



slightly prosocline but sigmoidal near suture; anterior canal twisted and bent slightly to left.

*Types*.—Holotype SDSNH 67158, SDSNH loc. 4071. Paratypes SDSNH 11146, SDSNH loc. 2928 and SDSNH 34067, SDSNH loc. 3392. All types are of late Campanian to possibly early Maastrichtian age and from the Point Loma Formation, Carlsbad, California.

*Measurements*.—SDSNH 67158, height 57 mm, width 27.7 mm. Paratype SDSNH 11146, height 77 mm, width 40 mm. Paratype SDSNH 34067, height 18.3 mm, width 11.4 mm (an incomplete specimen).

*Other material examined*.—A latex pull from an external mold (hypotype LACMIP 12882) from LACMIP loc. 17198 (Santa Ana Mountains).

*Occurrence*.—Upper Campanian to possibly lower Maastrichtian. Upper Campanian: Pleasants Sandstone Member of the Williams Formation, Santa Ana Mountains, Orange County, southern California. Upper Campanian to possibly lower Maastrichtian: Point Loma Formation, Carlsbad, northern San Diego County, southern California.

*Discussion*.—The three known specimens of *Fimbrivasm elegans* n. sp. resemble *Vasum ceramicum* Linnaeus, 1758, a modern-day species from the Philippines and Polynesia (Fig. 5.17). The new species differs from *V. ceramicum* by having smaller nodes on the tabulate whorls, much more prominent cancellate ornamentation, and fewer inner lip folds.

*Fimbrivasm elegans* n. sp. differs from *F. robustum* n. sp. by having a narrower ramp, a less projecting tabulate shoulder, a narrower apical angle, well developed spiral ribs, weak axial ribs, a narrower aperture, and fewer and weaker folds on the inner lip. *Fimbrivasm elegans* n. sp. differs from *F. medium* n. sp. by having a more projecting tabulate shoulder, a more elongate siphonal canal, and fewer and weaker folds on the inner lip.

#### Family BUCCINIDAE Rafinesque, 1815

##### Genus ZAGLENUM new genus

*Type species*.—*Zaglenum lomaensis* n. sp., Late Cretaceous (Campanian to possibly Maastrichtian), California.

*Diagnosis*.—Buccinid-like shells with whorls flat-sided and sloping anteriorly to prominent spiral carina located just posterior of suture; sculpture of many closely spaced primary and secondary spiral ribs with a weaker cancellate pattern caused by growth lines; inner lip with several small folds and wrinkles; thickened outer lip with teeth; and short, narrow, and twisted siphonal canal.

*Description*.—Shell medium small (up to 34 mm in height, but incomplete), fusiform to somewhat inflated fusiform, usually flat-sided whorls, spire high and about 50 percent of total shell height, apical angle 52 to 58 degrees; whorls five to six, suture deeply impressed to canalicate with projecting spiral carina just posterior to it; carina similarly conspicuous on body whorl and situated approximately in middle of whorl; sculpture of fine to coarse primary spirals with faint to moderately strong cancellate (minutely beaded) pattern caused by arched opisthocyrt growth

lines; interspaces between spiral ribs with variable number (one to three) secondary spiral ribs of variable strength; spiral rib anterior to carina on body whorl nearly as strong as the carina and imparting a bicarinate appearance to body whorl; aperture oval, inner lip callused with several small folds and wrinkles (pustules); outer lip internally thickened and lirate; siphonal canal short, narrow, and twisted; siphonal fasciole very weak; opisthocyrt growth lines.

*Etymology*.—The genus name is derived from *za* (Greek, exceedingly) and *glenos* (Greek, thing to stare at, show wonder).

*Occurrence*.—Lower Campanian to upper Campanian and possibly lower Maastrichtian; California.

*Discussion*.—It is difficult to assign, with certainty, *Zaglenum* n. gen. to a family, and likewise difficult to make comparisons to other genera, because the new genus has the general shape of a buccinid; the apertural features of possibly a nassariid, or to a lesser degree, a thaidid; and the growth-line pattern of a trichotropid. The new genus seems to be more like a *Cantharus*-like buccinid in having a short anterior notch and a weak siphonal fasciole. The new genus differs from *Cantharus* s.s. Röding, 1798, by having a weaker siphonal fasciole and by lacking both axial ribs and an apertural posterior gutter.

#### ZAGLENUM PENTZENSIS new species

Figure 6.1–6.3

*Diagnosis*.—Apical angle of about 52 degrees, coarse spiral ribbing, and moderately coarse cancellate sculpture.

*Description*.—Shell medium small (up to 34 mm in height, but incomplete), fusiform with flat-sided whorls, spire high and about 50 percent of total shell height; apical angle about 52 degrees, protoconch not preserved; whorls five to six, suture canalicate with projecting spiral carina short distance posterior to it; carina similarly conspicuous on body whorl and situated approximately in middle of whorl; sculpture of primary spiral ribs with distinct cancellate pattern (commonly beaded) caused by growth-line intersections; interspaces between primary spiral ribs on spire and posterior half of body whorl with nearly equal secondary spiral ribs; interspaces between spiral ribs on anterior half of body whorl with two weaker spiral ribs, decreasing to one near anterior end of shell; prominent spiral rib immediately anterior to carina on body whorl approximately same strength, producing a bicarinate look; inner lip callused, apparently smooth, interior of inner lip and outer lip not seen; siphonal canal short, narrowly notched, and slightly twisted.

*Etymology*.—The species is named for Pentz, Butte County, California.

*Types*.—Holotype LACMIP 12819, LACMIP loc. 24340. Paratype LACMIP 12820, LACMIP loc. 24340. Both types are of early Campanian age and from the Chico Formation, Pentz Road Member, near Pentz, California.

*Measurements*.—LACMIP 12819, height 29.6 mm, width 18 mm wide. LACMIP 12820, height 33.4 mm, width 18.2 mm (estimated, due to shell missing).

FIGURE 5—New Cretaceous gastropods from the Pacific slope of North America and one modern species. Specimens coated with ammonium chloride. 1, 2, *Fimbrivasm robustum* n. sp., holotype GSC 118672, GSC loc. 15667, height 71.6 mm,  $\times 0.7$ ; 1, apertural view; 2, abapertural view. 3–9, *Fimbrivasm medium* n. sp.; 3, 4, paratype LACMIP 12818, LACMIP loc. 10093, height 24 mm,  $\times 2.1$ ; 3, apertural view; 4, abapertural view; 5, 6, holotype CAS 228.01, CAS loc. 228, height 37 mm,  $\times 1.4$ ; 5, apertural view; 6, abapertural view; 7, paratype GSC 118674, GSC loc. 85009, incomplete specimen, left-lateral view of neck area, height 30.5,  $\times 1.2$ ; 8, 9, paratype GSC 118675, GSC loc. 16461, height 51.3 mm,  $\times 1$ ; 8, apertural view; 9, abapertural view. 10–16, *Fimbrivasm elegans* n. sp.; 10–12, holotype SDSNH 67158, SDSNH loc. 4071, height 57 mm,  $\times 1.2$ ; 10, apertural view; 11, abapertural view; 12, apical view. 13, 14, paratype SDSNH 11146, SDSNH loc. 2928, height 77 mm,  $\times 0.9$ ; 13, apertural view; 14, abapertural view; 15, 16, paratype SDSNH 34067, SDSNH loc. 3392, incomplete specimen, height 18.3 mm,  $\times 2.2$ ; 15, apertural view; 16, abapertural view. 17, *Vasum ceramicum* Linnaeus, 1758, hypotype LACMIP 87861, Quezon Province, Philippine Islands, apertural view, height 72.8 mm,  $\times 0.8$ .