



Explanation of Figures 27 to 32

All specimens from CSUN loc. 1563, and all figures = SEM micrographs. Figures 27–32. *Ammonicera benhami* Squires & Goedert, sp. nov. Figure 27. Holotype LACMIP 11368, apical view, $\times 150$, maximum diameter 0.55 mm. Figures 28–29. Paratype LACMIP 11369. Figure 28. Apical view, $\times 60$, maximum diameter 0.59 mm. Figure 29. Close-up of apex, box on Figure 28 shows area of coverage, $\times 240$, maximum length 0.36 mm. Figure 30. Paratype LACMIP 11370, apertural view, $\times 100$, diameter 0.4 mm. Figures 31–32. Paratype LACMIP 11371. Figure 31. Umbilical view, $\times 150$, maximum diameter 0.55 mm. Figure 32. Close-up of umbilicus shown in Figure 31, $\times 240$, maximum length 0.38 mm.

part of the teleoconch broad and flattened rather than narrow.

Lozouet & Maestrati (1982) included a fossil species in their synonymy of *A. rota*. They reported that *Homalogyra eocaenica* Allix (1923:19–20, pl. 1, figs. 4, 4a–c) from middle Eocene (Lutetian Stage) rocks of the Paris Basin, France

is conspecific with *A. rota*. Gougerot & Le Renard (1977), furthermore, reported that *H. eocaenica* Allix is also conspecific with *Homalogyra praecursor* Gougerot (1965:296–297, pl. 5, fig. 1) from middle Eocene (Lutetian Stage) rocks of the Paris Basin, France. Another species, *Homalogyra cavellieri* Gougerot (1968:222–223, pl. 1, fig. 7) from

upper middle Eocene (lower Bartonian Stage) rocks of the Paris Basin, France, was regarded by Dolin et al. (1980) to be a subspecies of *H. eoacaenica* Allix. The new species differs from *H. eoacaenica cavellieri* by having wider and more elongate ribs and by not having a smooth body whorl.

Bandel (1988:pl. 1, fig. 7; pl. 3, fig. 6) illustrated an *Ammonicera* sp. from middle Eocene (Lutetian Stage) rocks of the Paris, France area. The new species differs in the following features: shoulder area nearly vertical rather than broadly rounded, axial ribs noted to broadly elliptical rather than narrow, and fewer axial ribs.

The shells of *Ammonicera*, as well as of *Omalogyra*, resemble minute ammonites in that each side is a mirror image of the other. The ammonite shape reflects how the shell is carried; namely, with the aperture directed forward, rather than being carried (as in most gastropods) with the under surface resting on the foot. Thus, the entire animal appears to be bilaterally symmetrical when crawling (Moore, 1971).

Few fossil or modern-day species of *Ammonicera* are known. They have been inadequately studied because of their small size. Only five modern-day species of *Ammonicera* are known from the Indo-Pacific region where they are found associated with coral rubble, covered by *Halimeda* algae, in depths of 1 to 7 m (Sleurs, 1985a, b). About the same number of modern-day species of *Ammonicera* are known from Cuba where they are usually found in depths of 2 to 5 m and no deeper than 20 m (Rolán, 1992). Rios (1985) reported a single species of *Ammonicera* living from Labrador to Florida and in Brazil. As mentioned above, *Ammonicera rota* is found along the North Atlantic coast off of Europe and also in the Mediterranean.

The geologic range of genus *Ammonicera* is middle early Eocene to Recent, and *A. benhami* is the earliest record of this genus. The new species is the first record of genus *Ammonicera* from the Pacific coast of North America.

Etymology: The new species is named for geologist Steven R. Benham (Pacific Lutheran University, Tacoma, Washington).

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LOCALITIES CITED

CSUN 1563. At elevation of 2230 ft. (680 m), exposed in roadcut on NE side of logging road, latitude 47°59'03"N, longitude 123°8'12"W, 300 m N and 50 m E of SW corner of section 1, T. 17 N, R. 4 W, and 500 m S32 E of Larch Mountain, U.S. Geological Survey, 7.5-minute, Capitol Peak Quadrangle, provisional edition 1986, Black Hills, Thurston County, Washington. Upper part of the Crescent Formation. Age: Middle early Eocene ("Capay Stage"). Collectors: J. L. & G. H. Goedert, July, 1992. = LACMIP loc. 16655

CSUN 1564. At elevation of 1738 feet (530 m), on N side of logging road, 800 m N and 50 m W of SE corner of section 25, T. 18 N, R. 3 W, and 950 m N25 W of Rock Candy Mountain, U.S. Geological Survey, 7.5-minute Summit Lake Quadrangle, 1981, Black Hills, Thurston County, Washington. Upper part of the Crescent Formation. Age: Middle early Eocene ("Capay Stage"). Collectors: J. L. & G. H. Goedert, August, 1992. = LACMIP loc. 16848

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