

Fig. 7. *Paravireia holdichi* n.sp., male holotype, pleopods.

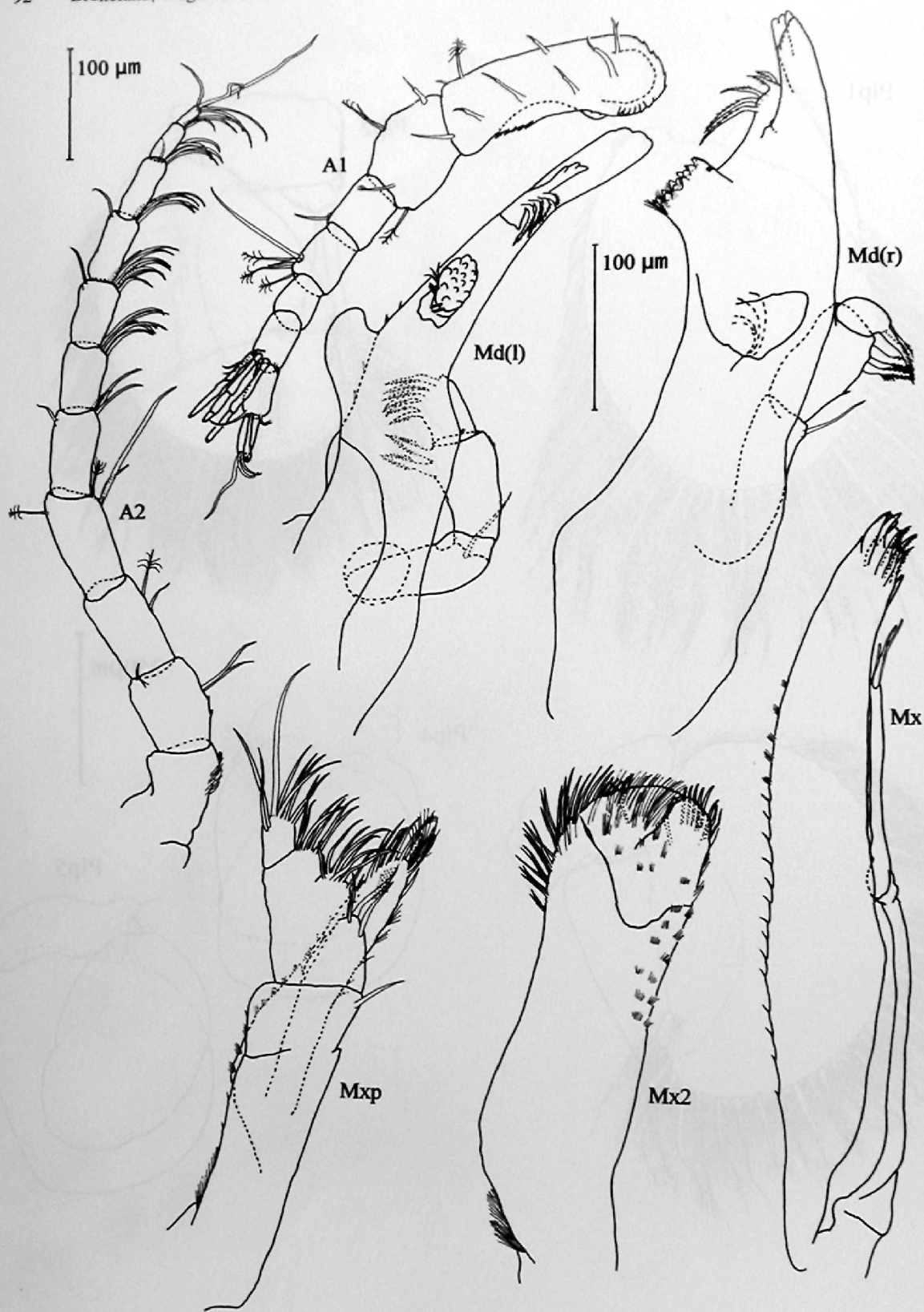
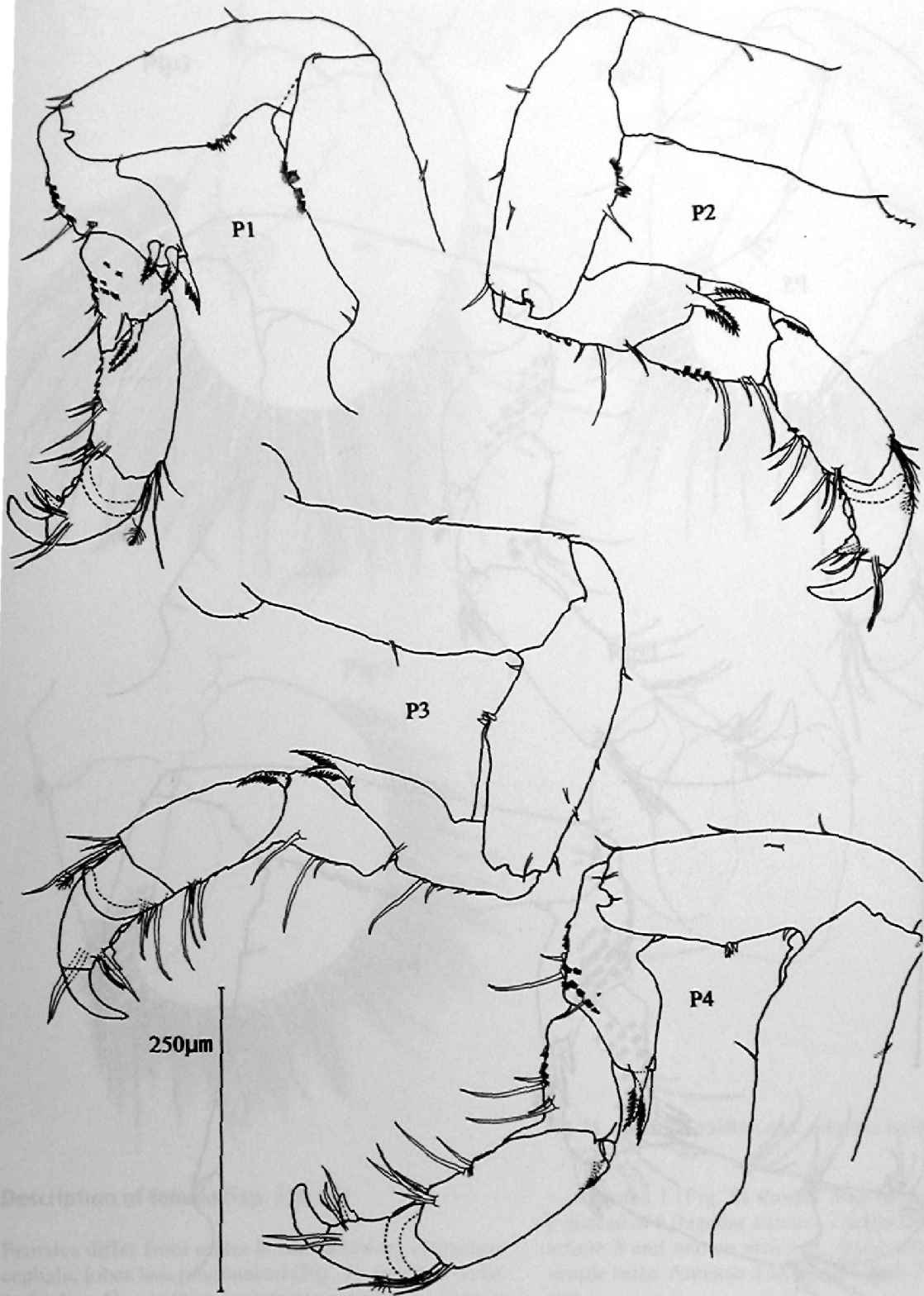


Fig. 8. *Paravireia holdichi* n.sp., ovigerous female, antennae and mouthparts.



**Fig. 9.** *Paravireia holdichi* n.sp., ovigerous female, pereopods.

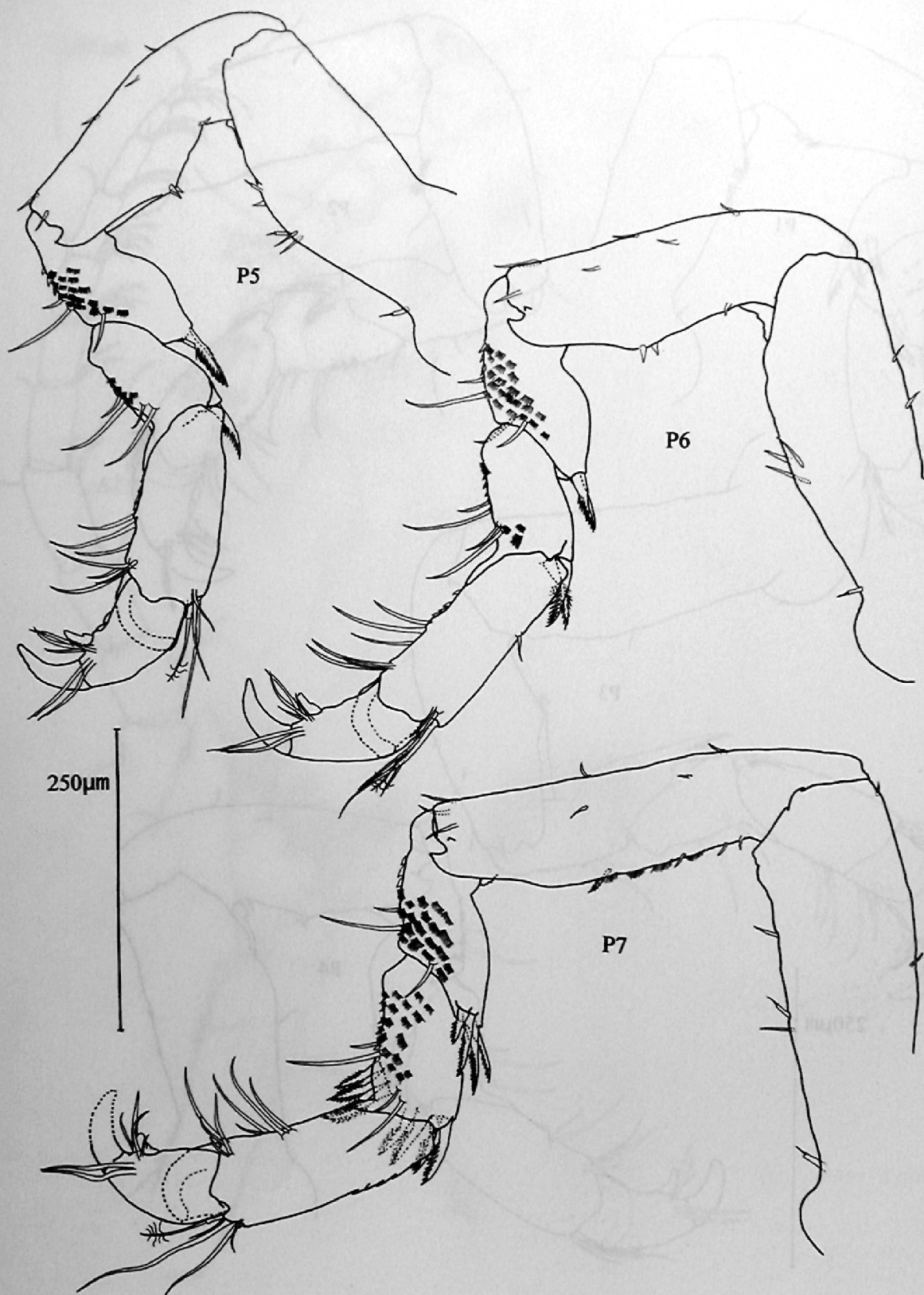


Fig. 10. *Paravireia holdichi* n.sp., ovigerous female, pereopods.



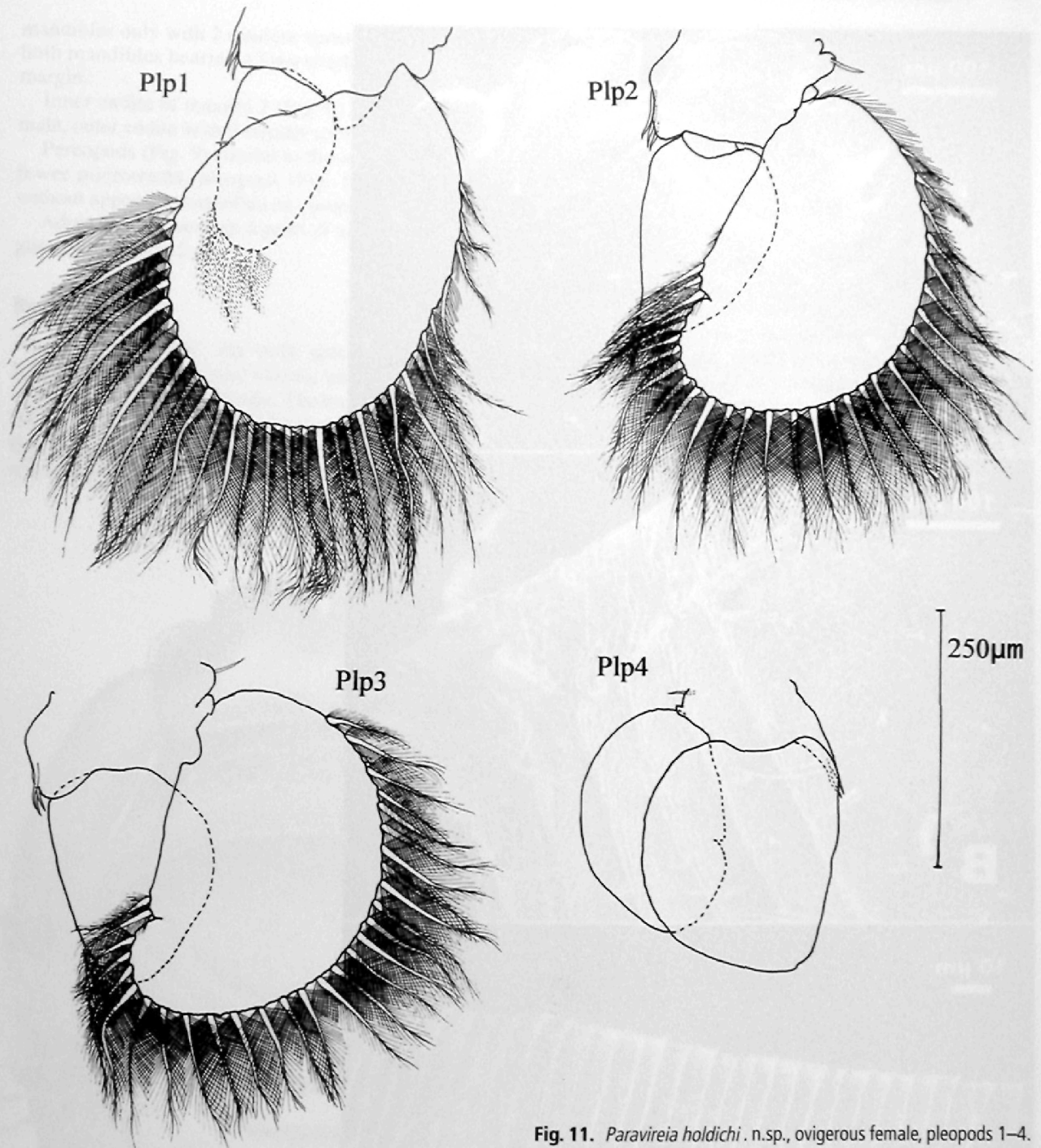


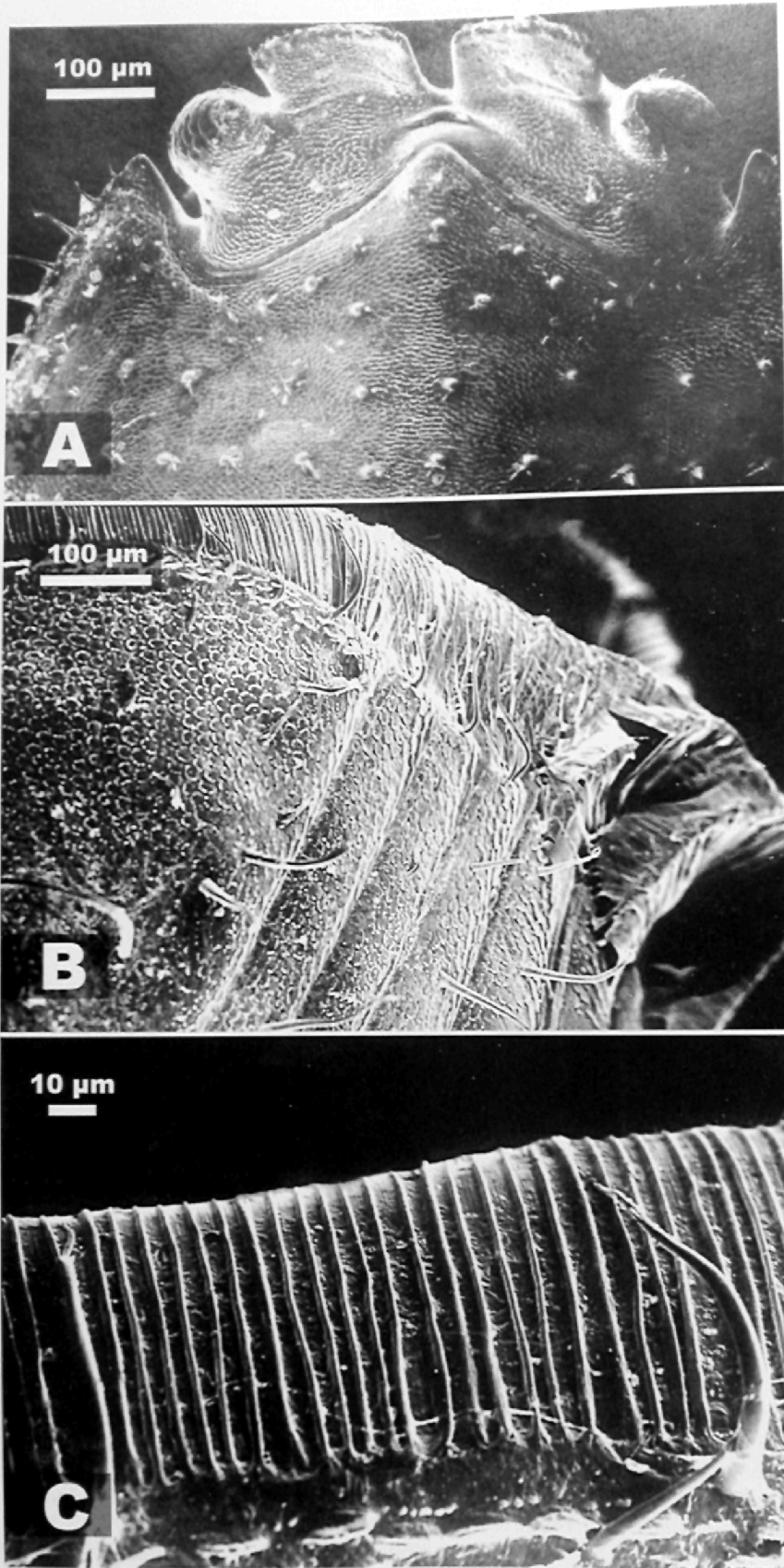
Fig. 11. *Paravireia holdichi*. n.sp., ovigerous female, pleopods 1–4.

**Description of female** (Figs. 3; 8–11)

Females differ from males in the following characters: cephalic lobes less pronounced (Fig. 3), eyes not on lateral lobes. Concavities on anterior margin of pereonite 1 less deep, lateral longitudinal keel of pereonite 1 not reaching the posterior margin of this pereonite (Fig. 3). Pereonites 2–3 without lateral keel.

Antenna 1 (Fig. 8) shorter than in male, with only 5 instead of 6 flagellar articles, 3 aesthetascs on flagellar article 3 and one on article 4, distal article only with simple setae. Antenna 2 as in male with 7 flagellar articles.

Left mandible (Fig. 8) pars incisiva with 4 indistinct blunt teeth. Right mandible pars incisiva with 3 large teeth and several small teeth. Palp article 2 of both



**Fig. 12.** *Paravireia holdichi*. n.sp. A: head in dorsal view; note shape of head and cuticular tubercles. B: dorsolateral view of left parts of pleonites and pleotelson. C: lateral seam of fused setae (?) on margins of pleotelson. Similar structures are also seen laterally on pleonites, pereonites and on the head (photographs by Dr. D. Holdich).

mandibles only with 2 setulose spines, palp article 1 of both mandibles bearing a long single seta on its distal margin.

Inner endite of maxilla 2 (Fig. 8) more slender than male, outer endite with 9 slender spines.

Pereopods (Fig. 9) similar to those of male, but with fewer microtrichs, pleopods (Fig. 11) as in male but without appendix masculina on pleopod 2.

Adult females bearing 4 pairs of membranous oostegites on pereopod 2-5.

### Remarks

*Paravireia holdichi*, the only species of the genus known from the Atlantic Ocean, cannot be confused with any other isopod species. The total lack of uropods, the cupolate telson and the dramatic ornamentation of the head and pereonite 1 all enable immediate and easy identification. *Paravireia holdichi* has the ability to

enrol into a ball (Fig. 13), with the posterior margin of the pleotelson covering the labrum just below the insertions of the antennae. Frons and pleotelson together form a common plane which gives the enrolled animal a hemispherical shape, all appendages and antennae being sheltered inside.

The differences between *Paravireia holdichi* and the two other species of *Paravireia* are striking, but are solely based on ornamentation. Critical similarities exist in the appendage morphology. The ornamentation of the lateral margins of the body with a thin cuticular membrane composed of fused setae (?) and the presence of apomorphies such as the absence of uropods, the reduced endites of maxilla 2 and the narrow, elongated endite of the maxilliped indicate that these three species should be retained in the one genus. *Paravireia pistus*, as yet effectively undescribed, does appear to have a similar morphology to the anterior margin of pereonite 1. We recognise that *Paravireia* is probably most close-

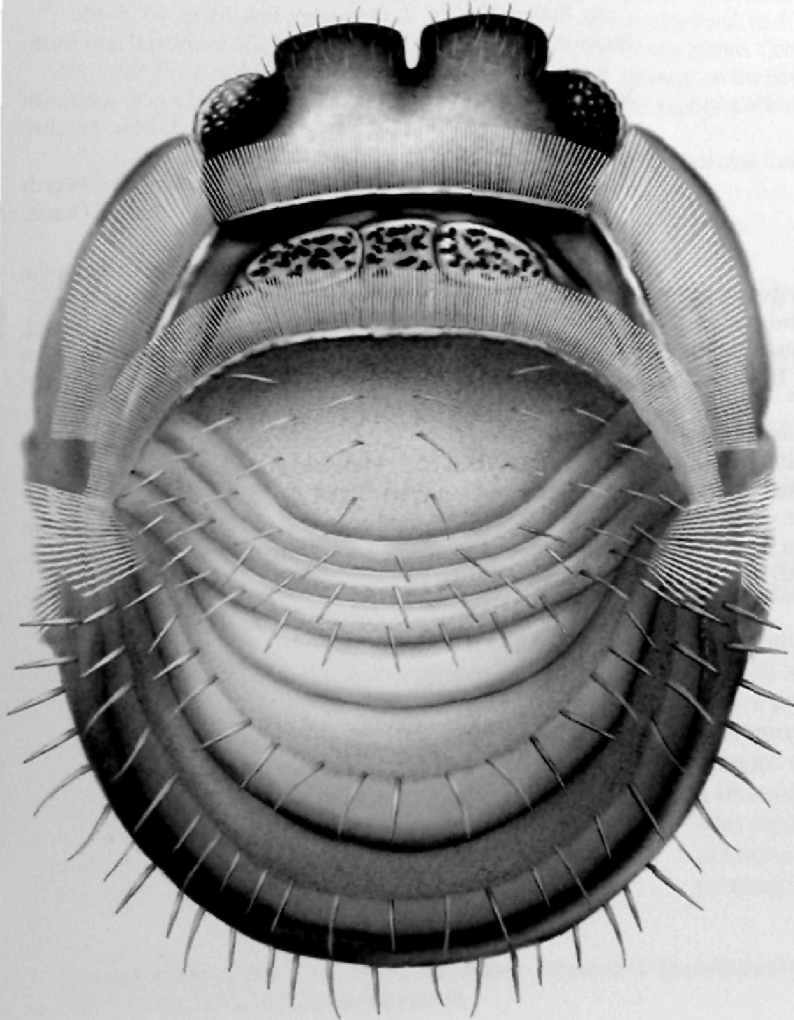


Fig. 13. *Paravireia holdichi* n.sp., enrolled animal.



ly related to the Sphaeromatidae. Such ornamentation as seen in the new species within that family is not axiomatically of generic merit, and there are numerous genera with dorsal ornamentation ranging from absent to complex (e.g. *Paracassidina*, see Bruce 1994a; *Oxinaspheera*, see Bruce 1997). On that basis we judge this ornamentation to be diagnostic at the species level only.

## Acknowledgements

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### List of abbreviations used in figures

(M)	Male
(F)	Female
A1, 2	Antenna 1, 2
Md(r)	Right mandible
Md(l)	Left mandible
Mx1, 2	Maxilla 1, 2
Mxp	Maxilliped
P1-7	Pereopods 1-7
Plp1-5	Pleopods 1-5

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