

A new middle Cambrian trilobite with a specialized cephalon from Shandong Province, North China

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Trilobites achieved their maximum generic diversity in the Cambrian, but the peak of morphological disparity of their cranidia occurred in the Middle to Late Ordovician. Early to middle Cambrian trilobites with a specialized cephalon are rare, especially among the ptychoparioids, a group of libristomates featuring the so-called “generalized” bauplan. Here we describe an unusual ptychopariid trilobite *Phantaspis auritus* gen. et sp. nov. from the middle Cambrian (Miaolingian, Wuliuan) Mantou Formation in the Shandong Province, North China. This new taxon is characterized by a cephalon with an extended anterior area of double-lobate shape resembling a pair of rabbit ears in later ontogenetic stages; a unique type of cephalic specialization that has not been reported from other trilobites. Such a peculiar cephalon as in *Phantaspis* provides new insights into the variations of cephalic morphology in middle Cambrian trilobites, and may represent a heuristic example of ecological specialization to predation or an improved discoidal enrollment.

Key words: Trilobita, Ptychopariida, ontogeny, specialization, Miaolingian, Paleozoic, Longgang, Asia.

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