Is There Double Trouble in Marsupial Clams?

BY

EUGENE V. COAN

Research Associate, Invertebrate Zoology

Los Angeles County Museum of Natural History, Los Angeles, California 90007

(1 Plate)

TWO DISTINCT, LARGELY SYMPATRIC species of the unusual bivalve genus *Milneria* occur on the northwest American coast, both described by Dall. The purpose of this note is to clear up some unnecessary confusion that has existed between them and to designate lectotypes for the two species.

The first-named of the two was *Ceropsis minima* Dall, 1871. (The generic name *Ceropsis* proved to be a homonym, and Dall renamed the genus in 1881). The second species was *Milneria kelseyi* Dall, 1916. The confusion began with an enigmatic note by BAKER (1937) concerning the comparisons made by DALL (1916) between the two species. Baker said:

> "By a curious error [Dall] reversed his type specimens so that the description of *M. minima* is really the description of the new species [*M. kelseyi*]. To read the descriptions correctly, one must reverse the names throughout the whole article."

BURCH (1944) quoted Baker's statement and added, "The above note copied here although I think all the members [of the Conchological Club of Southern California] have been familiar with the situation."

I have examined Dall's description and the type material and am unable to detect any such reversal.

The type lot of *Ceropsis minima* Dall, 1871, was contained in USNM 63349 and consisted of one large pair and one small right valve collected from the back of the abalone, *Haliotis rufescens* Swainson, 1822, near Monterey, California, by Dall himself. Both are young specimens and appear to be male. DALL (1871) figured the right valve of the paired specimen in external view, and his figure matches this larger specimen well, as do his two figures of the hinges of the valves. His stated measurement of 3.6mm (as ".14 in.") is a bit too large however, the actual maximum length being closer to 3.1mm. I here designate this specimen as **lectotype** (Figure *1*). It remains in USNM lot 63349, and the smaller, **paralectotype** valve has been recatalogued as USNM lot 744340.

A review of material in the collection of the California Academy of Sciences demonstrates that the common species at Monterey matches Dall's type and description, although there is some variation with respect to shape and sculpture, perhaps dependent, at least in part, on nestling site.

The type material of *Milneria kelseyi* Dall, 1916, was contained in USNM 253037, this lot specified in the original proposal. The label with the material indicates that the specimens are from "California" and were part of the "White collection." Dall's text adds "on *Haliotis* shells," and from "central California" to the data. The lot consisted of 6 entire specimens, 3 opened and 3 intact. I here designate the already opened female pair with stronger, better developed sculpture and an intact marsupium as **lectotype** (Figure *2*). This will remain in USNM lot 253037. It measures 5.8mm in length. Dall states the length to be "11 mm," but this is much too long and must be in error. Five **paralectotypes** will be in USNM lot 744341.

The point at issue here is whether or not DALL (1916), in his description of *Milneria kelseyi*, a comparison with *M. minima*, reversed his specimens. To evaluate this we must examine the comparison carefully. Of *Milneria minima*, he says:

> "The latter has the radial sculpture, especially the four strong ribs on the posterior part, coarsely and conspicuously imbricated, with no very marked keel from the umbo to the posterior basal angle. The shell in a general way is in all respects less angular. . . . [It] has a rather large conspicuous impressed lunule and a smaller narrow escutcheon."

Of the new species, *Milneria kelseyi*, he says:

> "*M. kelseyi* has a conspicuous ridge extending from the umbo to the posterior basal angle; the imbricated ribs are less conspicuous, the scales smaller and less prominent, the anterior end more attenuated, the shell wider and more depressed, and is apparently

larger when mature. ... [It has] an extremely small lunule and an escutcheon larger and more conspicuous."

The illustrations given here of the lectotypes clearly show the accuracy of these differentiations. The lectotype of *Milneria minima* shows 4 strong, heavily imbricated ribs and no keel. The lectotype of *M. kelseyi* shows much finer imbrication and has a conspicuous keel from the umbones to the postero-ventral angle. On the whole, the lectotype of *M. minima* seems "less angular," whereas *M. kelseyi* is narrowed anteriorly and more elongate.

The distinction on the relative size of the lunules seems to hold with regard to the types and most other specimens, but the relative difference in escutcheon size is not so clear-cut.

I have included illustrations of adult female specimens of the two species from a single location in southern California to elucidate further the differences (Figures *3* and *4*).

More study is needed to clarify the distinction in geographic distribution and habitat of the two and to unscramble past references. It appears from material in the California Academy of Sciences that *Milneria kelseyi* may not occur north of southern California and that the sculpture of *M. minima* is more rugose in southern California. The ventral inpocketing in females of *M. minima* generally appears less than in *M. kelseyi*.

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Explanation of Figures *1* to *4*

Figure *1*: *Milneria minima* (Dall, 1871). **Lectotype** (herein) of *Ceropsis minima* Dall, 1871. USNM lot 63349; Monterey, California; length, 3.1 mm. External view of both valves and internal view of left valve.

Figure *2*: *Milneria kelseyi* Dall, 1916; **lectotype** (herein). USNM lot 253037; central California; length, 5.8 mm. External view of both valves and internal view of left valve.

Figure *3*: *Milneria minima* (Dall, 1871). California Academy of Sciences lot 36793; Reef Point, Orange County, California. External view of one specimen; length, 4.6 mm. Internal and antero-dorsal views of another specimen; length, 4.7 mm.

Figure *4*: *Milneria kelseyi* Dall, 1916. California Academy of Sciences lot 36789; Reef Point, Orange County, California; length, 6.4 mm. External, internal and antero-dorsal views.