

Localities, Distribution and Stratigraphical Context of the Late Devonian Tetrapods of East Greenland, by Henning Blom, Jennifer A. Clack, and Per E. Ahlberg

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Book Review

LOCALITIES, DISTRIBUTION AND STRATIGRAPHICAL CONTEXT OF THE LATE DEVONIAN TETRAPODS OF EAST GREENLAND. By Henning Blom, Jennifer A. Clack, and Per E. Ahlberg. Meddelelser om Grønland, Geoscience, 2005. Vol. 43, 50 pp. DKK 195. (http://www.dpc.dk/graphics/Design/Danish/Videnscenter/DPC_publicationer/MoGpdf/MoG%20Geo/Geo43.pdf)

Among the most tantalizing paleontologic discoveries in the 20th century were the Late Devonian (ca. 370 million-year-old) tetrapods *Ichthyostega* and *Acanthostega* from East Greenland in the Arctic. These four-legged vertebrates were first discovered in the late 1920s, and for decades held the sole position as evolutionary intermediates between fish and land vertebrates. More recently, there have been several discoveries of tetrapods and tetrapod-like fishes (Clack, 2002, and references therein), including in the Canadian High Arctic (Daeschler et al., 2006). Nevertheless, the East Greenland fossils stand out in terms of sheer abundance and excellent preservation, including virtually complete skeletons of early tetrapods. More than 300 *Ichthyostega* fossils, some 200 *Acanthostega* fossils, and a new undescribed genus are the culmination of some 16 expeditions to East Greenland between 1929 and 1998 (Blom et al., 2005).

While the morphology of *Ichthyostega* and *Acanthostega* has been discussed extensively in the literature, little has been published on the fossil localities themselves. Blom et al. remedy this by focusing on the geologic context in which the East Greenland tetrapods were discovered, based on an extensive literature review, information contained in fossil collections, unpublished manuscripts, and field notes. The book is organized into a series of chapters that discuss the geologic setting, stratigraphic framework, and the distribution of localities and fossils. Blom et al. conclude with a discussion of challenges associated with correlation of the East Greenland localities, plausible explanations for the variable distribution of *Ichthyostega* and *Acanthostega* fossils, and future research directions that include study of the taphonomic and sedimentologic context of localities.

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At 50 pages, the *Distribution and Stratigraphical Context of the Late Devonian Tetrapods of East Greenland* is a relatively short read, yet it is detail-rich, if a bit overwhelming to those of us not so familiar with the lay of the land in East Greenland. Topographic maps, panoramic images, and stratigraphic sections of the tetrapod-bearing rocks complement the text, although what is missing is a geologic map. This may be a future goal, when the stratigraphy of certain areas such as Celsius Bjerg becomes better understood.

While perhaps not as glamorous an endeavor as describing the fossils themselves, the geologic context of the Devonian localities on East Greenland is key to understanding the evolution of early tetrapods and the environments in which they arose. This book is a necessity for paleontologists and stratigraphers working in the Devonian Arctic and to students in paleontology who are particularly interested in the vertebrate transition to land. Despite the decades of field research and dozens of stratigraphic sections measured in East Greenland, the authors are quick to point out that there is still considerable work to be done. Notably, there are uncertainties with regard to the stratigraphy and correlation amongst localities in certain areas, and many vertebrate fossils collected in the 1930s have yet to be unpacked and studied. These fossils may provide further refinement of the age and stratigraphy. The book is a great starting point and essential read for those considering research on Devonian tetrapods in Arctic regions.

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