

STUDIES ON THE FAUNA OF CURAÇAO AND OTHER
CARIBBEAN ISLANDS: No. 27

FRESHWATER BRYOZOA (PHYLACTOLAEMATA)
FROM CURAÇAO, ARUBA AND BONAIRE

by

A. W. LACOURT

(Leiden)

The *Phylactolaemata*-fauna of Curaçao, Aruba and Bonaire, as it appears from the samples collected by dr P. WAGENAAR HUMMELINCK, is connected with the fauna of the South-American mainland.

The material belongs to three species only:

Hyalinella agilis — Curaçao, Aruba, Bonaire — in temporary or semi-permanent pools, rarely in (possibly) permanent pools (e.g. Sta. 44), and in rock crevices (Sta. 58) — in water with about 30–2000 mg Cl/l.

Hyalinella osburni — Aruba, Bonaire — in temporary muddy pools — in water with about 40–200 mg Cl/l.

Plumatella annulata — Curaçao, Klein Bonaire — in a temporary muddy pool (Sta. 82) and in cavern water of a limestone plateau (Sta. 61) — in water of about 400–500 mg Cl/l.

The specimens have been deposited at the "Rijksmuseum van Natuurlijke Historie" at Leiden. The localities have been shortly described in the 1st, 4th and 17th papers of this series (*Studies 1* p. 5–23; *2* p. 2–21; *4* p. 29–55).

In connection with Bryozoa-classification this material suggests a detailed discussion, but this will be left out until a revision of the group has taken place. Only the following facts need be put forward.

The genus *Stolella* is based on the narrow parts in the tubes between the zooecia which are placed together in groups. However, such narrow parts are e.g. also found in the tubes of *Hyalinella punctata* Hancock; they are not an important feature. The characteristics of the genus *Hyalinella* are the light cuticula, which is thick and soft and the annulus of the free statoblast, which is commonly broad. Because the species *agilis* also shows these features, it has been placed in this genus. In authors opinion there is no reason to accept the genus *Stolella*.

In this paper questions on synonymy and occurrence elsewhere of the three species, also remain unanswered. Some relationship exists between the *Phylactolaemata*-faunas of the Indian region and Notogaea at one side, and Neogaea at the other. Species from southern Asia and Australia ought to be compared with

material from South America. A number of species may occur throughout the mainlands of the southern hemisphere, at least in two of them. For this reason the nomenclature of the South-American species has been hold up.

Hyalinella agilis (Marcus)

Stolella agilis MARCUS, 1942, p. 74, plate 2-4.

CURAÇAO: *Sta. 66*, Tanki di Cas Klein St. Joris, rather few algae, Cl 1980 mg/l, 6.IX.1936; *Sta. 78*, Tanki Monpos, Hato, algae, Cl 310 mg/l, 11.X.1936; *Sta. 81*, Pos di Wanga, Middle Curaçao, few algae, Cl 260 mg/l, 9.XI.1936; *Sta. 83*, Pos Ariba, Dokterstuin, many algae, Cl 710 mg/l, 27.X.1936; *Sta. 397*, Tanki Martha Koosje, Middle Curaçao, some algae, Cl 320 mg/l, 24.VIII.1948; all temporary or semi-permanent pools.

ARUBA: *Sta. 100*, Tanki Leendert, pond, semi-permanent, few algae, Cl 35 mg/l, 16.XII.1936.

BONAIRE: *Sta. 44*, Pos Bronswinkel, overflowing pool, possibly permanent, crowded with algae, Cl 350 mg/l, 27.III.1937; *Sta. 58*, Pos Francés, Punt Vierkant, small well in rock crevice, semi-permanent, some algae, Cl 540 mg/l, 31.III.1937; *Sta. 194*, Tanki Onima (*Sta. 46*), on shore of muddy pond, temporary, few algae, Cl 40 mg/l, 13.XI.1936.

Zoarium: consists of tubes, basal parts adherent, branched antler-like, curled; cuticula thick and soft; polypides placed in groups in an antler-like manner in the terminal parts of the tubes, number of tentacles 45. — Free statoblast (plate V top left): elliptical; large capsule and narrow annulus which partly covers the capsule on both sides, but more on the ventral side; outer margin entire. Length 373-400 μ , breadth 227-240 μ ; optical width of annulus at the ends about 40 μ , at the sides 20 μ ; diameter of chambers about 6 μ . — Sessile statoblast (plate V top centre): rounded oval or oval, with a narrow rudimental annulus, roundabout equally broad; capsule and annulus both covered with a reticulation; outer margin notched. Length 347 μ , breadth 266 μ ; optical width of annulus 27 μ .

Type locality: Rio Grande do Sul, near Porte Alegre, together with Ceará, both in Brasil.

MARCUS (1942) distinguishes between the typical form and the variety *iheringi* with somewhat bigger statoblasts, with an annulus which is a little broader, and a bushy zoarium. The material of the Leeward Group is an intermediate form between the typical form and var. *iheringi*. Considering the great variability of Bryozoa this variety is doubtful.

MARCUS did not observe sessile statoblasts. In the material of Pos Bronswinkel (Bonaire) they are found rather numerous. Young statoblasts are light brown and translucent; the annulus is flat, and has a reticulation of chitine ridges; old statoblasts are almost black. The figure is of an abnormally formed statoblast, no normal young specimen being available.

Hyalinella osburni (Rogick & Brown)

Plumatella repens var. *osburni* ROGICK & BROWN, 1942, p. 133, fig. 17-25, 27-29.

ARUBA: *Sta. 97*, Tanki Mon Plaisir, Oranjestad, pool, temporary, algae, Cl 60 mg/l, 15.XII.1936; *Sta. 98*, Tanki di Westpunt, pool, temporary, algae, Cl 80 mg/l, 9.XII.1936; *Sta. 99*, Tanki di Goudmijn Tibushi, Westpunt, puddle, temporary, very few algae, Cl 170 mg/l, 9.XII.1936.

BONAIRE: *Sta. 46*, Tanki Onima, muddy pond, temporary, few algae, Cl 40 mg/l, 13.XI.1936.

Zoarium: adherent, only terminal parts free, tubes branched antler-like; cuticula thick and soft, minutely incrustated. — Free statoblast (plate V top right): broadly oval; small capsule, rounded oval, and annulus which is very broad at the ends; outer margin entire. Length 373–400 μ , breadth 200–213 μ ; capsule length 186–244 μ , breadth 133–147 μ ; optical width of annulus at the ends 93 μ , at the sides 40 μ ; diameter of chambers 9–11 μ . — Sessile statoblast (plate V bottom left): rounded oval, with a broad rudimental annulus, roundabout equally broad; capsule and annulus both covered with a reticulation; outer margin minutely serrated. Length 320–360 μ , breadth 253–266 μ ; optical width of annulus 33–40 μ .

Type locality: Pasion River near Seibol, Alta Vera Paz, Guatemala.

ROGICK & BROWN (1942) consider this species as a variety of *Plumatella repens* L. There is no relation, however, between the present species and *P. repens*, of which species the statoblasts are much shorter, and with a narrow annulus. *H. osburni* is a good species except for the possibility that this name is a synonym. The species is placed in the genus *Hyalinella* on account of the shape of the free statoblast and the character of the cuticula.

Plumatella annulata Hozawa & Toriumi

Plumatella repens var. *annulata* HOZAWA & TORIUMI, 1940, p. 428, fig. 3; ROGICK & BROWN 1942, p. 131, fig. 10, 14–16, 26.

CURAÇAO: *Sta. 82*, Pos Europa, Dokterstuin, pool, semi-permanent, many algae, Cl 470 mg/l, 27.X.1936.

KLEIN BONAIRE: *Sta. 61*, Pos di Cas, well, permanent, many algae, Cl about 400 mg/l, 15.XI.1936.

Zoarium: adherent. — Free statoblast (plate V bottom centre): elliptical; capsule rounded oval; outer margin entire. Length 373–413 μ , breadth 213–226 μ ; capsule length 240–280 μ , breadth 160–173 μ ; optical width of annulus at the ends 66–79 μ , at the sides 26 μ ; diameter of chambers 8 μ . — Sessile statoblast (plate V bottom right): rounded oval, with a narrow rudimental annulus, roundabout equally broad; outer margin entire. Length 400–440 μ , breadth 293–320 μ ; optical width of annulus 40 μ .

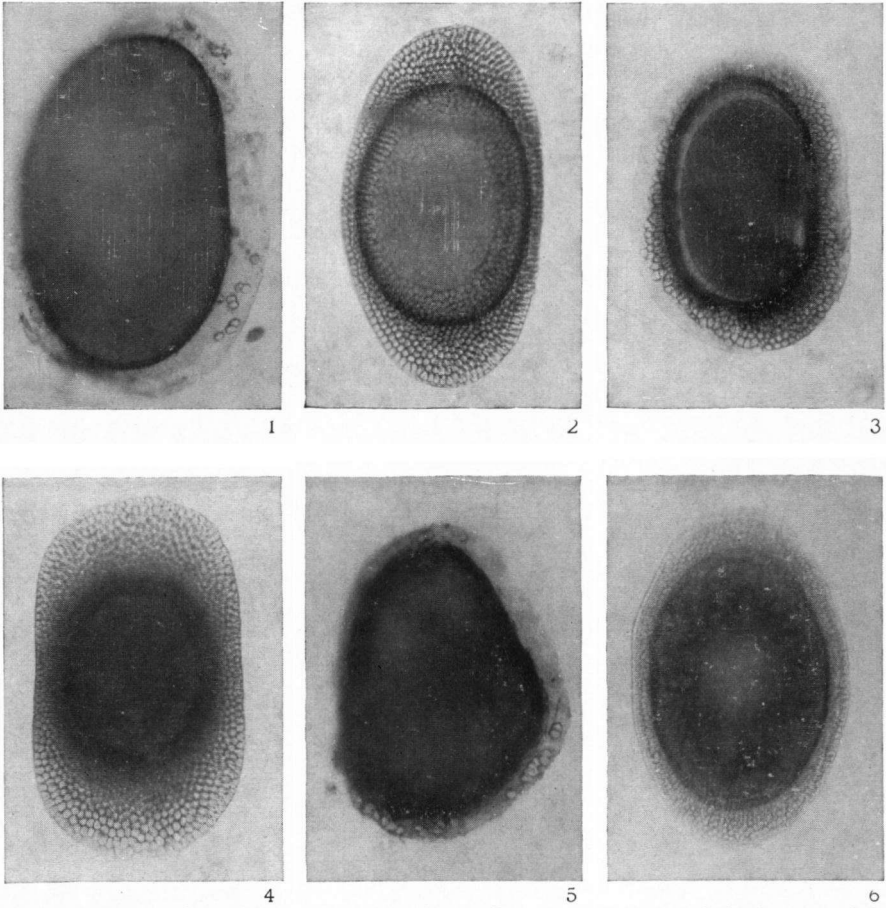
Localities in America: San Pedro River near Paso Caballo, Peten Department, Guatemala.

HOZAWA & TORIUMI (1940) consider this form as a variety of *Plumatella repens* L. It is, however, also a separate species, reserving the synonymy; the statoblast being of quite different outline than those of *P. repens*.

REFERENCES

- HOZAWA, S. & TORIUMI, M., 1940. *Reports limno-biological survey of Kwantung and Manchoukwo*, p. 425–432.
 MARCUS, E., 1942. Sobre Bryozoa do Brasil II. *Bol. Fac. Fil. Ciên. Letr. Univ. S. Paulo* 25, *Zoologia* 6, p. 74–84.
 ROGICK, M. D. & BROWN, C. J. D., 1942. Studies on freshwater Bryozoa XII. A collection from various sources. *Annals New York Acad. Sci.* 43, p. 131–132.

PLATE V



V. Statoblasts of freshwater Bryozoa from Curaçao, Bonaire and Aruba. 1 and 2, *Plumatella annulata*. 3 and 4, *Hyalinella osburni*. 5 and 6, *Hyalinella agilis*. The figures 1, 3, and 5 are sessile statoblasts, 2, 4, and 6 are free-living statoblasts.