



SQUIRES AND SAUL, *Opis (Hesperopis) triangulata*

would represent the northernmost known occurrence of this species. Clark (1940) mapped this area and listed fossil localities, but he did not provide any faunal lists. Anderson (1958, p. 70) provided two short lists of a few Cretaceous mollusc species collected by Clark from the Covelo district. Anderson's lists did not include *Opis*.

Stratigraphical range. Upper Campanian – lower Upper Maastrichtian.

Distribution. Upper Campanian to Lower Maastrichtian: probably in the Gualala Formation, Anchor Bay Member, Mendocino County, California (Area 8); Uhalde Formation, upper part, Volta area, Merced County, California (Area 11); Point Loma Formation near Carlsbad, San Diego County (Area 16); Point Loma Formation and re-deposited Point Loma Formation specimens in the Cabrillo Formation, Point Loma, San Diego County, California (Area 17); Rosario Formation near La Misión (Area 18) and south of Punta China, Baja California, Mexico (Area 19). Upper lower to lower upper Maastrichtian: possibly from unnamed Upper Cretaceous strata, Covelo district, Round Valley, Mendocino County, California (Area 7); Moreno Formation, informal 'Garzas Sand' and informal 'Quinto Silt' members, Merced County, west side of San Joaquin Valley, California (Area 11); El Piojo Formation?, Negro Fork of Nacimiento River, north-east of Cape Martin, southern Santa Lucia Range, Monterey County (Area 12); El Piojo Formation, Pebblestone Shut-In west of Lake Nacimiento area, southern Santa Lucia Range, San Luis Obispo County, California (Area 13).

NORTH AMERICAN SPECIES ERRONEOUSLY OR VERY QUESTIONABLY IDENTIFIED AS OPINES

Early Jurassic

A bivalve reportedly of Early Jurassic (Pleinsbachian) age from the Bonzana Group south of Sproat Lake, Vancouver Island, British Columbia (Area 1), was figured as *Opisoma* sp. by Ludvigsen and Beard (1994, p. 64, figs 25, in part; 1997, p. 81, fig. 33, in part). No hinge information is available for this rather digitate bivalve that does

not resemble any published figures of *Opisoma*. It is most likely not an *Opisoma*.

Early Cretaceous

Opis shastalis Anderson (1938, p. 121, pl. 4, figs 4–5) from the Budden Canyon Formation, probably the Huling Member, Ono area, Shasta County, California is a small bivalve (17 mm in height, 17 mm in length) described as being smooth, polished and pearly. The pearly shell indicates that this species does not belong to Crassatelloidea. Anderson (1938, p. 65) reported that the type specimen was found associated with the ammonite *Lytoceras* (*Gabbioceras*) *angulatum* Anderson, 1902 and the belemnite *Acroteuthis aboriginalis* Anderson, 1958. According to Murphy *et al.* (1969), these cephalopods are indicative of Aptian age.

Opis texana Cragin, 1893 from the Albian Fredericksburg Group, Tom Green County, Texas (Akers and Akers 2002, p. 244), is based on a steinkern specimen. The hinge is unknown, and the species has never been figured.

Opis? elevata Stephenson (1952, p. 96, pl. 22, figs 2–6; Akers and Akers 2002, p. 244, fig. 217) from the Cenomanian Woodbine Formation, Templeton member, Grayson and Lamar counties, north-eastern Texas, is based on only five specimens, some of which are internal moulds. Overall shell shape of *Opis? elevata* resembles an *Opis*, but in Stephenson's (1952, pl. 22, fig. 14) illustration and in his description, the right-valve hinge of this species has two cardinals, whereas the right valve of *Opis* has one large cardinal (Chavan 1969). Possibly, the figured valve has a transposed hinge, but the teeth of *O.? elevata* appear tipped forward of the beak as in *Veniella* Stoliczka, 1871 (see Kirby and Saul 1995, pl. 2, fig. 2) rather than pointing more directly as the beak as in *Opis*. Additionally, *O.? elevata* is described as having both the lunule and escutcheon poorly delineated, whereas both *Opis* and *Hesperopis* have a well-delineated lunule and escutcheon.

Opis? elevata biangulata Stephenson (1954, pp. 32–33, pl. 7, figs 15–16; Richards 1958, pp. 181–182, pl. 42, fig. 9) from the Cenomanian Raritan Formation near Sayreville, New Jersey is represented by three small and incomplete internal moulds. The hinge is unknown.

EXPLANATION OF PLATE 2

Figs 1–10. *Opis* (*Hesperopis*) *triangulata* (Cooper, 1894). All $\times 1$. All right valves. Specimens coated with ammonium chloride. 1, lectotype, CASG 624 from west base of Pt. Loma, San Diego County, California. 2, hypotype, LACMIP 13542, LACMIP loc. 22661, exterior. 3, 9, hypotype, LACMIP 13543, LACMIP loc. 22661. 3, exterior. 9, interior. 4, holotype, CASG 29118.03, CASG loc. 29118, exterior. 5, hypotype, SDSNH 67148, SDSNH loc. 3403, exterior. 6, 10, hypotype SDSNH 33990, SDSNH loc. 3402. 6, exterior. 10, interior. 7, hypotype, CASG 29120.02, CASG loc. 29120, exterior. 8, hypotype, SDSNH 33989, SDSNH loc. 3384, exterior.