

NOTICE OF THE CRUSTACEANS COLLECTED BY THE UNITED STATES SCIENTIFIC EXPEDITION TO THE WEST COAST OF AFRICA.

BY

JAMES E. BENEDICT,

*Assistant Curator of the Department of Marine Invertebrates.*

The crustaceans enumerated in this paper were obtained by W. Harvey Brown and his brother, Arthur H. Brown, during the voyage of U. S. S. *Pensacola* on the recent eclipse expedition to St. Paul de Loanda on the west coast of Africa. The ship sailed from New York on the 16th of October, 1889, stopping on the way at the Azores and the Cape de Verde Islands, also at Free Town and Elmina on the Gold Coast, arriving at its destination on the 6th of December. After the eclipse the ship sailed for Cape Town and then homeward, stopping at the Island of St. Helena, Ascension Island, and Barbados. For the sake of completeness, the few things obtained at this American locality are included in the list.

The collection, though not large, is as extensive as could be expected where men were collecting in all departments in the limited time allowed in the different ports. With the exception of a variety of *Callinectes tumidus* Ordway, none of the Brachyura are believed to be new. However, the species obtained are valuable to the Museum collection, in every case adding a species or a locality previously unrepresented.

BRACHIYURA.

Family PERICERIDÆ.

*Microphrys bicornutus* (Latreille).

*Pisa bicornuta* Latreille, Eney. Meth. Hist. Nat., x, p. 141, 1825.

*Pericera bicorna* Milne Edwards, Hist. Nat. des Crust., I, p. 337.

*Milvia bicornuta* Stimpson, Ann. Lyc. Nat. Hist. N. Y., VII, p. 180, 1860.

*Microphrys bicornutus* A. Milne Edwards, Crust. in Miss. Sci. au Mexique, p. 61, pl. XIV, figs. 2, 3, and 4, 1873.

Barbados, May 8, 1890. One specimen.

*Mithrax sculptus* (Lamarck).

*Maia sculpta* Lamarck, Hist. des Anim. sans Vert., v, p. 242.

*Mithrax sculptus* Milne Edwards, Hist. Nat. des Crust., I, p. 322. Miers, Challenger Report, Zoöl., XVII, p. 87, 1886.

*Mithraculus sculptus* Stimpson, Bull. Mus. Comp. Zoöl., II, p. 117, 1870.

Barbados, May 8, 1890.

## Family CANCRIDÆ.

*Actæa rufopunctata* (Milne Edwards).*Xantho rufopunctatus* Milne Edwards, Hist. Nat. des Crust., 1, p. 389.*Actæa rufopunctata* A. Milne Edwards, Nouv. Arch. Mus. Hist. Nat. Paris, 1, p. 268, pl. XVIII, fig. 1, 1a.

Ascension Island; one young specimen.

*Leptodius americanus* (Saussure).*Chlorodius americanus* Saussure, Crust. Nouv. Antilles et Mexique, p. 14, pl. 1, fig. 5.*Xanthodius americanus* Stimpson, Ann. Lye. Nat. Hist. N. Y., p. 209, 1860.*Leptodius americanus* A. Milne Edwards, Crust. in Miss. Sci. au Mexique, p. 269, 1871.

Barbados, May 8, 1890.

*Leptodius floridanus* (Gibbes).*Chlorodius floridanus* Gibbes, Proc. Amer. Assoc. Adv. Sci., p. 175, 1850.*Leptodius floridanus* A. Milne Edwards, Crust. in Miss. Sci. au Mexique, p. 268, pl. XLIX, fig. 2, 1871.

Barbados, May 8, 1890.

*Eriphia gonagra* (Fabricius).*Cancer gonagra* Fabricius, Suppl. Ent. Syst., p. 337, 1798.*Eriphia gonagra* Milne Edwards, Hist. Nat. des Crust., 1, p. 426, pl. XVI, figs. 16, 17.

Barbados, May 8, 1890.

## Family PORTUNIDÆ.

Genus **CALLINECTES** Stimpson.

Although the occurrence of the genus *Callinectes* on the west coast of Africa is well known, the specimens obtained by the eclipse expedition are the only ones in the museum collection from that region. A. Milne Edwards, in his *Zoologie du Mexique*, describes *Callinectes africanus* as a new variety of *C. diacanthus* from the Cape de Verde Islands. In this work he also makes all of the Ordwayan and other species of the genus mere varieties of *C. diacanthus*. Holding this view, he naturally does not point out the affinity of his variety to any of the species generally recognized on this side of the Atlantic. In January, 1863, Albert Ordway, through Dr. Stimpson, communicated to the Boston Society of Natural History his well-known monograph of the genus *Callinectes*. In this paper Mr. Ordway brings into line as distinct species the different forms long known as *Lupa hastata* Say and its synonyms, and but recently placed by Dr. Stimpson in the genus *Callinectes* erected by him for the species on account of its very narrow  $\perp$ -shaped abdomen. Mr. Ordway, in defining the several species, used as one of the principal characters the widely different

forms of the appendages of the male abdomen. Seven of the species so defined are represented in the museum collection, and unless intermediate forms are found the value of this character is surely specific. Whatever may be the result of an exhaustive study of a large series of specimens from the widely-separated localities in which this genus is found, it would seem that for the present its study would be best advanced by regarding its principal subdivisions as distinct species.

*Callinectes larvatus*, var. *africanus*? (A. Milne Edwards).

*Callinectes larvatus* Ordway, Boston Jour. Nat. Hist., VII, p. 573, 1863.

*Callinectes diacanthus* var. *africanus* A. Milne Edwards, Crust. in Miss. Sci. au Mexique, p. 229.

A large male was taken in the Beyah River, Elmina, Ashantee, November 27, and two large males were also obtained at St. Paul de Loanda, December 11, 1889.

These specimens agree so well with a large series from Key West that they can be separated only by the color, the African specimens being purple above and the American a horn color which can not be accurately described from specimens so long in alcohol. The hands agree in color, both having dark fingers set with red teeth.

A young female without chelipeds taken at Porto Grande, November 11, seems to belong to this variety.

*Callinectes tumidus* Ordway, var. *gladiator*, nov.

*Callinectes tumidus* Ordway, Boston Jour. Nat. Hist., VII, p. 574, 1863.

A small individual referable to this species was taken November 27 in the Beyah River. Although not more than one-half the size of *C. larvatus* from the same place, the intromittent organs are much longer and are curved and hooked, as in *tumidus*. The segments of the abdomen are the same. The last article of the fifth pair of legs is tipped with black, as in *tumidus*. The variety is made on account of the longer lateral spines and the less convex carapace.

*Platyonychus bipustulatus* Milne Edwards.

Arch. du Mus., X, p. 413, and synonymy.

Cape Town, February, 1890.

Family GEOCARCINIDÆ.

*Geocarcinus lagostoma* Milne Edwards.

Hist. Nat. des Crust., II, p. 27; Miers, Challenger Report, Zool., p. 218, pl. XVIII, fig. 2.

A fine male was taken at Ascension Island, March 21. Miers gives a good figure of a female from the same locality and refers it to this species with a question as to its identity. The identity of our specimen depends on that of Miers.

Family OCYPODIDÆ.

*Ocypoda cursor* (Linné).

*Cancer cursor* Linné, Syst. Nat., ed. xii, p. 1039.

*Ocypoda cursor* de Haan, Fauna Japon., Crust., p. 29.

St. Paul de Loanda, December 11.

*Gelasimus tangieri* Eydoux.

Mag. de Zool., Cl. VII, notice xvii, pl. 11, 1835.

Beyah River, Ashantee, November 27; St. Paul de Loanda, December 11.

*Gelasimus perlatus* Herklots.

Additamenta ad Faunam, p. 16, 1851.

One male taken at St. Paul de Loanda, December 11, agrees with descriptions and figures.

Family GRAPSIDÆ.

*Grapsus maculatus* (Catesby).

*Pagurus maculatus* Catesby, Nat. Hist. of the Carolinas, II, pl. XXXVI.

*Grapsus maculatus* Milne Edwards, Ann. Sci. Nat., p. 187, pl. VI, fig. 1, 1853.

Ascension Island; Fayal, Azores. A very small specimen from the Cape de Verde Islands may also belong to this species.

*Goniopsis cruentatus* (Latreille).

*Grapsus cruentatus* Latreille, Hist. Nat. des Crust. et Ins., VI, p. 70.

*Goniopsis cruentatus* de Haan, Fauna Japonica, Crust., p. 33.

Ashantee, November 27.

*Pachygrapsus marmoratus* (Fabricius).

*Cancer marmoratus* Fabricius, Ent. Syst., II, p. 450.

*Pachygrapsus marmoratus* Stimpson, Proc. Acad. Nat. Sci. Phila., p. 102, 1858.

Fayal, Azores, November 2.

*Pachygrapsus transversus* Gibbes.

Proc. Amer. Assoc. Adv. Sci., III, p. 182, 1850.

Porto Grande, Cape de Verde Islands, November 11.

*Sesarma africana* Milne Edwards.

Hist. Nat. des Crust., II, p. 73, 1837.

Beyah River, Ashantee.

*Plagusia depressa* Say.

Jour. Acad. Nat. Sci. Phila., I, p. 100, 1815.

Beyah River, Ashantee, November 11.

## ANOMURA.

## Family HIPPIDÆ.

*Remipes scutellatus* (Fabricius?).

Ascension Island.

## Family PORCELLANIDÆ.

*Petrolisthes magnifica* (Gibbes).*Porcellana polita* Gray, Zool. Misc., p. 14, 1830. Griffiths, Cuv. Crust., p. 312, pl. xxv, fig. 2, 1833.*Porcellana magnifica* Gibbes, Proc. Amer. Assoc. Adv. Sci., p. 191, 1850; Proc. Elliott Soc., p. 6, pl. 1, fig. 3, November, 1853.*Petrolisthes politus* Stimpson, Ann. Lye. Nat. Hist. N. Y., vii, p. 74, 1860.

Dr. Stimpson regarded this as a synonym of *P. politus* of Gray, but Gray's description is inadequate and the figure of Griffiths does not help the identification, and unless the type is extant it would seem best to retain Dr. Gibbes's name.

Color in alcohol: Carapace light brick-red. When the surface is magnified innumerable punctures are brought to view, the position of each puncture marked by a very small light colored spot invisible except under the lens. The merus joints of the ambulatory legs are colored the same as the carapace, but under the lens are more conspicuously and irregularly spotted or blotched. The carpal joints are a little darker. The propodal joints are a deep red, darkest near the distal end, which is abruptly light. The dactyls are light, each with a deep red ring in the middle. The chelipeds are a deeper red than the carapace. The tips of the fingers are crimson with the subterminal portion black.

Barbados.

## Family PAGURIDÆ.

*Calcinus sulcatus* (Milne Edwards).*Pagurus sulcatus* Milne Edwards, Ann. des Sci. Nat. (2), vi, p. 279; Hist. Nat. des Crust., II, p. 230, 1837. See also Dr. Hilgendorf in Monatsberichte der K. P. Akad. zu Berlin, 1878.

Dr. Hilgendorf shows that Herbst's description agrees better with *sulcatus* than with the *tibicens* of the eastern seas, and refers a *Calcinus* from Mozambique to the *tibicens* of Edwards *vec* Herbst. Prof. Henderson, in the Challenger Anomura, p. 61, quotes Dr. Hilgendorf, but refers a *Calcinus* to Herbst's species *tibicens*. If the West Indian species was the one described by Herbst, that name must eventually be adopted for it. The eastern species would perhaps take the name given by Randall, *Pagurus lewimanus* (Jour. Acad. Nat. Sci. Phila., viii, p. 135, 1839).

Barbados.

*Clibanarius*, sp.

Fayal, Azores.

## MACRURA.

## Family PALINURIDÆ.

*Panulirus guttatus* (Latreille), var., Bate.*Panulirus guttatus* Latreille, Ann. du Muséum, III, p. 393.*Panulirus guttatus*, var. Bate, Voyage of the Challenger, Macrura, p. 78, pl. xa.

One large specimen of this species, agreeing very well with the variety described by Bate, was obtained at Porto Grande, November 12.

*Panulirus spinosus* (?) Milne Edwards.

Hist. Nat. des Crust., p. 298.

Two females with eggs, Porto Grande, November 12.

## Family PALÆMONIDÆ.

*Palæmon jamaicensis*? Herbst.

Milne Edwards, Hist. Nat. des Crust., II, p. 398, and synonymy.

Ten specimens from the Quanza River at Cunga. In comparison with specimens from the island of Old Providence, West Indies, they are a little more slender, the teeth of the inner margin of the fingers are larger, and the spines of the first pereopod are coarser. They agree more closely with much larger specimens from Nicaragua. It is possible that a large amount of material from these widely separated localities would give sufficient data to divide the species into varieties. The length of the largest specimen, from the tip of the rostrum to the end of the telson, is 152 millimeters; length of the left anterior pereopod, 192 millimeters.

## Family PENÆIDÆ.

*Penæus brasiliensis* Latreille.

Nouv. Dict. Hist. Nat., xxv, p. 156, 1817. Miers, Proc. Zool. Soc. London, pp. 299, 306, 1878.

A number of specimens of this species are in the collection from Elmina, Ashantee. Miers says that "specimens from Whydah, on the west coast of Africa, agree in all respects with authentic specimens from Brazil." Our specimens range from 65 to 90 millimeters in length. They correspond with Miers's description, and compared with specimens from off Trinidad, West Indies, agree well, except that the latter have only nine teeth on the rostrum, while the former have ten. In the Trinidad specimens the longitudinal sulci do not extend quite so near to the posterior border of the cephalothorax and do not end in little pits, as is the case with those from Elmina.

ISOPODA.

Family ONISCIDÆ.

*Porcellio*, sp.

St. Helena; Azores.

Family IDOTÆIDÆ.

*Idotea*, sp.

Cape Town.

Family SPILÆROMIDÆ.

*Sphæroma*, three species.

Cape Town.

AMPHIPODA.

Undetermined genus and species.

Cape Town.

PHYLLOPODA.

Family APODIDÆ.

*Apus*, sp.

Pond, St. Paul de Loanda.