

hind tibiae the hair is red apically; hind basitarsi with hair black on outer side and behind, on inner side and the broad apical brush red, in front of basal part broadly white; fifth dorsal abdominal segment with a large cream-coloured spot on each side.

Hab. Quirigua, Guatemala (*W. P. Cockerell*). One of each sex.

Related to *T. bunchosiæ*, Friese, but in the female the third ventral segment is like the second (not opaque and strongly punctured), while in the male the clypeus has less pale colour, and there are other differences. There are several more or less related species in South America, none having the same structure in detail as *T. mayarum*.

T. bombitarsis, Vachal, must belong to this group, and, if so, is not allied to *T. maura*, as Vachal states. The groups containing *maura* and *bunchosiæ* differ in the spurs and otherwise, and are only superficially similar.

Named after the Mayas, who built temples and made remarkable sculptured monuments at Quirigua. The male is the type.

At flowers of *Pontederia cordata*, L., at Quirigua, Feb. 11, 1912, Mrs. Cockerell took females of *Tetrapedia calcarata*, Cress., and *T. mæsta*, Cress.

III.—*Preliminary Descriptions of Eleven new Crinoids belonging to the Families Himerometridæ, Mariametridæ, and Colobometridæ, discovered by the 'Siboga' in the Dutch East Indies.* By AUSTIN H. CLARK.

THE new unstalked crinoids described below will be considered in greater detail and figured in the memoir covering the comatulids in the 'Siboga' reports; as the very extensive collection brought back by the 'Siboga' will require a large amount of study, especially as regards the data bearing on the geographical distribution of these animals and on allied problems, it has seemed advisable to publish descriptions of the new forms discovered in advance of the final report.

Family **Himerometridæ.**

Amphimetra propinqua, sp. n.

This species is most closely related to *A. producta*, but it differs from that form in its longer and more slender cirri, which are composed of much longer segments.

The cirri are VIII-XIII, 24-36 (usually 30-33), 26 mm. to 32 mm. (usually about 30 mm.) long; they are very slender, and taper gradually in the proximal third, being especially slender from that point onward; all the cirrus segments are approximately subequal in length, about twice as long as broad at the ends, though those in the distal third of the cirrus are slightly carinate, which makes them appear slightly shorter, and those in the proximal half are slightly longer, with slightly expanded ends; in the outermost segments there is a slight indication of dorsal tubercles.

The arms vary from ten to thirteen in number, and are from 90 mm to 120 mm. long.

Type Locality. 'Siboga' Station No. 318; north-east of the east end of Java; 88 metres.

Family **Mariametridæ.**

Selenometra tenuicirra, sp. n.

This new form is closely related to *S. fnschii*, from which it differs in the structure of its cirri, which are longer and more slender, and are composed of more elongated segments.

The cirri are from 55 mm. to 70 mm. long, and are composed of 69-78 segments, of which the distal are nearly or quite as long as broad, instead of twice as broad as long or even broader as in *S. fnschii*, and the more proximal are about twice as long as broad instead of slightly, when at all, longer than broad as in *S. fnschii*.

P_1 is 11 mm. long and is composed of twenty or twenty-one segments, of which the first is short, the following gradually increasing in length and becoming about as long as broad on the fifth or sixth and twice as long as broad distally; P_2 is 12 mm. long, with twenty-two segments, and resembles P_1 ; P_3 is 10 mm. long, with eighteen segments, and resembles P_2 ; P_4 is 7.5 mm. long, with thirteen segments, and tapers more in its distal portion than P_3 ; P_5 is 7 mm. long, with thirteen segments, and is slightly more slender than P_4 , especially distally; the distal pinnules are 8 mm. long, with seventeen segments.

Type Locality. 'Siboga' Station No. 320; north of the east end of Java; 82 metres.

Mariametra tenuipes, sp. n.

The centrodorsal resembles that of the other species of the genus; the dorsal pole is slightly convex, finely tubercular, 1 mm. in diameter.

The cirri are XXVI, 24-29, 22 mm. long: the first segment is short, the second is about twice as broad as the median length, the third is slightly longer than broad to half again as long as broad, and the sixth to the eighth are about three times as long as their median diameter; the following gradually decrease in length, so that the last ten or eleven are about as long as the distal diameter or only very slightly longer; the cirri are exceedingly slender; the longer proximal segments have slightly prominent ends; slight subterminal dorsal spines are found on the eleventh and following.

The arms are about fifteen in number and about 45 mm. long; together with the division series they resemble those of the other species of the genus. The lateral ornamentation on the ossicles of the IBr series is confined to the lateral third of the dorsal surface; distally it gradually narrows, disappearing at the base of P_1 ; it consists of very numerous small blunt spines, more or less coalescent, which exhibit a tendency to become arranged in horizontal rows.

Type Locality. 'Siboga' Station No. 294; off the south coast of Timor; 73 metres.

Mariametra tuberculata, sp. n.

This species is nearest to *M. delicatissima*; but in that form the lateral ornamentation of the division series is merely a slight roughening.

The centrodorsal is large, thick discoidal, the dorsal pole slightly convex, 2 mm. in diameter; the cirrus sockets are arranged in two closely crowded and irregularly alternating rows.

The cirri are XXI, 25-27, 20 mm. long; they are long and rather slender with a slight distal taper: the first segment is short, the second slightly longer, the third nearly as long as broad, the fourth slightly longer than broad; after the tenth the segments slowly decrease in length, so that the last four or five before the penultimate are about as long as broad to about one-third longer than broad; the outer eleven or twelve have a slight distal dorsal carination, which is low and rises very gradually from the dorsal surface, but ends rather abruptly distally.

The radials are concealed in the median line, and are only slightly visible in the interradial angles; the IBr₁ are very short, almost oblong, five or six times as broad as long; the axillaries are very short, nearly or quite three times as broad as long; the IIBr and IIIBr series are 2, the latter developed externally; the sides of the division series are in close

apposition and are sharply flattened laterally; the proximal edge of the IBr_1 is everted and slightly scalloped; the anterior edges of the axillary are slightly everted, but smooth; the lateral third of these two ossicles taken together bear a dozen or a dozen and a half prominent well rounded and entirely separated tubercles, some of which may be laterally elongated; the sides of the ossicles of the $IIBr$ series are similarly, though not so extensively, modified, this modification being bordered interiorly by a more or less marked prominent beaded ridge or row of tubercles, which, however, may be absent.

The type specimen has about twenty-six arms, which are 75 mm. long.

Type Locality. 'Siboga' Station No. 51; southern portion of Molo Strait; 69-91 metres.

Dichrometra tenuicirra, sp. n.

In all the details of its general structure this species agrees with *D. flagellata*, but it is sharply separated from that form by the curious character of its cirri, which are long and slender, with elongate, though spinous, distal segments.

The centrodorsal is low hemispherical, with very sloping sides; the dorsal pole is slightly convex, flat, or very slightly concave, 1.5 mm. to 2 mm. in diameter; the cirrus sockets are arranged in two or in two and a partial third marginal rows.

The cirri (in the type) are XXVIII, 25-28, 20 mm. to 25 mm. long, slender and delicate: the first segment is very short, the second is twice as broad as long, the third is slightly broader than long, the fourth is half again to twice as long as the median diameter, and the fifth is from two to two and one-half times as long as broad; the following to the ninth, tenth, or eleventh (the latter usually a faintly marked transition segment) are similar, but those following are slightly shorter, about half again as long as broad; the tenth, eleventh or twelfth, and following bear prominent triangular median spines; the earlier of these spines occur about in the centre of the dorsal line of the segments; their anterior (distal) margin stands out vertically and is from one-third to one-half as long as the recumbent side; the hypotenuse from the apex of the spine to the proximal base is usually straight, but there may be a slight tubercle where it merges with the dorsal surface of the segment; sometimes it is more or less concave, leading from the dorsal spine to a smaller blunt proximal tubercle; the spines change but little distally; their bases become shorter and their apices

consequently sharper; the longer earlier segments have slightly enlarged distal ends; this character persists to the end of the cirrus, but is less marked on the spinous distal segments.

The division series and the arms resemble those of *D. flagellata*, but are much more slender and delicate; the division series and first brachials may be well separated or in lateral contact; they are usually not quite in apposition, though possessing straight lateral edges which are slightly swollen, suggesting the lateral processes seen on the proximal ossicles of the species of *Stephanometra*, though their outer margin is straight instead of convex. The characteristic rugose arm-structure and the low though prominent synarthral tubercles of *D. flagellata* are reflected in a delicate and modified form.

Type Locality. 'Siboga' Station No. 320; north of the eastern end of Java; 82 metres.

Family Colobometridæ.

Cyllometra gracilis, sp. n.

This new species is related to *C. manca*, but differs markedly in its longer and more slender cirri, which are composed of longer segments.

The centrodorsal is discoidal, the dorsal pole flat or slightly concave, 2 mm. in diameter; the cirrus sockets are arranged in one and a partial second marginal row.

The cirri are (in the type) XXIII, 25-30 (usually nearer the latter), 21 mm. long; the first segment is short, the second is about twice as long, from one-third to one-half again as broad as long, the third is slightly longer than broad, the fourth and fifth progressively increase in length, and the sixth to the ninth or tenth are the longest, about twice as long as their proximal diameter; the following segments gradually decrease in length, so that the last twelve before the penultimate are subequal, slightly longer than broad; as a whole the cirri are long and unusually slender; owing to the crowded condition of the cirri on the centrodorsal the first segment is sharply flattened laterally against the first segments of the cirri on either side; the distal dorsal edge of the fourth and following segments is slightly swollen, this after the seventh becoming a trio of dorsal spines, a central, larger, and two smaller, lateral; the central spine projects more dorsally than do the other two, but does not extend so far distally; all are very small; on the last twelve or fifteen segments before the penultimate

the lateral spines disappear and the median becomes slightly more prominent, occurring as a small single submedian tubercle directed obliquely forward; all the dorsal processes are small and inconspicuous.

The arms are from twenty-five to thirty in number, and about 50 mm. in length; IIIBr series are always present on some or all of the rays.

Type Locality. 'Siboga' Station No. 49 a; Sapeh Strait, between Sumbava and Komodo, Sunda Islands; 69 metres.

Decametra mylitta, sp. n.

This new form is nearest to *D. mollis* from Kurrachi, but the cirri are slightly stouter, the majority of the segments being twice as broad as long or even somewhat broader instead of only slightly broader than long as in *D. mollis*, and the proximal pinnules, while of about the same proportions, are relatively longer and stouter and are composed of somewhat shorter segments.

The centrodorsal is discoidal, the flat dorsal pole being 1.5 mm. in diameter; the cirrus sockets are arranged in two closely crowded alternating marginal rows.

The cirri are XIX, 20-23, 10 mm. or 11 mm. long: the cirrus segments are subequal in length and all short; the first is very short, the second slightly longer, the third and following about twice as broad as long or slightly broader; the last three before the penultimate increase slightly in length, so that the antepenultimate is about one-third broader than long; the earlier segments have the dorsal surface swollen and distally truncated, so that the dorsal profile of the cirrus is serrate; after the first three segments the dorsal profile becomes straighter, making a considerable angle with the longitudinal axis of the cirrus, and the distal edge becomes straight, forming a very finely spinous transverse ridge, which, however, is not raised above the general surface of the segments; this transverse ridge becomes gradually more and more marked, at the same time moving more and more toward the centre of the dorsal surface; on the ninth segment it becomes median and begins to acquire a slightly concave profile, and after the fourteenth it resolves itself into two prominent, entirely distinct, tubercles situated side by side, the distance between their two apices being about equal to the distance from either apex to the outer edge of the segment; distally these two tubercles gradually approach each other, and gradually move nearer the proximal margin of the segments; on the fourth segment before the

penultimate the two tubercles fuse into a single transversely elongate tubercle, which gradually becomes less and less elongate and on the antepenultimate appears as a single small rounded tubercle situated near the proximal margin of the segment; when the cirri are viewed from the side no distinct dorsal processes are seen (though the dorsal profile is serrate) until the distal half, when the tubercles appear as low blunt dorsal spines.

P_1 is small and weak, 5 mm. long, with fourteen segments, tapering with moderate rapidity in the proximal half and becoming very slender distally; the first segment is short, the following gradually increasing in length and becoming about as long as broad on the fourth or fifth, and about twice as long as broad distally; the pinnule is slightly prismatic; P_2 is 9 mm. long, with seventeen segments, not greatly larger than P_1 basally, but tapering evenly from the base to the tip and therefore appearing stouter; the first two segments are slightly broader than those following, and are much broader than long; the third segment is slightly broader than long, the fourth is slightly longer than broad, and the following are about half again as long as broad, becoming twice as long as broad terminally; the pinnule is rounded prismatic; the fourth and following segments have slightly produced and spinous distal edges, this character gradually increasing in extent distally and being most marked along the prismatic ridge; P_3 is 6 mm. long, with fourteen segments, and is similar to P_2 except in size; P_4 is 5 mm. long, with thirteen segments, and resembles P_3 ; P_5 is 4.5 mm. long, with fourteen segments, and resembles P_4 , but the component segments are proportionately shorter; P_6 is 4 mm. long with fifteen segments, and resembles P_5 ; the following pinnules are similar to P_6 ; the distal pinnules are very slender, 7 mm. long, with twenty-one segments, of which the outer are about twice as long as broad.

The ten arms are 75 mm. long.

Type Locality. 'Siboga' Station No. 99; anchorage off North Ubian, between Borneo and Mindanao; 16-23 metres.

Prometra laevipinna, sp. n.

The centrodorsal is discoidal, with a broad flat circular dorsal pole 2 mm. in diameter; the cirrus sockets are arranged in a single closely crowded marginal row.

The cirri are XIV, 18-23, 13 mm. long: the first segment is very short, the following gradually increasing in length and after the tenth or eleventh becoming about as

broad as long; the first segment has the distal dorsal edge produced; on the second and third this becomes a strong transverse ridge, which gradually moves anteriorly, becoming median on the eighth and following, and appearing as a minute median spine in lateral view; this ridge shows no tendency to resolve itself into paired spines or tubercles, nor does it narrow appreciably on the outer segments, appearing as a broad transverse ridge on the antepenultimate; the opposing spine is small, slender, median, erect, in height equal to about one-quarter of the lateral diameter of the penultimate segment.

The arms, which resemble those of the other small species of the genus, are 40 mm. long.

P_1 is 5.5 mm. long, with fourteen or fifteen segments, moderately slender and somewhat stiffened; the first segment is short, the following gradually increasing in length, so that the fifth is about as long as broad and the outer very slightly longer than broad; from the third segment outward the pinnule is rather strongly prismatic, with a prominent rounded ridge running along the centre of the outer surface; P_2 is 6.5 mm. long, with seventeen segments, resembling P_1 , but slightly more slender basally and tapering more evenly to the tip, and not so strongly prismatic; P_3 is 4.5 mm. long, with fourteen segments, similar to the preceding, but proportionately smaller, and more slender distally; P_4 is 3.5 mm. long, with thirteen segments, small and slender, with the outer segments twice as long as broad; P_5 is similar, 3 mm. long, with eleven or twelve segments; P_6 resembles P_5 ; the distal pinnules are very slender, 7 mm. long, with from twenty to twenty-two segments; the outer edges of the segments of the earlier pinnules are perfectly smooth.

Type Locality. Saleyer (north of Flores).

Prometra minima, sp. n.

The centrodorsal is thin discoidal, with a flat finely papillose dorsal pole 1 mm. in diameter.

The cirri are X, 10-12, 3 mm. to 4 mm. long: the first segment is short, the following gradually increasing in length, so that the fifth or sixth and following are about as long as broad; the second and following have a finely serrate transverse ridge, which becomes median after the fourth or fifth; this transverse ridge is low and very narrow, appearing as a very minute sharp spine in lateral view; on the second, third, and fourth segments the lateral angles of this ridge

project beyond the profile of the cirrus as seen in dorsal view, but beyond the fourth segment the ridge becomes narrower, beyond the sixth dividing more or less completely into two transversely oblong sharp ridges or small sharp spines; the antepenultimate segment possesses a single dorsal spine; the opposing spine is much larger than the preceding dorsal processes.

The radials are just visible beyond the centrodorsal; the IBr_1 are very short, about four times as broad as long, the proximal and distal edges parallel, the lateral edges slightly convergent; there are slight rounded ventrolateral projections; the axillaries are broadly pentagonal, half again as broad as long, with slight rounded ventrolateral processes resembling those on the IBr_1 ; the synarthrial tubercles are moderately developed.

The ten arms are very slender, 35 mm. to 40 mm. long, and resemble those of the other species of the genus; there is a faintly indicated rounded median carination on the lower oblong brachials.

P_1 is 2 mm. long, with eight or nine segments, nearly as stout basally as P_2 , but tapering more rapidly and becoming slender and delicate distally; the first segment is short, the following gradually increasing in length and becoming slightly longer than broad on the third and about twice as long as broad distally; the distal edges of the outer segments are slightly spinous; P_2 is 3 mm. long, stiff and spine-like, though slender, tapering slowly and evenly from the base to the tip, with eight or nine segments, of which the first is twice as broad as long, the second is nearly as long as broad, the third is nearly twice as long as broad, and the remainder are about three times as long as broad; the pinnule is rather strongly prismatic, and the distal edges of the third and following segments bear long and prominent spines on the prismatic angles; P_3 is 2 mm. long, with eight segments, of which the distal are considerably elongated, small and slender, slightly stiffened; P_4 is 1.25 mm. long, very delicate, and not stiffened, with nine segments, of which the distal are much elongated; P_5 is similar, but slightly shorter; the distal pinnules are 2.5 mm. long, with thirteen segments, of which the second and third are strongly carinate and the outer are very greatly elongated.

Type Locality. 'Siboga' Station No. 117; entrance to Kwandang Bay, Celebes; 80 metres.

Prometra parva, sp. n.

The cirri are XIV, 14-15, 5.5 mm. long, and resemble

those of *P. minima*; the sixth or seventh and following segments are about as long as broad.

The ten arms are 40 mm. long; the lower discoidal brachials are smooth, but those following have rather strongly everted distal ends.

P_1 is 2·3 mm. long, with eleven segments; it tapers rather rapidly in the first four segments, more gradually from that point onward; the first segment is short, the second slightly longer, the third slightly broader than long, the fourth slightly longer than broad, the fifth and following about twice as long as broad; P_2 is from 3·5 mm. to 4·5 mm. long, with eleven segments, evenly tapering, much larger and stouter than the other pinnules, though not greatly enlarged; the first segment is short, the second half again as broad as long, the third slightly broader than long, the following gradually increasing to the seventh, which, with the following, is twice as long as broad; the pinnule is rather strongly prismatic and the fourth and following segments have their distal edges produced on the prismatic angles into prominent short stout spines, which increase in prominence distally; P_3 is 1·5 mm. long, with eight segments, of which the distal are elongated, small and weak; P_4 is slightly smaller than P_3 ; the distal pinnules are exceedingly slender, 4 mm. to 4·5 mm. long, with thirteen segments, of which the second and third are slightly carinate and the outer are greatly elongated.

Type Locality. 'Siboga' Station No. 315; anchorage off Sailus Besar, Paternoster Islands; up to 36 metres.

Oligometra marginata, sp. n.

This new species is most closely related to *O. adeonæ*.

The dorsal pole of the centrodorsal is papillose.

The cirri are XV, 15-16, 7 mm. long: the first segment is short, the following gradually increasing in length, so that the fourth, fifth or sixth, and following are about as long as broad; the third and following segments have a strong transverse ridge near the proximal dorsal margin; this ridge is prominent and high with a finely serrate crest; it lies about one-third of the distance between the proximal and distal margins of the segments; in the proximal half or three-quarters of the cirri the distal dorsal edge of the segments is more or less everted, so that there is the same bidentate appearance characteristic of the cirri of *O. adeonæ*; on the earlier segments this eversion may be nearly as high as the transverse ridge, but it soon decreases in height and

disappears entirely in the outer half or quarter of the cirri; the smaller cirri are quite without it.

The ten arms are 30 mm. long; the proximal arm structure is the same as that of *O. aedeonæ*; the ossicles of the IBr series and the first two brachials are broad and are in lateral contact through produced and flange-like ventrolateral borders, the outer edges of which are parallel to the longitudinal axes of the segments which bear them.

P_1 is 5 mm. long, with nine segments, rather slender but considerably stiffened, recalling P_2 in the more delicate varieties of *Stephanometra monacantha*; the first segment is about one-third broader than long, the second half again as long as the proximal width, slightly trapezoidal, the third about three times as long as its proximal diameter, the fourth to the sixth slightly longer, the following rapidly diminishing to the small terminal segment; the second to the fourth segments are slightly constricted centrally; P_2 is 4 mm. long, with nine segments, similar to P_1 , but very slightly stouter and with slightly shorter segments; P_3 is 2.5 mm. to 3 mm. long, with eight segments, more slender and less stiffened than the preceding; P_4 is 2 mm. long, small, slender, and weak, with eight or nine segments; the next two pinnules are similar to P_4 ; the following gradually become elongated, the distal pinnules being from 4.5 mm. to 5 mm. in length, with thirteen segments, of which most are from two to three times as long as broad and very slender.

Type Locality. 'Siboga' Station No. 305; mid-channel of Solor Strait, off Kampong Menanga; 113 metres.

IV.—*Mammals from the Ju River, Cameroons.*

By OLDFIELD THOMAS.

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Kerivoula cuprosa, sp. n.

A small speckled brown species with short incisors.

Size decidedly less than in the related species *K. arosa* and *lanosa*. Fur soft and fine (hairs of back 6–6.5 mm. in length), extending on to the forearm, thinly along the pollex and terminal part of the third digit, and down the upper side of the legs on to the feet; proximal part of interfemoral thinly haired, naked distally, the hinder margin with a