

the marsupium the *Pleurobema-Unio* type, but differs by a general tendency to reduce the hinge teeth. Another group is formed by the rest of the genera, in which the marsupium becomes very highly specialized, more or less restricted to a part of the outer gills, and where true ovisacs are developed. All these more advanced genera originated probably at a time when seasonal changes of climate existed already in our continent—in the tertiary—and the shortening of the warm period in summer possibly induced them to prolong the breeding season, that is to say, to postpone the discharge of the embryos to a more favorable time, namely, till the next spring. This made necessary special adaptations for the carrying of the embryos through the winter, and probably the ovisacs of the most highly developed genera belong to these special adaptations. In certain genera, ovisacs are not at all developed, and in *Strophitus* an independent form (placentæ). This lengthening of the breeding season finally led to the merging of the end of the one of them into the beginning of the next (known only in one of the most highly specialized genera, *Lampsilis*), while in less specialized genera, in *Alasmidonta*, *Symphynota*, *Anodonta*, also in *Ptychobranhus* and some species of *Lampsilis*, an "interim" in midsummer still exists.

I think this is a reasonable interpretation of the different types of breeding season and their development, yet it is proposed here as a mere theory, which should be substantiated by further investigations on the marsupium and the breeding seasons of our *Unionidæ*.

---

#### MOLLUSKS FROM AROUND ALBUQUERQUE, NEW MEXICO.

---

BY H. A. PILSBRY AND J. H. FERRISS.

---

A considerable amount of work has been done on New Mexican mollusks, and the numerous local lists published would make a good showing for the Territory if compiled into one catalogue. The more recent lists were based upon material collected by Professor T. D. A. Cockerell and his pupils, and by Messrs. Joshua L. and Albert Bailly, Ferriss and Pilsbry. The records are to be found in NAUTILUS, ix, p. 116; x, p. 42; xi, p. 69; xii, pp. 76, 131; xiii, pp. 13, 36, 49, 79; xiv, pp. 9, 47, 72, 82, 85; xvi, pp. 57, 69, Mollusca of the South-western States, I, II, etc.



In 1906 we collected a few shells in the neighborhood of Albuquerque while waiting for trains.

The immediate environs of Albuquerque are barren of molluscan life. Only along the Rio Grande the drift débris affords small shells, the land forms probably washed down from the Sandia mountains, which rise north of the city. A low ridge of black volcanic rock frowning on the western horizon proved to be not worth the excursion. We found only a few *Pupoides marginatus* there. The nearer slopes of the Sandia mountains are also barren. A few small species were found in the canyon beyond the Agricultural College. A much richer fauna no doubt inhabits the higher slopes northward. Miss Maud Ellis found twelve species in Las Huartus canyon, at 8000–9000 feet elevation (NAUTILUS, xiv, 85).

The following forms were taken:

*Helicodiscus eigenmanni arizonensis* P. & F. Rio Grande drift; Sandia Mts.

*Vitrea indentata umbilicata* Ckll. Sandia Mts.

*Zonitoides arborea* (Say). Sandia Mts.; Rio Grande drift débris.

*Zonitoides minuscula* (Binn.). Sandia Mts.; Rio Grande drift débris.

*Euconulus fulvus* (Müll.). Sandia Mts.

*Vallonia cyclophorella* Anc.. Rio Grande drift débris.

*Cochlicopa lubrica* (Müll.). Sandia Mts.

*Pupoides marginatus* (Say). Rio Grande drift débris; volcanic ridge about 5 miles west of Albuquerque.

*Pupoides hordaceus* (Gabb). Rio Grande drift.

*Pupilla blandi* Morse. Rio Grande drift.

*Bifidaria procera* (Gld.). Rio Grande drift.

*Bifidaria procera cristata* P. & V. Rio Grande drift.

*Bifidaria pellucida hordeacella* (Pils.). Rio Grande drift.

*Bifidaria armifera* (Say). Rio Grande drift.

*Vertigo ovata* Say. Rio Grande drift.

*Lymnæa bulimoides cockerelli* P. & F. Rio Grande drift.

*Planorbis trivolvis* Say. Rio Grande drift.

*Planorbis parvus* Say. Rio Grande drift.

*Valvata (humeralis* Say?), one broken specimen. Rio Grande drift.



Pilsbry, Henry Augustus and Ferriss, James H. 1909. "Mollusks from around Albuquerque, New Mexico." *The Nautilus* 22, 103–104.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/17821>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/95374>

**Holding Institution**

MBLWHOI Library

**Sponsored by**

MBLWHOI Library

**Copyright & Reuse**

Copyright Status: NOT\_IN\_COPYRIGHT

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.