
NOTES

TWO NEW SPECIES OF SUCTORIANS, *ACINETA SATYANANDANI* SP. NOV. AND *PARACINETA KARUNAKARANI* SP. NOV., EPIZOIC ON OSTRACODS

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ABSTRACT

Two species of protozoic suctorians, *Acineta satyanandani* sp. nov. and *Paracineta karunakarani* sp. nov., are described. These were found attached on the body of the marine ostracod, *Cypridina dentata* (Muller), collected from the shelf and slope areas of the southwest coast of India. The mode of attachment, host specificity and rate of infestation are given.

Although different suctorians have been reported epizoic on different animals, such as *Acineta foetida* (Eichwald) on gammarid amphipod (Fenchel 1965), *Ephelota gemmipare* Hertwig on crab larvae (Santhakumari 1985) and other species on copepods (Jankowski 1981), no associate suctorian has so far been recorded from marine ostracods. The present note records two new species of suctorians epizoic on the ostracod *Cypridina dentata* (Muller), an abundant species, confined largely to the south-west coast of India (George and Nair 1980).

The zooplankton samples which contained the ostracods were collected from sections off Cape Comorin, off Karwar, and off Ratnagiri, southwest coast of India. The samples were preserved in 4% formaldehyde solution in sea water. The infected Ostracods, separated from the samples, were placed in cavity slides and examined under the microscope. Drawings were made with the aid of camera lucida. Two new species, *Acineta satyanandini* sp. nov. and *Paracineta karunakarani* sp. nov., belonging to the class Suctorina Clapparidae and Lachmann, but to two different families, Acinetidae Butschli and Podophyridae Butschli respectively, were identified, which are described as follows:

Family: Acinetidae Butschli

Genus *Acineta* Ehernberg, emend, Collin.

Collin (1912) defined this genus as forms in which the protoplasmic body is enclosed in a capsule ("log") without a free border, and is at the same time more or less strongly compressed or flattened in the frontal plane. The tentacles are arranged in fasciculi. Reproduction is always by internal embryos.

Collin divides this genus into two groups:

1. In which the tentacles are arranged in fasciculi.
2. In which the tentacles are dispersed over the face of the body or are arranged in a line.

The present species belongs to the group 1.

1. *Acineta satyanandani* sp. nov.

The body is more or less cup shaped with extensions of three arms as shown in Fig. 1A. The middle arm is bigger than the other two arms. The body measures up to 55 μ in diameter. The tentacles are arranged in two fasciculi at the end of each arm. The number of tentacles vary from 10 to 12 in each arm. The tentacles appear to end in minute knobs and look like matches. The protoplasm is finely granular and the body is of straw colour. The shape of the macronucleus changes from oval to round.

In fully developed forms there is a transparent stalk with an attachment disc. The stalk measures from 20 to 30 μ in length. It is longitudinally striated and is constricted at the point of attachment to host. At the upper end of

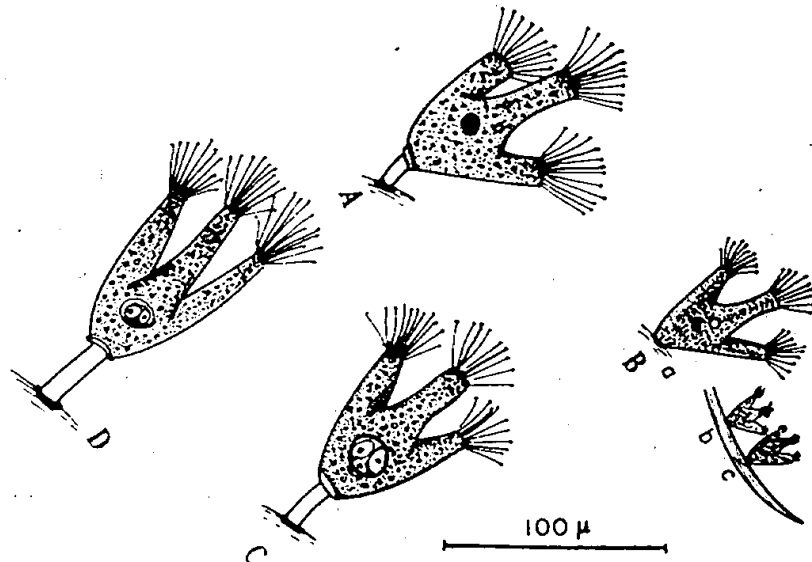


FIG. 1. *Acineta satyanandani* sp. nov.:

A: body structure; B (a-c): young specimens, showing the nature of attachment; C: with embryos inside the body; D: with long arms showing division.

the stalk there is a band-like structure as shown in Figs. 1, B & C. The attachment of the stalk to the host is by means of a circular disc or basal plate. No stalk was observed in the case of small specimens. They attach directly to the host (Fig. 1, B).

Inside the body of the large specimens oval masses could be seen, may be embryos (Fig. 1, C).

In further older specimens the arms are longer and mark of transverse division can be seen as shown in Fig. 1, D.

Several specimens of *A. satyanandani* were observed covering the host, like patches of grass on ground.

A. satyanandani was seen attached on the body proper and appendages of the marine ostracod *C. dentata*. Up to 128 specimens were observed on a single host. This species lives near and along with the other new species. It shows a preference to attach near or at the anterior portion of the host and, so far, this was never observed on the posterior region of the host.

Type specimens on the host were deposited in the reference collection of the Indian Ocean Biological Centre with the Catalogue Number IOBC. 0391-02-15-1985.

Family Podophryidae Butschli

Genus *Paracineta* Collin

Collin (1911) created this genus to accommodate several species that had previously been placed in the genus *Acineta*. According to him the diagnostic characters are as follows. They possess a symmetry that is very regularly monaxial, with tentacles radiating from the body and never fasciculated. Reproduction is by means of external budding, possibly with the single exception of *Paracineta limloata* (Maupas).

2. *Paracineta karunakarani* sp. nov.

The body is more or less square to rectangular in shape (Fig. 2A). In some specimens there is a conical projection at the middle of the body. The length of the body varies from 35 to 80 μ and breadth varies between 25 and 60 μ . The plasma bodies are tied up in ball form. The macronucleus is usually rounded but it varies in different individuals depending upon the size of the specimen (Fig. 2, B, and D). The tentacles arise from the plasma.

The outer cover is long and transparent with tender membranes. It measures from 95 to 200 μ in length. It is broader near the body and narrows towards the baë. The stalk is not pronounced and directly attaches to the body of the host.

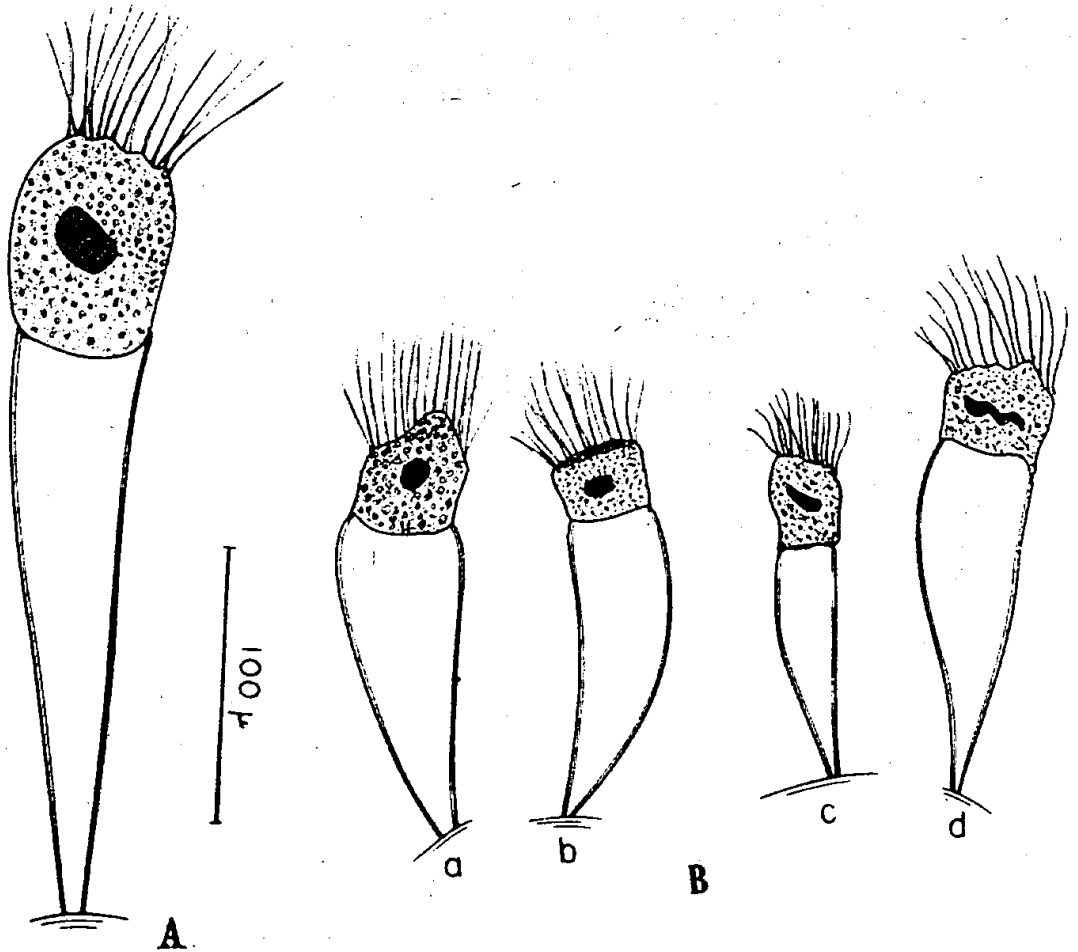


FIG. 2. *Paracineta karunakarani* sp. nov., showing
A: body structure; B (a-d): different individuals from the same host.

The present form seems close to *P. pleuromamma* Steuer. But it differs from *P. pleuromamma* in shape and size of the body as well as the outer cover. The stalk is absent in the present form.

P. karunakarani was observed epizoic on the ostracod *Cypridina dentata* (Muller). Majority of the infested ostracods were females with young ones in brood pouch. Very young specimens were devoid of these associates. About 96 specimens were counted on one host. Heavy infestation was always on the anterior dorsal and lateral portions. In very rare cases it was found in the posterior region, wherein the whole body of the host was covered with these two associates. These suctorians were found common near the mouth parts and at the head of the cephalothorax.

Type specimens on the ostracod host have been deposited in the reference collection of the Indian Ocean Biological Centre with the Catalogue Number IOBC 0392-02-15-1985.

The intensity of infestation as well as the percentage of infestation of these species were more when the host specimens occurred in abundance. About 98% of infestation of *P. karunakarani* and 76% of infestation of *A. satyanandani* were observed during the present study.

Another ostracod species, *Euconchoecia aculeata* (T. Scott), was found in a few numbers in some of the collections. But so far no associate could be observed. It seems that these epizoans show a host specificity to *C. dentata*.

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REFERENCES

- CHATTON, E. AND A. LWOFF, 1935. *Arch. Zool. Exp. et Gen.*, 77: 1-453.
- COLLIN, B. 1911. *Arch. Zool. Exp. et Gen.*, (5) 8.
- COLLIN, B. 1912. *Arch. Zool. Exp. et Gen.*, 51: 1-457.
- COLLIN, B. 1912. *Arch. Zool. Exp. et Gen.*, 51: 1-457.
- FENCHEL, T. 1965. *Ophelia*, 2: 281-303.
- GEORGE, J. AND NAIR, V. R. 1980. *Mahasagar — Bull. natl. Inst. Oceanogr.*, 13: 29-44.
- JANKOWSKI, A. W. 1981. *Proc. Zool. Inst. Leningr.*, 107: 80-115.
- SANTHAKUMARI, V., 1985. *Mahasagar — Bull. natl. Inst. Oceanogr.*, 24 (In press).