

ECHINODERMATA FROM PEARL AND
HERMES REEF

By
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CLASS HOLOTHURIOIDEA SIEBOLD, 1848

ORDER ACTINOPODA LUDWIG, 1891

FAMILY HOLOTHURIIDAE LUDWIG, 1894

SUBFAMILY HOLOTHURIINAE LUDWIG, 1894

Genus HOLOTHURIA Linné, 1758

Holothuria pardalis Selenka, 1867.

Five examples from Pearl and Hermes Reef, one from Waikiki, Hawaiian islands.

A common sea-cucumber widely dispersed throughout the Hawaiian Islands.—C. H. E.²

ORDER PARACTINOPODA LUDWIG, 1891

FAMILY SYNAPTIDAE BURMEISTER, 1837

SUBFAMILY SYNAPTINAE OESTERGREN, 1898

Genus OPHEODESOMA Fisher, 1907

Opheodesoma spectabilis Fisher, 1907 (fig. 1).

Hawaiian islands, Pearl and Hermes Reef.

A new record for Pearl and Hermes Reef. The species has a wide distribution and is common in some of the larger bays of Oahu.—C. H. E.

CLASS ECHINOIDEA EHRENBERG, 1836

ORDER DIADEMATOIDA DUNCAN, 1889

SUBORDER AULODONTA JACKSON, 1912

FAMILY DIADEMATIDAE PETERS, 1853

¹ Dr. Maximilian Holly of Vienna presents the third paper of a series of publications resulting from investigations of Pacific faunas by Dr. Victor Pietschmann, Bishop Museum Fellow in Yale University, 1927-1928. The first paper is by Anton Böhm, "Distribution and variability of Ceratium in the northern and western Pacific": B. P. Bishop Mus. Bull. 87, 1931. The second paper is by Otto Schindler, "Sexually mature larval Hemiramphidae from the Hawaiian islands": B. P. Bishop Mus. Bull. 97, 1932. The manuscripts of the three papers were translated from the German by Margaret B. Edmondson.

² The initials C. H. E. refer to Dr. C. H. Edmondson, Zoologist at Bernice P. Bishop Museum, who made the notations.

Genus DIADEMA Gray, 1825

Diadema setosum Leske, 1778.

Hawaiian islands, Pearl and Hermes Reef. A new record for the leeward Hawaiian islands.

The species has a wide range through the Indian and South Pacific oceans.
—C. H. E.

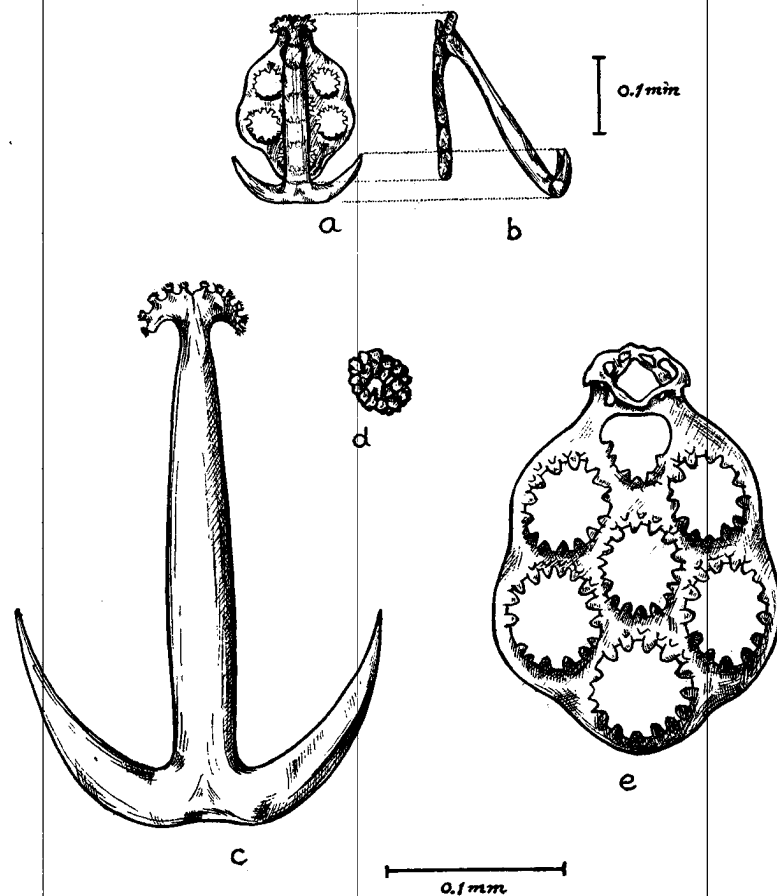


FIGURE 1.—*Opheodesoma spectabilis* Fisher, calcareous deposits: *a*, anchor in union with anchor plate, front view; *b*, side view; *c*, anchor; *d*, miliary granules; *e*, anchor plate.

SUBORDER CAMARODONTA JACKSON, 1912
FAMILY STRONGYLOCENTROTIDAE GREGORY, 1900

Genus ECHINOSTREPHUS A. Agassiz, 1863

Echinostrephus aciculatus A. Agassiz, 1863.

Hawaiian islands, Pearl and Hermes Reef.

Apparently a widely distributed species throughout the leeward Hawaiian islands and also known from Wake and Johnston islands. There are no records from the larger Hawaiian islands.—C. H. E.

FAMILY ECHINOMETRIDAE GRAY, 1855

Genus ECHINOMETRA Gray, 1825

Echinometra mathaei de Blainville, 1825.

One example from Kahuku, Oahu, Hawaiian islands; others from Pearl and Hermes Reef.

The most common sea urchin of the Hawaiian islands and widely distributed throughout the group.—C. H. E.

ORDER EXOCYCLOIDA JACKSON, 1912
SUBORDER CLYPEASTRINA GREGORY, 1900
FAMILY CLYPEASTRIDAE L. AGASSIZ, 1836

Genus CLYPEASTER Lamarck, 1801

Clypeaster lytopetalus A. Agassiz and Clark, 1907.

Hawaiian islands, Pearl and Hermes Reef.

A new record for Pearl and Hermes Reef. Previously recorded from near Laysan Island at depths ranging from 16 to 130 fathoms.—C. H. E.

SUBORDER ECHINONEINA HAWKINS, 1912
FAMILY ECHINONEIDAE WRIGHT, 1855

Genus ECHINONEUS Leske, 1778

Echinoneus cyclostomus Leske, 1778.

Hawaiian islands, Pearl and Hermes Reef.

A widely distributed species and apparently common throughout the leeward Hawaiian islands.—C. H. E.

SUBORDER SPATANGINA JACKSON, 1912

FAMILY SPATANGIDAE GRAY, 1825

Genus **BRISSUS** Leske, 1778

Brissus latecarinatus Leske, 1778.

Hawaiian islands, Pearl and Hermes Reef.

A common species distributed throughout the Hawaiian islands including the leeward islands as far as Kure Island.—C. H. E.

CLASS ASTERIOIDEA BRONN, 1860

ORDER PHANEROZONA SLADEN, 1889

SUBORDER VALVATA PERRIER, 1894

FAMILY OPHIDIASTERIDAE VERRILL, 1867

Genus **OPHIDIASTER** L. Agassiz, 1835

Ophidiaster squameus Fisher, 1906.

Hawaiian islands, Pearl and Hermes Reef.

A new record for Pearl and Hermes Reef. Previously recorded from Pailolo Channel between Maui and Molokai at depths from 130 to 151 fathoms, and near Kauai at depths from 18 to 41 fathoms.—C. H. E.

Genus **LINCKIA** Nardo, 1834

Linckia multifora (Lamarck, 1816).

Hawaiian islands, Pearl and Hermes Reef.

Apparently a new record for the leeward Hawaiian islands. The species seems to be common at Palmyra, Johnston, and Wake islands and is abundant on some of the reefs in Kaneohe Bay, Oahu. There is a specimen in Bernice P. Bishop Museum from off Fort Armstrong, Honolulu.—C. H. E.

ORDER SPINULOSA PERRIER, 1884

SUBORDER AVELATA VERRILL, 1914

FAMILY MITHRODIIDAE PERRIER, 1894

Genus **MITHRODIA** Gray, 1840

Mithrodia fisheri, new species (fig. 2).

Mithrodia bradleyi Fisher, U. S. Fish Commission Bulletin for 1903, pt. 3, p. 1096, pl. 37, figs. 2, 3 (notes on peculiar specimen of *Mithrodia*).

One specimen is considered. $R=37$ mm. to 55 mm.; $r=11.5$ mm.; $R=3.21$ r to 4.78 r; the width of arm at base measures 14 mm., which corresponds with that of its middle.

This interesting specimen corresponds in its characteristics quite closely with that form which Fisher describes as a "peculiar specimen" in the publication referred to above. The spiny covering of the actinal body side is only slightly less pronounced and I consider this form, supported by the present specimen, to be an undescribed species of the genus *Mithrodia*.

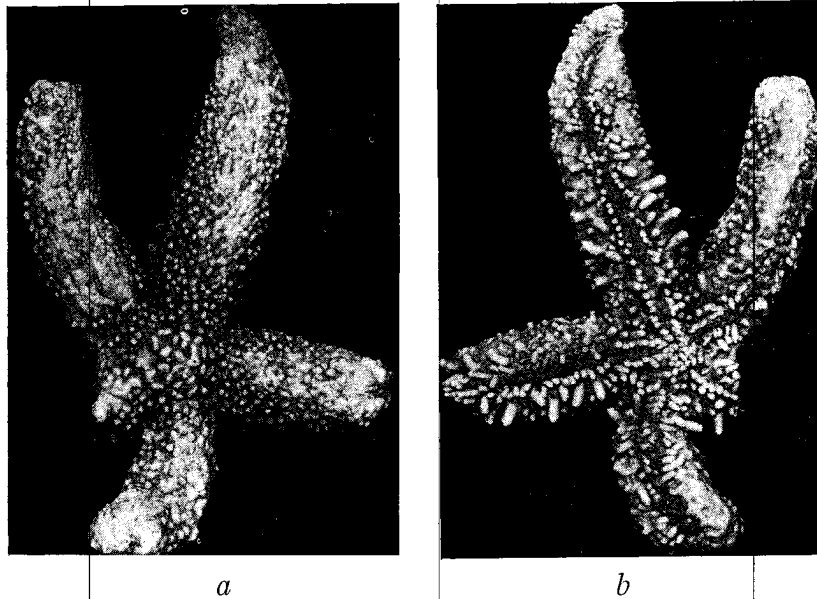


FIGURE 2.—*Mithrodia fisheri*, new species: *a*, view from above; *b*, view from below.

The individual arms are of unequal length since one has been broken off right at the base. This arm shows slight regeneration. There are five arms. They are roundish, somewhat dorso-ventrally compressed, therefore wider than high, at the base as wide or only slightly narrower than at the middle. The edge of the body disk between the arms is slightly rounded, more roundish than in *Mithrodia bradleyi* Verrill, but by no means so evenly indented as Fisher says of his specimen. The tough integument of the body and arms shows a somewhat thick network of costa under which lie the plates. The individual folds of this network, which hold the papulae, are covered by numerous very small, scattered granules. The ridge-like ribs are drawn out to short, knob-like elevations, which in their turn are decorated with sharp scale-like grains. These latter increase in size at the points of these elevations. The surface of the animal appears just as rough but not nearly so coarse as *M. bradleyi*. Stronger, longer spines are found but in smaller numbers and are set, as Fisher has said, only upon the actinal body side. They stand here

in two rows, as in *M. bradleyi*, but are much less strongly developed; however, in the specimen under consideration they are somewhat longer than Fisher describes them in his "peculiar specimen". This and the somewhat angularly marked body, or disk, edge between the arms are the only insignificant differences which my specimen shows from that which Fisher discussed. A lateral row of longer spines is wholly lacking. It may be worthy of mention also, that H. L. Clark in his work, "The Echinoderms of Peru," Bull. Harvard Mus. Comp. Zool., vol. 52, no. 17, 1910, p. 336, cites a *Mithrodia bradleyi* from "Arica, Peru" in which the size relation of R to r compares as 1 to 9. Such a size relation and somewhat below (8.5) Fisher also found in his Hawaiian specimens. From which it follows that the figure given in the Clark publication is quite clearly the typical form of the true *Mithrodia bradleyi* Verrill.

The madreporite is of usual medium size and lies halfway between disk edge and disk center.

The color of this specimen preserved in alcohol is yellowish white.

I name this new species in honor of Walter K. Fisher.

The specimen was taken in shoal water at Pearl and Hermes Reef. Fisher's specimens were dredged in the vicinity of Bird Island at depths ranging from 20 to 30 fathoms.—C. H. E.

CLASS OPHIUROIDEA NORMAN, 1865

ORDER OPHIURAE MÜLLER AND TROSCHEL, 1842

SUBORDER NECTOPHIURAE PERRIER, 1881

FAMILY OPHIOCOMIDAE LJUNGMANN, 1851

Genus OPHIOCOMA L. Agassiz, 1835

Ophiocoma pica Müller and Troschel, 1842.

Hawaiian islands, Pearl and Hermes Reef.

A common brittle-star widely dispersed throughout the Hawaiian islands.—C. H. E.

Ophiocoma brevipes Peters, 1851, variety **variegata** E. A. Smith, 1876.

Hawaiian islands, Pearl and Hermes Reef.

The most common brittle-star of the Hawaiian islands; distributed throughout the group.—C. H. E.

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