

Crinoidea

Anthometrina adriani (Bell, 1908)

The lateral perisome of the pinnules is completely in- closed in a continuous series of plates, the distal edges of which overlap the proximal borders of those succeeding; these plates are about as high as broad at the base, becoming higher distally, coarse in texture, with unfinished edges; the proximal border is more or less straight ; the distal is usually in the outer half or two-thirds strongly convex; the middle half of the outer edge is abruptly produced in the form of a long process, which at first is not much longer than broad at the base, with the two outer corners broadly rounded, the proximal and distal sides nearly parallel and convex and lying in a plane parallel with the longitudinal axis of the pinnule, but which soon elongates, so that it is about as long as the major basal portion of the plate, moves somewhat nearer the proximal border, and becomes twisted, so that its proximal border is considerably nearer the midline of the pinnule than the distal ; when the lappets are closed down these plates completely cover the ambulacral groove interlocking exactly like the fingers on the two hands. There are no spicules in the tentacles.

Flowmetra mawsoni AH Clark, 1937

40-77 cirri of up to 34 cirrals; longest cirrals with L/W ratio up to 3; distal cirrals usually with well-developed aboral spine; opposing spine conical and terminal claw slender and curved. Proximal brachials more or less strongly spinous and everted distally, or less so or hardly at all, particularly in larger specimens. Third syzygy usually at brachials 14+15. P1 with up to 50 segments; distal pinnulars slightly modified as rudimentary comb.

Promachocrinus kerguelensis Carpenter, 1879

Antedonidae with radials 10, with one pair of nerve canals open medially. Arms 20; each ray divided at primibrachial. *Promachocrinus kerguelensis* has ten biradiate rays (20 arms), is the most widely distributed and abundant crinoid in Antarctica and subantarctic islands, is the largest comatulid (unstalked) crinoid in southern latitudes and is the only 20-armed comatulid crinoid in high southern latitudes. *Promachocrinus kerguelensis* can be solid colored or banded; its color ranges from ivory to buff with light to dark brown pinnules and if banded, the bands can be dark to reddish brown. Individuals from the Ross Sea may be more uniform in color; solid color and banded specimens can occur in the same population.

Notocrinus virilis Mortensen, 1917

The lateral perisome of the pinnules contains large plates which are usually triangular in shape with rounded angles and mostly about half again as high as broad at the base. Their bases are separated from each other by a space about equal, on the average, to half the basal length. Beyond each of these side plates in the ambulacral lappets, but in contact with their outer ends, lies a considerably smaller covering plate which is irregular in shape, but usually more or less elongate, and tapers to the point of contact with the side plate. In addition to this type Mortensen figured very long and extremely narrow band-like plates standing at right angles to the pinnulars, with beyond them, in the ambulacral lappets, very irregular but usually narrow and elongate covering plates with centrodorsal bare between interradial columns of cirrus sockets. Cirri up to 40, 90 mm long with up to 90 segments.

Echinoidea

Sterechinus antarcticus Koehler, 1901

The test is strongly depressed. The interambulacral plates are relatively few in number and I count only twelve in all in each vertical row in the largest specimens; they are very high compared to their width. Each plate carries in its middle a primary tubercle, quite small on the first two or three plates starting from the apical apparatus and whose dimensions increase rapidly when approaching the ambitus; then the size of the tubercles gradually diminishes near the peristome. The rest of the surface of the ambulacral plates is lined with secondary and miliary tubercles, quite few on the dorsal side of the test, but very close together towards the range and on the ventral side of the test. The middle of the interambulacral areas is relatively bare on the dorsal side. The ambulacral plates each offer a primary tubercle on the first six or seven plates. These tubercles are noticeably smaller than the tubercles of the corresponding interambulacral plates; they are moreover a little irregularly distributed, and, on certain plates, they can be replaced by a secondary tubercle or even miss completely. Then the size of the ambulacral tubercles suddenly increases and becomes almost equal to that of the neighboring interambulacral tubercles. The secondary and miliary tubercles are arranged as in the interambulacral zones and the middle of the ambulacral zones is, as in the latter, relatively bare on the dorsal side of the test. Pores aquifers are regularly arranged in ares of three pairs. The peristome is of medium size. The periproct is very large: its diameter exceeds 7 mm. on a copy of 33 millim. In the adult animal, it is covered with numerous small rounded plates, arranged quite regularly in concentric circles; these plates all have the same dimensions, except for one which is much larger than the others. This represents the central-dorsal plate; it is located near the center of the periproct, but its position is never exactly central.

Sterechinus neumayeri (Meissner, 1900)

Test usually regularly hemispherical with conspicuously sunken aboral interrarial sutures. Ambulacra usually with one primary tubercle on every second or third plate, but sometimes on every plate. Typically, suranal plate inconspicuous in adults. Terminal plates never all insert or all exsert; most frequently terminals II and III exsert. Globiferous pedicellariae with "shoulders", their basal part with projecting upper corners. Tube foot spicules absent. Test color variable, but usually greenish.

Brachysternaster chesheri Larrain, 1985

Test elongate and regularly ovoid. Anterior ambulacrum flush with the test, without frontal notch. Test rather low, highest at the apical system, without posterior truncation. Periproct inframarginal, completely visible in oral view. Oral surface somewhat concave, with a large labrum that is wide, prominent, and v-shaped posteriorly, reaching at least the third ambulacral plate. Peristome reniform, barely visible under the labrum. The labrum and sternum are separated by two pairs of adjacent ambulacral plates (I.a.3 - V.b.3, and I.a.4 - V.b.4), which join along the midline. No trace of a fasciole. Primary tuberculation sparse. Only rostrate and tridentate pedicellariae present. Color usually purplish, but some specimens are yellowish.

Abatus (Pseudabatus) nimrodi (Koehler, 1911)

The main characteristic of *A. nimrodi* is that the depressed part of the petals is widely separated from the apical system. This feature is particularly conspicuous in females, in which the brood pouches start as far as 7 or 9 ambulacral plates distant from the apical system. General outline of the ambitus rounded, without frontal notch, slightly attenuated posteriorly. Test flattened aborally. Periproct located on the short vertical posterior end, and scarcely visible in either aboral or oral views. Labrum large, extending to the 2nd or 4th adjacent ambulacral plates, but not distinctly overhanging the peristome. Valves of globiferous pedicellariae terminating in a series of small teeth. Bidentate pedicellariae very abundant all over the test. Color of preserved specimens dark-brown to almost black.

Abatus agassizii Mortensen, 1910

Diagnosis - Ambital outline rounded. Anteriorly, frontal ambulacrum flush with the test, no frontal notch at the ambitus. In lateral view, test vertically truncated at its posterior end. Posterior petals as long as the anterior ones. Peripetalous fasciole almost pentagonal running well above the ambitus. Apical system central or slightly posterior. Periproct not visible from either aboral or oral surface. Peristome large, partially occluded by a short, broad labrum, extending no farther than the first adjoining ambulacral plates. Sternal plates very large, somewhat convex. Three main types of pedicellariae present: dentates with two or three valves of variable shape; rostrates with short, squat valves; globiferous with two straight, flattened teeth.

Abatus cavernosus (Philippi, 1845)

A. cavernosus is the type species of the genus and is characterized by a frontal notch producing the heart-shaped outline of the ambitus. Posterior end of the test vertically truncated, bearing the periproct which is not visible in either aboral or oral view. Test shape highly variable. Posterior petals slightly shorter than the anterior ones. Peripetalous fasciole forming very broad band (up to 4 mm near the ambulacra). Anterior branch of the fasciole passing near the ambitus, but still visible in aboral view. Labrum covering a large portion of the peristome, but short and not extending beyond the first adjacent ambulacral plates. Sternal plates large, reaching the 6th ambulacral plates. Primary spines on plastron spatulate (Bernasconi 1953). Dentate and small phyllous pedicellariae may occur with either two or three valves. Valves of globiferous pedicellariae terminating in four small teeth. Color when preserved generally dark brown but fasciole appearing as a light conspicuous band.

Abatus cordatus (Verrill, 1876)

Test ovoid with a faint frontal notch. Posterior petals approximately the same size as the anterior ones. Peripetalous fasciole curving aborally in the lateral interambulacra, anterior branch displaced adapically above the edge of the test. Band of the fasciole getting very wide near the ambulacra (9 to 12 miliaries wide) and narrower in the interambulacra (6 to 8 miliaries wide). Periproct located on the almost vertical posterior end, not visible in either aboral or oral view. *A. cordatus* differs from other species of *Abatus* by the lack of anal tube feet. Labrum partly covering the peristome and usually terminating at the second adjacent ambulacral plates, but never beyond the third adjacent plates. Sternal plates large. Unlike all the other *Abatus* species, globiferous pedicellariae are totally lacking in *A. cordatus*. Although based on absence, this feature is reliable as hundreds of specimens have been checked. Small bidentate pedicellariae very common. Color dark brown.

Abatus curvidens Mortensen, 1936

Test regularly oval at the ambitus, with a faint frontal notch. In profile, test truncated at the posterior end. Fasciolar band thin, occupying an ambital position in the anterior part of the test, curving slightly inside the lateral interambulacra, but nearly straight in the posterior ambulacra. Apical system slightly anterior. Periproct, situated on the posterior end of the test, not visible in either oral or aboral view. Prominent labrum rounded and partly covering the peristome, which is not very sunken. Labrum extending to the second adjoining ambulacral plates. Valves of rostrate pedicellariae very narrow and curved at their ends, but not widened. Valves of globiferous pedicellariae small and curved (hence the species name “*curvidens*”), terminating in two or three long and slender teeth.

Abatus ingens Koehler, 1926

Abatus of very large size and with a triangular ambitus. Anterior end of the test rounded (no anterior notch), and posterior end attenuated. *A. ingens* departs from the usual shape of the other *Abatus* species, and in some aspects resembles the general outline of *Amphipneustes*. Fasciole very sinuous, running close to the petals, high on the aboral surface of the test (it lies on plates 6 and 7 in the paired interambulacra). Periproct

visible from in oral view. Labrum large, usually extending to the 4th adjacent ambulacral plates; it projects over, and partly obscures the peristome. Valves of globiferous pedicellariae terminating in two long hooks. In living specimens, the animal, including the spines, is very dark, almost black.

Abatus shackletoni Koehler, 1911

Test more or less ovoid, about as broad as long, the anterior part somewhat rectilinear, without frontal notch, or with a very faint one. Petals deeply excavated in females. In males, ambulacra only slightly depressed. Peripetalous fasciole regular and almost ambital both in the anterior and posterior regions. Fasciolar band of moderate width (five to seven miliaries wide). Posterior end of the test truncated, periproct not visible in either oral or aboral view. Labrum long, reaching the 3rd or 4th adjacent ambulacral plates. We are unable to support Mortensen's (1951: 261) observation that the "labrum reaches posteriorly to the middle of the second adjoining ambulacral plates." Valves of globiferous pedicellariae terminating in two long teeth. Triphyllous pedicellariae with a short base. Color brown to grayish purple.