

SYSTEMATICS OF CERITHIFORM GASTROPODS (SUPERFAMILY CERITHIOIDEA) IN MIOCENE OF SRI LANKA

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Sri Lanka's Tertiary sediments, collectively referred to as Jaffna limestone, are composed of fossiliferous limestone that hosts fossils primarily dating back to the Miocene epoch. The limestone quarry at Aruwakkalu belongs to this sedimentary succession, and contains a wide variety of marine fossil fauna ranging from invertebrates to large mammals. Fossils are found only in two of the six layers of the succession. The deepest (sixth) layer has been dated to the Burdigalian age and is named as the Gastropod Layer due to prevalence of gastropod fossils, and the third layer containing fossils of giant oysters is referred to as the Giant Oyster Layer.

Among the diverse collection of fossils discovered from Aruwakkalu, Cerithiform gastropods represent a considerably large number. However, species belonging to this assemblage have not been scientifically identified and their diversity is not well established. The only fossilized Cerithiform gastropods recorded from Jaffna limestone are, *Cerithium pseudocorrugatum*, which was later suspected to be *Ptychocerithium archiaci*, *Cerithium cf. rude*, and two *Cerithium* spp. A considerable number of extant species belonging to several families of Superfamily Cerithioidea have also been recorded from the area.

During surveys carried-out in the study sites at Aruwakkalu limestone quarry, more than 200 Cerithiform fossils were collected and identified. Some of the fossils were sampled from the Gastropod Layer, suggesting that they were deposited during the Burdigalian age. Some of the well preserved specimens were identified as *Cerithideopsilla cingulata*, *Cerithideopsilla cf. microptera*, (Family Potamididae) and *Clypeomorus bifasciata* (Family Cerithiidae). Two partially preserved specimens were suspected as *Cerithium nodulosum* (Family Cerithiidae) and *Cerithidea quadrata* (Family Potamididae). Specimens of the previously reported Cerithiform fossil species were not observed. Shells and live individuals of species belonging to families *Cerithiidae*, *Potamididae*, *Turritellidae* and *Pachychilidae* were also observed in the intertidal zone and estuarine environment located north of the sampled study sites at Aruwakkalu. Observation and morphometric analyses revealed a high degree of morphological variation within fossil specimens belonging to the same species. The presence of Cerithiform fossil taxa suggests that intertidal environments consisting of aggregated large populations of Cerithiform gastropods may have been present in the sampled fossil sites at Aruwakkalu during the Burdigalian.