distally, terminating in small tuft of cuticular processes.

Maxilla 1 endites obsolete, with few blunt setae and several apparent setae whose articulations are indistinct.

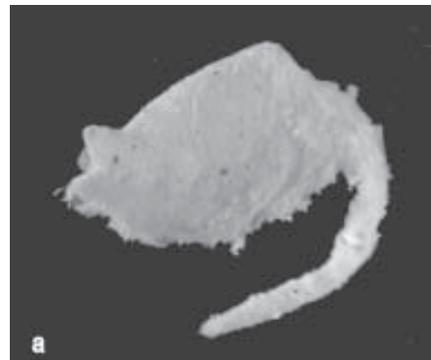


Figure 1 *Procampylaspis andamanensis* sp. nov. a, female; b, male.

Maxilla 2 with 1 non-moveable and 1 moveable endite, both with few setae.

Maxilliped 1 basis with medial endite bearing 1 long plumose seta on ventral surface and 2 medial

coupling hooks; ischium absent; merus as long as wide, with 2 simple setae on mediobasal corner; carpus elongate, with several short simple setae and 3 long plumose setae scattered over ventral

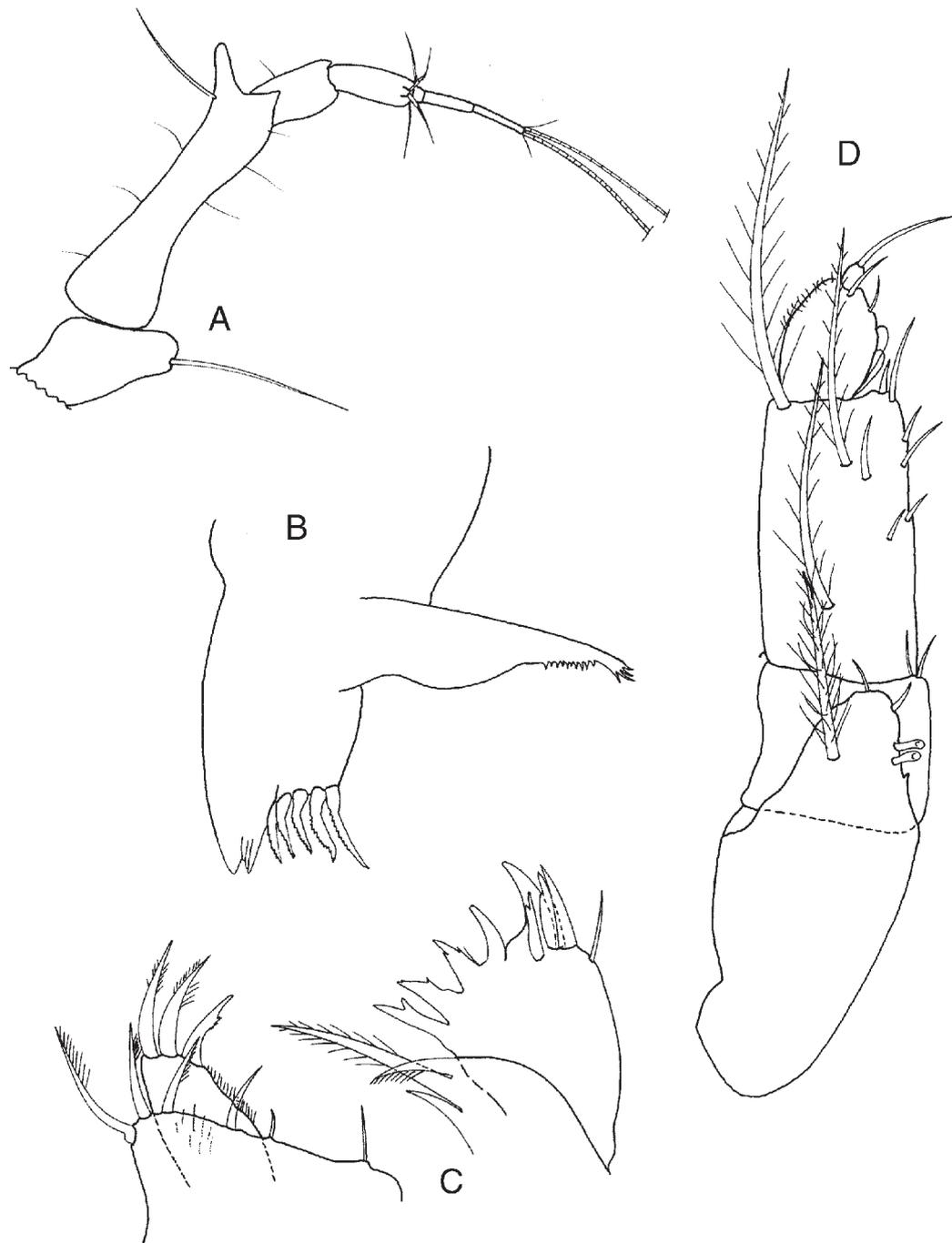


Figure 2 *Procampylaspis andamanensis* sp. nov. Female: A, antenna 1; B, mandible; C, maxilla 2 (left) and maxilla 1 (right); D, maxilliped 1.

surface; propodus subovate, with hyaline medial extensions; dactyl very small, bearing single long, terminal, simple seta.

Maxilliped 2 bearing few setae; dactyl with 3 long and 2 short claws.

Maxilliped 3 slightly shorter than remainder of leg, with several large teeth distally on inner margin and 2 long plumose setae on outer distal corner; merus outer distal corner with single tooth and long plumose seta; carpus, propodus, and

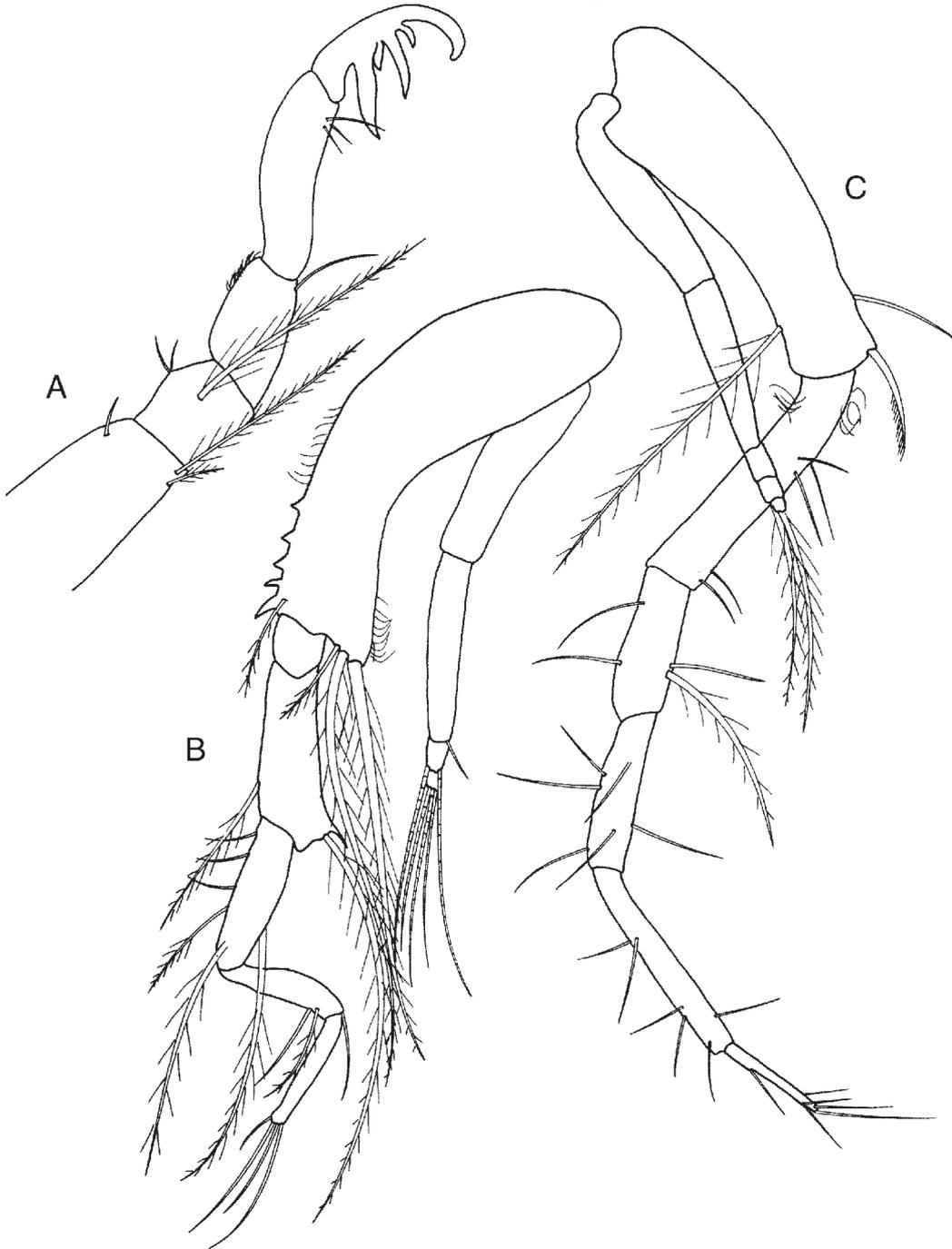


Figure 3 *Procampylaspis andamanensis* sp. nov. Female: A, maxilliped 2; B, maxilliped 3; C, pereopod 1.

dactyl all subequal in length, with occasional simple or plumose setae; exopod extending to mid-length of merus.

Pereopod 1 basis very short, slightly longer than ischium; ischium very elongate, equal to merus

and carpus combined, and to propodus and dactyl combined; ischium to dactyl armed with scattered simple setae, merus also with single plumose seta; exopod extending beyond distal margin of basis.

Pereopod 2 dactyl armed with several long

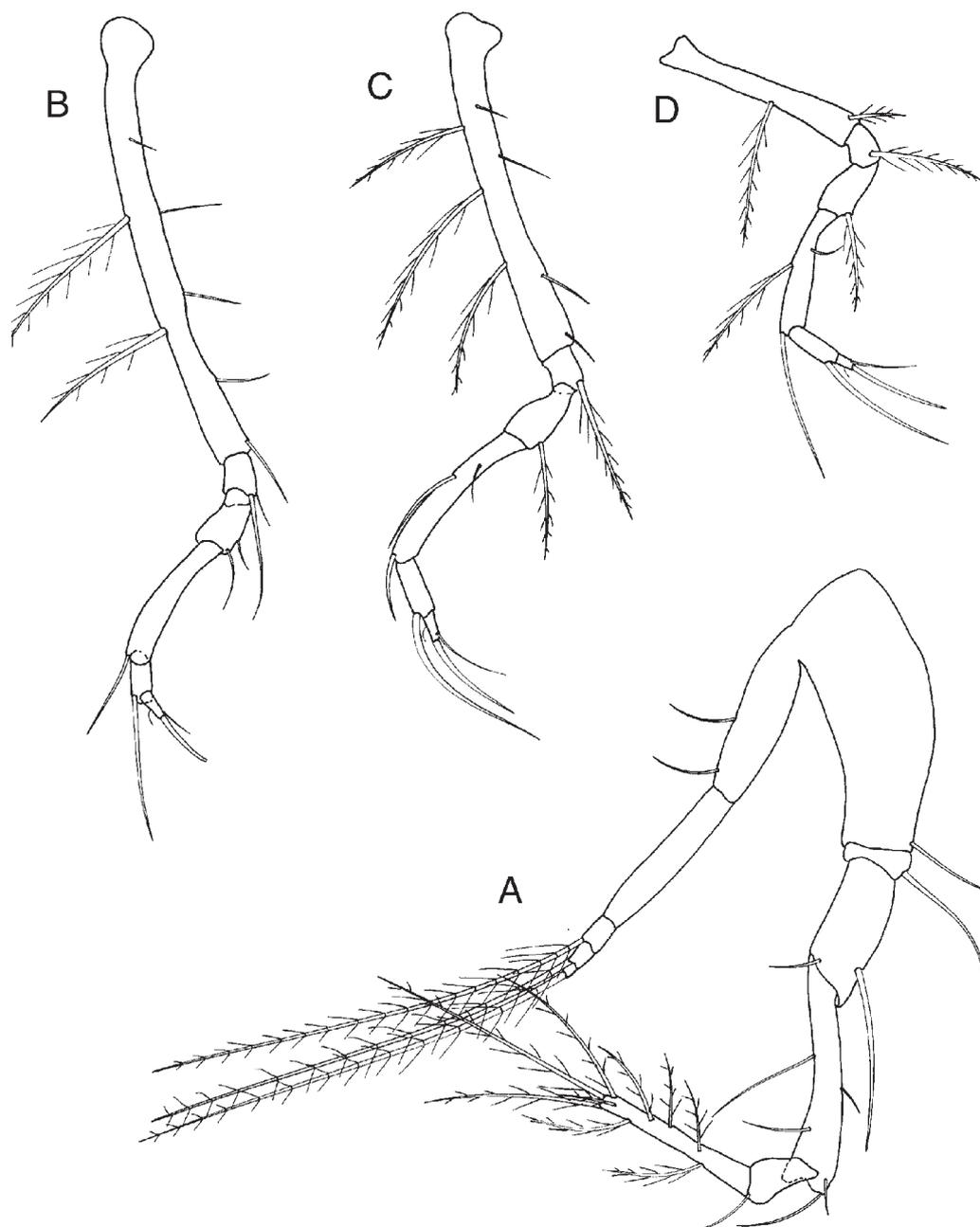


Figure 4 *Procampylaspis andamanensis* sp. nov. Female: A, pereopod 2; B, pereopod 3; C, pereopod 4; D, pereopod 5.

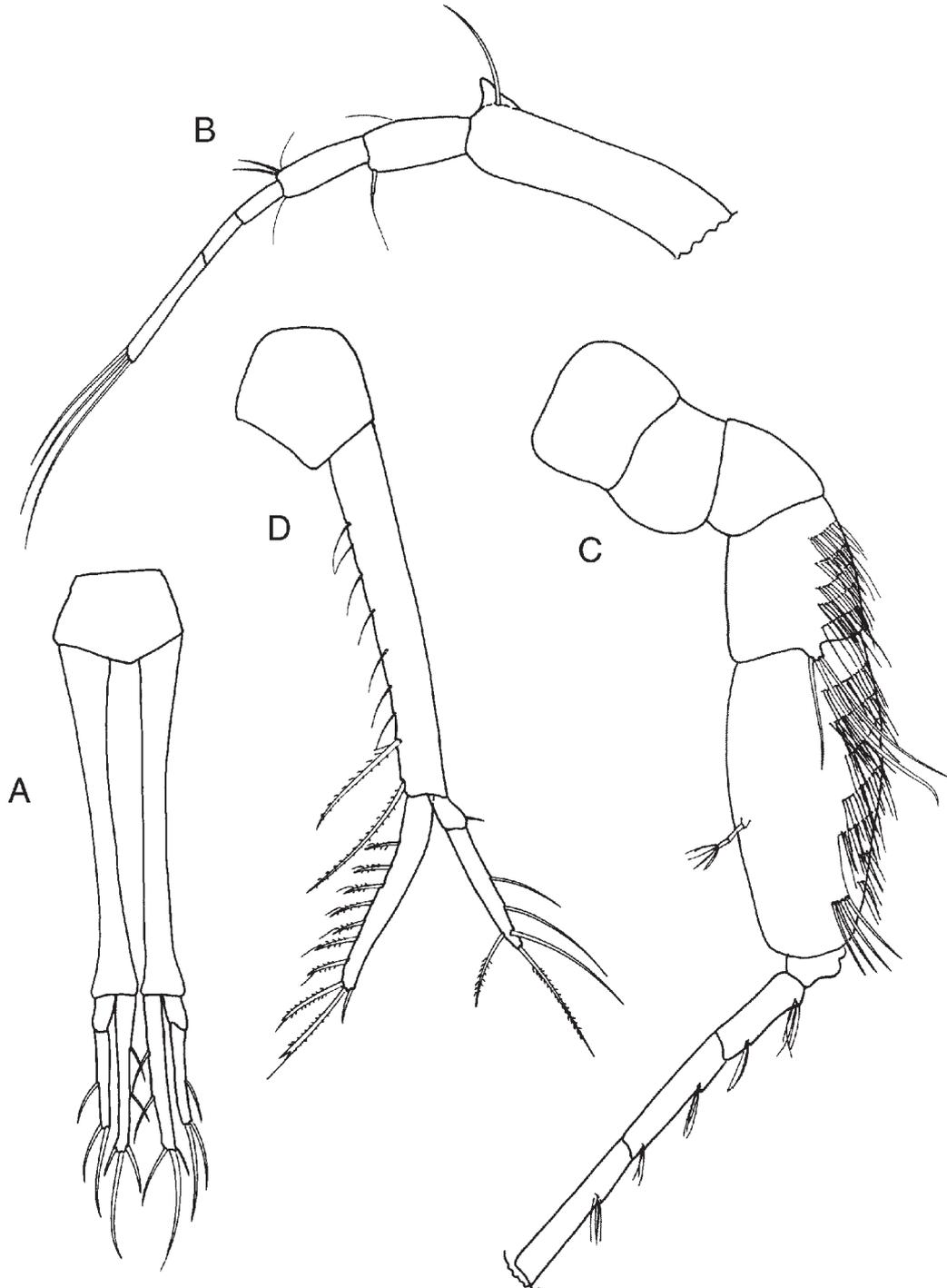


Figure 5 *Procampylaspis andamanensis* sp. nov. Female: A, uropod. Male: B, antenna 1; C, antenna 2 peduncle and proximal flagellar segments; D, uropod.

plumose setae on margins and terminally; exopod extending to middle of carpus.

Pereopods 3–5 alike with elongate basis and relatively narrow distal articles, all with sparsely distributed simple or plumose setae; pereopod 5 about 2/3 length of pereopods 3 and 4.

Uropod peduncles about twice length of rami, without any large setae on margins; endopod slightly longer than exopod, with 2–3 setae on inner margin, depending on age, and bearing 3 terminal setae; exopod with 1–2 simple setae on outer margin and 2 terminal setae.

Adult male, 3.2 mm body length. Differs from female in following respects:

Carapace less than half total body length; pseudorostral lobes directly anteriorly; antennal notch shallow, rounded.

Antenna 1 flagellar articles longer and more robust, with 3 terminal aesthetascs.

Antenna 2 peduncle of 5 articles and bearing very long flagellum extending to pleon; peduncle article 4 shorter than 5, both with multiple ranks of sensory setae on anterior margin; distal margin of peduncle article 4 with small outer protuberance bearing 3 long simple setae; peduncle article 5 with small protuberance on posterior margin bearing 1 unusual pedunculate seta.

Uropod peduncle about 1.5 times length of rami, with several simple setae and 2 large microserrate setae on inner margin; endopod with about 7 short microserrate setae on medial margin, and 3 setae (2 microserrate and 1 simple) terminally; exopod with 3 long simple setae on outer margin and 2 long microserrate setae distally (1 on inner margin and 1 terminal).

Remarks

Among all the species of *Procampylaspis* this species is unusual in the form of the mandible and the obsolescence of the maxillae. The mandible molar shows some vestiges of the 'grinding' surface, but it is not very robust and most likely is simply a rugose surface. The maxillae are more reduced than in any other member of this genus, consisting of reduced endites bearing setae that are sparse and rather flimsy in comparison to the array of robust setae normally found on these structures (for those few species where these details have been given). This species is more typical, however, in the shape of maxillipeds 1 and 2, the latter being quite diagnostic for the genus (Jones, 1984). Our detailed description of the male antenna 2 comprises more than what is usually given so comparisons with other species are not possible.

Etymology

Named for the site of collection, the Andaman Sea.

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