

Species.	Found living.	Ground.	Freq.	Norwegian Distribution.
<i>Ophiuridæ.</i>				
<i>Ophiolepis</i> , M. & T.				
— <i>filiformis</i> , Müller, sp.	20–40	mud	a.	Drontheim.
— <i>texturata</i> , Forbes ..	20–150	gravel, sand	c.	Dront., Nord., Fin.
— <i>carnea</i> , Lutken	50–200	sand	c.	Finmark.
— <i>squamosa</i> , Lutken ..	4–8	nullipora	r.	Nordland.
— <i>bellis</i> , Forbes	lit.–30	rock, nullip.	a.	Dront., Nord., Fin.
<i>Ophiacantha</i> , M. & T.				
— <i>spinulosa</i> , M. & T...	50–70	sand	r.	Nordland.
<i>Ophioscolex</i> , M. & T.				
— <i>glacialis</i> , M. & T...	130–150	sand	1 sp.	Finmark.

VII.—Descriptions of four new species of Echinodermata.

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[With a Plate.]

Eupyrgus hispidus, nob. Pl. IV. fig. 1 *a*, *b*.

Specific character.—Body covered with perforated, ovate plates, each of which bears a single spine; extremities more or less produced, ascidiform. Suckers alternating, placed in three double distinct rows on the under surface, reaching from mouth to anus. Spines attached to the extremities of the plates by four roots.

This little species resembles in shape *E. scaber*, Lutken, from the west coast of Greenland, which is of about the same size, but differs in the shape of the plates bearing the spines; for while those in *E. scaber* are cruciform, the plates in the species now described are ovate or irregular. (Fig. 2.)

The genus *Eupyrgus*, which was made for the reception of these two species, resembles *Psolus* in being covered with calcareous plates, and in having only three rows of suckers, but differs in the absence of a naked disk, on which the suckers are placed in that genus.

Astropecten Lutkeni. Pl. IV. fig. 3 *a*, *b*, *c*.

Specific character.—Disk pentagonal; rays produced, pointed; each side formed of two rows of plates, about forty in each row; those in the upper row are nearly as long as broad. The plates forming the lower row are oblong. The apex of the ray is formed of a single excavated plate. The marginal plates are covered with numerous spines, and the whole of the upper surface between the lateral plates is covered with tubercles crowned by groups of minute spines smaller than those which cover the

plates. The ambulacral grooves are partly concealed by two rows of small bundles of long spines. The triangular spaces between the ambulacra and the margin are covered by numerous oblong tubercles, which bear numerous spines, similar to those which cover the marginal plates. We have dedicated this species to M. Lutken of Copenhagen, who has described many of the northern Echinodermata.

Common in deep water off the coasts of Nordland and Finmark.

Astrogonium aculeatum. Pl. IV. fig. 4 *a, b.*

Specific character.—Disk pentagonal; rays somewhat produced; each side made up of two rows of eight intermediate lateral plates, which are largest at the junction of two rays; the upper surface of these plates is naked, but on the sides and under surface they bear numerous unequal granules; those on the sides are largest at the apex of the ray, and form two rows; those on the under surface are small, and are placed in a single row around the margins of the plates. The upper surface between the lateral plates is formed of numerous nearly circular plates, each of which is surrounded by a circle of globular granules. Ambulacra protected by two rows of long and two rows of short spines. The other part of the under surface is composed of rows of oblong plates, each of which bears about six globular granules.

Only one specimen was dredged in 100 fathoms water off the coast of Finmark.

Astrogonium boreale. Pl. IV. fig. 5 *a, b.*

Specific character.—Disk pentagonal, bordered by two rows of large marginal plates; each side is made up of two rows of eight intermediate lateral plates. Apex of the ray formed of a single triangular plate; the exterior edges of lateral plates covered with compressed granules. The upper surface of the disk composed of numerous hexagonal plates covered by compressed granules, except those near the centre, which bear granules only on their margins; near the middle of the disk are five smooth plates arranged in a circle round the centre. The marginal plates, on their under surface, have a single row of small granules round their margins. The ambulacral groove is bordered by two rows of long and four rows of short spines; the other part of the under surface is covered with numerous plates bearing granules.

One specimen occurred off the coast of Finmark in 150 fms. water.

EXPLANATION OF PLATE IV.

- Fig. 1. *Eupyrgus hispidus*: *a*, natural size; *b*, $\times 66$.
 Fig. 2. *Eupyrgus scaber*, Lutken: *a* & *b*, $\times 66$.
 Fig. 3. *Astropecten Lutkeni*: *a*, twice the natural size; *b* & *c*, magnified portions of the upper and lower surface of a ray.
 Fig. 4. *Astrogonium aculeatum*: *a*, upper, and *b*, lower side, twice the natural size.
 Fig. 5. *Astrogonium boreale*: *a*, upper, and *b*, lower side, magnified twice.

BIBLIOGRAPHICAL NOTICES.

On a True Parthenogenesis in Moths and Bees; a Contribution to the History of Reproduction in Animals. By C. T. E. VON SIEBOLD. Translated by W. S. DALLAS. 8vo. London: Van Voorst, 1857.

IN this remarkable little work, the learned Professor of Zoology at Munich has called the attention of physiologists to a series of phænomena which threaten to produce a considerable disturbance, at all events for a time, in the generally received opinions regarding the laws of generation. It is usually supposed that in order to the production of fertile eggs the concourse of male and female elements is necessary, but it appears from the observations of Von Siebold, as here recorded, that in some cases the eggs of virgin female insects are capable of giving birth to a progeny which passes through all its stages of development in the same way as if it had been produced from fecundated eggs. To this phænomenon, occurring in some species as a regular condition of specific existence, in others under exceptional and at present inexplicable circumstances, our author gives the name of *Parthenogenesis*, originally made use of by Professor Owen to indicate the alternation of generations.

Although numerous instances of a *lucina sine concubitu* in insects and spiders had already been described by different authors, and some curious questions were started by the constant occurrence of females only in certain Crustacea, all these cases were looked upon by physiologists in general as of a very doubtful nature, and no one certainly anticipated that such apparently exceptional phænomena would have led to the development of a theory of the constitution of the societies of social insects, such as is given by Von Siebold in the work before us. In fact, most of the recorded cases of the production of fertile eggs by virgin moths are so destitute of all those elements of exactitude which alone could render them conclusive, that our author, after a careful critical examination, rejects them all as untenable, at all events on the evidence furnished by their describers. The views put forward by Von Siebold himself are, however, so heterodox, according to the present physiological faith, that we have no doubt they will be received with considerable incredulity by many, and although we must confess that we cannot see any flaw in the evidence, one distinguished authority at least has already stated that he con-

