

CORRESPONDENCE AND NOTES

Systematic status of *Pseudohibolites* Blüthgen, 1936 (Belemnitida, Coleoidea)
from Kong Karls Land, Svalbard

PETER DOYLE

Department of Palaeontology, British Museum (Natural History), Cromwell Road, London SW7 5BD, U.K.

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Abstract – The belemnite genus *Pseudohibolites* Blüthgen, 1936 was erected without designation of a type species and is invalid according to Article 13b of the International Code of Zoological Nomenclature. The species *P. nathorsti* Blüthgen and *P. caroli* Blüthgen are reinterpreted using topotypes from Kong Karls Land and are considered species of *Hibolites* Montfort, 1808.

1. Introduction

In 1936 Blüthgen described five belemnite genera from the fossils collected by Nathorst in the late nineteenth century from the Upper Jurassic–Lower Cretaceous sediments of Kong Karls Land, Svalbard Archipelago. The genera described were: *Cylindroteuthis* Bayle (1 species), *Acroteuthis* Stolley (16 species and several varieties), *Oxyteuthis* Stolley (2 species) (Belemnitina); *Hibolites* Montfort (3 species) and *Pseudohibolites* n.gen. (2 species) (Belemnopseina). Saks & Nal'nyaeva (1966, 1972, 1973) have subsequently discussed and partly revised Blüthgen's belemnite genera, identifying *Acroteuthis* Stolley, *Pachyteuthis* Bayle and *Lagonibelus* Gustomesov. However, the belemnopseid genera, and particularly *Pseudohibolites*, have not been revised by these or other authors, although Mutterlose (1978) did include Blüthgen's *Hibolites* species in synonymy with *H. jaculoides* Swinnerton. *Pseudohibolites* is known only from Kong Karls Land (Stevens (1973, fig. 1) did cite it from Sweden, but without discussion), and although its isolation has not been explained, the importance of this genus as an obviously Tethyan derivative in a largely Boreal fauna has been commented on by Saks & Nal'nyaeva (1966, 1972, 1973), Stevens (1973) and Mutterlose, Schmid & Spaeth. (1983). The purpose of this note is to discuss the affinities of *Pseudohibolites*, which up to now has been regarded as a genus endemic to Svalbard, and to comment on its systematic status. A fuller revision of the Kong Karls Land belemnites will be published elsewhere.

2. Systematic status of *Pseudohibolites* Blüthgen, 1936

Pseudohibolites was described for large or medium sized club-shaped rostra with bulbous apices, a circular or elliptical section, a central apical line and well-developed double lateral lines (*Doppellinien*). There was apparently no trace of a ventral alveolar groove in these specimens. Blüthgen (1936) thought his genus was intermediate between the genera *Hibolites* Montfort and *Neohibolites* Stolley. Stolley (1938, p. 40) disagreed with this placing and considered *Pseudohibolites* to be of normal *Hibolites* form, although declining to further align it with the latter due to the incompleteness of Blüthgen's material. Because of its apparent lack of alveolar grooves, Jeletzky has considered *Pseudohibolites* to be a member of the predominantly Lower

Jurassic family Hastitidae (J. A. Jeletzky, personal communication to G. R. Stevens (Stevens, 1973, p. 393)).

Discovery of new topotypic material from Kong Karls Land by the Norsk Cambridge Svalbard Expedition 1969 enables further light to be shed on the affinities of *Pseudohibolites*. Several specimens attributable to this genus were collected by members of the expedition from the fossiliferous Tordenskjoldberget Limestone of Tordenskjoldberget, Kongsøya, Kong Karls Land (see Smith *et al.* 1976 for stratigraphical details), in association with an *Acroteuthis*, *Pachyteuthis* and *Hibolites* assemblage of predominantly Valanginian age similar to that described by Blüthgen (1936). All these specimens are currently housed in the West Building of the Department of Earth Sciences, University of Cambridge as part of the Cambridge Spitsbergen Expeditions (CSE) collection. In the collections are large, uncompressed and smaller, compressed forms of *Pseudohibolites* corresponding to *P. nathorsti* (Pompeckj m.s.) Blüthgen and *P. caroli* (Pompeckj m.s.) Blüthgen respectively. In the majority of these rostra, a short ventral alveolar groove is present, although in others this groove is difficult to detect. It varies in incision; some specimens (e.g. CSE D. 2867) have shallow indistinct grooves (although clearly distinguishable in transverse section by the form of the growth lines), while others (e.g. CSE D.2892) have well-developed grooves with splitting surfaces. In all the *Pseudohibolites* seen, the alveolar groove is confined to the alveolar third, generally not extending adapically for more than one fifth of the length of the rostrum. On the flanks of the rostra the double lateral lines (*Doppellinien*) are broad and shallow, although they may become incised adorally, sometimes into a single 'line' (e.g. Blüthgen, 1936, p. 40, pl. VIII, figs. 7, 11).

The genus *Hibolites* is characterized by a distinct club-like rostrum, a circular or elliptical section, a central apical line and well-developed double lateral lines (*Doppellinien*). This genus also possesses a ventral alveolar groove that extends well into the stem region of the rostrum (e.g. *H. hastatus* Montfort), although it is often restricted to the alveolar region (Stevens, 1965, p. 59). There is little to distinguish *Hibolites* from *Pseudohibolites* as both possess hastate uncompressed or compressed species, and both have alveolar grooves of varying definition. Groove length has been used by some authors (e.g. Roger, 1952) to distinguish between belemnopseid genera such as *Hibolites* and *Neohibolites* Stolley, but this feature alone is here not

considered sufficient for the generic separation of *Pseudohibolites* from *Hibolites*, and neither are slight differences in the lateral lines.

The closest *Hibolites* species to '*Pseudohibolites*' *nathorsti* and '*P. caroli*' appears to be *H. obtusirostris* (Pavlov) (holotype BM(NH) C.44751) from the Hauterivian-Barremian beds of the Speeton Clay in Yorkshire. This species has a relatively compressed transverse section, a bulbous, rounded apex similar to '*Pseudohibolites*', and a short alveolar groove (Pavlov, in Pavlov & Lamplugh, 1892, p. 262 pl. VII, fig. 7). Pompeckj (1899) cited '*Belemnites obtusirostris*' occurring with '*Belemnites jaculum*' (= *H. jaculoides* Swinnerton) in Kongsøya, and he may well have been referring to specimens of '*Pseudohibolites*'. There seems little doubt therefore that Blüthgen's '*Pseudohibolites*' are typical *Hibolites* and not members of the Hastitidae, which do not possess true alveolar grooves, and that *Pseudohibolites* Blüthgen, 1936 is a junior subjective synonym of *Hibolites* Montfort, 1808. In addition, *Pseudohibolites* was described by Blüthgen (1936, p. 40) without designation of a type species, although based on two species *P. nathorsti* (Pompeckj m.s.) Blüthgen and *P. caroli* (Pompeckj m.s.) Blüthgen. Later authors have incorrectly referred to *P. nathorsti* as the type species (e.g. Saks & Nal'nyaeva, 1967, p. 14), but because Blüthgen failed to designate this or any other species type of his genus, the name *Pseudohibolites* is not available according to Article 13b of the International Code of Zoological Nomenclature, as every new genus-group name published after 1930 must be accompanied by the fixation of a type species by original designation. However, Blüthgen's species *P. nathorsti* and *P. caroli* remain valid according to Article 11h, and are here transferred to *Hibolites*.

Hibolites is well known from the Valanginian-Barremian sediments of England and Germany, and is recorded from sediments of Hauterivian age in the Pechora Basin (Nal'nyaeva, 1983), California (Anderson, 1938) and Spitsbergen (Pchelina, 1967). However, these citations refer mainly to *Hibolites* similar to *H. jaculoides* Swinnerton (see Mutterlose, 1978), rather than the relatively compressed, massive species included by Blüthgen in his '*Pseudohibolites*'. These species may be endemic to Kong Karls Land, but further sampling is needed for confirmation.

3. Conclusions

The invalid name *Pseudohibolites* Blüthgen, 1936 is a junior subjective synonym of *Hibolites* Montfort, 1808. The species *H. nathorsti* (Blüthgen) and *H. caroli* (Blüthgen) are closest to *H. obtusirostris* (Pavlov), and are apparently endemic to Svalbard.

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