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Pliocene of Oregon and California

By

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A study of gastropods in the family Thaididae, subfamily Drupinae (Hertlein, 1960, pp. 7-8), resulted in a re-evaluation of the generic assignment of a species which occurs in beds of Pliocene age in Oregon and California. This species was originally described as *Sistrum hannai* Howe.

The genus name *Sistrum* Montfort, 1810, type *Sistrum album* Montfort (= *Murex ricinus* Linnaeus) is relegated to the synonymy of *Drupa* Röding in Bolten, 1798. *Sistrum hannai* Howe does not appear to be referable to any described supraspecific category and therefore a new genus is here proposed for it.

Genus **Condonia** Hertlein, new genus

DESCRIPTION OF THE GENUS. Shell moderately large, subglobose, very thick, the spire about one-third the height of the shell; siphonal fasciole large; umbilical chink well defined; sculpture consisting of spiral threads which alternate in size; aperture rather narrow for the size of the shell, anterior canal short, narrow and deep; outer lip thickened, interior margin with an elongated thick node which bears two denticles; inner lip and columella smooth.

TYPE SPECIES. — *Sistrum hannai* Howe 1922.

COMMENTS. The presence of an elongated node bearing denticles on the inner margin of the outer lip of the type species suggests that the relationship of this genus is with the subfamily Drupinae. It differs from other supraspecific units of that group in the smooth columella, and in the size and thickness of the shell which are much greater than that of other members of Drupinae.

The presence of this genus, if it be correctly assigned to the Drupinae, in strata of Pliocene age in Oregon and California, is an interesting occurrence. Two genera of this subfamily, *Drupa* and *Morula* Schumacher, 1817, live in eastern Pacific waters, but have not been reported as fossils in that region. *Morunella* Emerson and Hertlein (1964, p. 361), with *Buccinum lugubre* C. B. Adams, 1852, as type, a subgenus of *Morula*, has been reported from Pliocene to Recent in the eastern Pacific.

The genus *Drupa* Röding in Bolten is represented in the Recent fauna of the eastern Pacific by two species and a subspecies. These are *Drupa ricina* Linnaeus in the Galápagos Islands and *Drupa morum* Röding in Bolten, *D. ricina* and *D. ricina albolabris* Blainville at Clipperton Island.

Perhaps other fossil forms will be discovered which will explain the unusual distributional occurrence of the present member of Drupinae here placed in a new genus.

Condonia hannai bears a general resemblance to the Recent *Drupa iodostoma* Lesson⁽¹⁾ (see figs. 1, 2) which lives in the tropical western Pacific but the spire of that species is low and the columella bears denticles typical of *Drupa*.

This new genus is named for Dr. Thomas Condon (see McCornack, E., 1928), pioneer geologist in Oregon and first professor of geology at the University of Oregon.

(1) See: *Purpura (ricinula) iodostoma* Lesson, Rev. Zool., Soc. Cuvierienne, p. 355, December, 1840. "Hab. Nova-Zelandia." This species is not known to occur in New Zealand. Lesson, Guerin's Mag. de Zool., Ser. 2, Vol. 4, pl. 58, 1842. Reeve, Conch. Icon., Vol. 3, *Ricinula*, sp. 4, pl. 1, fig. 4, 1846. "New Zealand, Lesson; Straits of Macassar; Röhr." Tryon, Man. Conch., Vol. 2, p. 184, pl. 56, fig. 199, 1880 (as *Ricinula iodostoma*). "Tahiti; Sts. Macassar; New Zealand." Kaicher, Sally D., Indo-Pacific Sea Shells. Muricacea. Buccinacea. Pl. 4, fig. 5, July, 1957 (as *Drupa iodostoma*). "Malaya, Melanesia, Polynesia."



Figures 1, 2. *Drupa iodostoma* Lesson. Hypotype no. 576a (Calif. Acad. Sci., Geol. Type Coll.). Marquesas Islands, Recent. Length 36 mm., maximum diameter 29.4 mm.

Figures 3, 4. *Condonia hannai* Howe. Holotype no. 576 (Calif. Acad. Sci., Geol. Type Coll.). Fossil Point, three miles southwest of Empire City, Coos County, Oregon. Coos Conglomerate, Pliocene. Length 66.8 mm., maximum diameter 53.3 mm.

Condonia hannai Howe.

(Figures 3 and 4.)

Sistrum hannai HOWE, Univ. Calif. Publ. Bull. Dept. Geol. Sci., vol. 14, no. 3, p. 102, pl. 8, figs. 1 and 5, September 8, 1922. WEAVER, Univ. Washington Publ. Geol., vol. 5, pt. 2, p. 450, pl. 87, figs. 14, 16, December, 1942 (issued December 31, 1943). Illustrations of type specimen. WEAVER, Univ. Washington Publ. Geol., vol. 6, no. 2, p. 57, 1945. "Fossil Point on the east side of South Slough in Coos Bay." Oregon. Empire formation, Pliocene.

TYPE SPECIMEN. No. 576, California Academy of Sciences, Department of Geology, Type Collection.

TYPE LOCALITY. Loc. 4 (Calif. Acad. Sci.), "Fossil Point, three miles southwest of Empire City Coos County Oregon." "Coos Conglomerate, Pliocene."

ORIGINAL DESCRIPTION. Shell very thick heavy; spire low and sharp; suture indistinct; body whorl inflated ornamented with about twenty-one low, flat, spiral ribs; outer lip heavily thickened and inner surface of outer lip ornamented with a heavy bifid tooth. Canal short and deep; umbilicus well defined subperforate. (Howe.)

COMMENTS. This species until recently was known only from the type locality at Coos Bay, Oregon. Dall (1909, p. 19) considered the Coos Conglomerate to be of early Pleistocene or late Pliocene age. These beds he believed lay unconformably upon the Empire formation which he believed to be of late Miocene age. Howe (1922, p. 87) studied the type area and stated that the Coos Conglomerate has the same dip as that of the Empire beds and that "The Coos Conglomerate is therefore an integral part of the Pliocene series of the South Slough syncline." This opinion was substantiated by later work in that area by Weaver (1945, pp. 54-55), who stated that the Coos Conglomerate forms a lens in the Empire strata. The faunal assemblage from the Empire beds contains a number of species of mollusks and an echinoid, *Scutellaster* (reported as *Calaster* Kew and as *Anorthoscutum* Lambert and Thiéry) known to occur only in beds of Pliocene age.

An interesting occurrence of *Condonia hannai* has come to light in San Benito County, California, in the Northwest 1/4 of Section 26, Township 19 South, Range 11 East, Mount Diablo Base and Meridian. A specimen 50.5 mm. long, sent to the California Academy of Sciences by Mr. C. C. Church, came from beds generally referred to the Etchegoin formation of middle Pliocene age. This occurrence of *C. hannai* lends confirmation to the suggestion of Woodring, Stewart, and Richards [U. S. Geol. Surv., Prof. Paper 195, p. 110, 1940 (1941)] that the Empire fauna "is probably more nearly the equivalent of the Etchegoin than of the Jacalitos or San Joaquin."

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