Sri Lanka’s Aruwakkalu fossil deposit dates to the Burdigalian Age

Ranjeev Epa¹, Nilmani Perera¹, Kelum Manamendra-Arachchi² and Madhava Meegaskumbura¹*

¹Department of Zoology, Faculty of Science, University of Peradeniya, Sri Lanka
²Postgraduate Institute of Archaeology, 407 Bauddhaloka Mawatha, Colombo 07, Sri Lanka
Accepted 08 November 2011

ABSTRACT

Aruwakkalu fossil bed is a part of Sri Lanka’s Jaffna limestone, which underlies the whole of Jaffna Peninsula and extends southwards mostly along the west coast. Previous authors have suggested that Aruwakkalu contains a rich assemblage of vertebrate and invertebrate fossils. We sought to confirm the Burdigalian age of this northwestern Miocene deposit at Aruwakkalu on the basis of the foraminifer Pseudotaberina malabarica, an index fossil of the Burdigalian stage. General and timeline collections were made at seven selected sites and the fossils collected were identified. The study sites contained six sedimentary layers of which, third and sixth from top were fossiliferous. The sixth (deepest) layer was dominated by gastropod fossils while the third was dominated by fossils of giant oysters. Fossils of P. malabarica were recovered both from timeline and general collections. In the timeline collection, samples of this index fossil were recovered only from the gastropod layer, suggesting that P. malabarica existed during the time the gastropod layer was being laid down, thus confirming a Burdigalian age for the latter, and helping to date a substantial portion of the Sri Lankan fossil fauna with confidence.

Key words: Pseudotaberina malabarica, foraminifera, index fossil, Miocene, gastropod layer, oyster layer