

A PHYLLOCERATID AMMONITE FROM THE  
SPEETON CLAY (LOWER CRETACEOUS)  
OF YORKSHIRE

by P. F. RAWSON

ABSTRACT. *Hypophylloceras* cf. *perlobatum* (Sayn) is described and illustrated. It is the first phylloceratid ammonite to be recorded from the Neocomian of Britain.

IN Europe during the Lower Cretaceous period, the phylloceratid ammonites were essentially restricted to the Tethyan faunal province, and few specimens have been recorded from more northerly areas. In Britain, Spath (1923, pp. 15–20) described a few specimens of *Phylloceras subalpinum* (d'Orb.) and *Hypophylloceras seresitense* (Perinquier) from the Gault but no phylloceratids have been recorded from the Lower Greensand (Casey 1960, p. xxxv) or from earlier Cretaceous beds. Outside Britain few phylloceratids have been described from the Neocomian Boreal province. Von Koenen (1902, p. 39) recorded one specimen of *Phyllopachyceras* aff. *winkleri* (Kilian) from the Lower Hauterivian Radiatus Zone of North Germany, and Donovan (1953, p. 100) described a single specimen of *Phylloceras* sp. from the Middle Valanginian of Traill Island, East Greenland.

Recent collecting at the type locality of the Speeton Clay in Filey Bay, Yorkshire, has yielded a specimen of *Hypophylloceras* cf. *perlobatum* (Sayn) from bed C8 of the Lower Hauterivian. Its occurrence in this bed is of particular interest as several other genera of Tethyan affinity found at Speeton are first recorded at this horizon, including *Lytoceras* (C. W. Wright collection), *Eodesmoceras*, *Spitidiscus*, and rare crioceratids. The crioceratids become much more common in the overlying bed C7.

The specimen is deposited in the author's collection in the Department of Geology, the University of Hull, catalogue number HU.C/Rn.460.

SYSTEMATIC DESCRIPTION

Family PHYLLOCERATIDAE Zittel 1884  
Subfamily PHYLLOCERATINAE Zittel 1884  
Genus HYPOPHYLLOCERAS Salfeld 1924  
*Hypophylloceras* cf. *perlobatum* (Sayn)

Plate 72, figs. 1–3; text-fig. 1a

Cf. 1901 *Phylloceras serum* Oppel var. *perlobata* Sayn (p. 7, fig. 3, pl. 1, figs. 6–8).

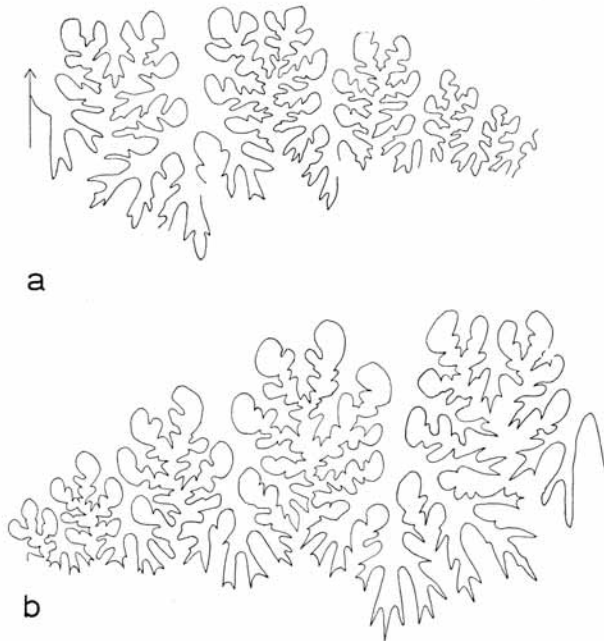
*Description.* The specimen is a wholly septate pyritized nucleus, with fragments of the original shell preserved. The test is compressed and involute, with a steep umbilical wall. The whorl flanks are flat, even near the umbilical edge, and the venter rounded. The shell is covered with fine, dense, and slightly sinuous striae, which cannot be seen on the internal mould. The suture (fig. 1a) is complex; the first lateral lobe is asymmetrical and

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much larger than the ventral and second lateral lobes, and the saddle endings are tetraphyllic.

*Dimensions:* Maximum diameter: 31.5 mm.; at diameter of 28.2 mm., whorl height 16.9 mm. (59.9%), thickness 9.5 mm. (33.7%), width of umbilicus 2.0 mm. (7.1%).

*Remarks and Affinities.* The classification of the Phylloceratid ammonities at generic and subgeneric level fluctuates considerably from author to author, but most recent authorities (for example Arkell 1957, and Wiedmann 1963) place the compressed, finely ribbed



TEXT-FIG. 1. *a*, Suture-line of *Hypophylloceras* cf. *perlobatum*, HU.C/Rn.460. *b*, Suture-line of *Hypophylloceras perlobatum*, reproduced from Sayn (1901, p. 8, fig. 3). Both figures  $\times 6$ .

species with tetraphyllic saddle endings and asymmetrical lobes in *Hypophylloceras*. It is this more complex suture-line which distinguishes *H. cf. perlobatum* from *Phylloceras serum* and allied species which resemble *H. cf. perlobatum* in general form and sculpture.

Few species of *Hypophylloceras* have been described from the Valanginian and Hauterivian of the Tethyan province, so that it is very difficult to make a close comparison with other forms.

EXPLANATION OF PLATE 72 (continued on p. 460)

Figs. 1-3. *Hypophylloceras* cf. *perlobatum* (Sayn). Lateral and ventral views. HU.C/Rn.460,  $\times 2$ .

The Valanginian specimens of *H. perlobatum* figured by Sayn are closely similar to the Speeton form. Sayn's drawing of the suture is reproduced in text-fig. 1*b*. It can be seen that the terminal folioles of the second lateral saddle are only slightly subdivided, while those of the present specimen are more strongly tetraphyllic. The minor differences between the two suture-lines could be accounted for by specific variation.

*Phylloceras spathi* Collignon (1949, p. 63) from the Hauterivian of Madagascar, compares closely in the degree of flattening of the whorl flanks, but the suture line is insufficiently known for closer comparison to be made.

From the Barremian of Algeria, Busnardo (in Busnardo and David 1957, p. 86) has described *Hypophylloceras barremense*, which is slightly more inflated than *H. cf. perlobatum*. The sutures of the two forms are very similar, but the terminal folioles of *H. barremense* are more elongate. *H. betieri* (Busnardo) (op. cit., p. 84) is a form with marked flattening of the flanks, but the terminal folioles are even more elongate: this is a feature typical also of the more numerous Aptian, Albian, and Upper Cretaceous species of *Hypophylloceras*, such as *H. seresitense* (Pervinquière), with which *H. cf. perlobatum* could otherwise be compared.

*Stratigraphical horizon*: Lower Hauterivian, Radiatus Zone, Sulcosa Subzone. Bed C8, 2 ft. below the top and approximately 6 ft. above the base, in Middle Cliff, Speeton.

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RAWSON, *Hypophylloceras* from the Speeton Clay  
JENKINS, *Cheiloceras* from New South Wales