

ZOOLOGY.—*Some echinoderms from northwestern Greenland.*¹ AUSTIN H. CLARK, U. S. National Museum, and GORDON J. LOCKLEY, British Museum (Natural History).

In July and early August, 1940, Capt. Robert A. Bartlett and his associates carried out extensive dredging operations in the waters off northwestern Greenland in depths of 12 to 110 fathoms. The echinoderms brought back numbered 282 specimens representing 13 species. Although generally speaking the fauna of the shallow waters of the west Greenland seas, especially the southern portion, is well known as a result of the work of various Danish investigators and expeditions, there are still many details to be filled in and consequently all records are of value. In the present collection the most interesting specimen is the single example of *Leptasterias polaris* form *subacervata* Fisher, which, though properly referable to that form, shows a rather close approach to the form *acervata* of the region of Bering Strait. The junior author left Washington before the completion of this paper. All the identifications were rechecked by the senior author, who is therefore to be held responsible for any errors that may be found.

LOCALITIES

The localities at which echinoderms were collected were the following (unless otherwise indicated the dredging was done by Captain Robert A. Bartlett):

III.—West Turnavik, Labrador (lat. 55° 15' N., long. 59° 20' W.); Sam Bartlett, July 6. XV and XVI.—Melville Bay, near Thom Island; 15–80 fathoms; bottom with much kelp; Sam Bartlett and Albert Barnes, July 19. XXIV, XXV, and XXVI.—Between the north shore of Parker Snow Bay and Conical Rock; 25–45 fathoms; mostly pebbles and shells; July 22. XXX, XXXI, XXXIV, XXXVII, and XXXVIII.—About 1 mile northwest (true) of Conical Rock; 25–60 fathoms; July 22. XL, XLII, XLIII.—West side of Wolstenholme Island; about 12 fathoms; July 23. XLIV.—Off

Wolstenholme Island; 13–17 fathoms; July 23. LI, LII, LV, LVII, and LIX.—Off north shore of Wolstenholme Island; 13–25 fathoms; July 23. LXXII.—Near the south end of Humboldt Glacier; 110 fathoms; D. C. Nutt, August 3.

LIST OF SPECIES

ASTEROIDEA: *Crossaster papposus* var. *squamatus* (Döderlein), XXXI (5, all with ten rays). *Stephanasterias albula* (Stimpson), XVI (6; one is almost perfectly regular with six rays 13 mm long; one has three rays 20 mm long and two buds; the others have six rays of various lengths). XXV (1, with three equal rays 10 mm long and two minute and inconspicuous buds). XXX (2). XXXI (7, of which one regenerating individual has seven rays, the others six; in some of these the skeleton is unusually slender with the interstices large, giving the animals a superficial resemblance to *Leptasterias groenlandica*). LXIII (1). LXII (5). LIX (4). Other than the exceptions mentioned, all have six rays. *Leptasterias polaris* var. *subacervata* Fisher, LII (1; R = 60 mm. In this individual the characters are much more strongly marked than in one at hand from Disco, which does not differ very noticeably from *L. p. polaris*. Both agree in having the groups of enlarged spines confined to the midradial line of the rays, and about six in number. In the specimen from Disco [R = 75 mm] the groups of enlarged spines consist of usually 7–9 spines in a circle surrounding a somewhat larger central one; but the peripheral spines are very little, if any, larger than those of the general abactinal surface. The groups of spines rise only very slightly above the general surface, and from above are noticeable only because they form usually regular rosettes in an otherwise uniformly scattered spiny armature. In the specimen from locality LII the groups of spines rise abruptly and for some distance above the abactinal surface so that they are very conspicuous in lateral view. There are 3–7 smaller spines surrounding a larger central

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one, but the lateral spines are considerably larger than those scattered over the abactinal surface so that the rosettes are very conspicuous from above. Except for the restriction of the groups of enlarged spines to the midradial line of the rays, this specimen resembles others from Bering Sea [*acervata*] more than it does any we have hitherto seen from Greenland). *Leptasterias groenlandica* (Steenstrup), XVI (1). XXXI (1). XLIII (2). LI (1). LVII (2). LIX (3; in one R = 20 mm).

OPHIUROIDEA: *Ophiacantha bidentata* (Retzius), XXV (1). XXXI (2). XLIV (2). *Ophiopholis aculeata* (Linné), III (38). XVI (3). XXV (11). XLIII (2). LII (2). *Ophiura sarsi* Lütken, XVI (4). XXV (13). XLIII (1). *Ophiura robusta* (Ayres), III (6). XVI (1). XXV (14). XXX (1). XXXI (21). XXXVII (1). XXXVIII (1). XLIII (10). *Ophiocten sericeum* (Forbes), III (6). XVI (2). XXX (5). XXXVIII (5). XLIII (1, with the disk rounded-pentagonal, 13 mm in diameter). *Ophiopleura borealis* Danielssen and Koren, LXXII (1, large, with the disk 36 mm in diameter).

ECHINOIDEA: *Strongylocentrotus droebachiensis* (O. F. Müller), XV (12; up to 55 mm in diameter; olive brown to olive green; spinulation variable, from short, dense, and fairly uniform to unequal, with the primaries long, up to 16 mm, and the secondaries short and slender). XXIV (5; up to 45 mm in diameter; test purplish black, spines bright yellow-green, or test pale dull purplish, spines dull olive green; primary spines long, up to 17 mm, secondaries slender, short, and sparse; with or without giant pedicellariae). XXXIV (9; up to 30 mm in diameter; yellow brown; primaries

rather long, secondaries short and slender). XL (6; up to 43 mm in diameter; olive brown to olive green; spinulation variable, from dense and fairly uniform to sparse and unequal with long primaries and short and slender secondaries). LV (3; up to 54 mm in diameter; orange brown; spinulation diverse; numerous giant pedicellariae).

CRINOIDEA: *Heliometra glacialis* (Leach), XXV (arm fragment). XXVI (1). XL (1). LIII (5). LIV (5).

HOLOTHUROIDEA: *Cucumaria frondosa* var. *japonica* Semper, XL (4; these specimens, the largest of which is 85 mm long, contracted, have in the body wall very numerous spicules that agree perfectly with those figured by Mortensen from a specimen taken not far away; following Mortensen, we assign all the specimens from this area to this form). LI (8).

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PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

CHEMICAL SOCIETY

539TH MEETING

The 539th meeting (58th annual meeting) was held in the auditorium of the Cosmos Club on Thursday, January 8, 1942, at 8:15 P.M. President BEKKEDAHL presided. The annual reports of officers for 1941 were read and approved. The Society was addressed by the retir-

ing-president, Dr. H. L. HALLER, on the subject *The search for new insecticides*.

540TH MEETING

The 540th meeting was held in the auditorium of the Cosmos Club on Thursday, February 12, 1942, at 8:15 P.M. President BEKKEDAHL presided. It was announced that Prof. M. X. SULLIVAN, of Georgetown Univer-



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