Short Communications

A new species of *Chonopeltis* (Crustacea: Branchiura) from the Limpopo system, southern Africa

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A new species of *Chonopeltis* (Crustacea: Branchiura) is described from material collected from the gill chamber of the snake catfish *Clarias theodorae* from the Mogalakwena River, a tributary of the Limpopo River in northern Transvaal.

'n Nuwe spesie van *Chonopeltis* (Crustacea: Branchiura) word beskryf, gebaseer op materiaal afkomstig uit die kieukamer van die slang-baber *Clarias theodorae* van die Mogalakwenarivier, 'n sytak van die Limpoporivier in Noord Transvaal.

The genus *Chonopeltis* Thiele, 1900 is endemic to Africa and comprises 10 known species, all of which are fish ectoparasites. Of these, four species have been recorded from the Limpopo and rivers further south: *C. meridionalis* Fryer, 1964 from *Labeo rosae* Steindachner, 1894 in the Limpopo system (Fryer 1964, 1968), *C. australis* Boxshall, 1976 from *Labeo capensis* Smith, 1841 in the Orange River system and *L. rosae* in the Limpopo system (Boxshall 1976; van As & Basson 1984), *C. australissimus* Fryer, 1977 from *Barbus burgi* Boulenger, 1911 in the Groot Berg River and *C. minutus* Fryer, 1977 from *B. calidus* Barnard, 1938 and *B. erubescens* Skelton, 1974 in the Tra-tra River (Fryer 1977). Both the Groot Berg and Tra-tra Rivers are in the south-west Cape region.

During fish parasitological surveys in the northern Transvaal, two female and one male specimen of *Chonopeltis* were collected from the gill chamber of the snake catfish *Clarias theodorae* Weber, 1897 in the Mogalakwena River, a tributary of the Limpopo River and on another occasion two female specimens were collected from the gill chamber of *C. gariepinus* (Burchell, 1822) from the Loskop Dam reservoir in the Olifants River, south-eastern Transvaal. These specimens represent a new species which is described below. The material used for scanning electron microscopy was fixed in 70% ethanol, dehydrated to absolute ethanol, critical-point dried and sputter-coated with gold.

Description

Chonopeltis fryeri sp.n.

Type host and locality. Clarias theodorae Weber 1897 Mogalakwena River (23°20'S / 28°40'E) Transvaal, South Africa.

Location on host. Gill chamber

Type specimens. Holotype 83/7/28 – 1, and paratypes 83/7/28 – 3 and 83/7/28 – 4 deposited in the fish parasite collection of the Department of Zoology of the Rand Afrikaans University, Johannesburg.

Measurements given below are, for the females, the arithmetic mean of measurement of 3 egg-bearing females which were approximately of the same size and, for the male, the measurements of one adult male, the only specimen so far collected.

Adult female — Figures 1A, B

Total length to about 8 mm. General form elongated. Carapace trifoliate, reaching back to cover the first pair of legs. Length of carapace 3,6 mm, i.e. 45% of total length, width 4,1 mm. Anterior margin of cephalic lobe with medial indentation. Cephalic lobe without any chitinous supporting rods, length 1,4 mm, width 2,2 mm. Eyes small, interocular distance 0,9 mm. Ocellus same size as eyes forming with the eyes the points of an equilateral triangle. Segmentation of thorax indistinct. Ventral thorax covered by numerous minute scales (Figure 2A). Thorax without pigmentation.

Abdomen straight, its lobes with sharply pointed tips on which short spines occur (Figure 2B). Abdomen broader than posterior part of thorax, length 2,5 mm i.e. 31% of total length, 1,0 mm broad, length of fused part 1,2 mm, i.e. 48% of abdomen length. Furcal rami minute, situated at base of cleft. Spermatheca oval, extending to only half of fused part. Antennule of four segments, apical segment terminating in three spines. Suckers large, diameter 0,8 mm with 68 to 70 rows of chitinous supporting rods, each consisting of between 11 to 14 interlinked components (Figure 2C). Mandibles curved with a single row of sharply pointed teeth on concave side (Figure 2D). Ventral lip with rows of crenated scales (Figure 2E). Maxilla robust, prehensile (Figure 2F), consisting of five podomeres with scabrous areas (Figure 2G) on coxapodite and podomere 3. Distal part of podomere 2 smooth, with a posterior margin of bristle-like scales (Figure 2H), opposed to a small projection on podomere 3 with similar bristle scales. Terminal podomere of maxilla with 2 sharp claws of which inner claw appears to be retractable (Figure 3A).

Legs evenly spaced and well separated, legs 1 to 3 not differing greatly in size. Exopodite of leg 1 longer than endopod, bearing two rows of long setae, each with a single row of minute hair (Figure 3B). Endopod of leg 1 terminates in claw-like structure without setae. Leg 2 and 3 of similar size and structure, endo- and exopods of equal length, bearing setae similar to those of exopod of leg 1. Leg 4 somewhat smaller, exopodite without setae but heavily scaled. Natatory lobe of leg 4 rounded with short spines and heavily scaled on inner and posterior margin (Figure 3C). Ventral surface of all podomeres of legs with numerous scales, similar to those on thorax.

Colour of live specimens white.

Adult male — Figures 1C, D

Total length 3,1 mm. General form similar to that of female, but with relatively longer abdomen. Length of carapace 1,6 mm, i.e. 52% of total length, width 1,85 mm. Length of anterior carapace 0,75 mm, width 1,05 mm. Abdomen broader than thorax, straight and sharply pointed, 1,3 mm long, i.e. 42% of total body length, 0,6 mm wide, length of fused part 0,75 mm, i.e. 58% of abdomen length. Testis large with crenated lateral margin, extending to cleft of abdomen. Furcal rami as in female. Cephalic appendages as in female. Legs 1 and 2 similar to those of female, but leg 2 with posterior protrusion covered with bristle-like scales (Figure 3D). Leg 3 with posterior marginal flap extending backwards to cover pen of leg 4, podites shorter than those of legs 1

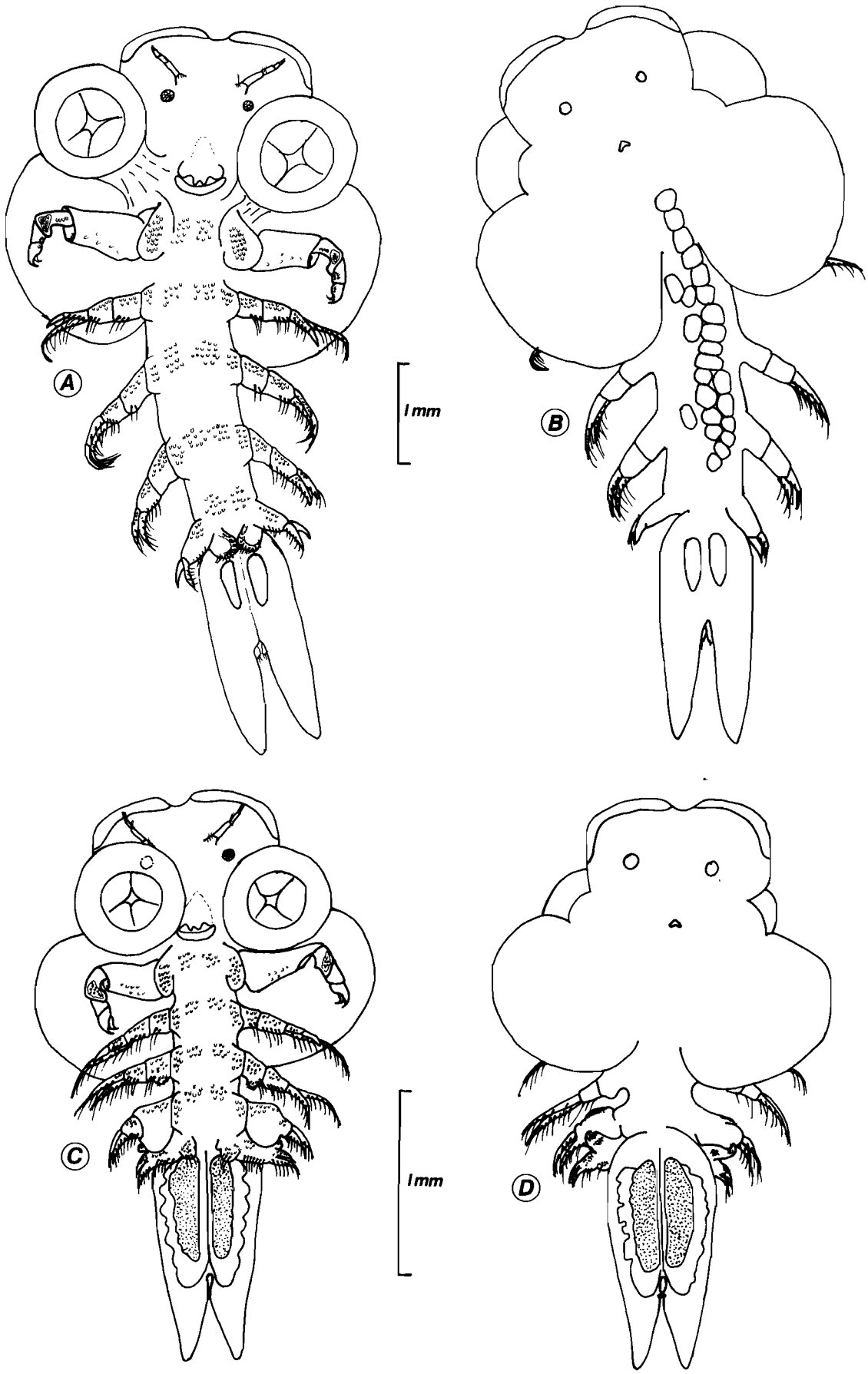

Figure 1 Microscope projection drawings of *Chonopeltis fryeri* sp.n. (A) Female, ventral. (B) Female dorsal. (C) Male, ventral. (D) Male dorsal.

and 2 (Figure 3E). Leg 4 with dorsal, anterio-laterally directed conical process which terminates in a claw-like structure (Figure 3F). Setae on sympods of leg 4 shorter than those of other legs, exopod as in female. Natatory lobe smaller than in female, heavily scaled with 3 setae.

Remarks

C. fryeri sp.n. can easily be distinguished from any other

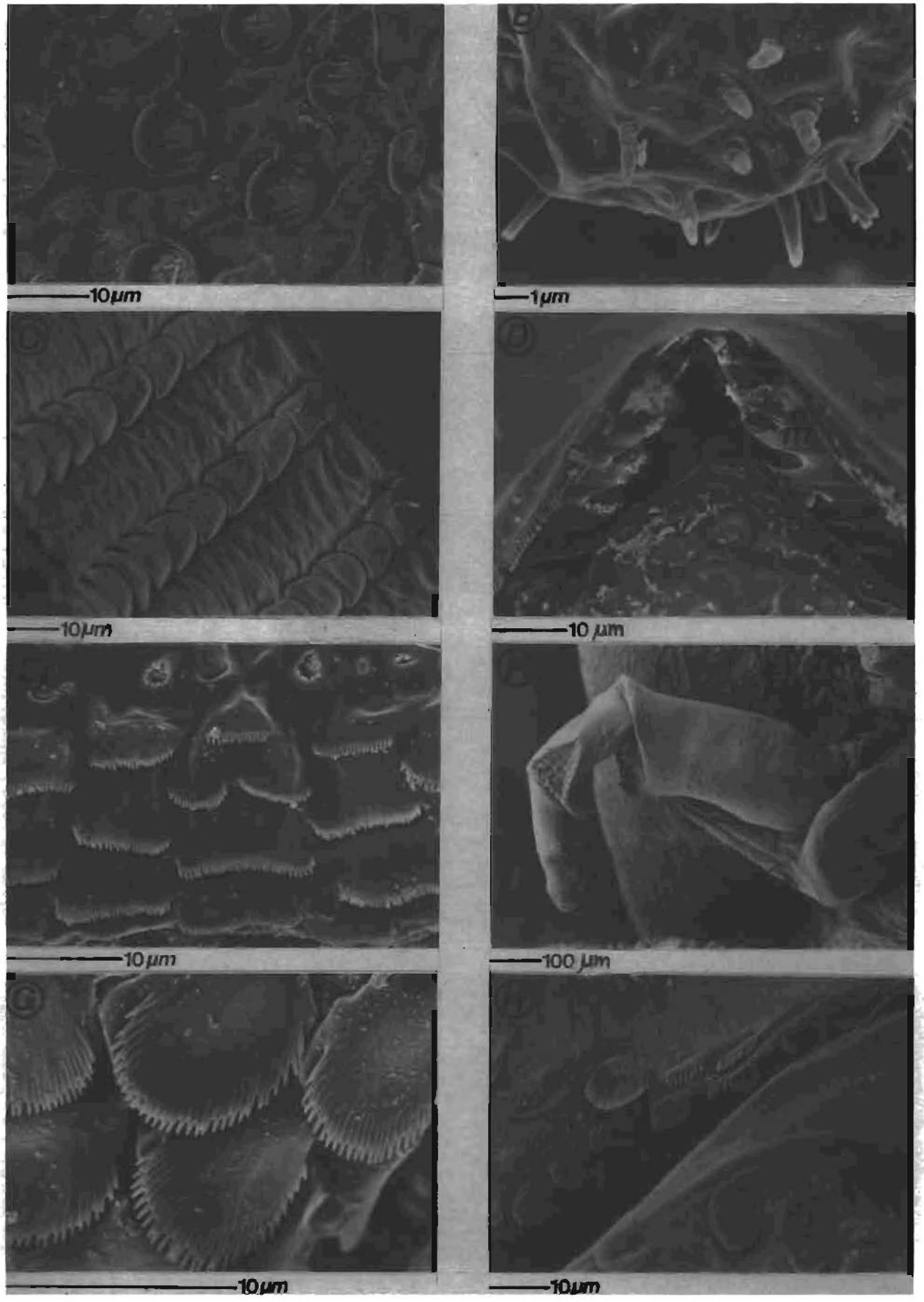

Figure 2 Scanning electronmicrographs of *Chonopeltis fryeri* sp.n. (A) Ventral surface of thorax with small scales. (B) Tip of abdomen with spines. (C) Margin of sucker with chitinous supports. (D) Mouth; m, mandible; v, ventral lip. (E) Ventral lip of mouth. (F) Maxilla. (G) Scales on scabrous area of maxilla. (H) Scales on margin of smooth area of distal part of podomere 2 of maxilla.

species of the genus by a medial indentation in the anterior margin of the cephalic lobe of the carapace, as well as by the absence of chitinous supporting rods in the carapace. The female can be distinguished by the size and spacing of legs,

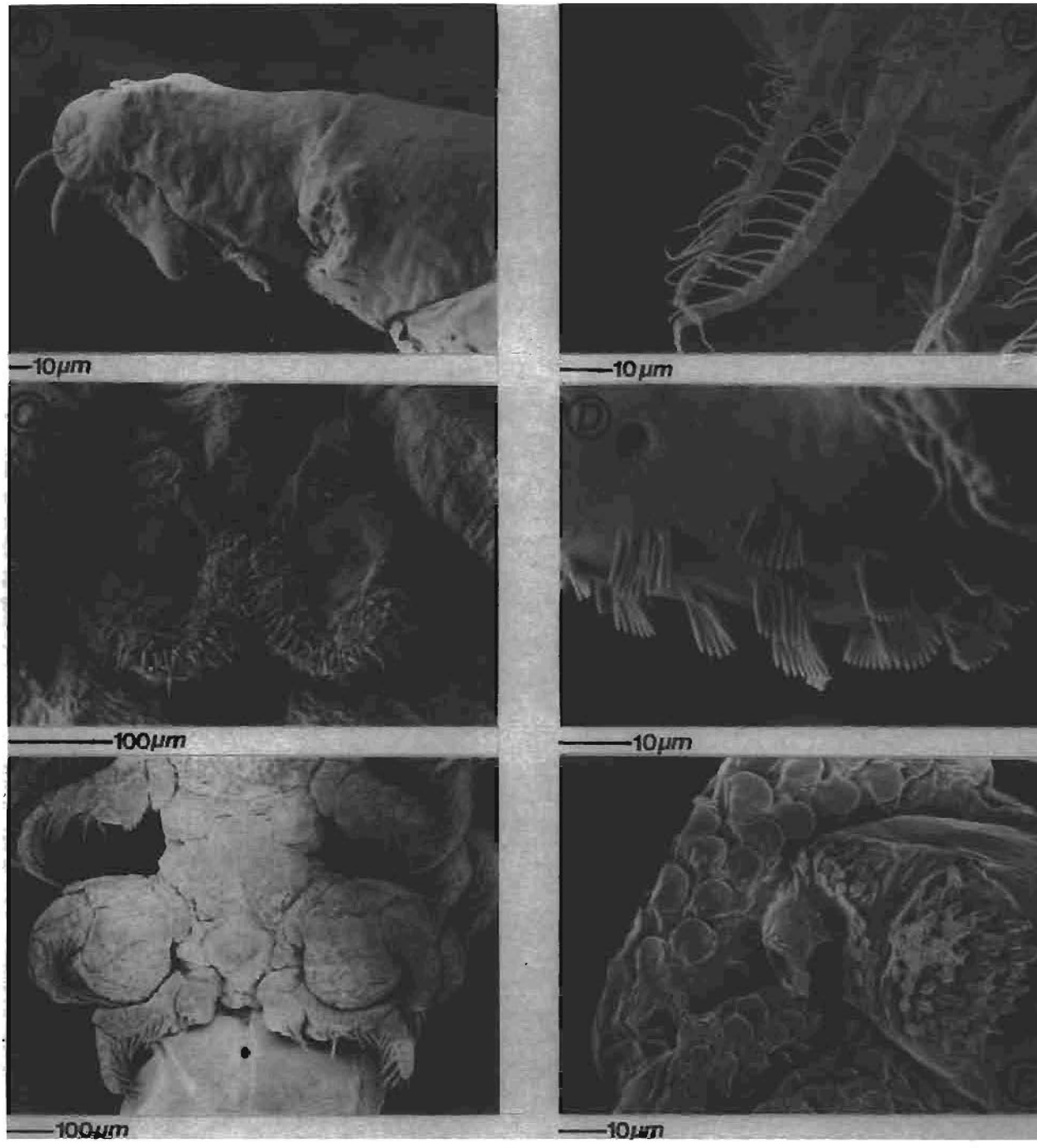

Figure 3 Scanning electronmicrographs of *Chonopeltis fryeri* sp.n. (A) Claws of maxilla. (B) Setae on podites of legs. (C) Natatory lobe of female. (D) Posterior protrusion of leg 2 of male. (E) Lower thorax region of male, ventral. (F) Conical dorsal process of leg 4 of male.

the shape of the natatory lobe and size and shape of the abdomen. The male can be distinguished by the structure of sexual features of legs 2, 3 and 4, as well as the size and shape of the abdomen. This species is without pigmentation, as in other species of the genus occurring in the gill chamber or mouth cavity of their hosts.

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