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New stalked echinoderm fauna from the Dawan Formation in western Hubei

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Echinoderms are common members in the marine benthic ecosystem. They were important contributors for building a local benthic ecologic community during the Great Ordovician Biodiversity Event (GOBE) due to a wide range of adaptation capacity and rapid origination of new taxa within the Echinodermata (Ausich and Bottjer, 1982; Guensburg and Sprinkle, 2001). In addition, echinoderm ossicles after disarticulation can form a coherent carbonate rock mass that leads to changes of local substrate conditions and attracts larval settlement and recruitment during a faunal succession. Most echinoderms exhibit pentaradial symmetry, which is unique among invertebrates, but its origin is still unclear because articulated specimens are relatively scarce in the fossil record. Preservation of complete echinoderms requires both a low-energy flow regime setting and a rapid burial event. Previously, Lu (1975) mentioned echinoderms in the Ordovician Dawan Formation, but no illustration. During the past three years team members have recovered a rich echinoderm fossil assemblage from the same unit in western Hubei Province. Up to date, a total of 111 articulated specimens (Fig. 1), including new species of

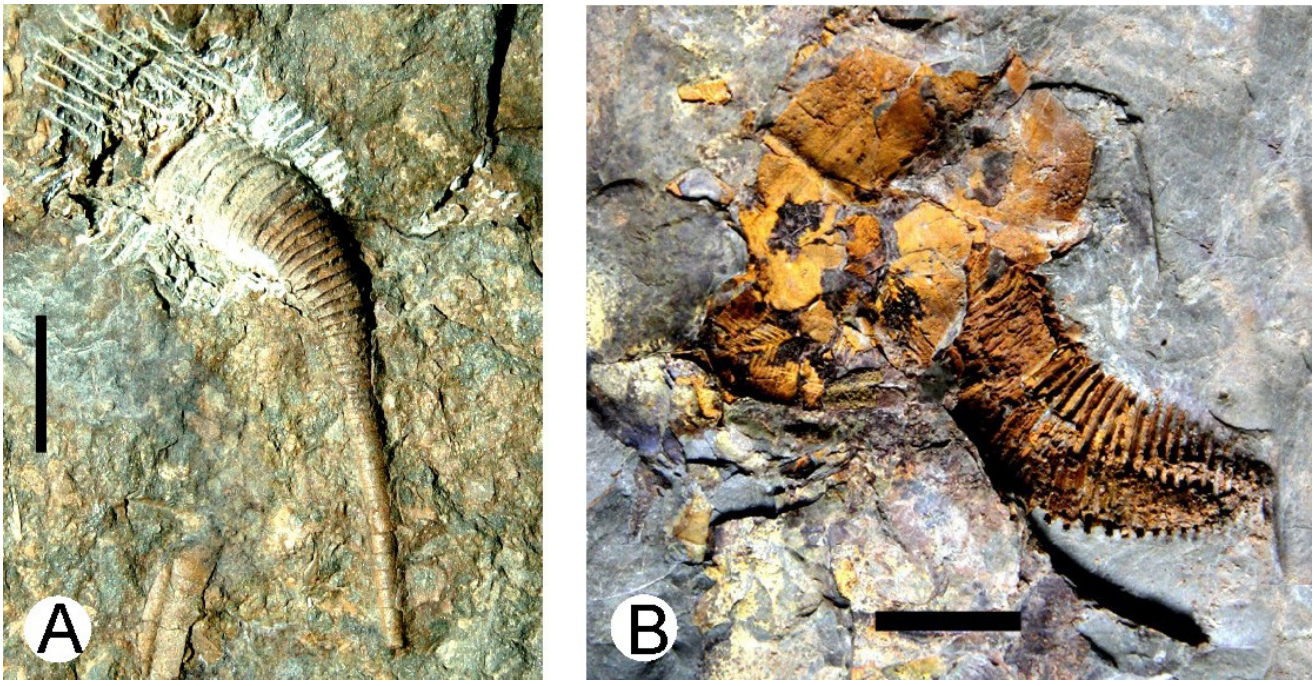

Fig. 1. New stalked echinoderms from the Dawan Formation in western Hubei. Scale bars = 1 cm. A, NIGP158429; B, NIGP158430.

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cystoids, are collected. In particular, curved cystoid stems (Fig. 1A) that are indicative of Glyptocystitida (Kesling, 1967; Parsley, 1970) are seldom mentioned in previous Chinese studies; thus, this rare find provides not only the new evidence of the echinoderm biodiversity during the GOBE in South China but also new information allowing us to understand better the construction of early cystoid body plan. Studied fossils (NIGP158429-158430) are deposited at the Nanjing Institute of Geology and Palaeontology.

Key words: palaeontology, Echinodermata, Ordovician, Dawan Formation, Hubei Province

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References

Ausich W. I., and Bottjer D.J., 1982. Tiering in Suspension-Feeding Communities on Soft Substrata throughout the Phanerozoic, Science, 216(4542):173-174.

Guensburg T.E., and Sprinkle J., 2001. Ecologic radiation of Cambro-Ordovician echinoderms, In: Zhuravlev A.Y., and Riding R. (eds.), The Ecology of the Cambrian Radiation, 428-444.

Kesling R.V., 1967. Cystoids, In: Beaver et al. (eds.), Treatise on Invertebrate Paleontology Part S Echinodermata 1 Volume 1, 85-267.

Lu Yanhao, 1975. Ordovician Trilobite Faunas of Central and Southwestern China. Palaeontologica Sinica, N.S.B, No. 11, Beijing: Science Press, 463 (in Chinese).

Parsley R.L., 1970. Revision of the North American Pleurocystitidae (Rhombifera-Cystoidea). Bulletins of American Paleontology, 58(260): 135-213.