

## *Campylaspis rex*, a new species (Crustacea: Cumacea) from New Zealand

Sarah Gerken and Heidi E. Ryder

James Madison University, Biology Department, Burruss Hall, MSC 7801, Harrisonburg, Virginia  
22807, U.S.A., gerkensa@jmu.edu

*Abstract.*—Only a single described species of nannastacid is currently known from New Zealand, *Scherocumella pilgrimi* (Jones, 1963). This work describes a second nannastacid species, *Campylaspis rex*, based on subadult specimens collected off the coast of New Zealand, from 240–760 meters. *Campylaspis rex* is distinguished from all other *Campylaspis* by the crown of stout tubercles on the dorsal surface of the carapace, in combination with an acutely dorsally directed pseudorostrum and uropod exopod distinctly longer than endopod.

The cumacean fauna of a single location in New Zealand (Lyttelton Harbour) is moderately well known, and scattered records exist for other parts of New Zealand (Spirits Bay, Bay of Islands, Hawke Bay, North Cape, various wharves in Auckland). The single previously known nannastacid, *Scherocumella pilgrimi* (Jones, 1963), was collected in Lyttelton Harbour. Only 3 species are known from depths below 100 m: *Leucon latispina* Jones, 1963 from 123 m; *Diastylis acuminata* Jones, 1960 from 402 m; *Diastylis insularum* (Calman, 1908) from 585 m. The majority of *Campylaspis* species are known from shelf and upper slope depths, but several have been recorded from the abyssal plains of the Atlantic and Indian Oceans. Only *C. vema* Muradian, 1979, a deep-sea species, is known from the Pacific, off the coasts of Panama and Peru. This is the first deep water species of *Campylaspis* from the western Pacific Ocean.

This is the first species to be described from the NIWA (New Zealand Institute of Water and Atmosphere) collections, which contain a great many other new species (Gerken, pers. obs., Watling, pers. comm.).

### Methods

Samples were collected from 1979–1989 by grab, dredge or boxcore between 240–

760 m. Specimens initially were preserved in formalin and subsequently transferred into 70% EtOH. Specimens were mounted in a mixture of glycerin and ethanol, and drawings were prepared using a *camera lucida* on a Wild compound microscope.

Family Nannastacidae Bate, 1856  
*Campylaspis* Sars, 1865  
*Campylaspis rex*, new species  
Figs. 1–4

*Type material.*—Holotype (NZOI 000000) 1 subadult female, New Zealand, 44°26.9'S, 174°54.8'E, 676 m, 25 October 1979. Paratypes (NZOI 000000): 1 subadult male, 43°29.87'S, 178°59.73'E, 474 m, 8 September 1989; 2 subadult males, 2 subadult females (1 dissected), 44°26.9'S, 174°54.8'E, 676 m, 25 October 1979; 1 subadult male, 44°28.0'S, 174°54.8'E, 692 m, 25 October 1979; 1 subadult female, 1 subadult male 44°30.1'S, 174°18.8'E, 760 m, 25 October 1979; 1 subadult female, 43°20.5'S, 179°59.88'E, 244 m, 15 September 1989; 1 subadult male, 43°30.39'S, 178°38.83'E, 340 m, 6 September 1989; 1 subadult female, 43°49.46'S, 176°59.38'E, 750 m, 14 September 1989; 1 subadult male, 43°14.88'S, 179°00.03'E, 467 m, 8 September 1989.

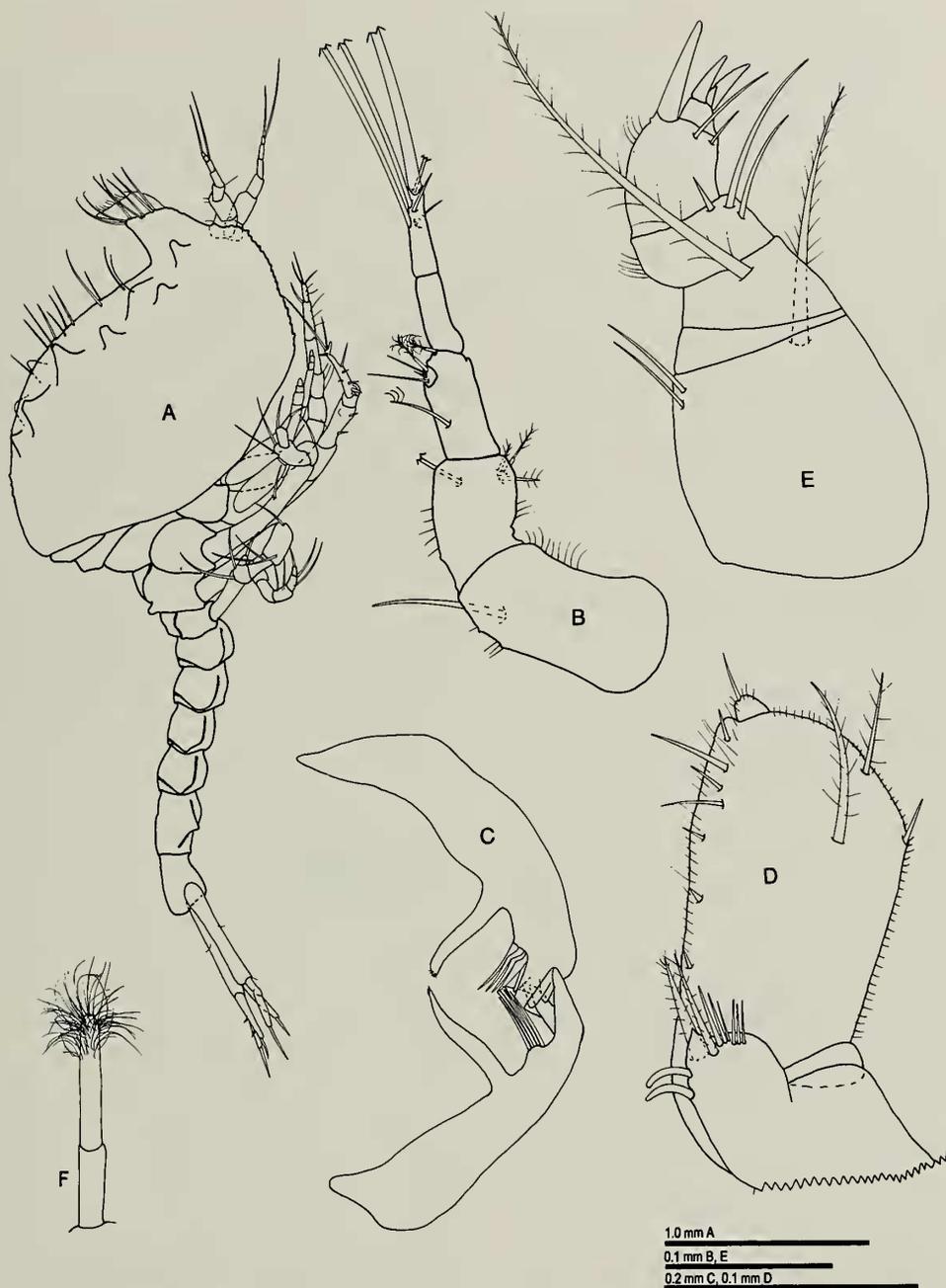


Fig. 1. *Campylaspis rex*, new species. Paratype subadult ♀; A, habitus; B, antennule; C, mandibles; D, maxilliped 1; E, maxilliped 2; F, detail of complex pedunculate seta on antennule, not to scale.

**Diagnosis.**—Carapace with semicircle of stout dorsal tubercles, opening towards pseudorostrum, extending to midline of carapace, lateral tubercles absent and lateral sulcus absent; pseudorostrum acutely dor-

sally directed; uropod exopod distinctly longer than endopod;

**Description.**—Subadult female, 3.4 mm. Carapace with 11 stout tubercles extending dorsally in semicircular fashion, opening

around pseudorostrum; long setae disposed about the dorsal surface of the carapace; anteroventral margin weakly serrate. Pseudorostrum directed sharply dorsally. Antennal notch absent.

Antennule article 1 subequal to articles 2 & 3 together, bearing 1 simple seta; article 2 bearing 1 simple and 3 complex pedunculate setae; articles 2 & 3 subequal in length; article 3 bearing 1 proximal seta with few setules and 1 complex pedunculate seta; main flagellum of 2 subequal articles, article 1 unarmed, article 2 bearing 3 long and 3 short simple setae; accessory flagellum single minute article, bearing 1 complex pedunculate and 3 simple setae (Fig. 1B).

Antenna rudimentary, not figured.

Mandible navicular, with 4 lifting setae; incisor with 4 cusps; molar narrow (Fig. 1C).

Maxillule of 2 endites, broad endite bearing 10 stout simple setae terminally; narrow endite bearing 3 simple, 1 bicuspid, and 1 microserrate setae terminally; palp bearing 2 long simple setae (Fig. 2A). Maxilla of single endite, bearing 7 simple and 1 microserrate setae (Fig. 2B).

Maxilliped 1 basis with medial lobe, bearing a pair of small hook setae, 2 pappose, and 6 simple setae; ischium present, small; fused merus longer than all other articles together, bearing simple setae and 2 plumose setae laterally, margins lined with fine hair-like setae; propodus bearing 1 simple seta, margins lined with fine hairlike setae; dactylus fused with propodus (Fig. 1D). Maxilliped 2 basis shorter than last 5 articles together, bearing 2 simple and 1 plumose setae; ischium 0.5 length of merus, unarmed; merus slightly longer than carpus, bearing 1 long plumose seta; carpus bearing 1 short and 2 long simple setae; propodus slightly longer than merus, bearing 1 stout simple seta distolaterally, 2 simple setae distomedially; dactylus less than 0.25 length of propodus, bearing 2 stout and 1 short stout setae terminally, producing a trident effect (Fig. 1E). Maxilliped 3 basis

longer than next 4 articles together, medial corner produced as 2 teeth, 1 long plumose seta distolaterally, 2 setae medially; ischium absent; merus subequal to carpus and propodus together, bearing 2 plumose and 5 simple setae medially, 1 long plumose seta laterally, margin produced as few small teeth; carpus 0.7 propodus length, bearing 3 simple and 2 plumose setae medially, 1 long plumose seta laterally, margin produced as small teeth; propodus 0.5 merus length, bearing 2 plumose setae medially, 1 simple seta distally, margin produced as small teeth; dactylus 0.5 length of propodus, bearing 2 short and 1 long simple setae terminally; exopod longer than basis, basal article unarmed, flagellum bearing many long plumoannulate setae (Fig. 3A).

Pereopod 1 basis shorter than all other articles together, bearing 2 simple and 3 plumose setae, margins lined with fine hair-like setae; ischium 0.5 propodus length, bearing 1 long plumose seta; merus subequal to carpus, bearing 5 simple and 4 plumose setae; carpus margin produced as 1 large tooth, bearing 3 simple and 2 plumose setae; propodus slightly shorter than carpus, bearing 5 simple and 2 plumose setae; dactylus more than 0.5 carpus length, bearing 4 simple and 1 plumose setae laterally, 2 simple setae terminally; exopod longer than basis, basal article bearing 2 simple setae, flagellum bearing many long plumoannulate setae (Fig. 3B). Pereopod 2 basis equal to merus, carpus, propopodus together, bearing 3 simple setae and 1 seta with few setules terminally; ischium 0.5 propodus length, unarmed; merus shorter than carpus, bearing 3 setae with several terminal setules of differing lengths (hereafter referred to as type A setae) and 1 simple seta; carpus bearing 4 type A, 1 simple and 2 pappose setae; propodus less than 0.5 merus length, bearing 1 type A seta; dactylus longer than merus and carpus together, bearing 3 pappose, 4 microserrate, 2 simple setae laterally and 1 plumoannulate, 1 pappose, 3 simple setae terminally; exopod longer than basis, basal article bearing 2 simple setae,

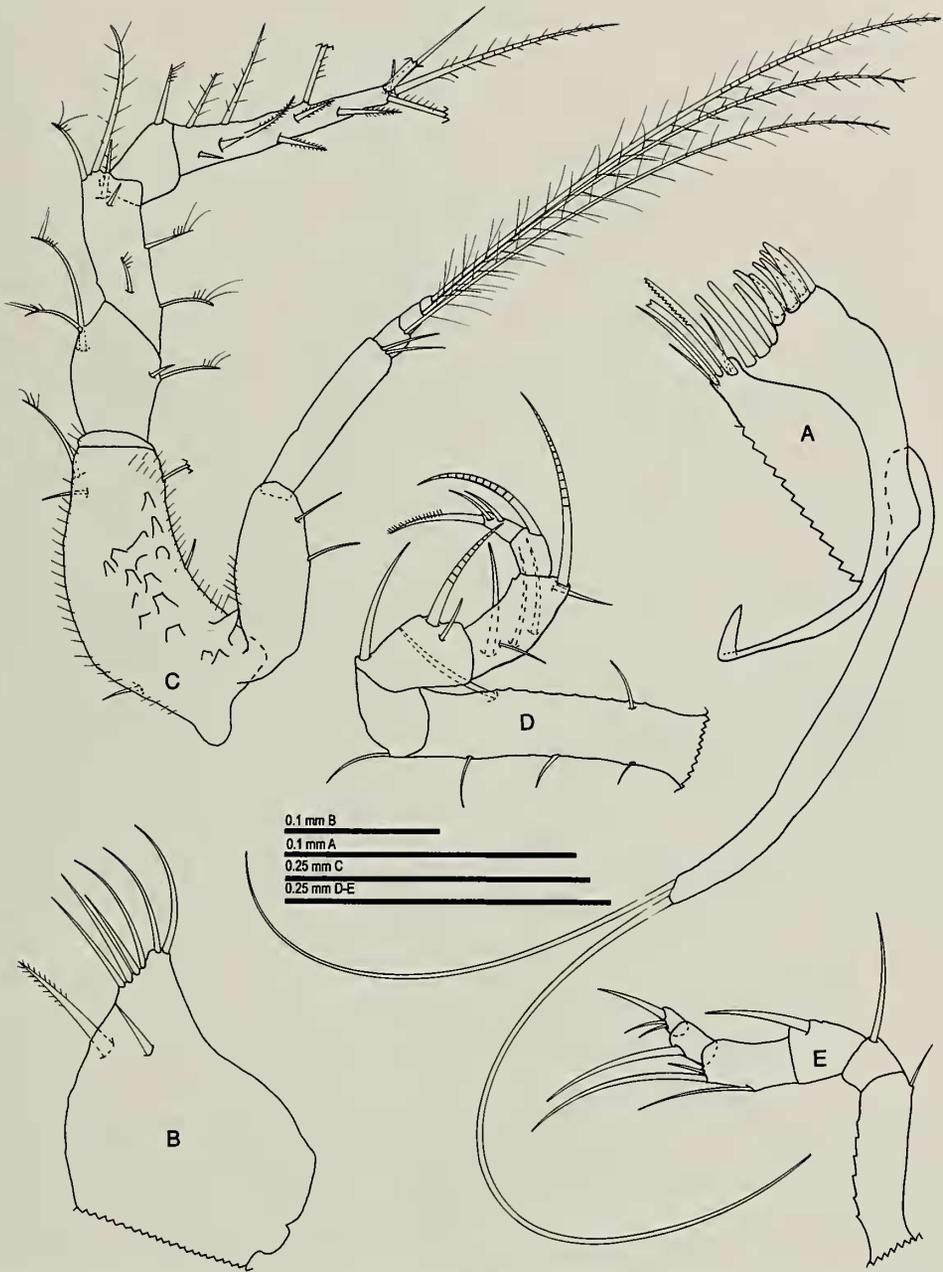


Fig. 2. *Campylaspis rex*, new species. Paratype subadult ♀; A, maxillule; B, maxilla; C, pereopod 2; D, pereopod 4; E, pereopod 5.

flagellum bearing 2 simple setae and many long plumoannulate setae (Fig. 2C). Pereopod 3 basis longer than all other articles together, bearing 6 simple setae; ischium subequal to dactylus, bearing 1 simple seta; merus equal to propodus and dactylus to-

gether, bearing 2 stout annulate and 1 simple setae; carpus longer than merus, bearing 5 simple and 1 annulate setae; propodus 0.5 carpus length, bearing 1 annulate seta; dactylus 0.5 propodus length, bearing 2 simple and 1 plumose setae terminally (Fig. 3C).

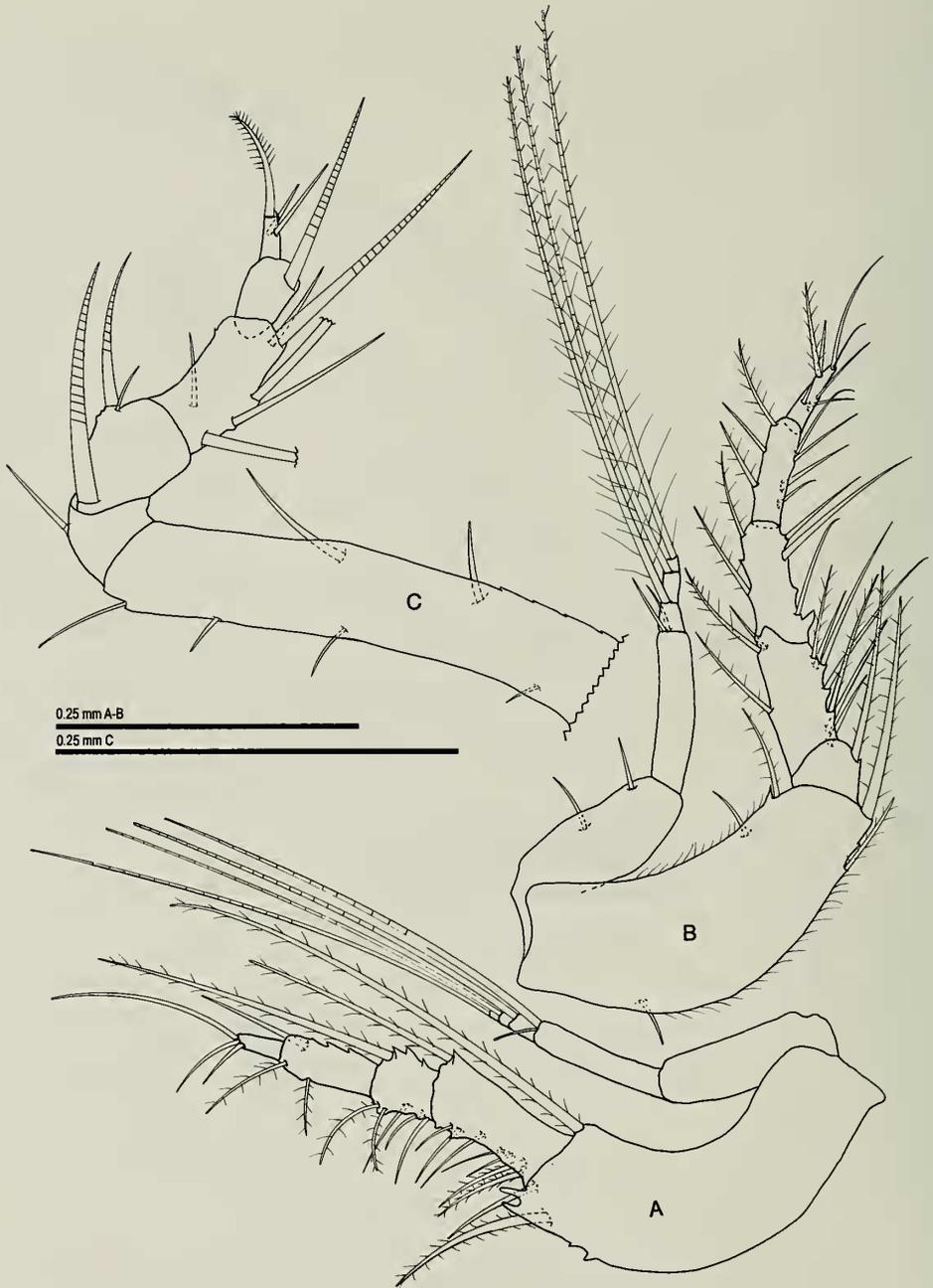


Fig. 3. *Campylaspis rex*, new species. Paratype subadult ♀; A, maxilliped 3; B, pereopod 1; C, pereopod 3.

Pereopod 4 shorter than other articles together, bearing 5 simple setae; ischium 0.5 merus length, bearing 1 simple seta; merus subequal to carpus, bearing 2 simple and 1 annulate setae; carpus bearing 5 simple and 1 annulate setae; propodus slightly longer

than dactylus, bearing 1 annulate seta; dactylus bearing 2 simple and 1 microserrate setae terminally (Fig. 2D). Pereopod 5 basis 2.0 carpus length, bearing 1 simple seta; ischium subequal to propodus, bearing 1 simple seta; merus slightly shorter than carpus,

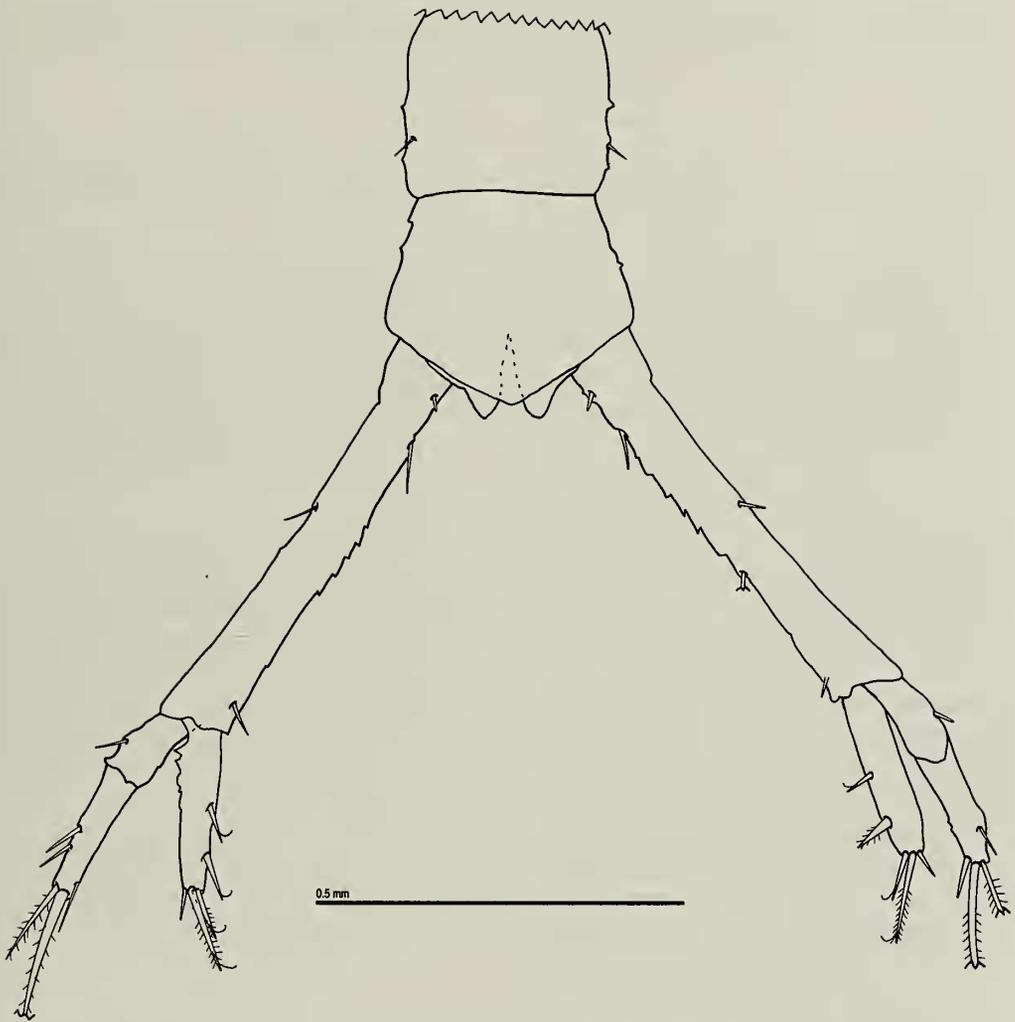


Fig. 4. *Campylaspis rex*, new species. Paratype subadult ♀: uropods.

bearing 1 simple seta; carpus slightly longer than merus, bearing 3 simple setae; propodus 0.5 carpus length, bearing 1 simple seta; dactylus 0.5 propodus length, bearing 2 short and 1 long simple setae terminally (Fig. 2 E).

Uropod peduncle 2.0 pleonite 6 length, medial margin weakly serrate and bearing few simple setae, 1 simple seta laterally; exopod article 1 0.7 article 2 length, bearing 1 simple seta laterally, article 2 bearing 2 simple and 1 microserrate setae laterally, 1 simple seta medially, 1 long microserrate seta terminally; uropod endopod uniarticulate, bearing 2 setae with single setule sub-

terminally and 1 microserrate seta with a single subterminal setule medially, 1 simple seta laterally, and 1 microserrate seta with subterminal setule terminally (Fig. 4).

*Etymology.*—*rex* from the Latin *regis*, meaning king, in reference to the crown of tubercles present on the dorsal surface of the carapace.

*Remarks.*—*Campylaspis rex* is the first campylaspid described from the waters of New Zealand. This species can be distinguished from all other *Campylaspis* by the carapace with dorsal tubercles, no sulcus, and the uropod exopod distinctly longer than the endopod. While there are many

other species of *Campylaspis* with stout tubercles on the carapace, these species possess tubercles laterally on the carapace in addition to dorsally, or a distinct lateral sulcus (absent in *C. rex*), and in these species the uropod endopod is clearly longer than the exopod. The most similar species is *C. spinosa* Calman, 1906; however, *C. spinosa* can be differentiated from the new species by possessing paired dorsal spines on all pleonites and the dactyl of pereopod two being equal in length to the basis. *Campylaspis rex* has no dorsal spines on the pleonites, and the basis of pereopod two is clearly longer than the dactyl.

The *lacinia mobilis* is unusual, in that it is very broad relative to the common state in the Cumacea.

#### Acknowledgements

The New Zealand Oceanographic Institute kindly loaned the material used in the study. The National Science Foundation (DEB95-21783 to L. Watling & I. Kornfield) supported this research as part of the Partnerships to Enhance Expertise in Taxonomy (PEET) program. Les Watling generously provided the authors with his expert

advice and access to his collection of cumacean literature.

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