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A NEW CRAB FROM THE EOCENE OF FLORIDA

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The material here described was collected in part by the United States Geological Survey many years ago, and in greater numbers more recently by the Florida State Geological Survey, which has presented to the United States National Museum the specimen designated as holotype.

Family XANTHIDAE

OCALINA, new genus

Genotype.—*Ocalina floridana*, new species.

Carapace broadly suboval, margin lobulate, surface rough. Front broad, consisting of 4 lobes which are distinct from the tooth at the inner angle of the orbit. Orbit in an almost vertical plane, subcircular, closed, the inner margin of the inner lower angle being closely applied to the lower side of the inner upper angle. Basal article of antenna remote from orbit terminating not directly below the orbital tooth but below the sinus separating that tooth from the front proper. Third and fourth segments of male abdomen fused. Chelae resembling those of *Cancer*; longitudinal rows of tubercles on palm; fingers elongate.

This genus is nearest to the Recent genus *Carpilius* Leach¹ of which one species, *Carpilius corallinus*,² a crab of large size, is not uncommon in the West Indies and the Bahamas. It differs from *Ocalina* in its narrower front without a median emargination, in the absence of a distinct inner orbital tooth, in the inner orbital gap, which though narrow is always well defined and occupied by the antenna, in the smooth carapace and margins, and in the shorter chelae with swollen palms and short, stout fingers. In *Palaeocarpilius* A. Milne Edwards³ (Eocene) the basal article of the antenna is long and reaches to the orbit, the carapace is smooth, nontuberculate, except on the lateral margins, and the fingers are short.

¹ In Desmarest, Dict. Sci. Nat., vol. 28, 1823, p. 228.

² Herbst, Natur. Krabben u. Krebse, vol. 1, 1783, p. 133, pl. 5, fig. 40.

³ Ann. Sci. Nat., Zool., ser. 4, vol. 18, 1862, p. 51.

Caloxanthus A. Milne Edwards,⁴ a Cretaceous genus in France, type *C. formosus* A. Milne Edwards,⁵ has a form and rough surface similar to those of *Ocalina*, but the front is straight and undivided, the circular orbit has a small inner gap, the basal article of the antenna reaches the front, the chelipeds are as rough as the carapace.

OCALINA FLORIDANA, new species

Plates 1-3

Description of holotype.—Carapace broadly suboval, very convex, more so longitudinally than transversely, antero-lateral margin a little longer than postero-lateral margin. Front more than one-third width of carapace, orbit subcircular. Antero-lateral margin with ten thick, similar, closely placed lobules, including that at outer end of orbit. Dorsal surface rough except in the middle or mesogastric region with low conical tubercles which are largest about the anterior and antero-lateral regions, smallest and more or less coalescent across the posterior third of the carapace, highest and most acute near the lateral angle (see also paratype *c*). Surface punctate, especially between tubercles, punctae visible to the naked eye. Orbit circular, closed, ornamented above with ten or eleven tubercles, all small, except those at inner and outer angles; below four low tubercles. Basal article of antenna obliquely-transversely placed, its extremity at a considerable distance from the orbit (paratype *b*). The broad front is most prominent near the middle and has a deep median V-shaped emargination; each half is subdivided into two lobes; the inner lobe is triangular, its edge shallow-trilobulate or tuberculate; the outer lobe is transverse and bilobulate; in the sinus between the lobes there is a lobule.

Paratype *a* shows part of the ventral surface of the body and appendages of a male. The sternum, abdomen, and lower surface of carapace are smooth and punctate. The outer maxilliped resembles that of *Carpilius*. The left one is preserved but is detached and turned at a right angle to its normal position; the merus is also bent at an acute angle with the ischium. The ischium is longer than broad, the merus is broader than long and widens inwardly, inner margin angled; exognath broad and long, reaching end of merus of endognath. Merus of ambulatory legs broad, compressed. The fourth, fifth, and sixth segments of the male abdomen are each broader than long; the fifth twice as broad as long, the sixth longer, the fourth still longer; the cavity formerly occupied by the terminal segment shows it to have been triangular and more than half as long as broad.

⁴ Ann. Sci. Nat., Zool., Ser. 4, vol. 20, 1863, p. 282; ser. 5, vol. 1, 1864, p. 43.

⁵ Idem, vol. 20, 1863, p. 326, pl. 9, figs. 1-1*d*; ser. 5, vol. 1, 1864, p. 44.

Paratype d.—Chelipeds stout, similar, unequal. Merus nearly as wide as its greatest length, smooth, largely mottled with short transverse color marks. Carpus covered with low squamose tubercles. Propodus increasing in height from proximal to distal end; lower margin nearly straight, slightly sinuous; upper margin arcuate; outer surface very convex transversely, inner surface less so. Outer surface, except in the lower part, rough with tubercles arranged largely in longitudinal rows, and with their acute tips pointing distad. A short deep transverse furrow outside, opposite the articulation of the dactylus. Fingers stout, compressed, meeting when closed, tips acute; prehensile edges subacute and furnished with a few low tubercles. Propodal finger bluntly carinate, with two longitudinal rows of tubercles and punctae outside; dactylus (*paratype e*) with four rows of tubercles on the upper half, two close together above, one on inner surface, the other on outer surface.

Measurements.—Holotype (sex unknown), total length of carapace 74, width of same 108, fronto-orbital width 52, width of orbit 5.7, width between orbits 40.6, width of front exclusive of orbital tooth 32.5 mm. *Paratype d*, length of major propodus about 72, greatest height of same 35, length of dactylus above 39.3, below 28.5 mm.

Occurrence.—Florida; Eocene series:

Clark, Alachua County; nummulitic limestone 50 feet below the surface; "Vicksburgian"; 1896; L. M. Everett, United States Geological Survey; one carapace, dorsal view; *paratype c*; Cat. No. 137871, United States National Museum.

Hales Siding, 5 miles east of Newberry, Alachua County; in quarry of Ocala Road Material Corporation; depth, 35 feet from top of Ocala limestone; Thomas Sexton, collector; donated to Florida State Geological Survey by A. T. Thomas; one pair of chelipeds; *paratype d*.

About 2 miles north of Williston, Levy County; in quarry of Thompson Williston Co.; 30 feet from surface; Ocala limestone; July 6, 1928; G. M. Ponton, Florida State Geological Survey; one specimen very incomplete, lacking the dorsal surface of the carapace; *paratype i*.

One mile south of Williston, Levy County; in quarry of Ocala-Tampa Lime Rock Co.; Ocala limestone, 30 feet below surface; October 3, 1928; H. Gunter and G. M. Ponton, Florida State Geological Survey; parts of three specimens; *paratypes f, g, and h*.

Ocala, Marion County; 1891; J. Kort, United States Geological Survey; one chela, incomplete, showing part of palm and dactylus; *paratype e*; Cat. No. 370957, United States National Museum.

Southwest City Limits, Ocala, Marion County; in pit of Florida Lime Co.; procured from S. Phillips, January, 1917; submitted by Florida State Geological Survey, through Dr. E. H. Sellards; one

specimen is a rock containing a carapace (holotype, Cat. No. 370956, United States National Museum) and another individual showing the ventral surface of body and appendages (paratype *a*); a second specimen (paratype *b*) shows part of the ventral surface.

EXPLANATION OF PLATES

Ocalina floridana

PLATE 1

- FIGURE 1. Dorsal view of carapace, paratype *c*, $\times \frac{4}{5}$.
2. Front view of carapace of holotype, $\times \frac{4}{5}$.
3. Dorsal view of carapace of holotype, $\times \frac{4}{5}$.

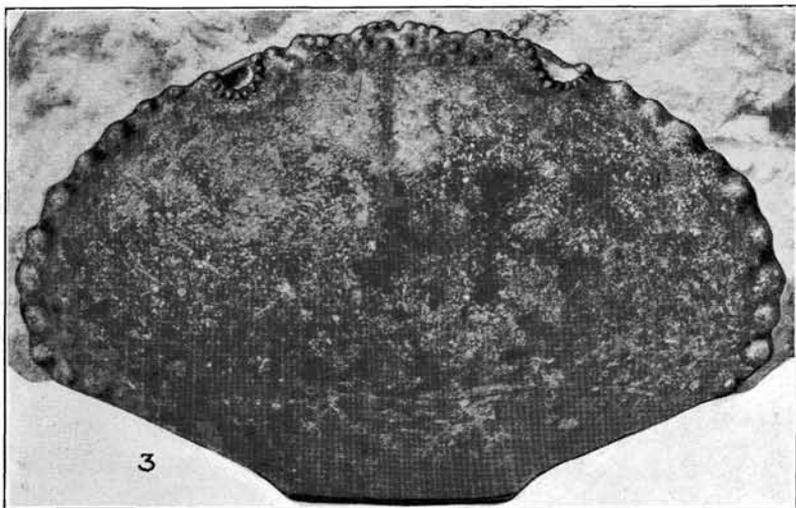
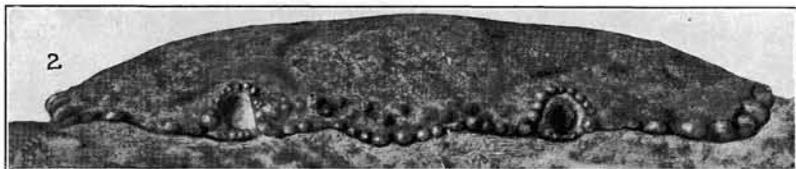
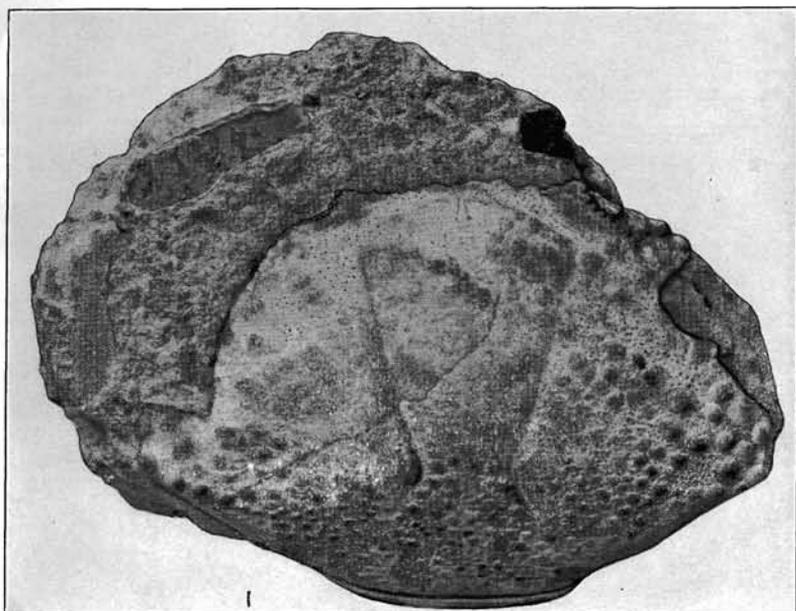
PLATE 2

- FIGURE 1. Ventral view of paratype *b*, $\times \frac{1}{5}$. *a*. Basal article of antenna. *o*. Inner lower angle of orbit.
2. Chelipeds of paratype *d*, showing outer view of chelae, $\times \frac{2}{5}$.

PLATE 3

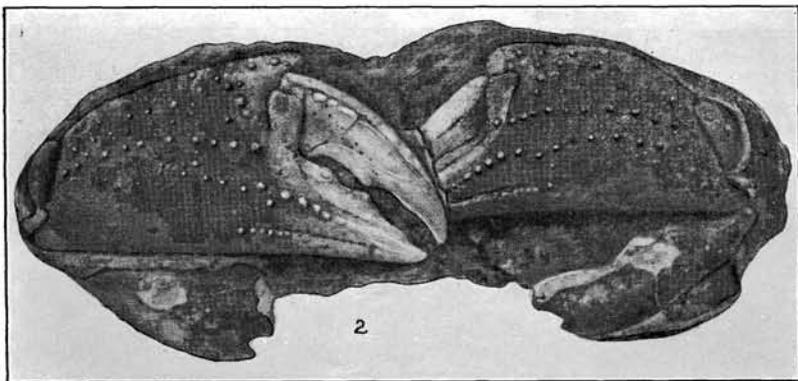
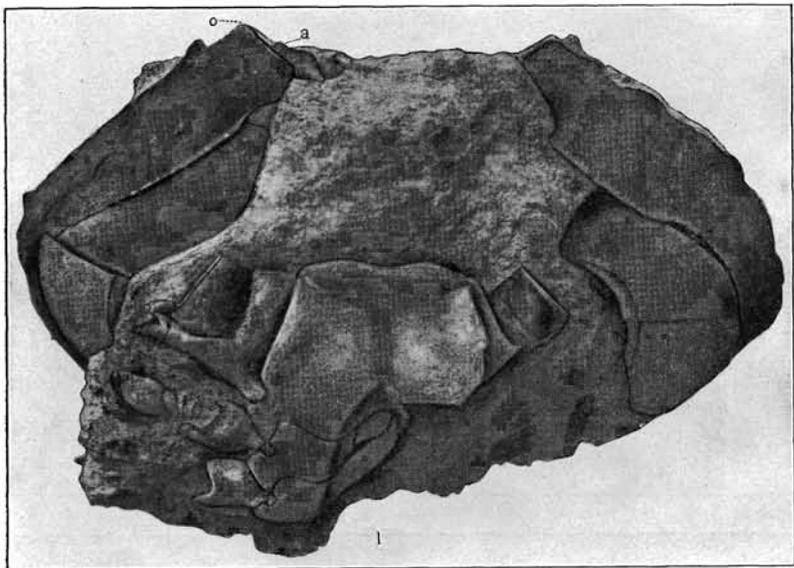
- FIGURE 1. Ventral view of paratype *a*, and merus of a larger specimen, $\times \frac{2}{5}$.
2. Incomplete chela, paratype *e*, upper view, $\times \frac{2}{5}$.
3. Same, outer view, $\times \frac{2}{5}$.





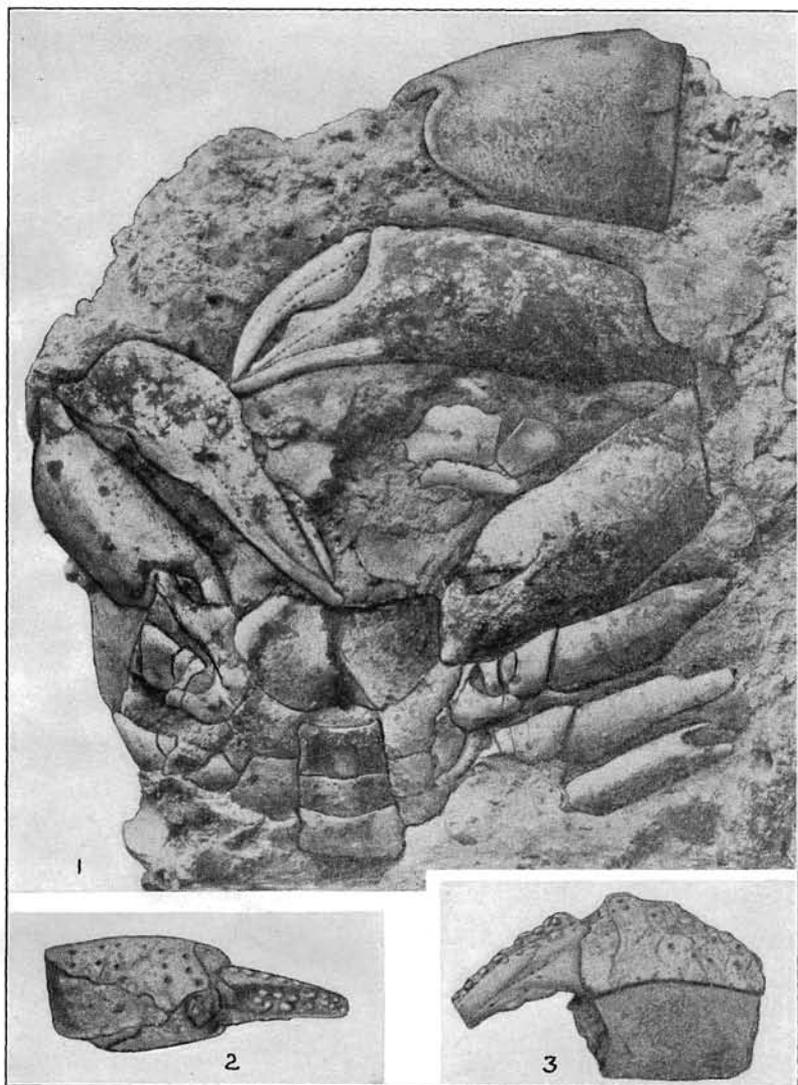
Ocalina floridana, Eocene crab

FOR EXPLANATION OF PLATE SEE PAGE 4



Ocalina floridana, Eocene crab

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