

MIOCENE AND PLEISTOCENE CIRRIPIEDIA FROM HAITI.

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It is well known to workers on sessile barnacles that while the subgenera of the genus *Balanus* rest upon differences in the structure of the walls and basis, the specific distinctions are mainly based upon the opercular plates. No species can be considered well established until these plates are known. Nevertheless, in dealing with forms of a restricted area it is not difficult to assort the specimens into species by characters of the walls alone, and to determine them if all described species of the region in question are accessible for comparison, either as specimens or represented by sufficient accounts of the wall characters.

Thus, most or all of our American Tertiary Balani can be distinguished from one another by characters of the walls. But part of them can not be compared with species of the European Tertiary which were defined by the opercular plates without regard to the internal structure of the wall plates.

BALANUS, near EBURNEUS Gould.

A small barnacle, about 11 mm. in greatest diameter. The plates of the wall are smoothish with broad radii, as in *B. eburneus*. The rostrum has 11 tubes. Except close to the base these are closely septate. The septa are closer than in any *B. eburneus* examined, but in the absence of opercular plates the significance of this difference in a single specimen is doubtful. *B. eburneus* has been found in Pleistocene deposits of the Panama Canal Zone.

Station 9464 (W 151 F). Département de l'Ouest, north edge of Port au Prince, along road leading up to dwelling houses of the Haytian-American Sugar Co. From beds of Miocene age, 75 meters above sea level. One specimen, collected by W. P. Woodring.

Cat. No. 352256, U.S.N.M.

BALANUS CONCAVUS ESEPTATUS, new subspecies.

Plate 1, figs. a, b.

Conic or subcylindric barnacles of moderate size, similar to *B. concavus pacificus* so far as the walls are concerned. The parietes are smooth, radii wide with oblique summits. The parietal tubes

have no transverse septa; they are often wholly filled up in the fossils. In the largest specimens there are about 26 tubes in the rostrum. The basis is densely porose, the pores septate towards the peripheral parts. Many specimens retain part of the color, being pink or clouded with pink. Opercular valves unknown.

Carinorostral diameter 24 mm.; height 18 mm.

This barnacle does not differ in the walls from *B. concavus pacificus*, recent and Pleistocene in southern and Lower California; but as the several subspecies of *B. concavus* differ in the sculpture of the opercular valves, it is quite possible that these, when found, will show differences from the west coast form. At present the special name *cseptatus* is given to the Haitian form. Until the opercular valves can be examined, this seems less likely to lead to error than a provisional identification with the Californian *B. c. pacificus*.

It differs from the Miocene subspecies of *concavus* from the Atlantic coastal plain and the Panama Canal Zone by various features of the walls, especially the entire absence of transverse septa in the parietal pores.

Station 9464 (W 151 F). Département de l'Ouest, north edge of Port au Prince, along road leading up to dwelling houses of Haytian-American Sugar Co. From beds of Miocene age, 75 m. above the sea. Numerous specimens collected by W. P. Woodring.

Type.—Cat. No. 352257, U.S.N.M.

BALANUS POLYPORUS, new species

Plate 1, fig. c.

The walls are somewhat roughened but not ribbed, the radii wide. The parietal tubes are narrow and very numerous, 33 in the rostrum of the type, not transversely septate. The basis is calcareous, and where examined near the edge is not porose.

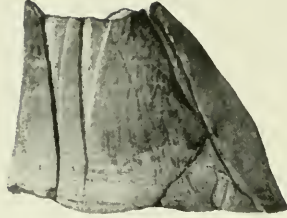
In the type specimen the rostrum is notably longer than the other plates, as in *Membranobalanus*, but this is doubtless merely an accident of station.

Carinorostral diameter 13 mm.; length of rostrum 17 mm.

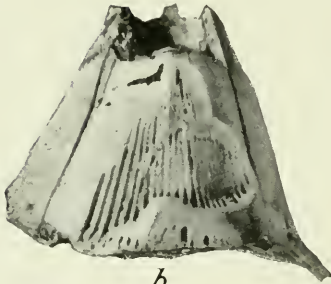
The numerous narrow and nonseptate tubes of the parietes differentiate this form from known American species; but as the opercular plates have not been obtained, its affinities are uncertain. Like all of the species treated in this paper, it belongs to the typical subgenus of *Balanus*.

Station 9750 (B 358 F). Miocene beds, same locality as 9464. One specimen collected by J. S. Brown.

Type.—Cat. No. 352258, U.S.N.M.



a



b



c

BALANUS CONCAVUS ESEPTATUS AND B. POLYPORUS.

FOR EXPLANATION OF PLATE SEE PAGE 3.

BALANUS AMPHITRITE Darwin.

Two specimens without opercular plates agree with this species, which is abundant in the recent fauna, and has been found in the Caloosahatchie Pliocene.

Station 9480 (K 2 F). Département de l'Ouest, road cut at foot of Morne à Bateau. Age of beds uncertain, possibly Pliocene or Pleistocene, rather than Miocene. W. S. Burbank, collector.

Type.—Cat. No. 352259, U.S.N.M.

EXPLANATION OF PLATE.

FIGS. *a, b*.—*Balanus concavus esepatus*. Lateral view of the type. Rostral view of cotype, cut to show pores. $\times 1\frac{1}{2}$.

c.—*Balanus polyporus*. Lateral view of the type. $\times 1\frac{1}{2}$.