

DESCRIPTIONS OF TWO NEW SPECIES OF CRABS FROM
THE WESTERN INDIAN OCEAN, PRESENTED TO THE
NATIONAL MUSEUM BY DR. W. L. ABBOTT.

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A LARGE number of crabs were recently collected by Dr. W. L. Abbott at the islands north of Madagascar. Among them are two new species, both of which represent rare and peculiar genera. The genus *Hypocœlus* of the Cancridæ can be distinguished by the oblong or oval cavity beneath the antero-lateral border of the carapace. Three species have already been described: *H. granulatus*, (De Haan), from Japan, *H. diverticulatus*, (Strahl) [= *Cancer sculptus*, Milne-Edwards, not Herbst], found sparingly from Japan to the Red Sea and Mauritius, and *H. punctatus*, Miers, of which a single specimen is known, from Torres Straits.

The other new form in the Abbott collection is a member of the Thelphusan genus *Deckenia*, the type of which was described by Hilgendorf from the adjacent African continent. This genus differs from other Thelphusidæ in having the efferent branchial channel prolonged to the front, a character in which it approaches the Oxystomata.

HYPOCÆLUS ABBOTTI, new species.

Carapace shaped much as in *H. punctatus** and strongly lobulated as in that species; but the second lobule near the antero-lateral margin is longer than wide, and the posterior margin of the cardiac region is transverse and is distinctly separated from a small median lobule. The surface is rough with blunt spiniform tubercles, which also border the somewhat truncate frontal lobes and the prominent præorbital protuberances. There is a spine at the inner suborbital angle. The pterygostomian cavity is suboval, wider at its inner than its outer end. The anterior margin is straight for nearly its whole length and is formed by the antero-lateral margin of the carapace. The cavity is crossed by two ridges nearly parallel to the anterior margin, the ante-

* Miers, Crustacea H. M. S. *Alert*, p. 206, pl. XIX, fig. B, 1884.

rior ridge stopping short of the inner margin, the posterior ridge shorter and not reaching the outer margin. The surface of the abdomen and sternum is covered with bead-like tubercles except for irregular eroded channels or pits. The right cheliped (the left one is missing) is massive and tuberculous or spinous. The merus is short and thick, margins tuberculous, inner and outer surfaces smooth, lower surface finely tuberculous. Carpus with lower half of outer surface spinous. Manus with upper surface subtriangular, half as broad as long; outer surface with longitudinal spinous ridges, two of which are continued on the pollex and terminate in two of the five strong teeth (one is terminal) of the prehensile edge. The dactylus bears four spinous ridges on its outer and upper surface and seven teeth on the prehensile edge which are smaller than the propodal teeth and fit closely into the spaces between them. The inner surface of the manus is tuberculous on its proximal lower portion. The ambulatory legs are short and broad; the last two pairs when drawn up, fit into the cavity adjoining the postero-lateral border of the carapace. The meral joints are very broad (in the first pair the width is one-half the length), and are hollowed beneath to receive the two following joints; their anterior distal angles are produced and rounded. The distal end of the propodus is much broader than the adjacent portion of the rather slender and slightly tapering dactylus.

Unfortunately it is impossible to give an accurate description of the natural color of the specimen, as with other crabs it was placed when collected in contact with nudibranch mollusks, which have given it a dark blackish-blue color. The entire surface is coated with a membranous covering apparently epidermic which tends to obscure the tubercles. Where this has been removed with muriatic acid the carapace appears to be blotched with bright red and white. The tips of the spines are white. The carapace is sparingly hairy, the legs are margined with hair, and the subbranchial regions are very hairy.

Measurements.—Length of carapace (of male), 55.5 mm.; width, 76; length of manus, lower margin, 44; depth, 21; width of upper surface, 10; length of merus of last ambulatory leg, upper margin, 16.5; length of carpal joint, 11; length of propodal joint, 6; length of dactylus, 10; width of merus, 6.5; proximal width of propodal joint, 6; distal width, 4; greatest or transverse diameter of pterygostomian cavity, 25; opposite dimension, 11.

Locality.—Aldabra Island. (One male, No. 17753).

A. Milne-Edwards in describing the genus* says that the pterygostomian cavity is concealed by the anterior feet when the latter are folded against the carapace. This is not the case in this species. In no position does the cheliped fit tightly over the cavity. When the cheliped is folded, the upper surface of the manus is continuous with

* *Nouv. Arch. Mus. Hist. Nat. Paris*, I, 1865, p. 295.

the inner distal portion of the outer face of the carpus. The inner border of this area corresponds in position very nearly with the posterior margin of the pterygostomian cavity; the cavity itself is therefore left uncovered. The only other representative of this genus in the National Museum is a single specimen of *H. diverticulatus*, from Mauritius, in which the cavity is longitudinal, its margin formed by two confluent circles. When the cheliped is folded against the body, the concave upper margin of the manus and anterior carpus crosses the cavity at its middle, concealing the posterior half, and exposing the anterior half.

H. abbotti differs from other species in the double ridge in the pterygostomian cavity, and in the carapace marked with tubercles instead of granulations, rugose lines, or punctæ.

DECKENIA CRISTATA, new species.

Carapace a little more than four-fifths as long as broad, very thick, slightly convex transversely, very convex longitudinally, antero-lateral margins strongly arcuate. There is a prominent tuberculous post-frontal crest, extending across the carapace, sinuous, interrupted at the median line and at the cervical suture, and slightly interrupted behind the base of the eye. The median groove extends backward from the frontal margin to the postfrontal crest, where it divides into two grooves outlining the narrow anterior portion of the mesogastric region. The cardiacal grooves are shallow; the cervical groove is almost longitudinal for a portion of its length, then curves outward and ends at the post-frontal crest. The dorsal surface is punctate, the anterior half is covered with squamiform granules, which, on the anterior branchial regions, become tuberculous and tend to form short ridges. The front is about one-third the width of the carapace, deflexed, tuberculous, three-lobed, median lobe more advanced and much narrower than the lateral, its margin bent towards the horizontal. The margin of the front and orbit is raised, shining and indistinctly granulous. The orbital margin is sinuous, its general direction being outward and forward. The postorbital tooth is acute and more advanced than in *D. imitatrix*. The epibranchial tooth is smaller and not far behind the postorbital; it is followed by a row of about twenty small tuberculous teeth, forming an antero-lateral marginal line which posteriorly curves upward and inward on the carapace. The postero-lateral branchial regions are marked by transverse broken raised lines, which are continued on the subbranchial area. The posterior of these lines is the strongest and is continued further inward on the dorsal surface. The suborbital margin is nearly straight, inclined inward and slightly forward, and is finely toothed, its inner angle thickened and adjoining the end of the efferent branchial channel, which is in advance of the lateral frontal lobe and is visible from above. On the subhepatic region are two tuberculous lines concentric to the orbit. The abdomen of the

female has the first two segments short, the third to the sixth increasing successively in length, the terminal segment large, subtriangular, one-half as long as wide. Eggs very large, $3\frac{1}{2}$ mm. in diameter. The disposition of the antennal region is similar to that of *D. imitatrix*. The antennæ are minute, smaller than in that species, and smaller than the antennulæ. Maxillipeds similar in shape to those of *D. imitatrix*; margin of merus and anterior margin of ischium tuberculous.

The chelipeds are very unequal and rough with transverse squamose lines. The lower and inner margins of ischium and merus are armed with triangular spines; the upper margin of the merus, with teeth which are prolongations of the rugosities of the outer surface. The carpus has a stout inner spine, with a smaller one at its base. The larger hand is deep and swollen; both hands are curved inward and very rough, especially above. Digits with impressed longitudinal lines; very stout in the large cheliped; prehensile edges irregularly toothed and almost touching. The ambulatory legs are longer than in *D. imitatrix*. Joints margined, and with transverse rugose lines which form shallow teeth at the upper margin. Carpal and propodal joints with a double margin above, and two more or less rough longitudinal ridges on the outer surface. Propodal joints with two rows of small appressed spines below. Dactyli flattened, longer and narrower than in *D. imitatrix*, with two rows of sharp spines above and below.

Measurements.—Length of carapace (of female), 29 mm.; width, 34; thickness, 18; width of front, 12; width between postorbital spines, 22.5; width between epibranchial spines, 27; length of propodal joint of cheliped, lower margin, 27; depth, 13.5; thickness, 8.8.

Locality.—Seychelles. (Two females, one with eggs; one young, No. 18064).

This species differs from *Deckenia imitatrix* from Zanzibar in the post-frontal crest, narrower front, rough surface, fewer spines on the carpus, and in so many other respects that the species are not likely to be confounded.