Zoologischer Anzeiger

herausgegeben

von Prof. **Eugen Korschelt** in Marburg.

Zugleich

Organ der Deutschen Zoologischen Gesellschaft.

Bibliographia zoologica

bearbeitet von Dr. **H. H. Field** (Concilium bibliographicum) in Zürich.

Verlag von Wilhelm Engelmann in Leipzig.

XXX. Band. 19. Juni 1906. Nr. 10.

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I. Wissenschaftliche Mitteilungen.

1. Two New Starfishes from Monterey Bay, California.

By Walter K. Fisher, Stanford University, Calif.

eingeg. 24. März 1906.

The specimens upon which the description of *Astropecten californicus* is based are from the collection of Mr. M. H. Spaulding, of the Louisiana Biological Station, and the type of *Alexandraster inflatus* is in the collection of the Leland Stanford Jr. University Museum.

Astropecten californicus n. sp.

Rays 5. R = 90 mm; r = 17 mm. R = 5,4 r. Breadth of ray at base, measured between first and second superomarginal plates, 17 to 19 mm. Proportions variable, one specimen as follows: R = 80 mm; r = 19 mm; R = 4,4 r; breadth of ray at base, 20 mm.

Disk small; rays long, narrow, very gradually tapering to pointed extremity; interbrachial angles rounded; abactinal surface plane, bordered by narrow margin formed of superomarginal plates which are confined chiefly to side wall of arm, are 46 or 47 to the ray, and are devoid

of any enlarged spines or tubercles. Inferomarginal plates rather narrow with a transverse aboral series of about 3 spines on edge of ray, continued inward along aboral edge of plate by 2 to 4 smaller spaced spinules; 4 or 5 auxiliary spinules, just in front of lateral spines, form an additional armature to margin of ray. Paxillae are small to medium sized, about 4 or 5 transverse series corresponding to 2 superomarginals at base of ray, 6 or 7 at middle, and about 8 or 10, to every 2 superomarginals near tip. Paxillae are largest on outer half of radius of disk, decreasing in size towards center of disk, very quickly toward margin, and gradually along rays toward tips; arranged in definite transverse rows along sides of area, elsewhere more compact and without order. Each paxilla pedicel is surmounted by 15 to 20 short, stout, round-tipped on subtruncate, often clavate, spinelets in a peripheral series and 8 to 15 in center. Some specimens have only 8 to 15 spinelets in peripheral series and 5 to 8 in the central group on the larger paxillae. Opposite suture between second and third superomarginals about 18 to 20 paxillae can be counted across ray.

Adambulacral spines in about 3 parallel series (sometimes 4). (1) Furrow spines 3, the central longest. (2) First actinal series consists of 2 (or 3) slightly shorter spines, of which the aboral is very much the stouter, being flattened with a rounded or truncate tip. (3) On outer half of plate are 2 to 5 shorter slightly flattened spines either in an irregular group, or forming a series 2, or a series of 3, with 1 out of line, additional. First adambulacral plate is much compressed.

Madreporic body is partly concealed by paxillae and is situated $^1/_3$ distance from margin to center of disk; striations are deep, irregularly centrifugal and ridges are beset with numerous little knobs.

Color in life, ferruginous to light claret brown above, lighter below.

Habitat. Monterey Bay, California, 140 metres or less.

Remarks. This species differs from *A. fragilis* Verrill (Panama) — a slender-rayed form — in having numerous actinal adambulacral spines, *fragilis* possessing but a single stout pointed spine on the actinal surface of adambulacral plates. *A. regalis* Gray (San Blas and south) is a short-rayed form (R = 3 r), and has but 1 sharp actinal adambulacral spine. *A. verrilli* de Loriol (Mazatlan) is also a comparatively short-rayed form (R = 3,4 r) and departs otherwise from *californicus* in having a different inferomarginal armature, as well as a single small tubercle on each of the superomarginals, forming a longitudinal series along ray.

Alexandraster inflatus n. sp.

Rays 5. R = 60 mm; r = 23 mm. R = 2,6 r. Breadth of ray at base, 27 mm (more than r!).

Rays short, robust, swollen, evenly tapered or slightly inflated at middle; extremity bluntly pointed; disk capable of considerable inflation; whole animal appearing inflated and turgid; integument fairly thick; abactinal and lateral surfaces marked off into large areas by narrow, rounded, raised ridges — the skeleton — bearing, usually at corners of areas, prominent, widely spaced, isolated, conical, pointed spines, irregularly arranged in a median radial, 1 to 3 dorso-lateral (in young specimens often no dorso-laterals), a superomarginal, 1 or 2 incomplete intermarginal series (of much shorter spinules), and an inferomarginal series; actinal intermediate areas fairly prominent, usually with 1 or 2 irregular series of spines extending partway along ray. Papular spaces, between trabeculae of skeleton, are subquadrate or irregular, containing, on disk, about 50 fairly conspicuous papulae, these decreasing gradually to 15 or 30 beyond middle of ray; intermarginal papular areas with about 25 papulae; no actinal papulae. The lobed primary plates of the skeleton are connected by intermediate oblong-elliptical, overlapping ossicles forming the trabeculae, and on disk the ridges form an irregular pentagon (corners radial) within which is a second, more regular and stellate pentagon, the corners (interradial) touching sides of larger pentagon. Fine creases or lines in the integument proceed outward, between the spines, from the adambulacral to marginal plates.

Preparation of body-wall shows that the papular areas contain many small scattered calcareous grains, most numerous near central portion of each area.

Adambulacral plates considerably wider than long. Armature consists of (1) a single truncate, or round-tipped furrow spine, 3,5 mm long, compressed and usually strongly grooved along upper (or outer) side; (2) on actinal surface a similar but slightly longer upright spine, usually very conspicuously gouge-shaped at tip. Spines and surface of plates are covered with membrane.

Madreporic body is situated at about middle of minor radius; striations, irregularly centrifugal.

Color in life: general tint cream color, abactinal surface lighter; apical area buffy yellow.

Habitat. Monterey Bay, about 140 metres.

Remarks. This species evidently belongs to Ludwig's recently described *Alexandraster* (Mem. Mus. Comp. Zool. XXXII. 1905. 210). The type species was taken in the Gulf of Panama (837 m), and near the Galapagos Islands (702 m). *Inflatus* differs from *mirus*, to which it is closely related in having shorter and thicker rays, and in possessing strongly grooved adambulacral spines. The furrow spines are prominent and not conspicuously smaller than those of actinal surface —

in fact are subequal to the actinal intermediate spines, and only slightly shorter than the actinal adambulacral spines. Many of the actinal intermediate spines, even, are grooved.

2. Über die Vejdovskyella comata Mich. und „Nais hammata Timm".

Von Václav Maule.

(Aus dem zool. Institut d. böhm. Universität in Prag.)

(Mit 1 Figur.)

eingeg. 25. März 1906.

Der vorliegende Aufsatz befaßt sich mit der Frage, in welchen Beziehungen sich die unter dem Namen *Vejdovskyella comata* Mich. und *Nais hammata* Timm Naideen zueinander befinden, ob sie nämlich jede für sich allein als eine selbständige Art angesehen werden können, oder ob sie nicht vielmehr eine und dieselbe Species vorstellen.

Mit den angeführten Namen hat man nämlich eine Naide belegt, welche in der erwähnten Hinsicht auch neuerdings strittig geworden ist. Ich erlaube mir, um in die Sache etwas Klarheit zu bringen, zuerst einen historischen Abriß der Kenntnis des in Rede stehenden Tieres vorauszuschicken.

Vejdovský hat im J. 1883 eine neue Naidenart in das System unter der Bezeichnung *Bohemilla comata* eingeführt und dieselbe in seinem großen Werke »System und Morphologie der Oligochaeten« ausführlich beschrieben und abgebildet (im J. 1884). Gleichzeitig mit der genannten vorläufigen Mitteilung veröffentlichte Timm seine »Beobachtungen an *Phreoryctes Menkeanus* und *Nais*« in den Arbeiten aus dem zool. Institut Würzburg (1883), wo dieselbe *Bohemilla* unter dem Namen »*Nais hammata*« angeführt ist. Es unterliegt keinem Zweifel, wenn man beide Formen einem näheren Vergleiche unterzieht, ja wenn man schon die beiden Beschreibungen und Abbildungen, die von Vejdovský und von Timm, vergleicht, daß es sich bloß um eine und dieselbe Species handelt.

Was die Gattung »*Bohemilla*« anbelangt, so hat zwar schon früher Barrande einen Trilobiten mit demselben Namen belegt, diese Art war jedoch damals nur gewissermaßen sicher und stellte ein sonst nicht genauer bekanntes Genus vor. Als jedoch später klar geworden ist, und zwar auf Grund gut erhaltener Exemplare, daß der Name *Bohemilla* berechtigt ist, so hatte Michaelsen in seiner »Hamburgischen Elbeuntersuchung« (im J. 1903) diesen Namen mit *Vejdovskyella* ersetzt, unter welcher Bezeichnung die betreffende Gattung auch in der »Geographischen Verbreitung der Oligochaeten« (1904) desselben Verfassers angeführt wird.