

# SHORT COMMUNICATIONS

## CRUSTACEAN ASSEMBLAGE FROM THE PENNSYLVANIAN LINTON VERTEBRATE BEDS OF OHIO

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**ABSTRACT.** A pygocephalomorph and syncarids are recorded from the Upper Pennsylvanian fresh-water vertebrate beds near Linton, Ohio. This assemblage, characteristic of the Coal Measures, is known from several other localities throughout the Carboniferous.

THE Linton beds of Ohio represent a fresh-water, low coastal-plain deposit. They have long been noted for their well-preserved fauna of fish, amphibians, and reptiles (e.g. Baird 1964; Romer 1930, 1963; Steen 1931). The fossils occur in a highly pyritic, black shale and are Upper Pennsylvanian in age (Westphalian D). In over one hundred years of collecting, no invertebrates have previously been identified from these beds.

Dr. Richard Lund, Adelphi University, New York, referred some material to me for examination of poorly preserved eumalacostracan crustaceans, now deposited in the Field Museum of Natural History, Chicago. Specimen P 32075 is a pygocephalomorph displaying the ventral thoracic and abdominal sternites, along with some traces of thoracic appendages. Since the tail fan and carapace are absent, it is impossible to establish the genus of this specimen. Several other specimens (P 32076–P 32081) are highly pyritized compressions of syncarids. These also are too poorly preserved to identify, although vague outlines of body segments, appendages, and tail fan are visible. This is by no means the first discovery of an association between pygocephalomorph peracarids and syncarids in such beds. Such an assemblage has been found in the Middle Pennsylvanian (Westphalian C) Braidwood fauna of Illinois (Richardson and Johnson 1970); there the pygocephalomorph, *Anthracaris gracilis*, is associated with the palaeocaridacean syncarids, *Palaeocaris typus* and *Acanthotelson stimpsoni*. All through the British Westphalian Coal Measures there is a pygocephalomorph, *Pygocephalus cooperi*, associated with the syncarids *Palaeocaris retractata*, *Pleurocaris annulata*, and occasionally *Praeanaspides praecursor*. In addition to these Upper Carboniferous localities, the Viséan Pumpherson Shell bed (Caruthers 1927) has the pygocephalomorph, *Tealliocaris woodwardi*, associated with a new syncarid (to be described elsewhere).

The pygocephalomorph–syncarid assemblage has thus been found in several different areas and from beds of several ages, but its specific membership is different in each case. It appears to be a characteristic, indigenous element of the Coal Measure faunas, which we should expect to find in fresh- to brackish-water faunas of that age.



This low coastal-plain assemblage seems to be a rather specialized aberrant fauna of low diversity, having only a scavenger/low-level carnivore (the pygocephalomorphs) and an array of detritus/algal feeders (the palaeocaridaceans). Both these groups became extinct in the Permian, leaving no direct descendants. The assemblage may have evolved from a near-shore marine fauna containing a greater diversity of feeding types. In this, the scavenger and detritus/algal feeders were present and were important, but filter feeders and rapacious carnivores were also present. This marine fauna was relatively stable through a long period of time with little gross species changes, and is exemplified in part by the Scottish Viséan Glencartholm Volcanic bed crustaceans (Peach and Horne 1903), the Montana Namurian Bear Gulch fauna (Melton 1970), and the Illinois Westphalian D Mazon Creek Essex fauna (Richardson and Johnson 1970).

It is unfortunate that the Linton material is not preserved well enough to determine whether its exact taxonomic affinities be with the British or Illinois Coal Measure assemblages.

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