

ON THE OCCURENCE OF A NEW SPECIES OF PARASITIC COPEPOD
OF THE GENUS *LERNAEA* ON A FRESHWATER FISH IN
INDONESIA

by

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Several specimens of Lernaeid Copepods which proved to be an undescribed species were recently found in Kalimantan (=Borneo) parasitising a species of fresh water fish, *Thynnichthys vaillanti* WEBER-DE BEAUFORT. These animals were collected by research workers of the Inland Fisheries Research Institute, Bogor, during the 1962 and 1964 expeditions to East-Kalimantan. 4% Formalin was used as a preservative.

Lernaea arcuata sp. nov.

Adult female.

The body is transparent and has a length of up to 8 mm. Head rounded with two pairs of anchor arms behind. The arrangement of the arms is very characteristic as shown in figs. 1, 4, 5. Because the anchor arms lie in more or less the same plane as the body, it is not easily seen which are the ventral and which are the dorsal arms. The anterior arms, which have a characteristic curve, appear to be the ventral ones. They taper only slightly towards their tips. It is their curvature that the specific name *arcuata* is referred to. The posterior (dorsal) arms are much shorter and taper distinctly towards their tips.

The thorax is cylindrical and usually more or less straight. It is narrow anteriorly and gradually widens until, just anterior to the third pair of legs, where it becomes noticeably constricted. Posterior to this site it gradually widens and attain its maximum diameter near the pre-genital prominence.

The pregenital prominence is simple, with a faint suggestion of being double in some specimens. The abdomen is short and tubular.

Behind the mouth parts, on the ventral side of the body are located the first and second pairs of legs. The third and fourth pairs are much further back. The distance of the respective legs to the tip of the head

are approximately 3, 7, 43 and 81% of the total length of the body. The arrangement of the spines and the setae on the legs is the same as that in most species of the genus *Lernaea* (see HARDING, 1950).

Tortion is usually slight and generally confined to the region between legs 2 and 3. It is sometimes dextral and sometimes sinistral.

The egg sacs are elongate, up to 3.5 mm. long. They are shorter when newly developed. The cuticle is colourless. The eggs in the egg sacs are white; those in the oviduct pale yellow.

Holotype: Museum Zoologicum Bogoriense Coll. No. Cru. 303. Paratypes: MZB No. Cru. 304 and in The British Museum (Natural History) Coll. Reg. No. M. B. N. H. 1965. 1.5.1.

Host and occurrence.

These parasites were found on the flanks of *Thynnichthys vaillanti* WEBER-DE BEAUFORT, a common freshwater fish of Kalimantan. Although these fishes inhabit most of the inland waters of this island, the parasites were only found on individuals caught in Lake Bahada and Lake Gelombang, East-Kalimantan.

Remarks.

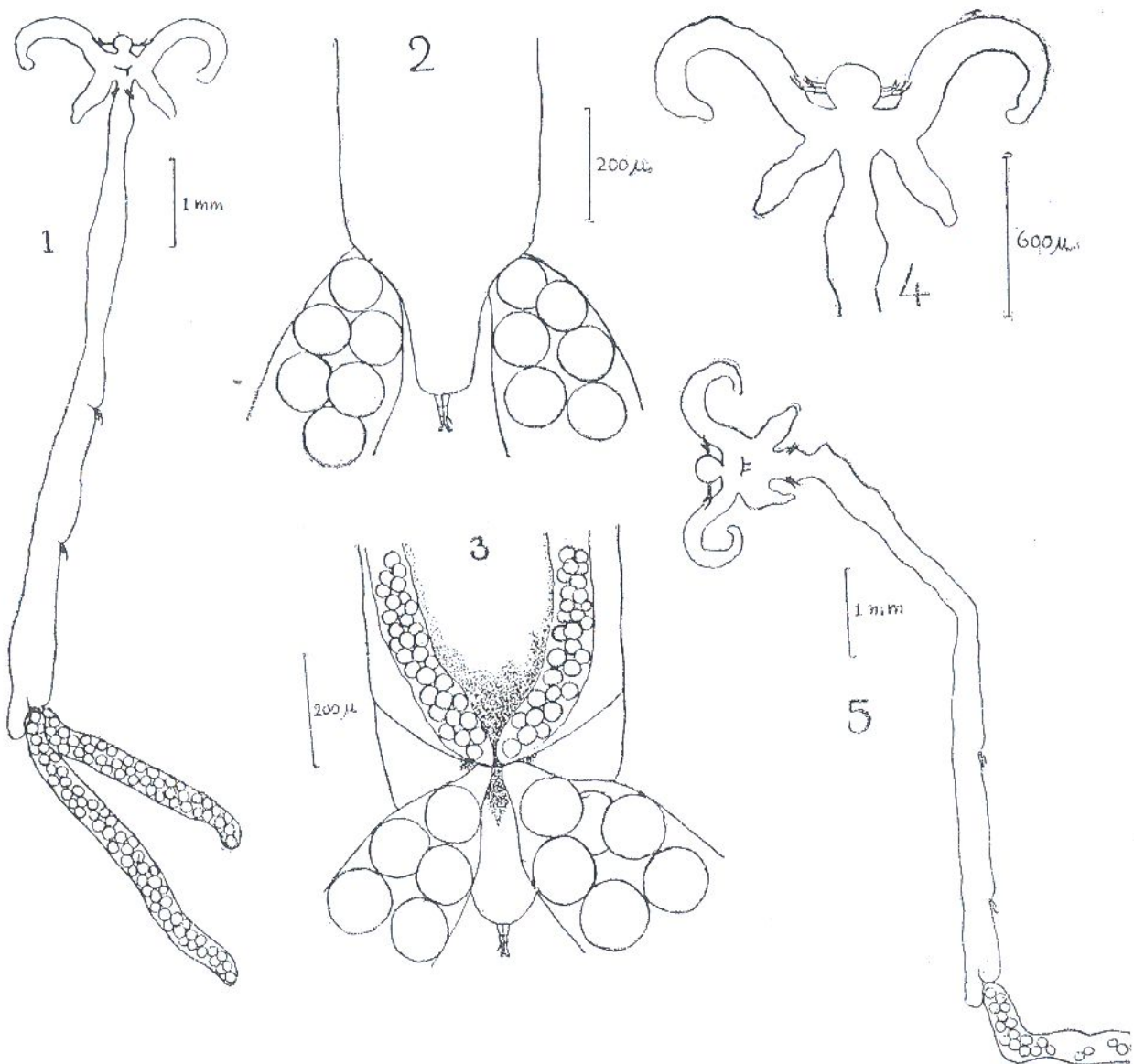
This species is readily recognisable from the curved anterior anchor arms. Although the degree of curvature varies a little from one individual to another, it is always well defined. The only species to which *L. arcuata* bears a superficial similarity is *L. bagri* HARDING, a species endemic to Lake Nyasa, Africa, in which the dorsal arms are curved. Even if the curved arms of *L. arcuata* are in fact dorsal, which seem not to be the case, there need be no confusion between the two species, as the arms in *L. bagri* lie in a plane more or less at right angles to the body, while those of *L. arcuata* lie in more or less the same plane as the body. There are also other differences, e.g. in the relative length of the straight arms.

Variation is not great in the available material. Nothing like the variation of anchor form reported for *L. chackoensis* GNANAMUTHU (GNANAMUTHU, 1951), *L. barnimiana* (HARTMANN) or *L. cyprinacea* L. (FRYER, 1961) is exhibited.

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Figs. 1 - 5. *Lernaea arcuata* sp. nov. (1). Adult female, Holotype (2) Posterior region of another specimen, Dorsal view (3) Ventral view of the same region (4) Anchor and anterior region of thorax of the same specimen, Dorsal view (5) An unusually bent specimen.

Reference

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- HARDING, J. P. (1950). On some species of *Lernaea*. (Crustacea Copepoda: Parasites on Freshwater fishes). *Bull. Brit. Mus. (Nat. Hist.) Zool.* 1: 1 - 7.