

Remarks to the palaeobiology and taphonomy of illaenid trilobites (Ordovician, Barrandian area, Czech Republic)

Poznatky o paleobiologii a tafonomii illaenidních trilobitů (ordovik, Barrandien, Česká Republika) (Czech summary)

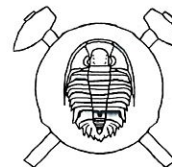
(3 text-figs, 1 plate)

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Recent revision of the Family Illaenidae Hawle et Corda, 1847 in the Ordovician of the Prague Basin has resulted in new observation on their palaeobiology and taphonomy. Concavely bent exoskeletons of *Ectillaenus* Salter, 1867 are here interpreted as of the exuviation origin rather than reflecting the life position interpreted by several previous authors. Specimens of illaenid trilobites showing possible relationships to some ichnofossils are also reported.

Key words: Illaenidae, Trilobita, Ordovician, Prague Basin, Bohemia, palaeobiology, exuviation, ichnofossils, taphonomy



Introduction

The Family Illaenidae Hawle et Corda, 1847 includes the most common Ordovician trilobites of the Prague Basin (Bohemia). More than a half of 18 illaenid species from this area were described by J. Barrande (1846a, b, 1852, 1856, 1872). The first author who discussed their mode of life was Siegfried (1939) who argued that representatives of the genus *Illaenus* Dalman, 1827 actively moved and swam on the sea bottom. The intensive study of illaenid palaeoecology has started in the 80's of our century.

Supposed mode of life

Bergström (1973) found several illaenid trilobites in the Scandinavian Ordovician in what he interpreted as their burrows. The cephalon was in the horizontal position and the rest of the body was directed obliquely to the substrate. Bergström (1973) interpreted this configuration of body as a living position, assuming that the posterior end of trilobite body was hidden in the narrow burrow. He postulated a similar mode of life for the species of genera *Illaenus* Dalman, 1827, *Ectillaenus* Salter, 1867, *Nanillaenus* Jaanusson, 1954, *Panderia* Volborth, 1863, *Platillaenus* Jaanusson, 1954 and *Stenopareia* Holm, 1886.

Příbyl – Vaněk (1976) supposed that illaenids were good swimmers living near the sea bottom in deeper parts of the cold Ordovician sea. According to them, illaenids were able to search for food by scraping the upper layers of the substrate.

Schmalzfuss (1978) concluded that illaenids were filter feeders, resting on the substrate or in a shallow scraping thereon, with the posterior and anterior ends of the exoskeleton elevated. Schmalzfuss (1978) suggested that they generated a flow of water by the action of exites and

filtered it. This configuration of a concavely bent trilobite exoskeleton was regarded as a life position by Seilacher (1985).

The most recent author to discuss the palaeoecology of illaenid trilobites was Whittington (1997) who considered that many illaenids may have been vagrant benthos, particularly well adapted for negotiating over irregular surfaces.

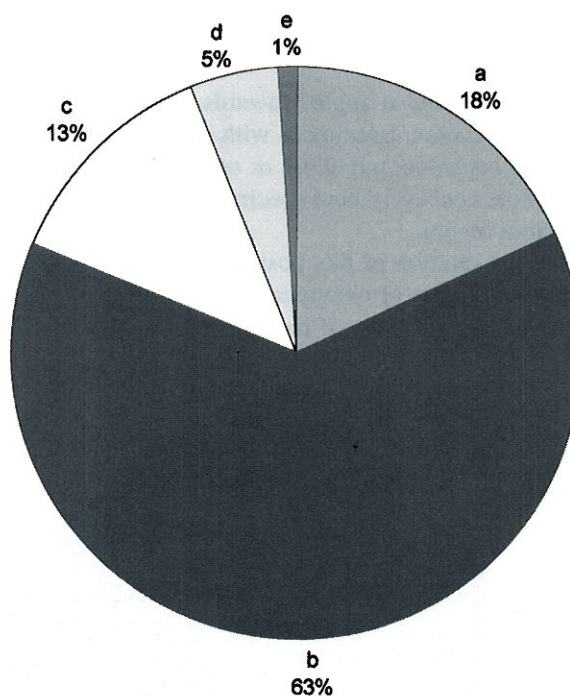


Fig. 1. Graph of the percentual distribution of the different position of the thorax of *Ectillaenus* Salter, 1867. a – enrolled specimens, b – concavely bent specimens, c – specimens with straight thorax, d – convexly bent specimens, e – other positions of thorax.