



An Ecological Approach to Studying Sri Lanka's Past: Contributions of Siran Deraniyagala

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Introduction

The first author, Kelum connected and interacted with Dr. Siran Deraniyagala from 1985 and the second author, Sonali received Deraniyagala's advice from 2009 for her postgraduate studies. During the last two decades the three of us met often and discussed prehistory and about preserving the paintings and sketches of Professor P.E.P. Deraniyagala, father of Siran Deraniyagala. This appreciation is based on those experiences.

Deraniyagala was not a traditional archaeologist but an immensely talented prehistorian who had a panoramic view of the world. An archaeologist has the right to build a story of the subject through the data unearthed. However, Deraniyagala was not a builder of stories, and he disregarded undated artefacts. His main attention was discovering proxy data. In archaeological research he gave a patient hearing to the ideas of all. Especially, he welcomed the views of others about stratigraphy in excavation of the Wet Zone caves.

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Ecology as the basis for archaeological research

Dr. Siran Deraniyagala considered ecology as the basis of archaeology. In his view, the main hypotheses within his specialty of prehistory were the interaction between humans, the environment and other life forms. He had a great passion for zooarchaeological research. He built his hypotheses on prehistory based on the natural conditions using biogeography, rainfall patterns and other climate-related data. His methodology was to study excavated animal remains and based on those studies, to analyse the ancient ecology and the lifestyle of early ancestors.

The history of using archaeological data to determine ancient environmental conditions runs back to the 1960s. It was at this time that most archaeologists began to deviate from examining, identifying and naming archaeological data on an individual basis and started matching data with ecological evidence under a theoretical framework. Deraniyagala used and encouraged state-of-the-art methodology and applied to Sri Lankan Archaeology

Research into Sri Lankan prehistory had been launched with a new vision by the Sarasin cousins, Paul Green, Seligman, Weyland and H.C.P. Bell. Reports of P.E.P. Deraniyagala were of immense importance to prehistoric archaeology, and thereafter, to new archaeology. The excavations and explorations during that time were conducted on a somewhat ad-hoc basis. However, Deraniyagala was instrumental in providing full-time professional attention that prehistoric research deserved.

The following description is one of the ideas expressed by Dr. Deraniyagala connected to his ecological approach: A species of low country rain forest snails of the genus *Acavus* and two species of rainforest mid-level canopy trees “Waldel” (*Artocarpus nobilis*) and “Kekuna” (*Canarium zeylanicum*) have been found from all seven layers of Batadomba-lena, in Kuruwita. *Acavus* shells have been discovered continuously from the seven layers and a wide vertical distribution could be seen (Deraniyagala 1992). Based on the discovery of *Acavus* snails, Dr. Deraniyagala states that evidence of *Acavus* has been found from the dry arid region, low country dry zone and low country dry intermediate zone associated with Sri Lankan prehistoric people. It could be conjectured that these were used as ornaments or exchange items. From this evidence human relations between Dry and Wet Zones could be identified. Also, this could show a micro climatic condition (a wet climate in the areas) prevalent in that time” (Deraniyagala 1992).

Surveys, excavations and field archaeology

After his education in Europe and the United States Dr. Deraniyagala became the first Assistant Commissioner of the excavations unit of the Department of Archaeology in 1968. Since then, the bulk of prehistoric research in Sri Lanka has been conducted by the Department of Archaeology. A clear experimentation framework had been formulated and all excavations were based on problem-oriented research questions (Deraniyagala 1992).

In this series of research Dr. Deraniyagala first paid attention to the Ratnapura deposits. However, since Ratnapura deposits had been subjected to re-

deposition, it was considered more important to study the early prehistory of coastal sand dunes (Iranamadu Formation) described by Weyland in 1915. Thereafter, from 1971, he began a series of explorations of the Iranamadu Formation that spread along the coasts in the North, North-East, South-East and North-West of Sri Lanka. Several selected locations in the Hambantota District including Wellegangoda and Pathirajawela near Bundala were excavated. At the same time, excavations were initiated in Embilipitiya in the Reddish-Brown earth formation (Deraniyagala, 1992). From the results of these excavations, the ecology and prehistory of the island during 125,000-40,000 years ago were interpreted.

The cultural remains found from these excavations were limited to stone tools which were severely deteriorated. Because of this, Dr. Deraniyagala aimed to conduct his second series of explorations targeting prehistoric sites with sufficiently preserved human remains. His primary attention was on Bellan-bandi Palassa earlier explored by P.E.P. Deraniyagala. In 1970, Bellan-bandi Palassa excavations were begun in order to re-examine strata. Subsequently, Kitulgala Beli-lena, (1978-1983) under field supervision of Dr. W.H. Wijeyapala and Batadomba-lena, Kuruwita (1979-1984) under field supervision of Dr. Nimal Perera was studied extensively down to the bedrock. Alu-lena and Dorawaka-lena in Kegalle and Fa Hien-lena in Bulathsinhala were excavated under Dr. W.H. Wijeyapala. All those excavations had the constant supervision of Dr. Deraniyagala.

From 2004 to 2010 the Department of Archaeology conducted a series of excavations in caves and open habitations for the study of prehistory. Fa Hien-lena, Batadomba-lena, Varana and Mini-athiliya were among these sites where a large quantity of food refuse accumulated in prehistoric habitation contexts was excavated. The soil strata of these human habitations have been radiocarbon dated to 40,000 to 3500 years ago. It has to be noted that Dr. Deraniyagala stressed the importance of absolute chronometric dating for excavations in Sri Lanka.

Dr. Siran Deraniyagala's Contribution to Zooarchaeology

Since the day Dr. Siran Deraniyagala took over the directorship of the excavations unit at the Department of Archaeology in 1968, short-, mid- and long-term plans were prepared through which archaeological explorations should be conducted in Sri Lanka. According to the plans, surface explorations, excavations and especially excavations of well-sealed and undisturbed stratigraphic contexts in Wet Zone caves were conducted. In addition to cave excavations, his main focus was on archaeological explorations in the inner citadel of Anuradhapura. These excavations which were conducted with a sequence of exploration and relevant discipline, unearthed thousands of animal remains in addition to archaeological artefacts.

Dr. Deraniyagala's interest and efforts to preserve animal remains for future study, at a time when other Sri Lankan archaeologists paid no attention to them is noteworthy. With his European and American education and experience, he was very keen on the study of animal remains. He would have been also influenced and guided in this field by his father P.E.P. Deraniyagala, who introduced a new chapter in biological data to Sri Lankan archaeology. Dr. Siran Deraniyagala's research

tended to discuss as a fundamental value the relationship between humans and the environment. Also, he paid considerable attention to building models using biological data, a good example of which is his doctoral thesis published by the Department of Archaeology in 1992. Dr. Deraniyagala showed an interest since the 1980s in the identification of animal remains discovered during his excavations. For this task he invited the late Mr. P.B. Karunaratne, a curator in the entomology unit of the Department of Museums who had trained and worked under Dr. Deraniyagala's father. Mr. Karunaratne, who was a brilliant zoologist, had the unique ability of identifying a species from minute zoological traits. For ten years, from 1981 to 1991 under this project, he identified animal remains from the human habitations of Batadomba-lena in Kuruwita, Beli-lena in Kitulgala, Dorawaka-lena in Kegalle, Alu-lena in Attanagoda, Fa-Hien lina in Bulathsinhala, Mantota in Mannar, and the Citadel of Anuradhapura. Kelum Manamendra-Arachchi who joined the project in 1985, was involved in identifying animal remains until 1993 within the Department of Archaeology. Mr. Jude Perera too joined the project in 1986. Dr. Siran Deraniyagala continuously extended his unstinting support to the project during the entire process.

The doctoral theses of Dr. W.H Wijeyapala, a former Director General of the Department of Archaeology and Dr. Nimal Perera, a former Deputy Director of the same Department clearly demonstrates the correlation of the prehistoric habitation record and the environment, explored through zooarchaeological evidence. Dr. Deraniyagala was of the view that for an in-depth study of life during prehistoric times, a thorough knowledge of the prehistoric environment revealed by zooarchaeology was essential.

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