

ARGYROTHECA ARGUTA, A NEW SPECIES OF
BRACHIOPOD FROM THE MARSHALL
ISLANDS, WESTERN PACIFIC

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Abstract.—*Argyrotheca arguta* is characterized by small size (maximum width 2.8 mm), white, clear or translucent shell, and weak to absent costae. It occupies cryptic habitats under coral fronds or in recesses, and has been found on the sea side and the lagoon side of the reefs at Enewetak and Bikini atolls.

A book on the natural history of Enewetak is in preparation under the auspices of the Mid Pacific Research Laboratory at Enewetak. I was invited to write up the brachiopods, based upon my observations of them there and the collections in the National Museum. Only three species have been found at Enewetak, yet despite all the work that has been done, there remains unnamed a species of *Argyrotheca*. This has been a mild inconvenience for years (e.g., Cooper 1954) but previously the collection was too small to allow a confident decision as to whether these small shells represent a new species or merely babies of a described form. Now enough material is at hand to reveal features other than mere size that indicate that the Enewetak form is a distinct species, apparently endemic to the Marshall Islands.

The editors of the book on Enewetak wish to avoid the introduction of new taxa, hence this short note to describe *Argyrotheca arguta*, new species.

Phylum Brachiopoda Dumeril
Class Articulata Huxley
Order Terebratulida Waagen
Superfamily Terebratellacea King
Family Megathyrididae Dall
Genus *Argyrotheca* Dall
Argyrotheca arguta, new species

Fig. 1

Diagnosis.—Shell small; known width less than 3 mm; outline heart-shaped with slightly emarginate anterior margin; profile biconvex with inflated dorsal valve and rather flat ventral valve; color white to light tan or clear, translucent; some shells with low and indistinct costae, most lacking costae.

Ventral valve with open triangular pedicle foramen flanked by strong divergent hinge teeth extending nearly to anterior margin. Dorsal valve with deep hinge sockets formed between valve edge and socket plates; loop short, simple, with 2 descending branches circling laterally and converging on median septum; some adults with serrate anterior margins.

Holotype.—USNM 265875: the largest shell in the collection with width 2.8 mm.

Etymology.—From the Latin “argutus” = “clear,” referring to the translucent shell.

Comparison.—This species is characterized by small size and translucent shell

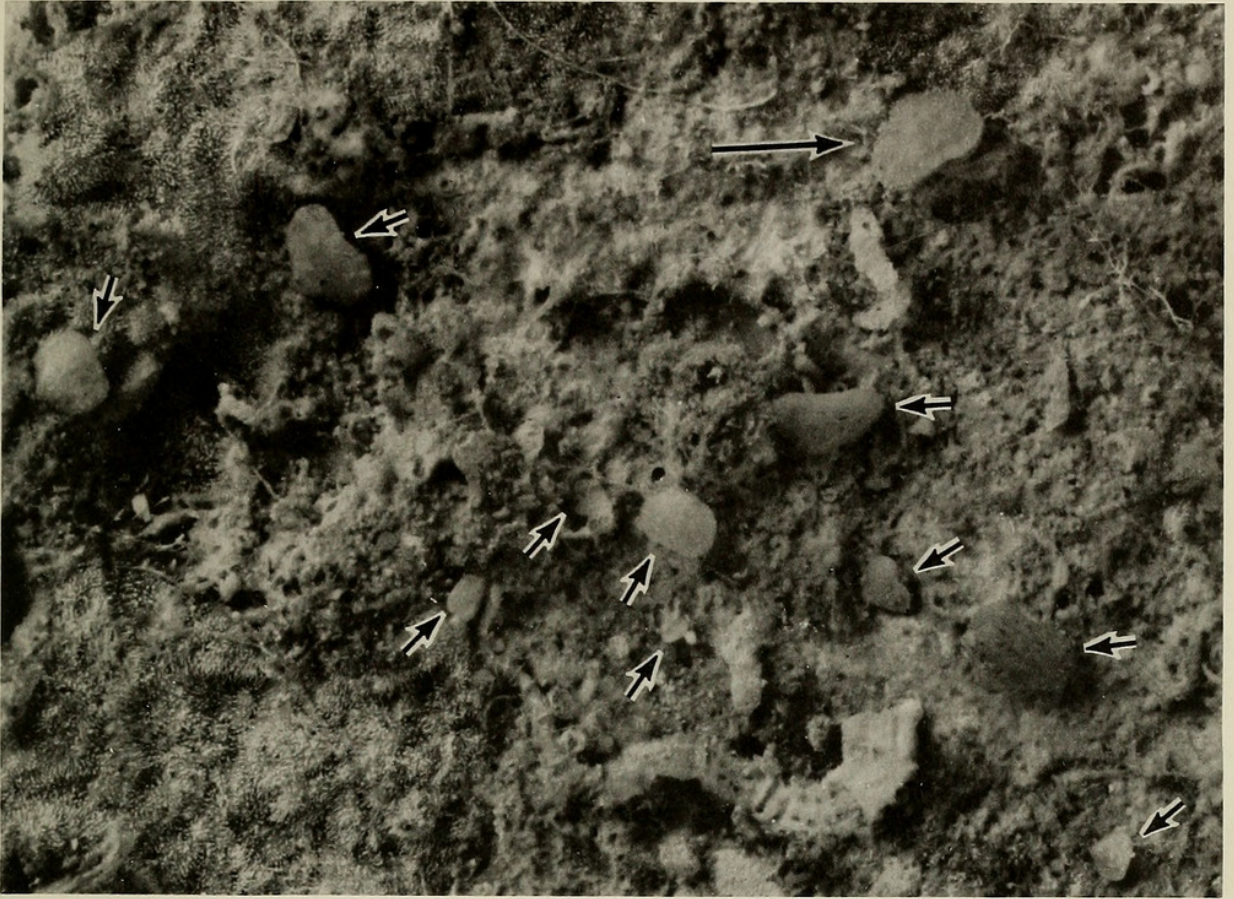


Fig. 1. *Argyrotheca arguta*: 11 shells attached to underside of coral frond from USNM loc. 32014 on the lagoon side of Igurin Island, Enewetak Atoll, depth 14 m. The long arrow points to the holotype, the short arrows to other specimens ($\times 4$).

that lacks the reddish color or stripes that typify other species of *Argyrotheca*, and lacks the radial costae that most species show. It was recognized long ago that these shells did not fit easily into any of the described species (Cooper 1954) but they were not described for fear that they were merely juveniles. The present sample is larger than any studied previously and it contains very small shells as well as a majority that seem to have ceased growth at a width between 2 and 3 mm. The species is currently known only from Enewetak and Bikini, but further exploration probably will reveal it throughout the Marshall Islands. It is associated with the small cemented brachiopod *Thecidellina congregata* Cooper at both atolls.

Species of *Argyrotheca* in the Caribbean Sea are larger than *A. arguta* and have costae and red stripes. Two species in the Pacific, *A. australis* and *A. mayi* from Australia and Tasmania, also differ from *A. arguta* by larger size, strong costation, and colored radial stripes.

Habitat.—*Argyrotheca arguta* was found in two abundant patches at Enewetak, both on the ceilings of recesses in the reef. The samples were obtained by divers who observed the habitat. The sample at Bikini was obtained by dredge, so the habitat was not seen. One Enewetak sample is from the sea side of the reef at Rigili Island at a depth of about 30 m; the other is from the lagoon side of Igurin at 14 m. The dredged sample from Bikini was taken from about 100 m depth on the south side of the atoll (Cooper 1954).

Literature Cited

- Cooper, G. A. 1954. Recent brachiopods. Bikini and nearby atolls, Part 2. Oceanography (biologic).—U.S. Geological Survey Professional Paper 260-G:315–318, pl. 80–81.

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