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Contribution to the knowledge of the Amphipoda 68. Descriptions of two new species of the genus *Ampelisca* (family Ampeliscidae), along with a redescription of *A. bouvieri* Chevreux, 1913

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ABSTRACT

Three *Ampelisca* species (fam. Ampeliscidae) from Antarctic waters (Arthur Harbor, Anvers Island) are studied and described: *A. anversensis* n. sp., *A. bouvieri* Chevreux, 1913, and *A. richardsoni* n. sp.

The specimens of *A. anversensis* are considered the Antarctic counterpart of the species *A. macrocephala* Liljeborg, 1852. *A. richardsoni* was hitherto confused with *A. eschrichtii* Krøyer, 1842. A new locality for *A. bouvieri* is established.

In establishing differences between Antarctic populations (*anversensis* n. sp., *richardsoni* n. sp.) and North Atlantic populations (*macrocephala, eschrichtii*), the non-existence of bipolar *Ampelisca* species is proved.

INTRODUCTION

The amphipod fauna of the Antarctic is not well known, although it was very intensively studied during the last fifty years.

I received a collection of Ampeliscidae collected by Dr. M. Richardson, Oregon State University, U.S.A., from the sea near Arthur Harbor, Anvers Island, Antarctica. The exact geographical positions of the collecting stations are listed in table I. The material comprised two new *Ampelisca* species: *A. anversensis* n. sp. and *A. richardsoni* n. sp., as well as a species already known, *A. bouvieri* Chevreux, 1913.

A. anversensis is very similar to *A. macrocephala* Liljeborg, 1852, known from the northern Atlantic; southern hemisphere specimens have been considered by several authors as members of *A. macrocephala.* After the comparison of *A. macrocephala* from the northern Atlantic with our specimens from the Antarctic, we found that the specimens from the Antarctic, although

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very similar, are not identical, but belong to a distinct species, *A. anversensis* n. sp.

A. richardsoni is very similar to *A. eschrichtii* Krøyer, 1842, from the northern Atlantic. Up to now, the specimens from the Antarctic were considered members of that species by many authors. After comparing specimens of *A. eschrichtii* from the northern Atlantic with our specimens from the Antarctic, we found that the Antarctic specimens belong to another new species, *A. richardsoni* n. sp.

A. bouvieri was only described by Chevreux (1913). We redescribe this species, especially some unknown mouth parts; a new locality of this Antarctic species is established.

I am grateful to Dr. Michael D. Richardson, as well as to Dr. M. Christiansen from the Zoologisk Museum at Oslo for the specimens used for this work.

TABLE I: Geographical positions of the stations near Anvers Island.

R-1	64°46'35"S	64°05'08"W
R-2	64°46'31"S	64°04'58"W
R-5	64°46'25"S	64°04'47"W
R-6	64°46'30"S	64°04'12"W
R-7	64°46'33"S	64°03'32"W
R-8	64°46'15"S	64°04'05"W
R-9	64°46'28"S	64°05'03"W
R-10	64°46'26"S	64°04'22"W
R-11	64°46'25"S	64°04'28"W
R-12	64°45'45"S	64°05'50"W
R-13	64°46'03"S	64°04'55"W
R-14	64°46'04"S	64°04'37"W

Ampelisca anversensis n. sp.
figs. I-III

Syn.: *Ampelisca macrocephala* (non Liljeborg, 1852); Walker, 1903: 53; Walker, 1907: 18; Stebbing, 1914: 357; K. H. Barnard, 1932: 82, fig. 38.
?*Ampelisca macrocephala*; Nicholls, 1938: 43.

Description. — Female: Body length up to 10 mm. Head with dorsal longitudinal keel (dorsoanterior end of the head without keel). Metasome without dorsal keel (a weakly developed keel was observed on metasome segment 3 occasionally). Urosomite 1 with strong dorsal angular tooth, not compressed laterally; urosomites 2 and 3 without keel or tooth (fig. I, 6).

The head moderately long, its dorsoanterior end slightly longer than the ventroanterior one; ventroanterior margin of the head oblique to the half of the head length, convex (fig. I, 1). Corneal lenses 4 in number, ventral pair of lenses marginal (fig. I, 3).

Antenna 1 exceeds the peduncle of antenna 2 for 1/3 of its length. Peduncular segment 1 ovoid, without dorsal swelling (fig. I, 2), segment 2 less than 1.5 times as long as segment 1. Flagellum 9- to 11-segmented, the two proximal segments with one aesthetasc each, which is shorter than the segment itself (fig. I, 1).

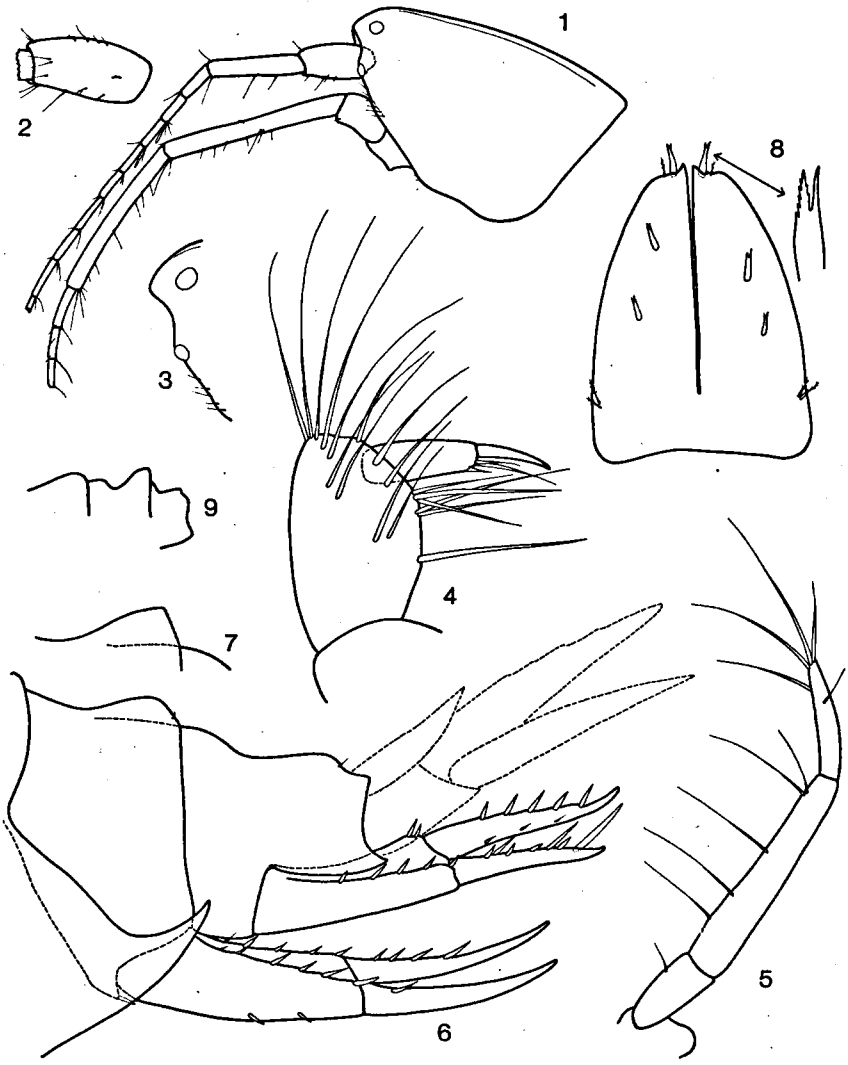

FIG. I. *Ampelisca anversensis* n. sp., Arthur Harbor, Anvers Island, female 9 mm: 1= head with antennae; 2 = first peduncular segment of antenna 1; 3 = cephalic lobe; 4 = distal part of maxilliped palp; 5 = mandible palp; 6 = urosome with uropods 1—2; 7 = dorsal part of urosomite 1, another female; 8 = telson; 9 = urosome, male 9.1 mm.

Antennna 2 is slightly longer than half the body. Peduncular segment 5 a little shorter than segment 4, flagellum up to 17-segmented (fig. I, 1).

Mouth parts normal. Maxilla 1: inner lobe with 2 setae (one distal simple and one subdistal plumose seta) (fig. III, 1). Maxilliped: palp segment 4 is articulated synaxially with segment 3 (fig. I, 4).

Mandible: masticatory part well developed; palp slender, its segment 3

nearly 1.8 times longer than segment 2, both segments with several simple setae (fig. I, 5).

Coxal plate 1 slightly dilated distally (fig. II, 2); coxal plates 2 and 3 with almost parallel lateral margins (fig. II, 4, 6); coxal plate 4 with converging lateral margins (fig. II, 7).

Gnathopod 1: segment 5 wider than segment 6. Segment 6 subovoid, dactyl short, bearing several plumose setae at inferior margin and one seta at superior margin (fig. II, 2-3).

Gnathopod 2: segment 5 very slender and long. Segment 6 narrow, nearly 1.8 times shorter than segment 5; dactyl slightly longer than that of gnathopod 1, bearing 3 or 4 plumose setae on inferior margin and one seta on superior margin (fig. II, 4-5).

Pereopod 3: segment 4 not wider than segment 2; segments 4 to 6 provided with several plumose setae on anterior and posterior margins, dactyl markedly longer than segments 5+6 together (fig. II, 6).

Pereopod 4: segment 4 not wider than segment 2, without distal protrusions. Posterior margin of segments 2 to 6 and anterior margin of segments 4 to 5 with plumose setae. Dactyl markedly longer than segments 5+6 together (fig. II, 7).

Pereopod 5: segment 2 romboid, with tuft of plumose setae on anterior margin. Segments 3 to 6 slender, bearing spine-like setae on anterior margin. Segment 5 with small distoposterior protrusion. Dactyl short, without dorsal teeth (fig. III, 2).

Pereopod 6: segment 2 broad, with short distoposterior lobe and with a row of medial plumose setae on inner surface. Segments 3 to 6 like those of pereopod 5, but with stronger spines at anterior margin (fig. III, 3). Dactyl short.

Pereopod 7: segment 2 narrower proximally than distally, with broad distoposterior lobe reaching the posterodistal end of segment 4. Inner surface and posterior margin of segment 2 with numerous plumose setae. Segment 3 short, segment 4 with anterodistal protrusion, so that anterior margin of segment 4 is as long as segment 3, and posterior margin of segment 4 is shorter than segment 3. Segment 5 slightly shorter than segments 3+4 together, segment 6 narrower and longer than segment 5. Segment 7 (dactyl) shorter than segment 6, without distal nail, bearing 2 subdistal unequal setae only (fig. III, 4-5). Posterior margin of segments 3 and 4 with several long plumose setae.

Pleopods with 2 retinacula each. Epimeral plates 1 and 2 with somewhat rounded distoposterior corner. Epimeral plate 3 with strongly produced and pointed distoposterior corner; its posterior margin slightly convex, but not bisinuate (fig. III, 6).

Uropod 1: peduncle slightly longer than rami, bearing numerous spines along dorsal margins. Rami subequal, bearing spines in proximal portion only. Uropod 1 not reaching the end of the rami of uropod 2 (fig. I, 6).

Uropod 2: peduncle as long as inner ramus, bearing spines at dorsal margin. Outer ramus shorter than inner one, bearing several marginal spines

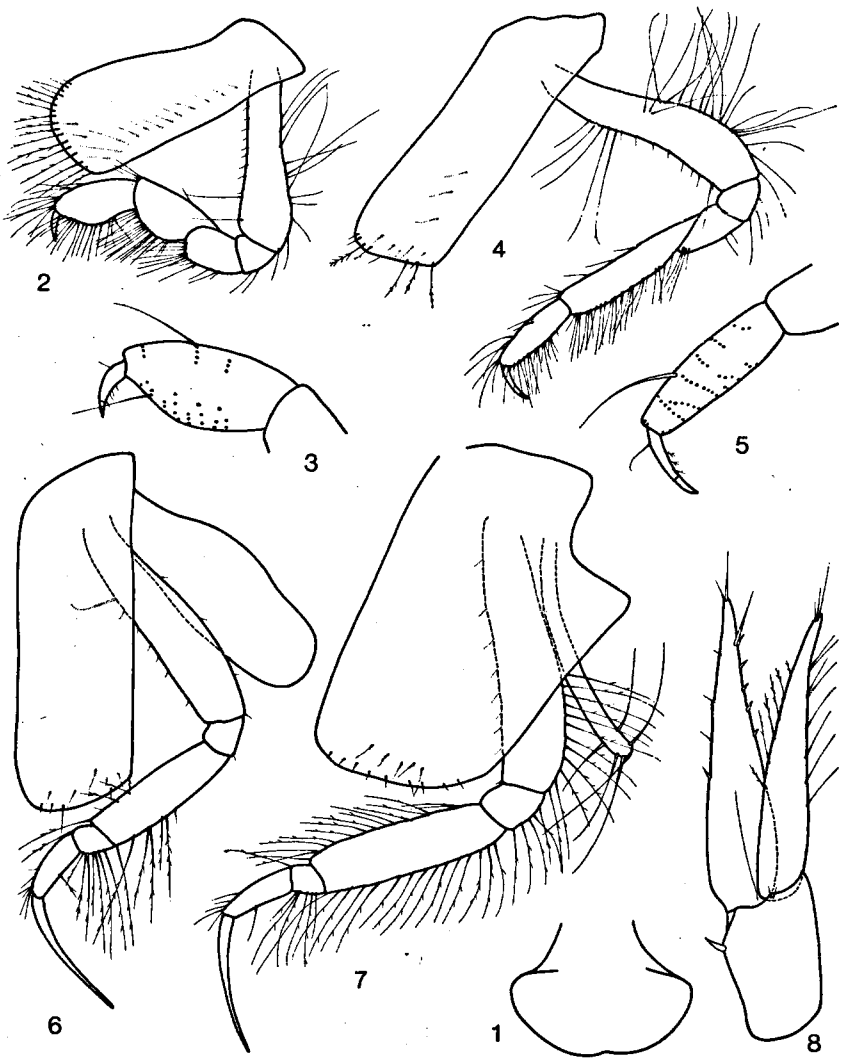

FIG. II. *Ampelisca anversensis* n. sp., Arthur Harbor, Anvers Island, female 9 mm: 1 = labrum; 2—3 = gnathopod 1; 4—5 = gnathopod 2; 6 = pereopod 3; 7 = pereopod 4; 8 = telson.

and one long subdistal spine (fig. I, 8). Inner ramus with several spines, without long subdistal spine (fig. I, 6).

Uropod 3 largely exceeding the end of uropod 2, lanceolate (fig. II, 8). Peduncle distinctly shorter than rami, bearing 1 or 2 marginal spines. Outer ramus slightly shorter and narrower than inner one, bearing plumose setae along inner margin and simple setae along outer margin; one bunch of 1 or 2 setae in the subdistal part of inner margin. Inner ramus with short spines along both margins and one seta in distal part of inner margin.

Telson longer than wide, deeply cleft; each lobe with one distal and 2 dorsal spines. A pair of short plumose setae in the proximal part of each lobe (fig. I, 8).

Gills ovoid, simple, present on thoracal segments 2 to 7, oostegites narrow, on thoracal segments 2 to 5.

Male: Like the female, but different in the following characters: rami of uropod 3 with long plumose setae at both margins; antenna 1 half as long as antenna 2, flagellum 27-segmented; antenna 2 as long as body, up to 45-segmented. Telson like that of the female or slightly broader. Dorsal tooth on urosomite 1 higher than in female (fig. I, 9).

Variability: The dorsal tooth of urosomite 1 in females is angular or slightly obtuse (fig. I, 6-7); the distoposterior corner of epimeral plate 2 is almost rounded or almost angular; the number of spines on uropods 1 and 2 is variable.

Material examined: Arthur Harbor, Anvers Island, Antarctica: Stations: R-1 (Dec. 27, 1970), depth 65 m, 7 specimens; R-2 (Dec. 27, 1970), depth 75 m, numerous specimens; R-5 (Dec. 27, 1970), depth 50 m, 3 specimens; R-9 (February 7, 1971), depth 30 m, 10 specimens; R-11 (February 8, 1971), depth 43 m, 7 specimens (coll. M. Richardson).

Loc. typ.: Station R-11 (64° 46′25″ S, 64° 04′ 28″W).

Holotype: female ovig. 9 mm. Holotype and paratypes are deposited in the U.S. National Museum, Smithsonian Institution, Washington, D.C., U.S.A. One paratype is deposited in the Zoölogisch Museum Amsterdam (the Netherlands) 105.010 and one paratype in my collection in Titograd (Yugoslavia).

Localities cited (sub *A. macrocephala*, according to literature only: I have not seen these specimens): Cape Adare, Franklin Island, Antarctica (Walker, 1903); Coulman Island, Antarctica (Walker, 1907); sandy beach in Shallow Bay, Falkland Island, Antarctica (Stebbing, 1914); South Georgia, Antarctica (Barnard, 1932).

Nicholls (1938) mentioned *A. macrocephala* from Commonwealth Bay, Antarctica. Based on Nicholls' description, this record seems to bear reference to *A. anversensis*, but the note: "of the eyes no trace", may be indicative of the existence of yet another species.

Remarks and affinities: *Ampelisca anversensis* is very similar to *A. macrocephala* Liljeborg known from the N. Atlantic region. Thanks to Dr. Christiansen from the Zoologisk Museum at Oslo, I could compare Atlantic specimens of *A. macrocephala* from western Norway, Finmarken (No. F-13505 Oslo Museum Coll.) with our Antarctic specimens (*anversensis*).

A. anversensis agrees with *A. macrocephala* by the presence of a carina on the head and by the absence of a carina on metasome and urosome, but it differs from *macrocephala* by several other features: smaller body size, narrower and less setose rami of uropod 3; anterodistal end of segment 4 of pereopod 7 longer than the posterodistal end (both distal ends are subequal or the posterodistal one is longer than the anterodistal one in *macrocephala*);

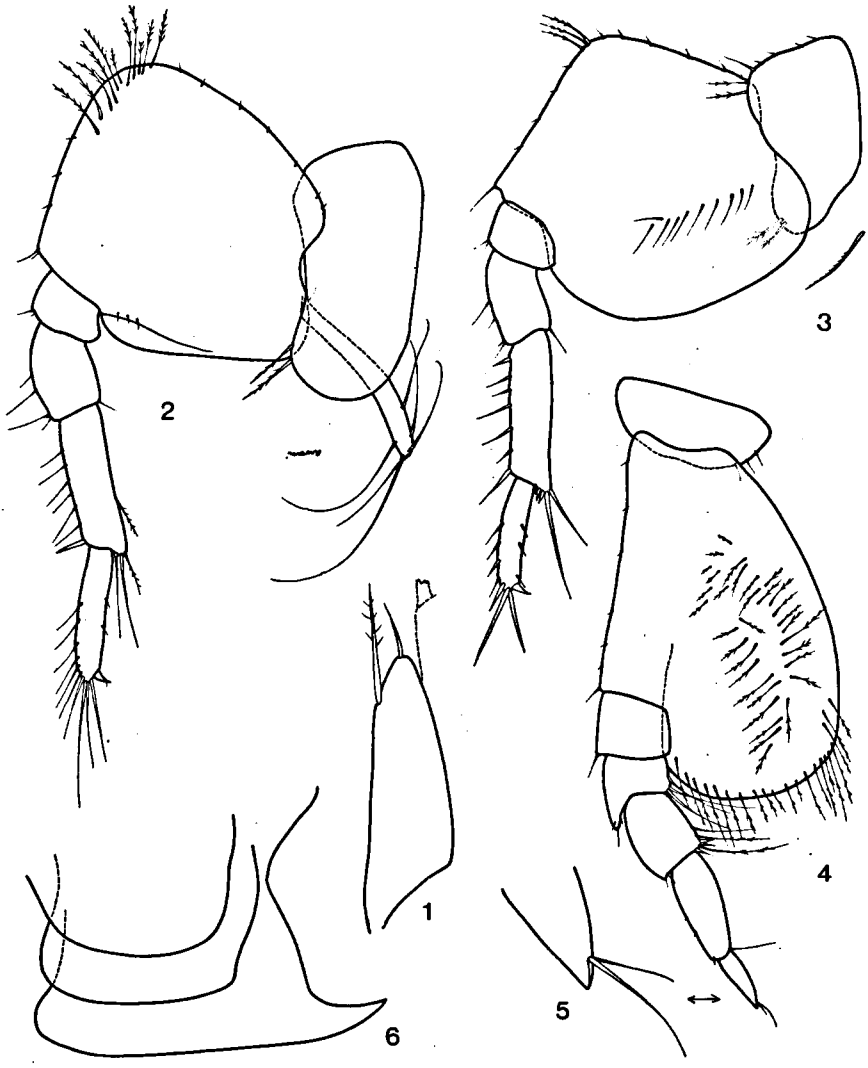

FIG. III. *Ampelisca anversensis* n. sp., Arthur Harbor, Anvers Island, female 9 mm: 1 = inner lobe of maxilla 1; 2 = pereopod 5; 3 = pereopod 6; 4—5 = pereopod 7; 6 = epimeral plates.

uropod 1 does not reach the end of uropod 2 (reaches it in *macrocephala*); telson not reaching the middle of uropod 3 (1/2 or more in *macrocephala*); segment 7 of pereopod 7 short, without distal nail, bearing 2 subdistal setae (distal nail present, recurved in *macrocephala*); posterior margin of epimeral plate 3 weakly convex (markedly convex in *macrocephala*).

On the basis of these characters, we separate the Antarctic specimens as a distinct species, *A. anversensis* n. sp.

J. L. Barnard (1960) described *Ampelisca macrocephala unsocalae* n. ssp.

from the Californian region. *A. anversensis* differs from this form by the different shape of pereopod 7, by narrower rami of uropod 3, etc.

Schellenberg (1931) described *A. macrocephala* f. *gracilicauda* from Cap Valparaiso Corral, Subantarctic, and several other localities. *A. anversensis* differs from this form by the much narrower rami of uropod 3 and the narrower telson.

Schellenberg (1931) also described *A. macrocephala* f. *dentifera* from S. of La Plata, Argentina, but this form differs from *A. anversensis* by its produced head, broad rami of uropod 3, etc.

K. H. Barnard (1930) described *A. hemicryptops* n. sp. from Antarctica, which is very similar to *A. anversensis* (keeled head, urosomite 1 with strong tooth, etc.). But it differs from *A. anversensis* by the position of the ventral corneal lenses which are quite invisible in lateral projection.

A. anversensis differs from *A. verilli* Mills, 1967, from the NW. Atlantic, by a shorter and broader head, by the different shape of pereopod 7, by the longer antenna 1, by a narrower uropod 3, etc.

Nicholls (1938) described *A. barnardi* n. sp. from Antarctica, which is very similar to *A. anversensis* (carinate head, sharp epimeral plate 3, narrowed rami of uropod 3, etc.) but which differs from *A. anversensis* by the longer antenna 1, by the ventral position of the ventral corneal lenses like those of *A. hemicryptops.*

Derivatio nominis: After the type locality, near Anvers Island, the specific name *anversensis* is proposed.

Ampelisca bouvieri Chevreux, 1913
fig. IV

Syn.: *Ampelisca bouvieri* Chevreux, 1913: 96, figs. 7—9; Schellenberg, 1931: 55; K. H. Barnard, 1932: 82; J. L. Barnard, 1958: 20; J. L. Barnard, 1960: 12.

Chevreux (1913) gave a very good description of this species. Some additional data are provided here.

Female: Body length of our specimens up to 26 mm. Head more or less rounded and compressed dorsoventrally, with concave dorsal margin (in lateral view), without dorsal carina (fig. IV, 1).

First 4 thoracal segments without dorsal carina, mesosome segments 1 to 3 and metasome segments 1 to 3 with dorsal carina. Urosomite 1 with dorsal carina and one dorsal obtuse tooth, which is compressed laterally. Urosomites 2 and 3 without carina.

Anterodorsal end of the head overreaching the anteroventral end. Ventroanterior margin of the head is oblique, slightly longer than half of the total length of the head (fig. IV, 1). Corneal lenses 4 in number: ventral pair of lenses marginal, below the anteroventral head corner.

Antenna 1 slightly shorter than antenna 2: peduncular segment 1 without dorsal swelling; flagellum up to 40-segmented. Peduncle slightly exceeding the distal end of peduncular segment 4 of antenna 2. Proximal 4 or 5 flagellar segments with 1 or 2 aesthetascs each.

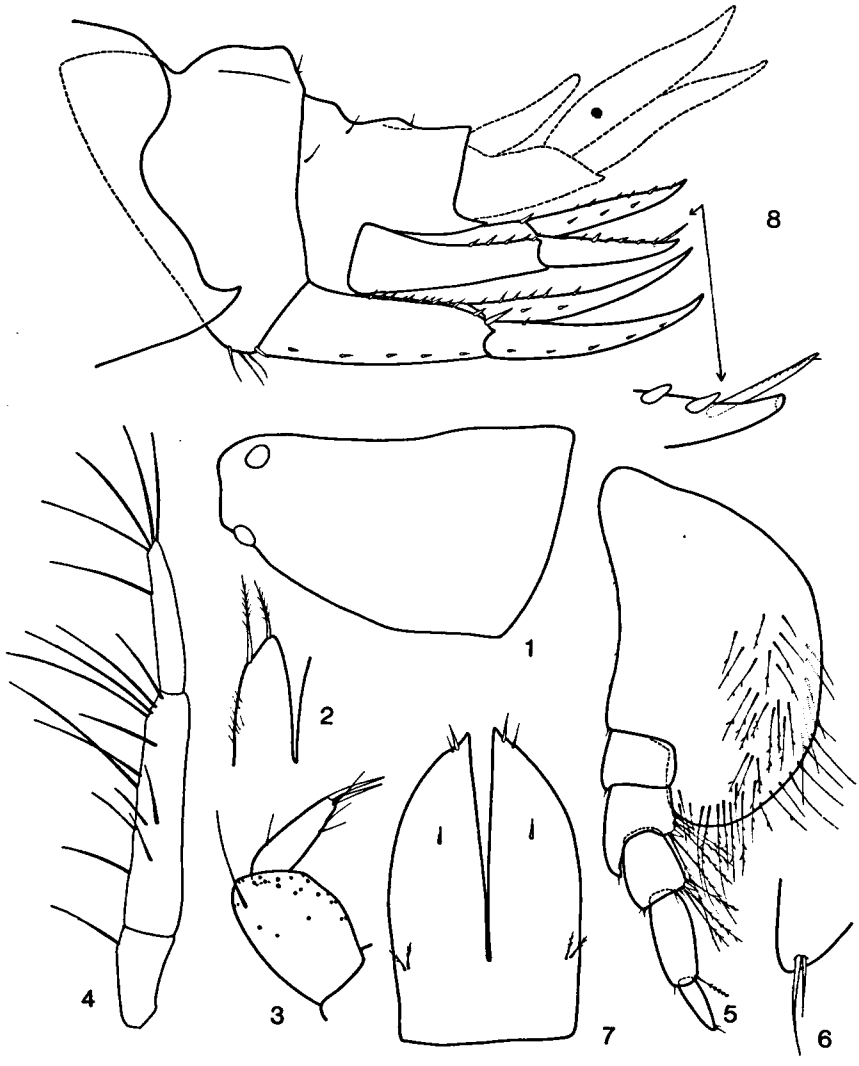

FIG. IV. *Ampelisca bouvieri* Chevreux, 1913, Arthur Harbor, Anvers Island, female 20 mm: 1 = head; 2 = inner lobe of maxilla 1; 3 = distal part of maxilliped palp; 4 = mandible palp; 5—6 = pereopod 7; 7 = telson. *Ampelisca richardsoni* n. sp., Arthur Harbor, Anvers Island, female 20 mm: 8 = urosome with uropods 1—2.

Antenna 2 nearly 2/3 of the body length, flagellum up to 50-segmented. Peduncular segment 4 longer than segment 5.

Mouth parts normal. Maxilla 1: inner lobe with 2 plumose setae (fig. IV, 2), outer lobe with 11 spines with several lateral teeth each, palps of left and right maxilla 1 symmetric.

Maxilliped: palp segment 4 synaxially attached to the top of segment 3 (fig. IV, 3).

Mandible: palp narrow, second segment not dilated, bearing several long setae. Third palp segment distinctly shorter than second one, with 5 long setae (fig. IV, 4).

Coxa 1 slightly dilated distally, coxae 2 and 3 with parallel lateral margins, coxa 4 with diverging lateral margins.

Gnathopod 1: segment 5 wider than segment 6. Segment 6 with numerous long setae at both margins and on inner surface; dactyl like that of *A. anversensis*, nearly half as long as segment 6.

Gnathopod 2: segments 5 and 6 narrow, segment 5 much longer than segment 6; dactyl slightly less than half as long as segment 6.

Pereopod 3: segment 4 practically without distal protrusions, dactyl longer than segments 5+6 together.

Pereopod 4: segment 4 almost without distal protrusions, dactyl like that of pereopod 3.

Pereopod 5: proximoposterior lobe of segment 2 well developed.

Pereopod 6: posterodistal lobe of segment 2 weakly developed, not reaching the distal end of segment 3.

Pereopod 7: segment 2 with long distoposterior lobe reaching almost the distoposterior end of segment 4. Inner surface and distal margin of segment 2 with numerous plumose setae (fig. IV, 5-6). Segment 3 short, wider than long. Posterior margin of segment 4 as long as segment 3; distoanterior margin of segment 4 reaching the middle of segment 5 (fig. IV, 5). Segment 5 only slightly longer than posterior margin of segment 4. Segment 6 slightly shorter than segments 3+4 together, ovoid. Segment 7 more than half as long as segment 6, slender, without nail, bearing 2 subdistal unequal setae as in *A. anversensis* (fig. IV, 6). Posterior margin of segments 4 and 5 with several long plumose setae, posterior margin of segment 6 with one plumose seta.

Pleopods with 2 retinacula each. Epimeral plates 1 and 2 more or less rounded, epimeral plate 3 with sharply pointed and produced distoposterior corner, posterior margin weakly convex, but not bisinuate.

Uropod 1 not exceeding the end of uropod 2. Peduncle nearly as long as rami, outer ramus longer than inner one, smooth. Inner ramus with short spines in proximal portion only.

Uropod 2: peduncle shorter than rami. Inner ramus longer than outer one, both rami with shorter marginal spines, no long subapical spine on outer ramus.

Uropod 3 moderately long, lanceolate. Peduncle shorter than rami. Outer ramus slightly shorter and slightly narrower than inner one, bearing setae at both margins. Inner ramus with a row of setae on the inner margin and a row of short spines along the outer margin.

Telson moderately narrow, with somewhat pointed distal ends: each lobe with one distal and 1 to 4 short dorsal spines (fig. IV, 7). A pair of short plumose setae is present in the proximal part of each lobe.

Variability: The shape of the head and of pereopod 7 is of a very stable character. The number of short spines on the telson and on uropods 1 and 2 is variable.

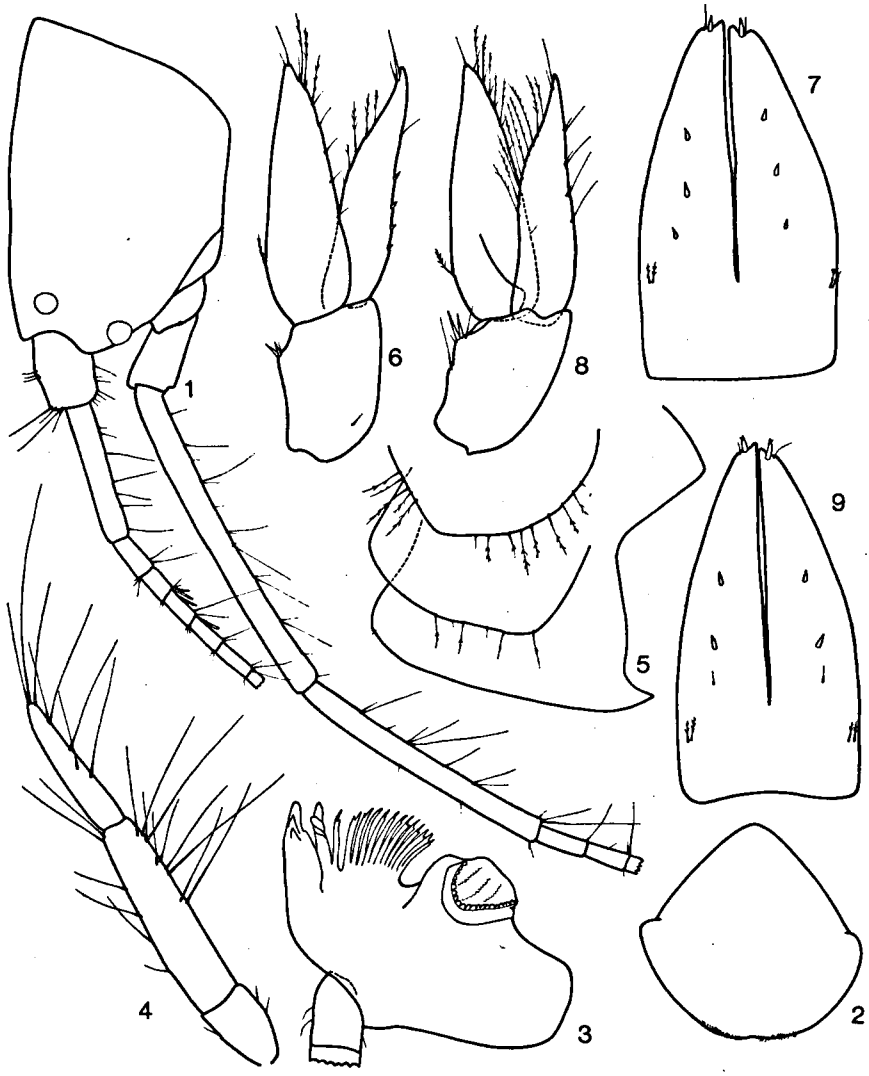

FIG. V. *Ampelisca richardsoni* n. sp., Arthur Harbor, Anvers Island, female 20 mm: 1 = head with antennae; 2 = labrum; 3 = mandible; 4 = mandible palp; 5 = epimeral plates; 6 = uropod 3; 7 = telson; 8 = uropod 3, female 19.5 mm; 9 = telson, female 19.5 mm.

Material examined: Arthur Harbor, Anvers Island, Antarctica: Stations: R-1 (Dec. 27, 1970), depth 65 m, one specimen; R-2 (Dec. 27, 1970), depth 75 m, 2 specimens; R-5 (Dec. 27, 1970), depth 50 m, many specimens; R-6 (February 5, 1971), depth 17 m, 9 specimens; R-7 (February 6, 1971), depth 5 m, 6 specimens; R-8 (February 6, 1971), depth 50 m, many specimens; R-9 (February 7, 1971), depth 30 m, many specimens; R-10 (February 8, 1971), depth 15 m, many specimens; R-11 (February 8, 1971), depth 43 m,

many specimens; R-12 (February 9, 1971), depth 18 m, many specimens; R-13 (February 9, 1971), depth 23 m, 2 specimens; R-14 (February 9, 1971), depth 30 m, many specimens. All material was collected by M. Richardson.

Localities cited in literature: — In front of Port Lockroy, chenal de Roosen, South Georgia, depth 60—70 m (Chevreux, 1913) (type locality).

— Graham Land, Port Lockroy, South Georgia, Cumberland Bay, depth 75 m; Moränefjord 54°23'S 36°26'W, depth 64-74 m; 64°36'S 57°42'W, depth 125 m (Schellenberg, 1931).

— South Georgia (West Cumberland Bay, depth 110 m); Stromness Harbour to Larsen Point, depth 106 m (K. H. Barnard, 1932).

Remarks and affinities: *Ampelisca bouvieri* Chevreux is clearly characterized by the concave dorsal margin of the head and by the shape of pereopod 7, so that it is easily recognizable amongst other *Ampelisca* species.

Ampelisca richardsoni n. sp.
figs. IV-VII

Syn.: *Ampelisca eschrichti* (non Krøyer, 1842); Chevreux, 1906: 11; Chevreux, 1913: 96.
Ampelisca eschrichtii; K. H. Barnard, 1932: 81, fig. 37.
Ampelisca eschrichtii (part.); Stephensen 1925: 138, chart 22.
?Ampelisca eschrichtii; Chilton, 1917: 75; Chilton, 1920: 6.

Description-Female: Body length up to 20 mm. Head slightly longer than wide, without dorsal keel. Metasome segments 1 to 3 and urosomite 1 with dorsal carina and with high, dorsal, bisinuate tooth; urosomites 2 and 3 low (fig. IV, 8).

Anterodorsal and anteroventral ends of the head of the same length, anteroventral margin of the head convex and oblique to half of the head. Two pairs of corneal lenses present, ventral pair of lenses marginal (fig. V, 1).

Antenna 1 slightly longer than peduncle of antenna 2; peduncular segment 1 short, with dorsal medial swelling. Peduncular segment 2 slender, less than twice as long as segment 1 (fig. V, 1). Flagellum up to 21-segmented, proximal 2 segments with 1 or 2 short aesthetascs each (fig. V, 1).

Antennna 2 shorter than the body length. Peduncular segment 5 slightly shorter than segment 4 (for 1/5), flagellum up to 40-segmented (fig. V, 1).

Mouth parts normal. Labrum with distal incision (fig. V, 2). Labium with inner and outer lobes well-developed (fig. VI, 1). Maxilla 1: inner lobe with 2 distal, plumose setae; outer lobe 11 bearing spines with several lateral teeth each; palp 2-segmented, wider distally than proximally (fig. VI, 2-3).

Maxilla 2: both lobes slender, with numerous distal setae (fig. VII, 1). Maxilliped: inner and outer lobes well-developed; palp 4-segmented, segment 4 articulated anaxially with segment 3 (fig. VI, 4).

Mandible: masticatory part well developed, with molar and pars incisiva; palp slender, 3-segmented: second segment not dilated, third segment shorter and narrower than second one, both having long setae (fig. V, 3-4).

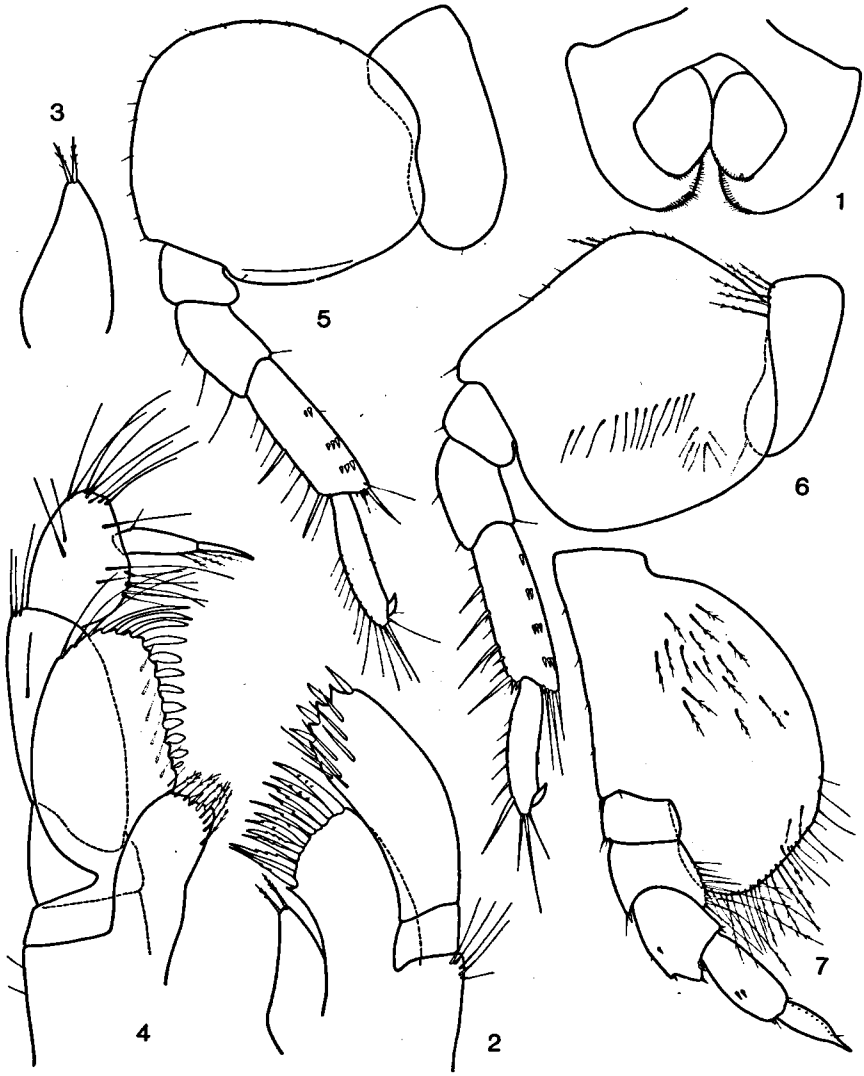

FIG. VI. *Ampelisca richardsoni* n. sp., Arthur Harbor, Anvers Island, female 20 mm: 1 = labium; 2—3 = maxilla 1; 4 = maxilliped; 5 = pereopod 5; 6 = pereopod 6; 7 = pereopod 7.

Coxa 1 slightly dilated distally (fig. VII, 2), coxae 2 and 3 with parallel lateral margins, coxa 4 with partially parallel lateral margins (fig. VII, 5-7).

Gnathopod 1: segment 5 longer than segment 6. Segment 6 ovoid, dactyl nearly half as long as segment 6, provided with several plumose setae at inferior margin and one seta at superior margin (fig. VII, 2-3).

Gnathopod 2: segment 5 very slender, segment 6 distinctly shorter than segment 5; dactyl slightly longer than half of segment 6, with 3 to 4 plumose setae at inferior margin and one seta at superior margin (fig. VII, 4-5).

Pereopod 3: segment 4 practically without distal protrusions, posterior margin of segments 4 and 5 and anterior margin of segments 4 to 6 with long plumose setae. Dactyl markedly longer than segments 5+6 together (fig. VII, 6).

Pereopod 4: segment 4 is not larger than segment 2, without distal protrusions. Posterior margin of segments 2 to 6 and anterior margin of segments 4 to 6 with long plumose setae, dactyl clearly longer than segments 5+6 together (fig. VII, 7).

Pereopod 5: segment 2 without distoposterior lobe, poorly setose. Segments 4 to 6 with numerous marginal spine-like setae, segment 6 with small distoanterior protrusion, dactyl short (fig. VI, 5).

Pereopod 6: segment 2 with large, but non-produced distoposterior lobe, bearing a row of plumose setae on inner surface. Segments 3 to 7 like those of pereopod 5 (fig. VI, 6).

Pereopod 7: segment 2 with long distoposterior lobe reaching the distoposterior end of segment 4 and with numerous plumose setae on inner surface and at distal margin. Segment 3 short, broader than long. Segment 4 with a weakly produced posterodistal end only, bearing long setae at posterior margin. Segment 5 large, shorter than segments 3+4 together, provided with a distoanterior protrusion and with one notch. Segment 6 as long as anterior margin of segment 5, narrower than segment 5, ovoid, without protrusions. Segment 7 shorter than segment 6, with straight distal nail and one short subdistal seta (fig. VI, 7).

Pleopods with 2 retinacula each. Epimeral plates 1 and 2 with somewhat rounded distoposterior corner, with marginal plumose setae. Epimeral plate 3 with produced, sharply pointed distoposterior corner; posterior margin slightly convex (fig. V, 5).

Uropod 1 reaching the end of uropod 2, with numerous short spines at dorsal margin. Rami subequal in length. Inner ramus with short spines in proximal part only, outer ramus with several short spines along ramus (fig. IV, 8).

Uropod 2: peduncle as long as rami, with short spines along dorsal margin. Outer ramus shorter than inner one, with several short marginal and one long subdistal spine; all spines along inner ramus short (fig. IV, 8). All margins of uropods 1 and 2 smooth, not crenulated.

Uropod 3 exceeds distinctly the end of uropods 1 and 2, lanceolate, with slightly broader rami. Peduncle shorter than rami. Outer ramus slightly shorter and distinctly narrower than inner one, with short spines or simple setae at outer margin and plumose setae at inner margin. Inner ramus with only one plumose seta at outer margin and plumose setae intermixed with short simple setae at inner margin (fig. V, 6, 8).

Telson slender and long, deeply cleft. Each lobe narrowed distally, with one distal and 2 to 4 dorsal short spines. A pair of short plumose setae appears in the proximal part of each lobe (fig. V, 7, 9).

Male: Unknown.

Variability: The dorsomedian margin of the head is (in lateral view)

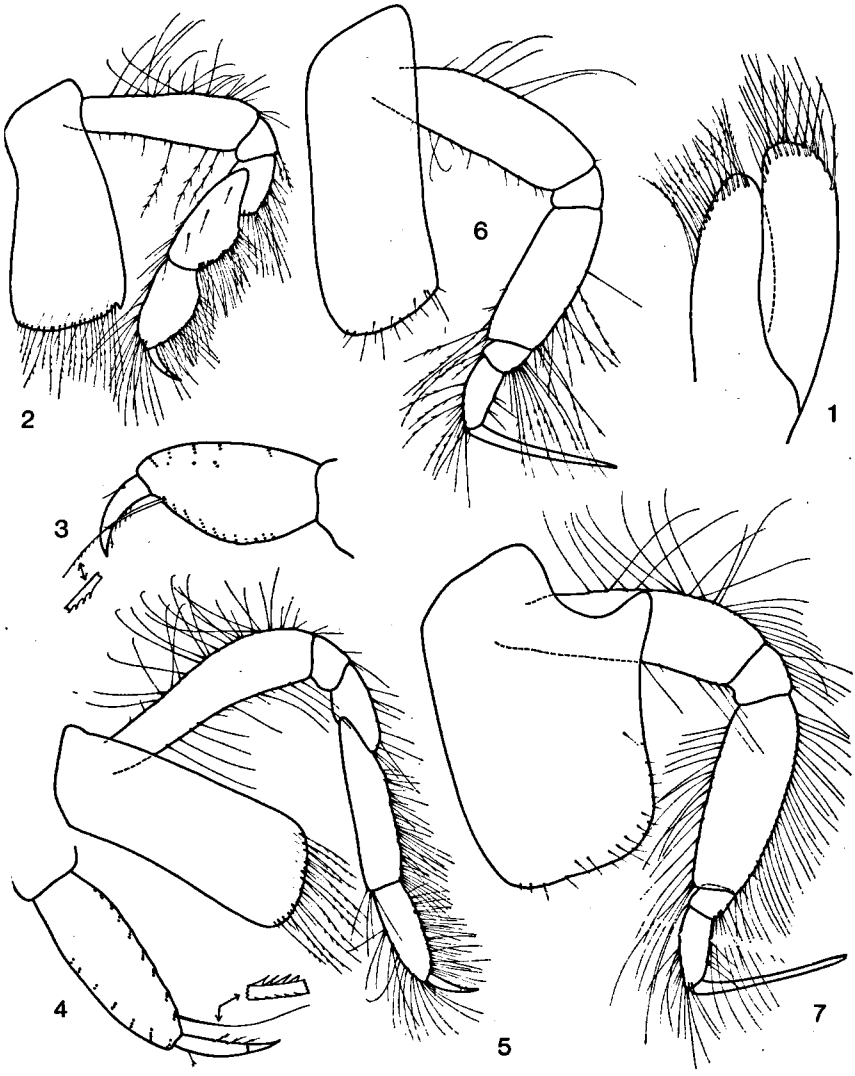

FIG. VII. *Ampelisca richardsoni* n. sp., Arthur Harbor, Anvers Island, female 20 mm: 1 = maxilla 2; 2—3 = gnathopod 1; 4—5 = gnathopod 2; 6 = pereopod 3; 7 = pereopod 4.

straight, slightly convex or slightly concave.

Uropod 1 usually reaches the end of uropod 2, rarely it is somewhat shorter. The shape of the dorsal tooth on urosomite 1 is rather variable, but the tooth is always very high, showing a dorsomedian saddle. The number of setae at the margins of uropod 3 is variable.

Material examined: Arthur Harbor, Anvers Island, Antarctica: Stations: R-11 (February 8, 1971), depth 43 m, one specimen; R-12 (February

9, 1971), depth 18 m, 4 specimens; R-14 (February 9, 1971), depth 30 m, 2 specimens.

Loc. typ.: Station R-12 (64°45′45″S 64°05′50″W). Holotype: female ovig. 20 mm. Holotype and paratypes are deposited in the U.S. National Museum, Smithsonian Institution, Washington, D.C., U.S.A. One paratype is deposited in the Zoölogisch Museum Amsterdam (105.009) and one paratype in my collection in Titograd (Yugoslavia).

Localities cited (according to literature only: I have not seen these specimens): Anvers Island, Biscoe Bay, depth 110 m (Chevreux, 1906); Marguerite Bay and Port Lockroy, chenal de Roosen, Antarctica (Chevreux, 1913), New Zealand (?) (Chilton, 1917, 1920).

Remarks and affinities: *A. richardsoni* is very similar to *A. eschrichtii* Krøyer, 1842, and was confused with it by numerous authors. Yet Stephensen (1925) and K. H. Barnard (1932) suggested that "a new name should be found for the southern *eschrichtii*".

I compared the Antarctic specimens (*richardsoni*) with N. Atlantic specimens of *A. eschrichtii* from Trondheimfjord, Norway (F-13459 Oslo Museum Coll.), establishing that *richardsoni* differs from *eschrichtii* by: the absence of a keel on the head; the presence of a mediodorsal swelling on the first peduncular segment of antenna 1; the shorter and broader head; the more slender coxa 4; peduncular segment 2 of antenna 1 is 2/5 to 1/2 of the length of segment 4 (3/5 to 2/3 in *eschrichtii*); the presence of a distinct carina on metasome segments 1 to 3 (weak carina in *eschrichtii*); the more elevated and bilobed dorsal tooth on urosomite 1; uropod 1 usually reaches the end of uropod 2 (shorter in *eschrichtii*); the broader rami and shorter peduncle of uropod 3; the posterodistal end of segment 4 of pereopod 7 is produced (non-produced is *eschrichtii*); the anterodistal end of segment 5 of pereopod 7 is distinctly longer than the posterodistal one (only hardly so or not longer in *eschrichtii*); segment 6 of pereopod 7 is wider and as long as segment 5 (segment 6 slightly longer and more slender in *eschrichtii*).

Based on all these differences I separated the Antarctic specimens as a distinct species, *A. richardsoni* n. sp.

Gurjanova (1955) described *A. eschrichtii pacifica* from the Pacific Ocean. This subspecies differs from *A. eschrichtii* s.str. (from the Atlantic) by a shorter head, by the presence of ventral corneal lenses near the ventral head corner, by shorter and wider coxae 1 to 4, by the absence of a carina on metasome segments 1 to 3, by the distally more narrowed lobes of the telson, by higher urosomites 1 to 3, etc. Hence, we consider *pacifica* a distinct species and not a subspecies of *A. eschrichtii.*

A. richardsoni differs from *A. pacifica* by the presence of ventral corneal lenses distinctly below the ventral head corner, by the presence of a distinct carina on metasome segments 1 to 3, by broader rami of uropod 3, by a different shape of pereopod 7, etc.

K. H. Barnard (1932) mentioned *A. eschrichtii* for South Georgia and the Palmer Archipelago, but the head on his fig. 37 has a produced dorsoanterior end, so we can not identify it with *A. richardsoni.*

A. richardsoni is very similar to *A. chiltoni*, described by Stebbing (1888) from the New Zealand region. Based on Stebbing's descriptions and figures of *A. chiltoni*, *A. richardsoni* differs from *A. chiltoni* by the non-acute dorsal tooth on urosomite 1, by the much more pointed and produced distoposterior corner of epimeral plate 3, by the subequal length of the rami of uropod 1 (inner one longer than outer one in *chiltoni*), by the telson not exceeding the peduncle of uropod 3 (overreaching it in *chiltoni*), by a longer peduncle of uropod 3, by shorter and broader rami of uropod 3, by the presence of ventral corneal lenses distinctly below the ventral head-corner (on the corner in *chiltoni*).

Since a re-examination of *A. chiltoni* has not yet been made, and the variability of this species has not been studied, we must consider *A. richardsoni* for the time being a distinct species.

J. L. Barnard (1961) mentioned *A. chiltoni* from the Tasmanian Sea, but that specimen (one young male) was characterized by an almost transverse ventroanterior margin of the head, by narrower rami of uropod 3, etc.

Derivatio nominis: This species is dedicated to Dr. Michael Richardson, of the Oregon State University, U.S.A., in recognition his Amphipoda sampling in the Antarctic.

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