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THE TURBELLARIAN *HOFSTENIA MIAMIA* IN THE
CARIBBEAN SEA

by

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Some years ago I described *Hofstenia miamia* from Virginia Key, in the Miami area (CORRÊA 1960, p. 211 ff.). The species was based on a single specimen found among algae in the intertidal zone. When a grant from the Government of the Netherlands gave me the chance to work at the Caribbean Marine Biological Institute, Curaçao, I found the species again. Many specimens came up from *Thalassia* and algae growing in low water in Piscadera Baai in February and March 1962. Though these worms are only 4 mm in length, they occur sufficiently frequently to attract the attention of future workers, and are therefore published as new members of the fauna of Curaçao. Moreover the species seems to be rather common in the Caribbean Sea, as Dr. P. WAGENAAR HUMMELINCK (Utrecht) found it quite accidentally on July 17, 1955, in Deep Bay, Antigua, among algae in the low-tide zone of a rocky beach, without *Thalassia*.

I take the opportunity of extending and emending my previous description by means of this larger material.

The colour pattern of light bands, blotches and spots between brownish, greyish or nearly black areas varies considerably (Fig. 17). The colours of the other valid Hofsteniidae are different: *H. atroviridis* from Sagami Bay, Japan, which is 7 mm long alive, is a dark blackish-green (BOCK 1923, p. 6); the 3 mm-long *H. tinga* from the coast of São Paulo is quite white (DU BOIS-REYMOND MARCUS 1957, p. 170); and the 2 mm-long *Hofsteniola pardii* from Naples has a

vivid reddish anterior third fading out posteriorly, or sometimes becoming pinkish (PAPI 1957, p. 133). The ventral mouth differentiates *pardii*, *tinga*, and *miamia* from *atroviridis*, which has a terminal or slightly subterminal mouth. All Hofsteniidae are eyeless, and the epidermis has intra-epithelial nuclei in all of them, including *miamia*. The position of the nuclei in the pharyngeal epithelium is normal in *atroviridis* and also in *miamia*, insunk in *tinga* and *pardii*.

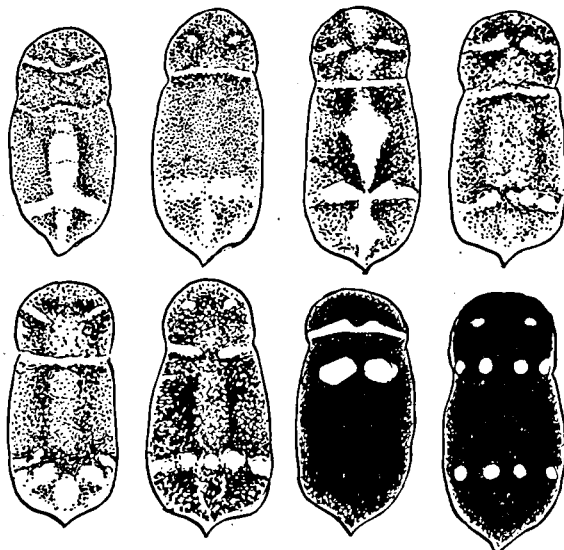


Fig. 17. — Dorsal aspect of eight specimens of *Hofstenia miamia* Corrêa, from Curaçao.

A strong sphincter at the hind end of the pharynx is a common character of all Hofsteniidae. The presence or absence of a cavity in the digestive parenchyma is systematically insignificant. In the present material an ample cavity occurs, containing crustaceans. Furthermore, some irregular villosities of the endocytium project into the intestinal lumen. Parenchymal muscle fibres, mainly annular and radial ones, separate the digestive syncytium from the ectocytium.

Just as in my first description and in *H. atroviridis*, a small mass of neurofibrils with a few nerve cells near the statocyst represents the so-called central nervous system, while all nervous elements are

superficial in *Hofsteniola pardii* (PAPI 1957, p. 136-137), and evidently also in *H. tinga*, whose statocyst lies embedded in the centre of the cephalic gland. Possibly *H. tinga* should be transferred to *Hofsteniola*, but its testes are not known. Their vestiges in the sections are indicated by a loose net; hence, scattered testes, as in the species of *Hofstenia*, are more probable than compact ones, as in *Hofsteniola*.

In the Hofsteniidae insemination is accomplished by impregnation. During this process the armature of the penis is evidently sometimes lost. This can be inferred from the absence of penial bristles in the new material which is in the phase of oviposition. These cuticular spines, described for all Hofsteniidae, are already visible in the sections of my first specimen when viewed with medium power. Strands of spermatozoa run from the scattered testes to the seminal vesicle. The dorsolateral testes overlap the ventrolateral ovaries behind the posterior end of the pharynx for about 0.2 mm. The ovaries consist of scattered female cells which lie on both sides of the ventral face. Quite young and growing oocytes of different sizes, with their surrounding nutritive cells, occur on all levels, without any serial arrangement, exactly as in *H. atroviridis* (BOCK 1923, p. 30, 35). The ovaries are also ventrolateral in *Hofsteniola pardii* (PAPI 1957, fig. 2), while they are spread irregularly in *H. tinga* (DU BOIS-REYMOND MARCUS 1957, fig. 26).

Even more than after my first description (CORRÊA 1960, p. 214), *H. miamia* reveals itself as closely resembling the type of the genus, *H. atroviridis*. But discoveries of Hofsteniidae are too rare and isolated for a zoogeographical commentary.

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