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I. Rathbun.

Rich~~ard~~ Rathbun

from Prof. Hault

Rice, Jan. 1876.

Annal. Jour. Sci.
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ART. XXXVIII.—*Contributions to Zoölogy from the Museum of Yale College. NO. IV.*—*Abstract of a Notice of the Crustacea collected by Prof. C. F. Hartt, on the coast of Brazil in 1867; by SIDNEY I. SMITH.*

THE paper of which the following is a short abstract, was printed during July and August, in the second volume of the Transactions of the Connecticut Academy, but the whole edition, excepting a few copies of the first two signatures which had been distributed, was destroyed by fire in September last. During the delay consequent to the reprinting of the Transactions, this article seemed desirable.

The collection, although quite small, is of interest from the large proportion which it contains of species heretofore known only from Florida or the West Indies. The following is a list of the species with the localities at which they were collected by Prof. Hartt.

* Geol. Surv. of California, Palaeontology, ii, p. 257.

† These three localities have produced during the last 150 years from 200,000,000 to 300,000,000 of dollars, mainly during the last century.

‡ Proc. Cal. Acad. of Sc., iii, 1866; Phillips' Mining and Metallurgy of Gold and Silver, p. 318; Domeyko, Ann. des Mines (4), ix, 22.

- Milnia bicornuta* Stimp.—Reefs of the Abrolhos.
- Mithraculus coronatus* Stimp.— “ “
- Mithrax hispidus* Edw.— “ “
- Xantho denticulata* White.— “ “
- Chlorodijs Floridanus* Gibbes.— “ “
- Panopeus politus* Smith (Proc. Bost. Soc. Nat. Hist., vol. xii, p. 282, 1869; Trans. Conn. Acad., vol. ii, p. 3, plate i, fig. 4).—Reefs of the Abrolhos.
- Panopeus Harttii* Smith (Proc. Bost. Soc. Nat. Hist., vol. xii, p. 280; Trans. Conn. Acad., vol. ii, p. 5, plate i, fig. 5).—Reefs of the Abrolhos.
- Eriphia gonagra* Edw.—Reefs of the Abrolhos.
- Callinectes Danae* Smith (Trans. Conn. Acad., vol. i, p. 7; *Lupa diacantha* Dana; *non* *Lupa diacantha* Edw., *nec* *Callinectes diacantha* Stimp.).—Pernambuco and Bahia.
- Callinectes ornatus* Ordway.—Caravellas, Province of Bahia.
- Callinectes larvatus* Ordway.—Bahia.
- Acheloijs spinimanus* De Haan.—Bahia.
- Acheloijs Ordwayi* Stimp.—Bahia.
- Goniopsis cruentatus* De Haan.—Reefs of the Abrolhos.
- Cryptograpsus cirripes* Smith (Trans. Conn. Acad., vol. ii, p. 11, plate i, fig. 3).—Rio de Janeiro (Coll. Peabody Acad. Sci.)
- This species differs from the *C. angulatus* Dana, heretofore the only known species of the genus, in having the front as seen from above nearly straight instead of deeply bilobed, in the much greater breadth of the carapax between the outer orbital teeth—the ratio of this breadth to the breadth of the carapax being 1:1.43, while in *C. angulatus* it is 1:1.68,—and in having the posterior legs densely ciliated. Length of carapax in a male, 31.0^{mm}; breadth of carapax, 35.6^{mm}.
- Uca cordata* (Cancer cordatus Linn.)—Bahia.
- Cardiosoma quadratum* Saussure.—Pernambuco.
- Dromidia Antillensis* Stimp.—Reefs of the Abrolhos.
- Petrochirus granulatus* Stimp.— “ “
- Calcinus sulcatus* Stimp.— “ “
- Clibanarius vittatus* Stimp.—Caravellas, Province of Bahia.
- Clibanarius scolopetarius* Stimp.—Caravellas River.
- Clibanarius Antillensis* Stimp.—Reefs of the Abrolhos.
- Scyllarus æquinoxialis* Fabr.—Bahia.
- Panulirus echinatus* Smith (Trans. Conn. Acad., vol. ii, p. 20).
- This species is closely allied to *P. guttatus*, but differs from the figures and descriptions of that species, in having the spaces between the spines of the carapax tuberculose and hairy instead of smooth, the third pair of thoracic legs extending beyond the second instead of the second being longer than the third, and the transverse sulcus of the third abdominal segment interrupted in the middle. In the posterior thoracic legs of

the female, the dactylus is short and armed on the posterior side of the base, with a stout process which closes against a similar process from the extremity of the propodus, both processes being hairy on the outside, and having horny spoon-shaped tips.—Pernambuco.

Alpheus heterochelis Say.—Reefs of the Abrolhos.

Palæmon Jamaicensis Olivier.—Penêdo, Rio Sao Francisco.

Palæmon forceps Edw.—Mouth of the Pará.

Palæmon ensiculus Smith (Trans. Conn. Acad., vol. ii, p. 26, plate i, fig. 2.—Pará.)

Rostrum very long, strongly curved downward for the basal half of its length, the terminal half very slender, nearly straight, but strongly inclined upward, armed above with nine to twelve short teeth of which seven or eight are on the basal portion, and the others near the tip, and below with eight to twelve teeth. Second pair of thoracic legs in the male very long and quite slender, in full grown specimens, the merus reaching beyond the tip of the antennal scale, and all the segments to the base of the fingers closely beset with short spinules; hands cylindrical, not swollen, the fingers slender and sparsely clothed with short, downy pubescence; in the females and young the second pair of legs smaller and much less spinulose. Penultimate segment of the abdomen long and narrow, the length above being twice as great as the breadth; terminal segment narrow and tapering regularly to a very slender and acute point. Length, 65 to 100^{mm}.

Peneus Brasiliensis Latr.—Bahia.

Xiphopeneus Smith, gen. nov., (Trans. Conn. Acad., vol. ii, p. 27).

Carapax much as in *Peneus*, but the rostrum very long and slender, and the gastro-hepatic sulcus scarcely perceptible, while the cervical and branchio-cardiac sulci are distinct. Lamelliform appendages on the inside of the peduncle of the antennulæ very small, not expanded over the eye as in *Peneus*; antennular flagella very long and slender, the upper ones much stouter and longer than the lower. Antennæ, maxillipeds and the three anterior pairs of thoracic legs nearly as in *Peneus*. Fourth and fifth pairs of legs very long, the terminal segments very slender and flagelliform.

Xiphopeneus Harttii Smith (Trans. Conn. Acad., vol. ii, p. 28, plate i, fig. 1.)—Caravellas, Province of Bahia.

Rostrum as long as, or considerably longer than the carapax, wholly unarmed below, but the basal portion with a thin carina above, which extends back upon the carapax and is armed with six sharp teeth, the terminal portion is sub-cylindrical, unarmed, and tapers to a very slender point far in front of the antennal scales. Upper flagellum of antennula

about three times as long as the carapax ; lower flagellum very slender and half as long as the upper. Thoracic legs of the first pair reaching to the middle of the propodus of the external maxillipeds, slender, beset with stiff hairs along the edges, and the basis armed with a spine on the inside near the articulation with the ischium ; second and third pairs of legs successively a little longer, smooth and unarmed ; legs of the fourth and fifth pairs smooth and unarmed, all the segments, except the coxal and basal very slender and very much prolonged, the terminal segments being fully as slender as the terminal portions of the flagella of the antennulæ.

Gonodactylus chiragra Latr.—Reefs of the Abrolhos, Caravellas.

Of the 32 species in the foregoing list, 21 are new to the fauna of Brazil ; of these 21 species, 6 are described as new, and the remaining 15 are all species previously known from the West Indies or Florida. The 11 species in Prof. Hartt's collection which were previously known from Brazil are all, with the exception of *Callinectes Danae*, now known from the Caribbean fauna.

The account of Prof. Hartt's collection is followed by a list of the described species of Brazilian Podophthalmia with their geographical distribution. One hundred and five species are enumerated but the actual number of described species is probably somewhat less, as several are admitted on questionable authority and some others will doubtless prove to be synonyms. In this list the following changes in nomenclature are introduced :—

Achelous Sebæ = *Neptunus Sebæ* A. Edw.

Eucratopsis is proposed as a new genus for the reception of *Eucrate crassimanus* Dana, Stimpson, in Boston Journal Nat. Hist., vol. vii, p. 588, having shown from an examination of specimens of *Eucrate crenatus* that De Haan's genus has the male organs, or verges, arising from the coxæ of the posterior legs and therefore belongs to the *Carcinoplacidae* of Edwards, while in *E. crassimanus* the verges are sternal. The genus thus constituted appears to be nearest allied to *Speocarcinus* Stimpson (Annals Lyc. Nat. Hist., New York, vol. vii, p. 59), but it is quite distinct in the larger orbits, the approximation of the inner margins of the external maxillipeds, and in the much greater narrowness of the posterior part of the sternum.

Trichodactylus (?) *Cunninghami* = *Uca Cunninghami* Bate.

Pachygrapsus rugulosus = *Letograpsus rugulosus* Edw.

Petrolisthes leporinus = *Porcellana leporina* Heller.

Petrolisthes Brasiliensis, sp. nov. = *Porcellana Boscii*? Dana (non Savigny).

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