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BATILLIPES PENNAKI, A NEW MARINE TARDIGRADE FROM THE NORTH AND SOUTH AMERICAN ATLANTIC COAST

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Some years ago Prof. Dr. Robert W. Pennak, Biological Department, University of Colorado, Boulder, Col., U.S.A., sent me some slides of well preserved marine Tardigrades collected at Woods Hole, Mass., which I precipitately identified with *Batillipes mirus* Richters (1909, page 37). In July 1946 Miss Tagea Kristina S. Björnberg, student of Natural Science of our Faculty, brought a sample of sand and sea-water from the beach of Ipanema, a suburb of Rio de Janeiro, to our laboratory. Between the grains of sand gathered above the line of low-water Mrs. Eveline du Bois-Reymond Marcus found Tardigrades of the genus *Batillipes*. The aspect of the living animals and their movements showed at once that they were different from *B. mirus* Richt. By closer examination we saw that they are identical with the material sent by Dr. Pennak, in honour of whom the new species is named.

Zoogeographically we should have expected that also HAY's *Batillipes caudatus* (1917), from Beaufort, North Carolina U. S. A., belongs to the species from Woods Hole and Rio de Janeiro. Strangely enough, that is not the case. As HAY (*l. c.*, page 253) suspected and I proved (MARCUS 1927, pp. 522, 526-527) *B. caudatus* cannot be separated specifically from *B. mirus*. Slight differences can be derived from the diagnoses, but by no means can *B. caudatus* be united with the specimens from Woods Hole and Rio.

In the following I give a description of the new species and add [in square brackets] the corresponding characters of *B. mirus* Richt., of which some slides from the original locality (Kiel, at the Baltic sea) were compared. For the characters of the order Heterotardigrada, suborder Arthrotardigrada, family Diopodidae, genus *Batillipes*, I refer to my last Synopsis (MARCUS 1936, pp. 18-21).

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BATILLIPES PENNAKI, sp. n.

Figures 1-2

Hyaline; the contents of the intestine varying in colour; without eye-spots. Cuticle with fine and dense granules. The lateral borders of the body with two folds in each segment [these folds scarcely developed]; between the third and fourth pair of legs the margin projects with a broad rounded lobe [margin nearly straight]. The mouth is ventral; all cephalic appendages insert dorsally to the mouth. Pharynx shortly oval; the three cuticular ridges with knobbed bases [without knobs]. Tooth-bearers present. The processes of the head, all with conical bases, are: a very short median seta [twice the lenght of the spines on the legs]; an external and an internal pair or medial cirri both pairs much longer than the median seta [a little longer]; the internal cirri insert above, the external ones on [below] the frontal border, with no cephalic papilla between them [cephalic papilla present]; the clava or auricle with a thicker basal and a thinner distal part separated by a constriction [auricle club-shaped without constriction]; the lateral cirrus a long seta inserting on the same base with the clava.

On the proximal portion of each leg a short spine; behind the marginal lobe and above the fourth leg a strong seta, but no spine in the region of the marginal lobe [also here a small spine]. A median caudal thick and acuminate spine twice as long as the anteromedian seta on a wide cylindrical base [shorter than the anterior seta and without a special base].

The second toe of the I-III legs and the two middle toes of the fourth legs are stalkless [on all legs one stalkless toe may occur; the toes of the fourth leg are, as a rule, all stalked].

Length of adult animals 200 μ [400 μ and more, exceptionally up to 700 μ].

Occurrence: Woods Hole, Mass., Dr. Robert W. Pennak leg.; Ipanema, Rio de Janeiro, Miss Tagea Kristina S. Björnberg leg.

After this note was sent to print, *Batillipes pennaki* was also found in sand from the beach of Guarujá, near Santos.

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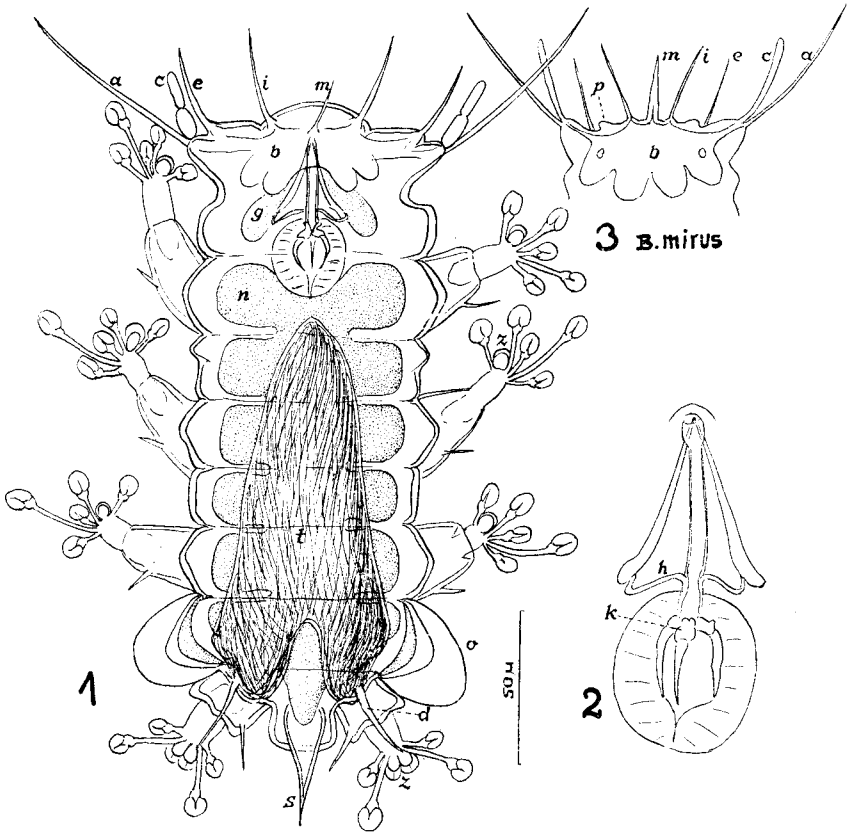

Figure 1. — Dorsal view of an adult male of *Batillipes pennaki* sp. n. a, lateral cirrus. b, brain. c, clava. d, spine above the fourth leg. e, external medial cirrus. g, oral glands. i, internal medial cirrus. m, antero-median seta. n, intestine o, marginal lobe. s, caudal spine. t, testis. z, stalkless toes.

Figure 2. — Pharynx of *Batillipes pennaki*, sp. n.
h, tooth-bearers. k, knobs of the cuticular ridges.

Figure 3. — Head of *Batillipes mirus* Richt.
p, cephalic papilla. The other letters as in figure 1.