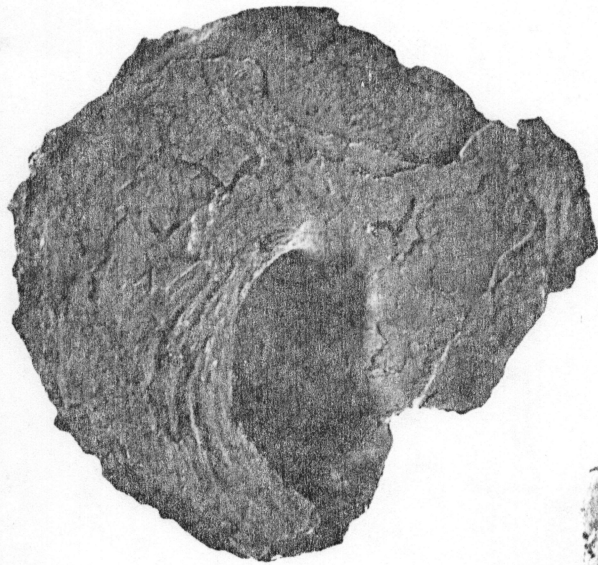
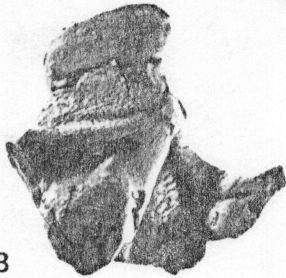


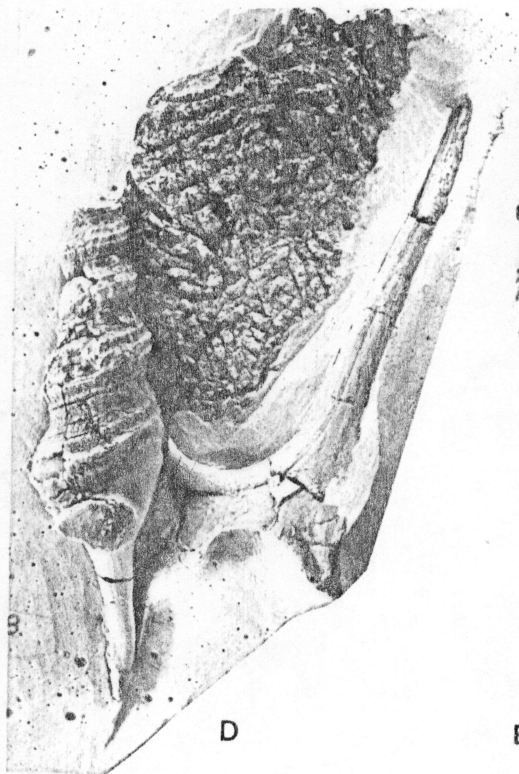
A



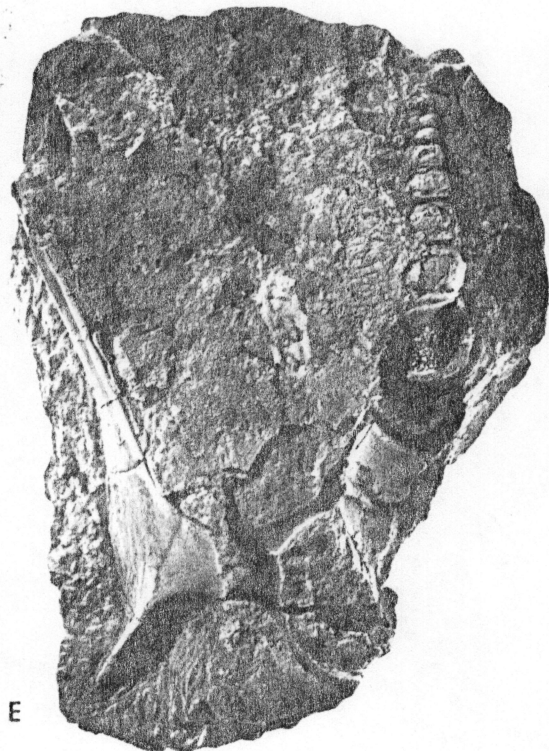
B



C



D



E

*Xenophora leprosa* (Morton, 1834), common in Campanian–Maestrichtian deposits of Texas and elsewhere in the Gulf and Atlantic Coastal Plains, is much smaller, has a higher profile, and lacks the thickened outer lip of *X. willisi*. *Xenophora simpsoni* Stanton, 1893, from the Cenomanian–Santonian of Colorado, belongs in the genus *Trochus*.

Family APPORHAIIDAE Philippi, 1853

Genus ANCHURA Conrad, 1860

ANCHURA GIBBERA n. sp.

Figures 3B–E

*Holotype*.—LACMIP holotype 6465. Height (incomplete) 69 mm; wing height 73 mm; body whorl width (excluding wing) 20 mm; total width 46 mm. Type locality LACMIP locality 2858.

*Figured paratypes*.—LACMIP paratypes 6466 (LACMIP loc. 2857), estimated shell height 88 mm, wing height (incomplete) 60 mm; 6467 (LACMIP loc. 2856), height (incomplete) 39 mm, width, excluding wing, 24 mm.

*Unfigured paratypes*.—LACMIP paratypes 6468 (LACMIP loc. 2854), 6469 (LACMIP loc. 2855), 6470 (LACMIP loc. 2859), and 6471 (LACMIP loc. 2860). IG-UNAM paratype IGM 3284 (LACMIP loc. 2852).

*Occurrence and age*.—*Anchura gibbera* presently is known only from Arroyo Santa Catarina from LACMIP locs. 2852, 2854–2860, 5975, and 5983. (?)Late Campanian to (?)Early Maestrichtian.

*Etymology*.—*gibbera* (L.) “humped,” in reference to the large protuberance on the parietal wall.

*Species diagnosis*.—Large, high-spired anchurids with a carinate body whorl, protruding parietal callus, long anterior canal, and an expanded wing with a long posterior spine and a short anterior spur.

*Description*.—Shell large for the genus, turriculate, with about 12 convex whorls: apical angle about 21°; whorls ornamented by slightly oblique, smoothly curved, sigmoidal axial ribs, crossed by 4 evenly spaced re-

volving cords that produce a cancellate pattern; lowermost cord obscured by subsequent whorl; cords become progressively more prominent as whorls enlarge, and have 6 to 8 extremely fine striae in the interspaces; sutural ramp flat, sloping at about 45° to a pronounced carina formed by the most adapical cord on body whorl; abapical 2 cords on body whorl widely spaced, much enlarged, but not forming angulations. Outer lip expanded, with a thickened margin, constricted at the carina then widening into a flattened wing; a long smoothly-tapered spine projects adapically beyond the spire and is deflected outward from it at an angle of about 40°; in apertural view, spine also deflected away from observer at about 25° angle, with deflection increasing toward distal end of spine; anteriorly, wing produced into a short, broad, abapically directed spur, abruptly tapered to a sharp point and carinate on outer surface; both anterior spur and posterior spine bear a shallow, medial channel on inner surface. Shoulder of body whorl continued onto wing as a sharp carina, disappearing at base of posterior spine; lower cords of body whorl absent on wing. Aperture ovate, narrowed slightly posteriorly but with no canal, constricted anteriorly into a long, narrow canal, deflected slightly away from the observer in apertural view; exact length of rostrum unknown, but at least longer than aperture. Posterior margin of labrum bordered by a thick callus deposit that spreads into anterior half of penultimate whorl and down onto inner lip. A large, drooping, tubercular process, convex above, concave below, and rounded at the distal end, projects outward from parietal wall in front of aperture; columellar wall smooth, callused.

*Remarks*.—This species most closely resembles the California Cretaceous species *A. falciiformis* (Gabb, 1864) which also has a long, narrow, adapically directed wing process, a tubercular callus on the parietal wall, and a long rostrum. Gabb's species, however, lacks the abapical spur on the wing, its parietal callus is less conspicuous, its wing shorter,

FIGURE 3—A, *Xenophora willisi* n. sp. Paratype (LACMIP 6456), basal view. B–E, *Anchura gibbera* n. sp. B, paratype (LACMIP 6467), apertural view. C, paratype (LACMIP 6467), profile showing parietal callus. D, holotype (LACMIP 6465), apertural view. E, paratype (LACMIP 6466), abapertural view. All  $\times 1$ .

and it has more and narrower spiral ribs. The lectotype was designated and figured by Stewart (1926, p. 360, Pl. 22, fig. 9), who also noted some characters and discussed differences with some other species.

The sharply-angled shoulder of *A. gibbera* resembles that of *A. angulata* (Gabb, 1864), also from the Cretaceous of California, but the latter species has only very fine spiral ribbing and a short adapically turned tip to its wing.

The shell of *A. gibbera* is quite fragile and few specimens have the wing intact. The most complete specimens were found east of the arroyo, where deposition is thought to have occurred under less turbulent conditions than on the west side. Turriculate spire fragments abound on both sides of the arroyo. Some have a similar cancellate ornamentation and probably represent *A. gibbera*, but weathering and exfoliation have removed the sculpture of others, making them difficult to distinguish from worn shells of *Epitonium*.

Darton (1921, p. 727) and Santillan and Barrera (1930, p. 14) cited "*Anchura* n. sp." from Arroyo Hondo and the Ensenada-San Antonio del Mar area, but specimens adequate for comparison to *A. gibbera* have not been seen by me.

#### LOCALITY REGISTER

The following locality numbers are from LACMIP and refer to stations collected by me and associates. They are plotted on the sketch map in Figure 1.

- 2852 West side of Arroyo Santa Catarina. South wall, near mouth, of small embayment about 1,110 m N of Ammonite Ravine. Crushed concretion with abundant fossils at elevation 53.5 m.
- 5975 S slope, near mouth, of Arroyo Tiburon. About 360 m N of loc. 2852. Several fossiliferous concretions, apparently float from higher on slope. Elevation 63.3 m.
- 2853 Estimated 15 m stratigraphically higher than loc. 5975. Broken concretion with numerous fossils.
- 2854 10.5 m N along strike from loc. 2853. Broken concretion with abundant fossils.

- 2855 Float from and below locs. 2853 and 2854.
- 2856, 5976 West side of Arroyo Santa Catarina near mouth of first large tributary north of the arroyo bridge. Collected by Gerald Licari.
- 5983 Float low on N slope of small hill on S side Totman Ravine about 1,350 m E of bridge in arroyo.
- 2857 About two-thirds of the way up S slope, N fork of Ammonite Ravine and 525 m E of mouth of Ammonite Ravine. Fossiliferous concretions between arroyo floor and top of slope.
- 2858 Top of S slope, N fork of Ammonite Ravine, about 600 m E of loc. 2857.
- 2859 Ridge between two gullies in N wall, N fork of Ammonite Ravine, about 210 m W of loc. 2858. Abundant fossiliferous concretions and float fossils. Elevation 73.8 m.
- 2860 N slope of Ammonite Ravine, about 600 m W of loc. 2859. Float fossils. Elevation 69 m.

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