

## *Acanthoscaphites varians* (Lopuski, 1911) (Ammonoidea) from the Upper Maastrichtian of Haccourt, NE Belgium

John W.M. Jagt<sup>1</sup> & W. James Kennedy<sup>2</sup>

<sup>1</sup>*2e Maasveldstraat 47, 5921 JN Venlo, The Netherlands;* <sup>2</sup>*Geological Collections, The University Museum, Parks Road, Oxford OX1 3PW, United Kingdom*

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### Abstract

A specimen of the scaphitid ammonite *Acanthoscaphites varians* (Lopuski, 1911) is described from the late Maastrichtian Vijlen Member of the Gulpen Formation as exposed in the SA Ciments Portland Liégeois (CPL) quarry at Haccourt, Liège, NE Belgium. This record constitutes an important addition to the ammonite fauna of the Maastrichtian type area.

### Introduction

One of us (WJK) recently revised the ammonite faunas of the type Maastrichtian and adjacent areas of The Netherlands and Belgium (Kennedy, 1986b, 1986c), while Van der Tuuk (1987) described additional specimens of Scaphitidae, with rather different results. We here describe an important addition to the fauna, *Acanthoscaphites varians* (Lopuski, 1911) from low in the Vijlen Member of the Gulpen Formation at the Ciments Portland Liégeois (CPL) quarry at Haccourt, Belgium. This species was previously known only from Denmark, Poland, the German Federal Republic and the southern part of European Russia, and represents an interesting addition to the cephalopod fauna of the Maastrichtian in the area.

### Systematic palaeontology

Genus *Acanthoscaphites* Nowak, 1911, p. 565.  
Type species *Scaphites tridens* Kner, 1848, p. 10, pl. 2, Fig. 1, by the subsequent designation of Diener (1925, p. 205).

*Discussion.* Kennedy (1986c) and Kennedy & Summesberger (1987) provide a diagnosis and discussions of this genus of giant scaphitids. They show *Acanthoscaphites tridens*, *A. trispinosus* (Geinitz, 1850) and *A. bispinosus* Nowak, 1911 to be macroconchs and *A. trinodosus* (Kner, 1848) and *A. quadrispinosus* Nowak, 1911 to be microconchs of a single variable species, *A. tridens*. They also refer *Acanthoscaphites verneuilianus* (d'Orbigny, 1842), *A. varians* (Lopuski, 1911) and *A. innodosus* Naidin, 1974 to the genus, noting that the latter is no more than the phragmocone of a macroconch *A. tridens*. *Acanthoscaphites schmidi* Birkelund, 1982 and *Ammonites pungens* Van den Binkhorst, 1861 are both regarded as specialised offshoots of *Hoploscaphites constrictus* (J. Sowerby, 1817), while *Acanthoscaphites praequadrispinosus* Blaszkiewicz, 1980, which seems to lack siphonal tubercles is a somewhat atypical form and may belong in some other genus.

Van der Tuuk (1987, p. 61) has recently and erroneously referred to *Acanthoscaphites tridens* from the Vijlen Chalk Member, although only illustrating a specimen from the Gulpen Formation of Schneeberg, near Vaals. Specimens in the Natu-

urhistorisch Museum Maastricht that he cites (W.M. Felder Collection, nos. GK 695 and GK 1116; see Kennedy, 1986b, Fig. 8f; 1986c, pl. 36, Figs. 1–5) are the late Campanian *Trachyscaphites spiniger* (Schlüter, 1872) from the Zeven Wegen Chalk of Vijlenerbosch, Limburg, The Netherlands.

*Acanthoscaphites varians* (Lopuski, 1911) Figs. 1–3

- 1911 *Scaphites varians mihi* Lopuski, p. 120, 137, pl. 4, figs. 1–3.  
 non 1911 *Acanthoscaphites tridens-varians* Lopuski – Nowak, p. 578, pl. 33, fig. 29.  
 ? 1951 *Acanthoscaphites tridens* (Kner) var. *varians* (Lopuski) – Mikhailov, p. 104, pl. 16, figs. 72, 73.  
 1965 *Acanthoscaphites tridens varians* (Lopuski) – Schmid, p. 684, pl. 62, fig. 1; pl. 63, figs. 1–3.  
 1979 *Acanthoscaphites tridens varians* (Lopuski) – Birkelund, p. 55.  
 1980 *Acanthoscaphites varians* (Lopuski) – Blaszkiewicz, p. 40, pl. 25, figs. 1, 2, 5, 6.  
 1982 *Acanthoscaphites varians* (Lopuski) – Birkelund, p. 16, pl. 1, figs. 4–6.

*Holotype.* The original of Lopuski (1911, pl. 4, Figs. 1–3) by monotypy. It is from the Maastrichtian of Kazimierz, Poland.

*Material.* Natuurhistorisch Museum Maastricht Collections nos. 198840-1 to 198840-3 (ex J.W.M Jagt Collection, nos. 3753a-c), a fragmentary composite mould and counterpart from the lowermost three metres of the Vijlen Chalk Member of the Gulpen Formation at the CPL quarry, Haccourt, Belgium.

*Description.* The smaller fragment and counterpart (Figs. 1, 2) show part of the flank and venter of the phragmocone at a whorl height of 35 mm approximately. The flank ornament consists of broad prosiradiate straight ribs with umbilical bullae and four

rows of strong, equal, rounded tubercles on the flank and ventrolateral shoulder. Fine nontuberculate ribs intercalate on the outer flank and cross the venter, alternating with the broader tuberculate ribs; the siphonal region is not preserved. The larger fragment (Fig. 3) has a whorl height of 65 mm approximately. Primary ribs bear a maximum of five rows of tubercles, and the ribs may be split into riblets, linking the tubercles, while fine intercalated ribs extend low on the flanks.

*Discussion.* Style of ribbing and tuberculation are very similar to that of specimens of *A. varians* from Poland and Denmark of comparable size. The latter, from Hillerslev and Rørdal, have either seven or nine rows of tubercles (one siphonal, three or four on the flanks), and no or weak umbilical bullae. *A. tridens* have no or only weak umbilical bullae on most of the phragmocone in macroconchs; in microconchs the umbilical bullae migrate out to an umbilicolateral position on the last whorl, while ventrolateral clavi appear on the penultimate whorl of most microconchs, separated by from two to six nontuberculate ribs. Siphonal tubercles only appear on the late phragmocone or body chamber. *A. verneuillianus* (d'Orbigny, 1842) (see Kennedy, 1986a, p. 74, pl. 16, Figs. 15–17; text-fig. 10c) is known from nuclei only, differing from *A. varians* in the more numerous secondary and intercalated fine ribs between bullate primaries and the lesser number of rows of tubercles, lacking flank rows in the holotype and only a midlateral bulla in a somewhat larger (57.5 mm) diameter specimen.

*Acanthoscaphites varians*, with its multiple tuberculation, shows a striking similarity to certain multituberculate *Discoscaphites* Meek, 1870. Jelletky & Waage (1978) reviewed the type species, *Ammonites conradi* Morton, 1834, and showed it to be much smaller than *A. varians*, with rather open scaphitoid coiling, as in *Discoscaphites cheyennensis* (Owen, 1852) and *D. abyssinus* (Morton, 1842). We assume the similarities of ornament are the result of evolutionary convergence, but cannot wholly dismiss the view that *A. varians* is itself a giant derivative of this otherwise North American group.

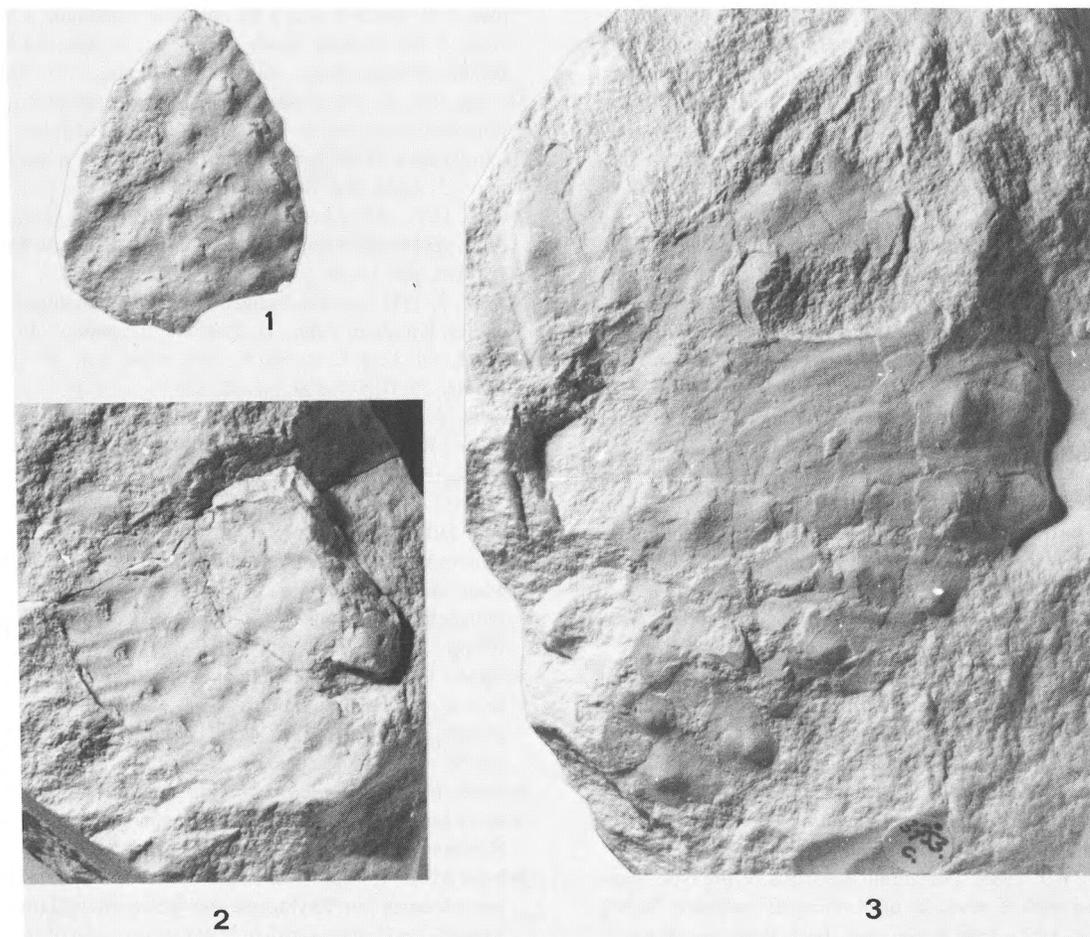


Fig. 1–3. *Acanthoscaphites varians* (Lopuski, 1911). Natuurhistorisch Museum Maastricht Collections, reg. nos. 198840-1, 198840-2 and 198840-3 (Figs. 3, 2, 1 respectively) (ex J.W.M. Jagt Collection) from the lower part of the Vijlen Member of the Gulpen Formation, Upper Maastrichtian, *Belemnitella junior* Zone, CPL quarry, Haccourt, Belgium. All figures are natural size.

**Occurrence.** The Haccourt specimen occurs low in the Vijlen Member, associated with *Hoploscaphites constrictus* (J. Sowerby, 1817) and *Belemnitella* ex gr. *junior* Nowak, 1913, indicating the lower Upper Maastrichtian *B. junior* Zone (Jagt & Michels, 1987). In Denmark, this species has only been collected loose at Rørdal and Hillerslev, where both uppermost Lower and lowermost Upper Maastrichtian chalks are exposed. Bed-by-bed collecting at Hemmoor in northwest Germany (Schmid, 1965; Birkelund, 1982) shows the species occurring both above and below the Lower-Upper Maastrichtian boundary, in the upper part of the *cimbrica* Zone, through the *fastigata* Zone (sensu

Schulz, 1979) and into the lower part of the *junior* Zone (*tegulatus/junior* and *argentea/junior* Zones of Schulz & Schmid, 1983). Polish occurrences at Kazimierz in the Vistula Valley are, in contrast, classed as upper Maastrichtian *Belemnella casimirovensis* Zone equivalent (Błaszkiwicz, 1980). Occurrences in the USSR are referred to the middle part of the Maastrichtian (Mikhailov, 1951).

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