ALASKA FOSSILS OF THE MONTH

ALASKOTHYRIS FROSTI, A RECENTLY NAMED DEVONIAN BRACHIOPOD GENUS AND SPECIES FROM THE BROOKS RANGE OF ALASKA

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One of the most fascinating aspects of paleontological research is the discovery of new fossil genera and species of once living elements of former biotic worlds. In the case of Alaska this is an extremely common occurrence, due to its remoteness from other parts of the globe where active characterization of their past faunal and flora components has been undertaken. The Brooks Range of northern Alaska is a prime example of this phenomenon. Despite the abundance of field work conducted there since the late 1940's, many portions of the stratigraphic column have been little studied paleontologically, especially the Devonian System, resulting in a strong knowledge gap when to compared to its closest neighboring regions in Northeast Russia and the Canadian Arctic Islands.

The most common groups of megafossils found in Devonian strata of the Brooks Range are brachiopods and rugose corals, both of which have been poorly characterized despite the existence of many collections lying about in both federal and industry repositories. This lack of published knowledge results in a very impoverished picture of the stratigraphic succession there, as well as the correlation and determination of faunal alliances between the various component terranes of the Arctic Alaska Superterrane.

In a recent trip to the Smithsonian Institution in Washington D.C. to examine and evaluate fossil collections from Glacier Bay National Park & Preserve, the authors found a collection of large stringocephaloid brachiopods from the Howard Pass quadrangle in and amongst collections that had formerly belonged to the U.S. Geological Survey. These eye-catching (at least to a paleontologist) specimens were notable both in representing a new genus and species, but also because we have so little published data from this part of Alaska. Previous publications providing illustration and description of Devonian brachiopods from the Brooks Range are limited to a handful of publications and include Sartenaer (1969), Blodgett et al. (1988), Blodgett and Dutro (1992), Popov et al. (1994), Baxter and Blodgett (1994), Dutro et al. (1994), Blodgett et al. (2002), Blodgett and Baranov (2012), and Baranov and Blodgett (2013).

In a recent paper (Blodgett, Baranov, and Santucci, 2015) we formerly established this new genus and species with the name of *Alaskaothyris frosti* (see Figs. 1 and 2). The fossil material containing this species was collected in 1968 by A.K. (Gus) Armstrong of the U.S. Geological Survey. The locality (USGS locality 8451-SD) is situated in the Howard Pass 1:250,000 scale quadrangle and was also the source of a single dipnoan fish tooth plate which was described as *Dipterus* sp. by Perkins (1971). In the preceding article it was noted that the collection included numerous specimens of the brachiopod *Stringocephalus* identified by J.T. Dutro, Jr. (identified by us as *Alaskothyris frosti* n. gen., n. sp.). The locality data provided in the paper was that the specimens come "from a small hill on the east side of Howard Pass, approximately two miles southeast of Nigtun Lake (68°13'N, 156°50'W.)" (Perkins, 1971, p. 555).

Etymology: The new species is named in honor of Dr. Herbert C. Frost (Fig. 3), National Park Service, Alaska Regional Director, Anchorage, Alaska, for his support to science, management and stewardship of National Park Service paleontological resources. His strong support has lead to the National Park Service becoming the foremost source of new information on Alaskan paleontology during the past decade! Dr. Frost holds a PhD in wildlife ecology from the University of Maine and has research experience with black bears, white-tailed deer, fishers, and martens. During his tenure with the National Park Service, Dr. Frost served as the Associate Director, Natural Resource Stewardship and Science in Washington, D.C.

ACKNOWLEDGMENTS

We thank the National Park Service for providing funding which allowed Blodgett to locate this fossil collection in the holdings of the Department of Paleobiology, U.S. National Museum (Smithsonian Institution), Washington, D.C. The collection was formerly property of the Branch of Paleontology & Stratigraphy of the U.S. Geological Survey, but was transferred to the USNM after the disbanding of the P&S Branch following the 1995 Reduction-In-Force (RIF) of the USGS. We thank Kathy Hollis and Mark Florence, both of the Department of Paleobiology, U.S. National Museum, for arranging a loan of the collection for study. The work was partly supported by the Russian Fund of Basic Researches (grant 13-05-00520), Program of Presidium of the Russian Academy of Science No 23, Project No 23.1.

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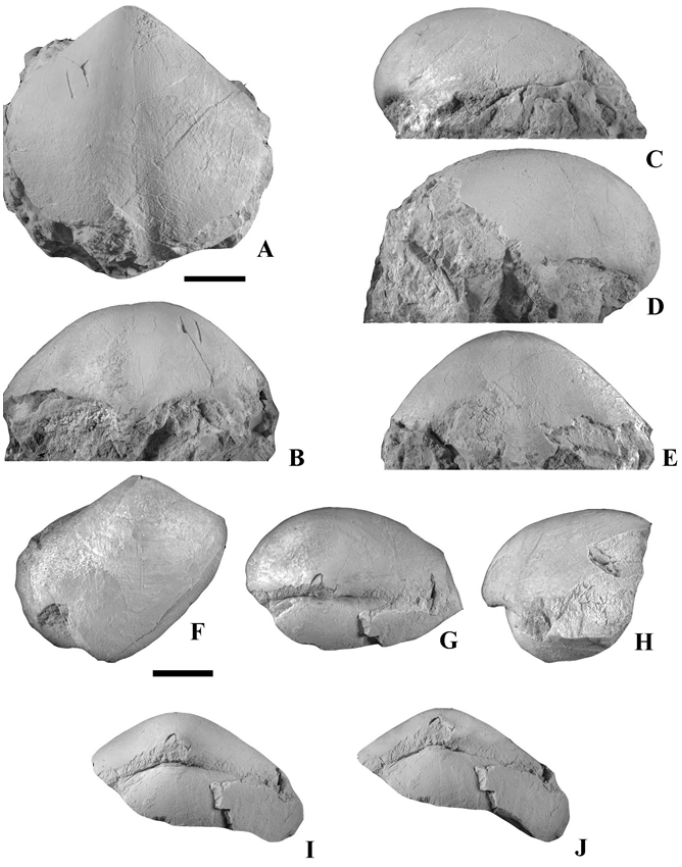

Figure 1. *Alaskothyris frosti* n. gen., n. sp., A-E, holotype, USNM 604946, in A, ventral, B, posterior, C, lateral, D, opposing lateral, and E, anterior views of ventral valve. F-J, paratype, USNM 604947, in F, ventral, G, posterior, H, lateral, I, oblique posterior, J, even more obliquely posterior (almost dorsal) views of an articulated specimen in which only the posterior-most portion is preserved. Scale bars = 1 cm.

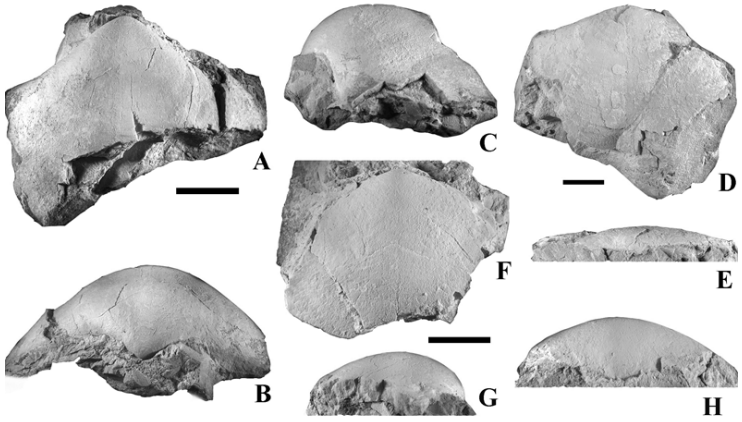

Figure 2. *Alaskothyris frosti* n. gen., n. sp., A-C, paratype, USNM 604948, in A, ventral, B, posterior, and C, lateral views of ventral valve. D-E, paratype, USNM 604949, in D, dorsal and E, posterior views of dorsal valve. F-H, paratype, USNM 604950, in F, dorsal, G, lateral, and H, posterior views of dorsal valve. Scale bars = 1 cm.

Figure 3. Dr. Herbert C. Frost, National Park Service, Alaska Regional Director, Anchorage, Alaska