

**PROBLEM OF SEXUAL DIMORPHISM IN THE VALANGINIAN (LOWER CRETACEOUS)  
AMMONITES *VALANGINITES NUCLEUS* AND *SAYNOCERAS VERRUCOSUM***

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A rich and well preserved ammonite fauna from the Valanginian clays of the Wawal quarry, Central Poland, enabled the study of the sexual dimorphism in two ammonite species; *Valanginites nucleus* (Roemer, 1840) and *Saynoceras verrucosum* (d'Orbigny, 1841). The analysis was based on samples composed of 200 and 400 specimens, respectively.

In the case of *Saynoceras verrucosum* the dimorphic pair was expected to differ in the adult size. Due to the low number of the completely preserved specimens in the sample, the adult size values were estimated by the size of appearance of the ornament. This character correlates well with the adult size in the species (L.Bulot, M. Company & J.P. Thieuloy, 1990). The measurements show a unimodal distribution indicating the absence of size-related dimorphism in the species *S.verrucosum*.

In contrast to *S.verrucosum*, very clear dimorphism was found in *Valanginites nucleus*, expressed both in different adult size and in the ornament. Early ontogenetic stages are smooth and both morphotypes are identical. They begin to differentiate with the appearance of ornament, which in microconchs appears earlier than in macroconchs. In microconchs the ribs are narrow and sharp, while in macroconchs they are wide and gentle. Moreover, in the latter the ribs are less densely spaced. Both morphotypes differ also in the development of mid-lateral and mid-ventral tubercles. No difference was found in the adult aperture. In regard to all measured characters, the studied sample displays clear bimodal distribution. Based on the analysis of the material, it is inferred that *V.nucleus* is conspecific with the species *Valanginites bachelardi*, and represents its microconch.

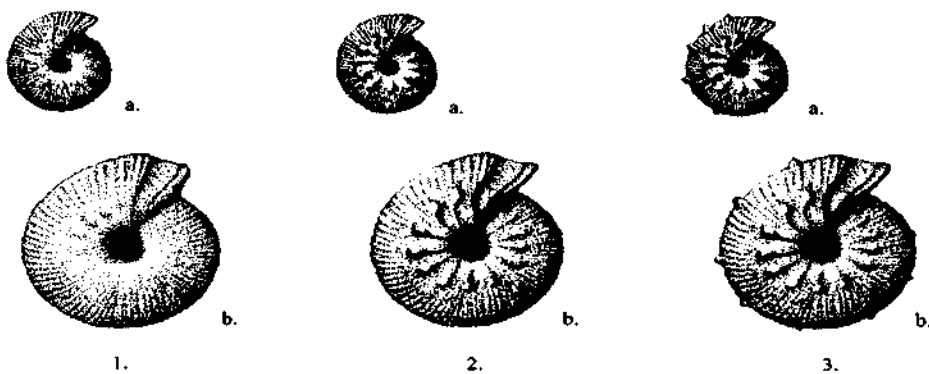


Fig. 1 Variability range of micro - and macroconch in *Valanginites nucleus*; a - microconch, b - macroconch,

1. morphotype nucleus, 2. morphotype wilfridi, 3. morphotype ventrotuberculatum.

2.

3. Reference list:

Bulot, L., Company, M. & Thieuloy, J.P. (1990): Origine, evolution et systematique du genre valenginien *Saynoceras* (Ammonitina, Olcostephaninae). - *Geobios* 23 (4): 399 - 413