

Pertica sp. in the Devonian of Mimerdalen, Spitsbergen

OVE ARBO HØEG

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A fossil plant from Mimerdalen, Spitsbergen, probably lowermost Upper Devonian, described, but not named, by Høeg 1942 is probably allied to the genus *Pertica*, which was created by Kasper & Andrews 1972 on the basis of *P. quadrifaria* K. & A. from the Lower Devonian of Maine, USA.

O. A. Høeg, *Universitetet i Oslo, Postboks 1045, Blindern, Oslo 3, Norway.*

The plantbearing beds in Mimerdalen, Spitsbergen, have yielded a fossil flora which I described in 1942. It comprises various lepidophytic remains, for which I used different generic names, but suggested that they might belong together. Schweizer (1965) brought out more arguments in favour of such a combination, and I agree with him. The species may be called *Protolepidodendropsis pulchra*, which then also comprises *Bergeria mimerensis*. Further, the flora comprised the plant I called *Svalbardia polymorpha*, pointing out its resemblance, in various characters, to *Archaeopteris fissilis*. Also other authors have been struck by this resemblance and have assumed that the two species are closely related or even specifically identical. The latter view has been advocated by Beck (1971) and others. I find it, however, very difficult to accept that they should represent one species. Among other plants in this flora are *Enigmophyton superbum* and *Hyenia (Hyeniopsis) vogtii*.

The collection from Mimerdalen also comprised various specimens which had to be left without names. Among them was a large one which was characteristic enough, and good enough, to deserve an illustrated description (Høeg 1942, p. 144, pl. 57). It is a straight axis, broken at both ends, about 40 cm long, about 7–9 mm thick, with internodes 5–6 cm long. At each node there are lateral branches, almost certainly in numbers of four, in approximately verticillate arrangement, although with a certain vertical distance between them. From a widened base each branch narrows to a general thickness of about 2 mm. All branches have been broken at a distance of 2.5 cm or less from the main stem, and the remaining parts are unbranched but may, of course, have been divided further out.

It was, in 1942, impossible to suggest any relationship for this plant. Quite recently, however, Kasper and Andrews (1972) have described *Pertica quadrifaria* from the Trout Valley Formation in northern Maine. Their material was large enough to give basis for a reconstruction of the entire plant above ground. There is no doubt that the authors are right in referring their plant to the Trimerophytinae as a highly interesting new member of this remarkable but still perhaps slightly heterogeneous group.

A comparison of the illustrations in Kasper and Andrew's paper and the incomplete plant from Spitsbergen leaves, in my opinion, scarcely any room for doubt that they are related. Provisionally, at least, the Spitsbergen plant may be called *Pertica* sp.

A slight complication arises from the difference in age between the two plants. On the basis of stratigraphy and a fragmentary fossil flora the Trout Valley Formation is assumed to belong to the Lower Devonian, probably Emsian. The Mimerdalen deposit must be considerably younger, certainly not older than uppermost Middle Devonian, and probably lowermost Upper Devonian. This fact makes a specific identity of the two plants less probable, but cannot be used as an argument against the assumption of a close relationship.

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