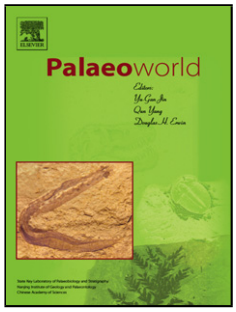

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Feeding strategy and locomotion of Cambrian hyolithides

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Abstract

The Chengjiang (Cambrian Stage 3) and Balang (Cambrian Stage 4) Konservat-Lagerstätten of South China have produced abundant hyolithide hyoliths; however, little attention has been paid to their feeding strategy and the role it played in the ecosystem. Hyolithides preserved in coprolites from the Chengjiang Biota and associated with a *Tuzoia* carcass from the Balang Fauna reveal the fluid feces consuming and scavenging strategies of this group. Size distribution of hyolithides demonstrates that their dietary habit is ontogenetically dependent, with juveniles having ingested organic-rich material whereas adult food consumption was more likely by a variety of species-dependent methods. The first discovery of hyolithides in association with locomotion traces and burrows indicates they were not only epibenthic vagrants, but also shallow horizontal burrowers. The new discoveries reported herein enhance our understanding of the feeding strategy and other behaviours of Cambrian hyolithides.

Keywords: hyolithides; feeding habit; trace fossil; Cambrian; Chengjiang Biota; Balang Fauna