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A NEW PSOLID SEA CUCUMBER  
FROM THE VIRGIN ISLANDS

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Holothurians of the family Psolidae have the dorsal surface of the body invested in a continuous covering of imbricating calcareous scales. The mouth and anus are dorsal, and the ventral surface of the body (the sole) is soft, surrounded by tube feet, by means of which the animal attaches itself to a hard substrate. The family comprises about 100 species, and in most the area between the oral and anal apertures is covered by four or more scales. Within the genus *Psolus*, only *P. macrolepis* Fisher from bathyal depths in the Hawaiian Islands was known to possess two scales between the oral and anal apertures. The new species described below shares this feature with *P. macrolepis*, but is quite distinct in other respects, and appears to have no known close relatives.

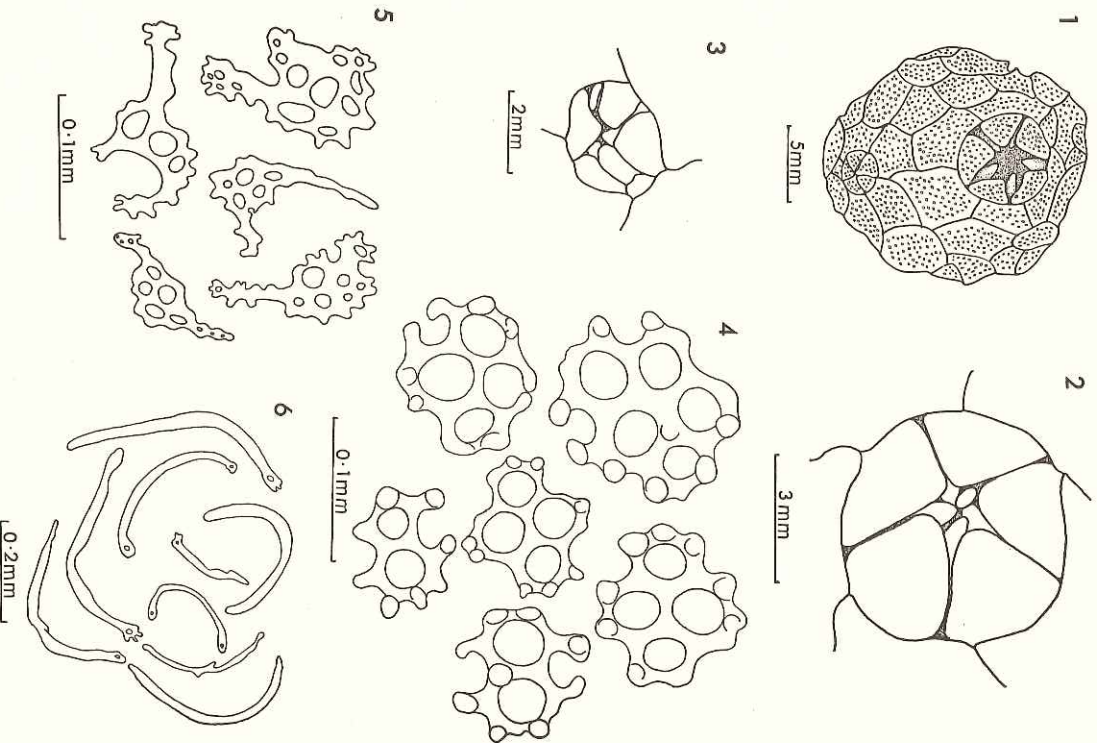
The type series of the new species was found in the collection of the Universitetets Zoologiske Museum, Copenhagen, Denmark during the summer of 1965. I am grateful to Drs. F. Jensenius Madsen and Bent Hansen of that institution for their help during my stay there.

ORDER DENDROCHIROTIDA GRUBE, 1840

FAMILY PSOLIDAE PERRIER, 1902

*Psolus megaloplax* new species

*Material Examined:* Three specimens from off Christiansted, St. Croix, Virgin Islands; 90-360 meters; bottom type unknown, but specimens attached to small rocks; collected by Dr. Th. Mortensen, 17 February 1906. Holotype: total length 17 mm, greatest width 13.5 mm, height 9 mm. Paratypes: larger specimen length 21 mm, width 18.5 mm, height at anterior end 6 mm; smaller specimen (juvenile) length 4.5 mm, width 4 mm. All specimens in the Universitetets Zoologiske Museum, Copenhagen.



FIGURES 1-6. 1, Holotype of *Psolus megaloplax*, dorsal aspect (partly diagrammatic; tentacles not shown); 2, oral area of larger paratype; 3, anal area of larger paratype; 4, deposits from sole; 5, perforated plates from tentacles; 6, curved rods from tentacles.

*Diagnosis:* Two or three scales between oral and anal apertures. Marginal fringe of small dorsal scales absent. Oral aperture with five radial and five interradial valves. Deposits of sole four-holed buttons of average length 0.10 mm, with low rounded marginal knobs.

*Description:* Holotype and juvenile with tentacles contracted; larger paratype with expanded tentacles. Body approximately circular, dorsal surface slightly arched; sole contorted to closely fit hard substrate. Mouth and anus dorsal. Mouth covered by five large triangular oral interradial valves, below and between which are five radial valves, which project into middle of oral field. Anal aperture covered by several valves, varying in number and size. Elsewhere, dorsal surface covered by large scales up to 5.0 mm in diameter, which extend to edge of dorsal surface, so that marginal fringe of smaller scales is absent; 2-3 scales between oral and anal apertures (Fig. 1). Scales scarcely overlapping; edges of adjacent scales held together by leathery skin. All scales covered by fine pattern of ridges, scarcely visible to naked eye; all with covering of evenly scattered, firmly fixed granules. Granules do not occur at extreme edges of plates. Tentacles richly branched, all apparently subequal in size.

Sole more or less circular, thin, translucent, surrounded by 2-3 rows of tube feet. Midventral radius naked, except at extreme anterior (five tube feet) and posterior (four tube feet) ends. Color in alcohol light brown, distinctly lighter at sutures between plates; tentacles light yellow. Juvenile specimen similar to adults, but dorsal scales smooth, lacking granules.

Calcareous deposits of sole closely scattered four-holed buttons (Fig. 4) of average length 0.10 mm, with low rounded marginal knobs. Some plates with more or less than four holes, and in other margin may be tumid rather than actually knobbed. Tentacles with perforated plates (Fig. 5) of varying shape, averaging 0.13 mm in length, and large curved rods (Fig. 6) up to 0.50 mm long, many of which have a single perforation at each end.

*Remarks:* It is unlikely that this species could be confused with any other Caribbean psolids. Of those species in the Caribbean area which have five distinct interradial oral valves, only *P. megaloplax* has less than four scales between the oral and anal apertures. *P. megaloplax* differs from the Hawaiian species *P. macrolepis* in lacking a marginal fringe of smaller scales from the dorsal surface, in having fewer perforations in the deposits of the sole, and in having rods of a different type in the tentacles.

#### LITERATURE CITED

- FISHER, W. K. 1907. The holothurians of the Hawaiian Islands. Proc. U. S. Nat. Mus., 32: 637-744, pls. 66-82.

