



## Lichomolgidium tupuhiae, a new cyclopoid copepod associated with an ascidian from New Zealand

J. B. Jones

To cite this article: J. B. Jones (1975) Lichomolgidium tupuhiae, a new cyclopoid copepod associated with an ascidian from New Zealand, New Zealand Journal of Marine and Freshwater Research, 9:2, 245-251, DOI: [10.1080/00288330.1975.9515562](https://doi.org/10.1080/00288330.1975.9515562)

To link to this article: <http://dx.doi.org/10.1080/00288330.1975.9515562>



Published online: 30 Mar 2010.



Submit your article to this journal [↗](#)



Article views: 24



View related articles [↗](#)

# LICHOMOLGIDIUM TUPUHIAE, A NEW CYCLOPOID COPEPOD ASSOCIATED WITH AN ASCIDIAN FROM NEW ZEALAND

J. B. JONES

Zoology Department, Victoria University, Wellington, New Zealand

(Received 6 November 1974)

## ABSTRACT

A new species of cyclopoid copepod belonging to the genus *Lichomolgidium* Kossmann 1877, which has been obtained from *Pyura spinosissima* from New Zealand, is described and illustrated.

## INTRODUCTION

The copepod was found in March 1972 in the branchial basket of *Pyura spinosissima* which had been washed up on Castlepoint beach (40° 54.4' S, 176° 13.8' E) after a storm. Twenty-one ascidians were examined, of which 10 contained the copepod. The greatest number of copepods in an ascidian was six.

Family SABELLIPHILIDAE Gurney, 1927

Genus *Lichomolgidium* Kossmann, 1877

As defined by Humes & Stock (1973), the main characters of the genus *Lichomolgidium* are the 3-segmented endopod of leg 4 bearing 2 spines on its distal segment, and the absence of an auxiliary lash on maxilla 2.

### *Lichomolgidium tupuhiae* n.sp.

**ADULT FEMALE** (Figs 1-4): Body cyclopoid, length (excluding setae on caudal rami) 1.25 mm (0.93-1.50 mm). Greatest width 0.54 mm (0.46-0.54 mm) based on 10 specimens in alcohol. Length to width ratio of the prosome 3:2. Ratio of the prosome to the urosome 9:5. Urosome 5-segmented, segment 1 bearing the fifth legs. Next segment is the greatly expanded genital segment, bearing egg strings.

**Rostrum** triangular in shape.

**Antennule** (Fig. 1c) 7-segmented. Lengths of segments: 82, 96, 32, 64, 64, 48, and 24  $\mu$ m respectively. Formula for armature; 4, 12, 4, 3, 4, 3, 7. All setae naked.

**Antenna** (Fig. 2a) 4-segmented. Lengths of the segments: 102, 143, 41, and 61  $\mu$ m. Basal segment stout, bearing a short seta on apex. Segment 2 elongate, bearing a short distal seta and a setule on proximal margin. Segment 3 bearing 4 setae on the inner margin. Segment 4 bearing 2 terminal claws, 1 stronger than the other; 2 setae on the apex and 1 seta at base of the claws; claws both 100  $\mu$ m long.

**Mandible** (Fig. 1e) has a broad base narrowing to a "waist" before expanding into a broad terminal region and a short stumpy lash. A broad band of short

spinules covering the convex surface, and a row of slender spinules along the concave margin.

*Maxilla 1* (Fig. 1b) slender and elongate with 2 terminal naked setae, and 1 small seta on margin.

*Maxilla 2* (Fig. 2c) 2-segmented. Large basal segment without ornamentation. Terminal segment curving abruptly into a short lash, spinose along dorsal edge, spines 90° to plane of segment. A naked seta is inserted on base of the terminal segment.

*Maxilliped* (Fig. 2d) 2-segmented. Basal segment without ornamentation. Terminal segment bearing 2 naked setae, and having a finely spinulose tip.

*Legs 1-4* (Figs 2b, 3a, 3b, 4a) with 3-segmented rami. Spine and setal formula as follows:

P1	Coxa 0-1	Basis 1-0	Exp. I-0	I-1	III, 1,	4
			End. 0-1	0-1	I,	0, 5
P2	Coxa 0-1	Basis 1-0	Exp. I-0	I-1	III, 1,	5
			End. 0-1	0-2	III, 0,	3
P3	Coxa 0-1	Basis 1-0	Exp. I-0	I-1	III, 1,	5
			End. 0-1	0-2	III, 0,	2
P4	Coxa 0-1	Basis 1-0	Exp. I-0	I-1	II, 1,	5
			End. 0-1	0-1	II	

Exopodite of leg 3 like that of leg 2. Endopodite of leg 3 with 1 less seta on the terminal segment than the edopodite of leg 2. Leg 4 endopodite without a seta, only 2 spines.

*Leg 5* (Fig. 3c) 2-segmented. Basal segment fused to urosome bearing 1 naked seta. Free terminal segment rectangular in shape (ratio width to length 1:2) bearing 2 short naked setae of equal length.

*Leg 6* (Fig. 3d) reduced to 2 short naked setae near attachment of each egg string.

*Caudal Ramus* (Fig. 3d) Length to width ratio 3:1. Three terminal setules, 1 seta on the inner margin set back one-sixth of the distance from base to apex, and 1 seta on outer margin set back one-third of the distance from base to apex.

*Colour in Life* unknown.

**MALE** (Fig. 1d): Only 3 specimens recovered. Body similar to that of the female, but of smaller proportions, urosome 6-segmented. Length (excluding setae on caudal rami) 1.0 mm, (largest 1.0 mm, smallest 0.77 mm). Width 0.31 mm (0.23-0.31 mm). Length to width ratio of the prosome 9:7. Ratio of length of prosome to urosome 9:6. The only male appendages which show marked sexual dimorphism are the antennule, the maxilliped, and legs 5 and 6.

*Antennule* similar to female but with 2 setae added (indicated by arrows in Fig. 1c), so that the formula is 4, 12, 4, 4, 5, 3, 7.

*Maxilliped* (Fig. 4b) 3-segmented. Basal segment large. Segment 2 as large as the basal segment but armed with 2 spines and many rows of short spinules. Terminal segment extending into a curved terminal claw with a short basal setule.

*Leg 5* (Fig. 4d) free segment 2 longer than in the female. Length to width ratio 3:1.

*Leg 6* (Fig. 4c) reduced to 2 small naked setae on postero-ventral lobes of the genital segment.

*Spermatophore* (Fig. 4c) teardrop shaped.

*Colour in Life* unknown.

**MATERIAL:** 21 females, 3 males from *Pyura spinosissima* collected on Castlepoint beach (40° 54.4' S, 176° 13.8' E), March 1972.

**HOLOTYPE:** A female specimen has been deposited in the National Museum, Wellington (Z. Cr. 1962).

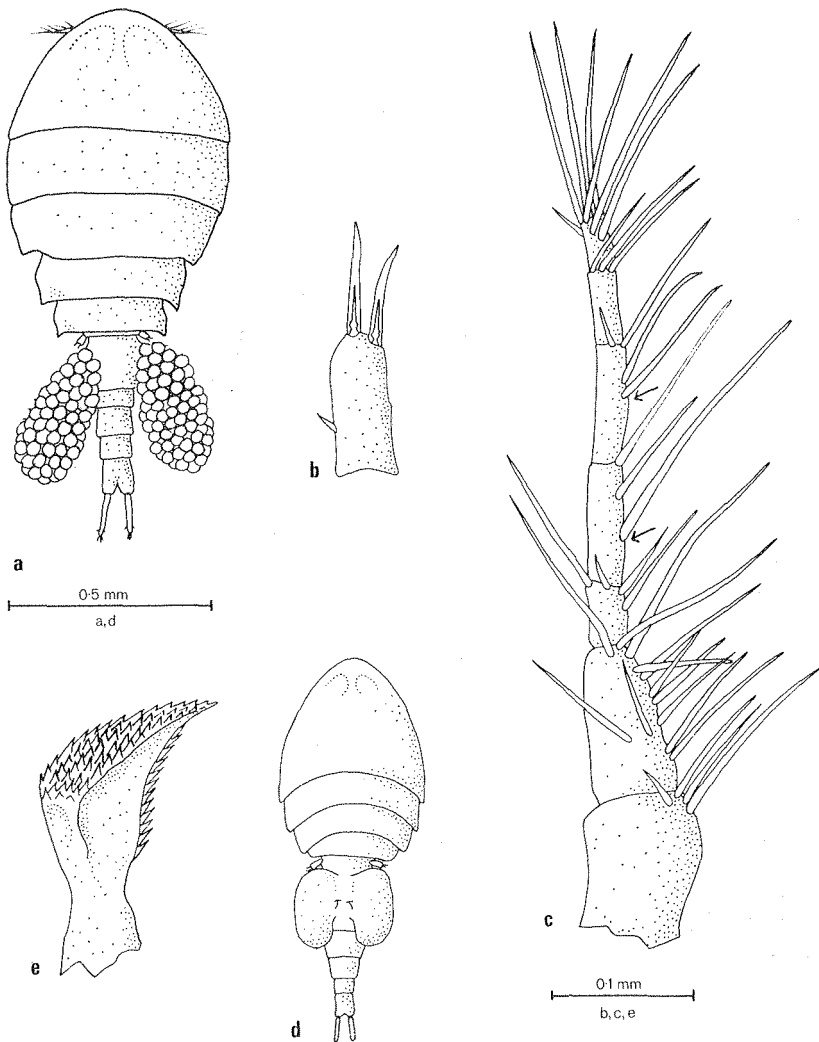


FIG. 1.—*Lichomolgium tupuhiae* n.sp., female: (a) dorsal view, (b) maxilla 1, (c) antennule (arrows show positions of additional setae in male), (d) male, dorsal view, (e) female, mandible.

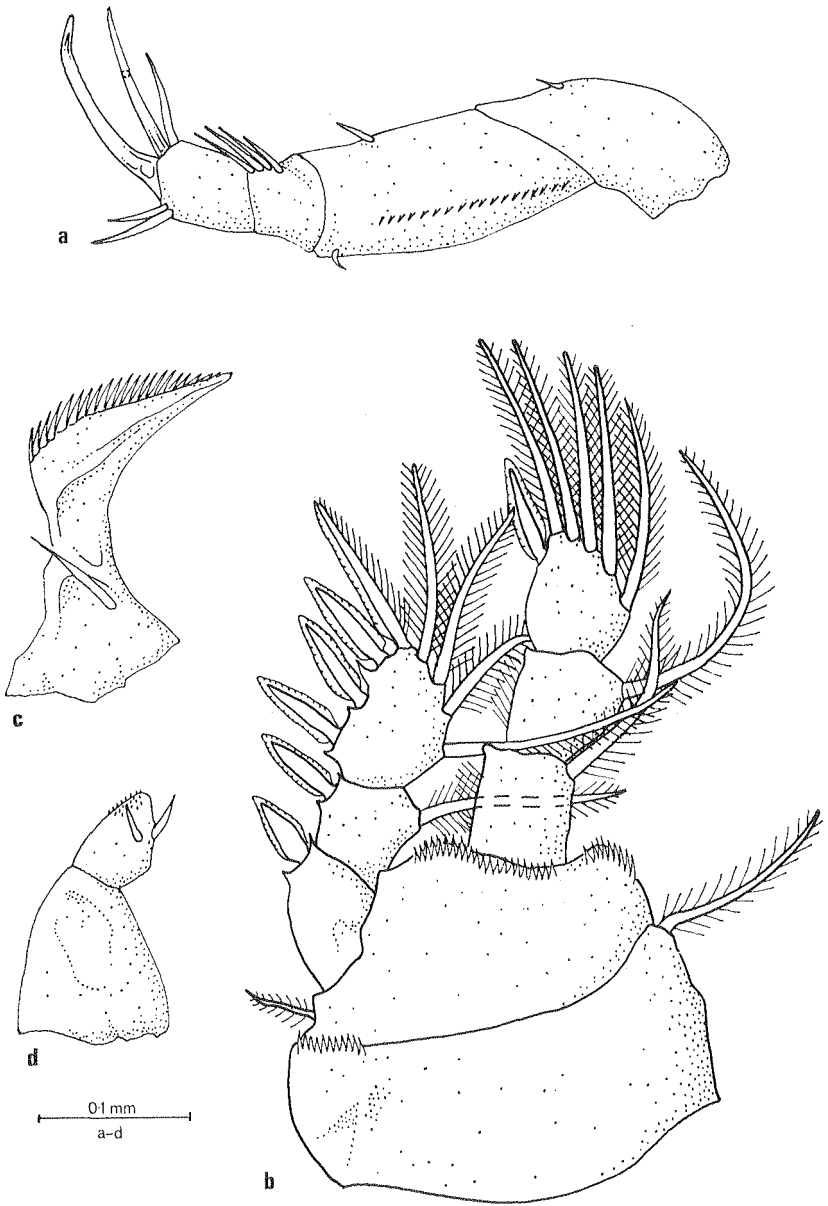


FIG. 2.—*Lichomolgidium tupuhiae* n.sp., female: (a) antenna, (b) leg 1, (c) terminal segment of maxilla 2, (d) maxilliped.

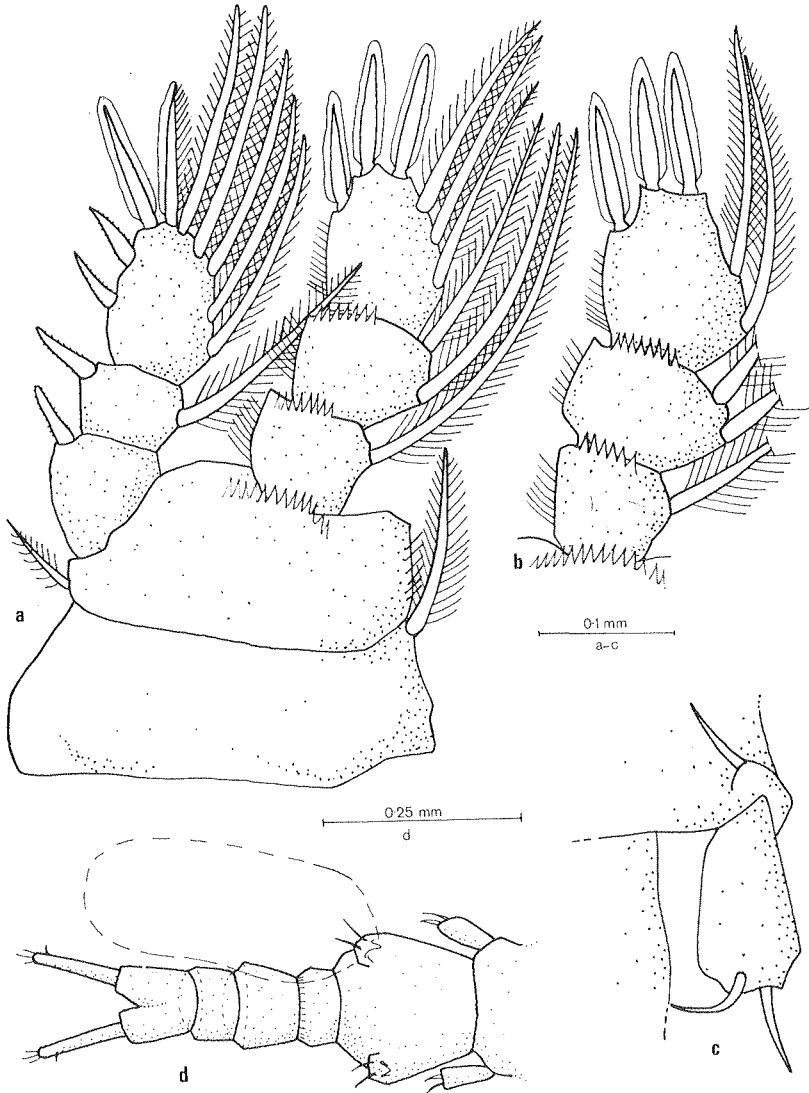


FIG. 3.—*Lichomolgidium tupuhiae* n.sp., female: (a) leg 2, (b) endopodite of leg 3, (c) leg 5, (d) urosome.

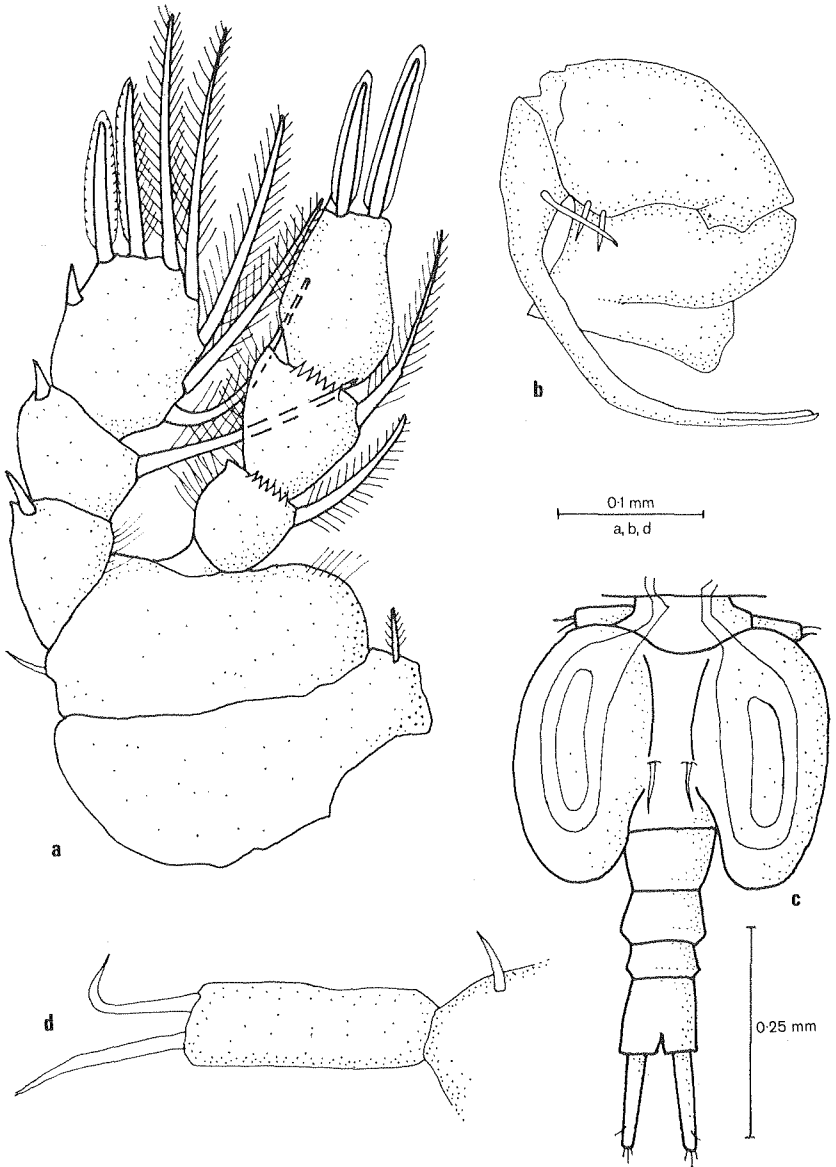


FIG. 4—*Lichomolgidium tupuhiae* n.sp., (a) female, leg 4, (b) male, maxilliped, (c) male, urosome, (d) male, leg 5.

PARATYPES: One male and six females have been deposited in the National Museum, Wellington (Z. Cr. 1963). Remainder in collection of the author.

DISCUSSION: This is the third species of *Lichomolgidium* to be described. The new species may be distinguished from both *L. sardum* Kossmann, 1877, and *L. cynthiae* Brian, 1924, by the broad band of setules covering the convex surface of the mandible, the setae on P5 which are of equal length, and the three terminal setae on the caudal ramus. Both previously described species have a single row of setules on the convex surface of the mandible, a seta on P5 which is twice the length of the other, and four terminal setae on the caudal ramus.

The name chosen (*tupuhiae*) is derived from tupuhi, the Maori word for storm.

#### ACKNOWLEDGMENTS

I wish to thank Mrs D. Grantham for typing the manuscript.

#### LITERATURE CITED

- HUMES, A. G. & STOCK, J. H. 1973: A revision of the family Lichomolgidae Kossmann, 1877, cyclopoid copepods mainly associated with marine invertebrates. *Smithsonian Contributions to Zoology* 127: i-v, 1-368.