Proto historic burial site Excavation at Galagamuwa, Andarawewa, Sri Lanka

D. Thusitha Mendis

Head, Department of Archaeology and Heritage Management, Professor in Archaeology

Rajarata University of Sri Lanka, Mihinthle.

Abstract

Galgamuwa Andarawewa megalithic burial site is situated at Anamaduwa Secretariat Division in the North Western Province, Sri Lanka. In the ancient time, the proto history people have been settled in this region before 2500 years. They have constructed burials several place of this region, for burying their dead bodies. In this article, I have discussed new finding of proto history burials excavation at Andarawewa. In this research, I have collected Archaeology evidence through the field survey and excavations for the success research outcome.

Introduction

The Department of Archaeology and Heritage Management (RUSL) has started a second research program since 2017 between Mid-Daduru Oya basin and Mid-Mee Oya basin. Middle Daduru Oya basin and Middle Mee Basin are the most important river basins in the proto historic period. Proto historic people had settled in these river basins before 6th century B.C. According to the archaeological evidence, it was confirmed that the last ten years researchers had done some research between these two basins and they have identified proto historic settlements, burials and their material culture. Proto Historic People introduced these important cultural aspects for these basins .**Iron and Copper Technology Village Settlement , Paddy Cultivation , Tank and Irrigation System,Animal and Plant Domestication,BRW, RW,BW Pottery making Methods, Beads Production Methods** (Seneviratne , S.1984 : 237-305).

According to our research objectives first of all we have done exploration between these two basins and after that, we have selected place for excavation, Galgamuwa Andarawewa Megalithic burial site at end of the year 2017. Before the excavation, exploration team started surveying in the surrounding area of the burial site and they identified that natural hollow (pathaha), bead production site (Furness) and monastery complex near the burial site. Some time proto historic people had used this type of natural hollow (Sihala meaning pathaha) for their small paddy cultivation in proto historic period subsequently developing this culture they had converted the hollow into a small tank. The burial site is extended to 14 acres and exploration team has identified 34 cist burials on surface level. Among the 34 burials, we have selected two cist burials for excavation, site cord of the excavations are RUSL/AW/01/2017, RUSL/AW/ 02/2017.

Previous Investigation

The explorations conducted by Central Cultural Fund, Yapahuwa Project suggest that middle Daduru Oya basin in the North western regain. Sri Lanka was first colonized by hunter - gatherers during the microlithic period (Mesolithic). In the decades following 1970's S.U. Deraniyagala discovered several rock shelters with stone artifacts (Deraniyagala 1992 :). Between 2010- 2013 C.C.F Yapahuwa Project has Started new research Program in the region and they had identified microlithic period rock shelter of in the Yapahuwa Fort. As per data from over the past two decades of Archaeological investigation, it is now suggested that the microlithic period was formally superseded by the proto historic Iron age in the study area. A review of the previous, proto historic investigation undertaken by several scholars namely Sudhrashan Senavirathne (1984) and Ranjith Bandara Dissanayake (2013- 2015) and Department of Archaeology, Sri Lanka (2003) indicated that approximately 10 proto historic Iron age Megalithic burials and Porto historic Iron age settlement with BRW sites are located Between middle Daduru Oya basin and midlle Mee Oya Basin.

The Earliest known proto historic Iron Age settlement of North Western Province reported from Polpithigama beginning of Proto Historic Iron age was dated to around 520 BC by radiocarbon dating (Press.com with Ranjith Dissanayake July 25th 2018). However the present work and new dating evidence from Andarawewa megalithic burial 500 B.C. The Archaeological importance of the Andarawewa Proto Historic Iron age burial site area was first recognized by Department of Archaeology, Sri Lanka who investigated a small portion of Andarawewa megalithic complex, they reported discovery of megalithic burials in the study area. The first systematic archaeological exploration of the area began in 2003, Department of Archaeology, Sri Lanka reported discovery of approximately 20 megalithic burials. In the same year, the burial site was extended approximately 14 acres.

Discussion

Previous investigation lefts several questions concerning site formation process, stratigraphy and chronology of the burial complex unanswered. with a view to filling this location Department of Archaeology and Heritage Management of the Rajarata University had the opportunity to undertake exploration and a limited excavation of the study area from 4 x 4 m with the permission of the Director General of the Department of Archaeology the exploration of the area has identified approximately 34 stone cist burials including the new form of cist burial within the area of 14 hectares. Following the exploration, excavations of two cist burials. These burial were very rich in endeared metered in particular Black and Red Ware, Black Ware, Red Ware and beads made of glass, iron chisels most of the cultured materiel were placed as offering in the pot. Two radiocarbon Date taken have been secured on charcoal it was dated by Beta Analytic Cal BP. 2490 (507-500 Cal B.C), Cal BP, 2378 (429 Cal B.C)

Anuradhapura western peripheral area is very important for Identityfied ancient human behavior pattern in the proto history period proto historic human were settled this region for taken minerals. Velagedara Panirendawa is one of the valuable place of ancient time. People were identified copper magnetite deposit in the Panirendawa. Before 30 years Sri Lankan Geology Department had identified 6 million ton copper magnetite deposit in the Panirendawa (Senaviratne 1995: 116-118) but this deposit had been identifying proto history people in these two basing before 2500 BP. They remove copper in surface level and transport these two basin and production for iron and copper object. Exploration team had identified much places who used for iron or copper production. This evidence is highly valuable for constructed ancient metal recourse pattern between these two basing. After proto history period specialized people for were established Trade, Metal production in this area. According to inscription evidence we could identified they are Kabara (Iron smith) (*Ic*. Vol.I. No. 1049), Cuda and Manikara (*Ic*. vol.1, No.998,1033) by These people product metal object and may be beads. They distribution every ware in Sri Lanka, distributors are merchant Vnika or Vaniga (*Ic*. Vol.I. No. 897)

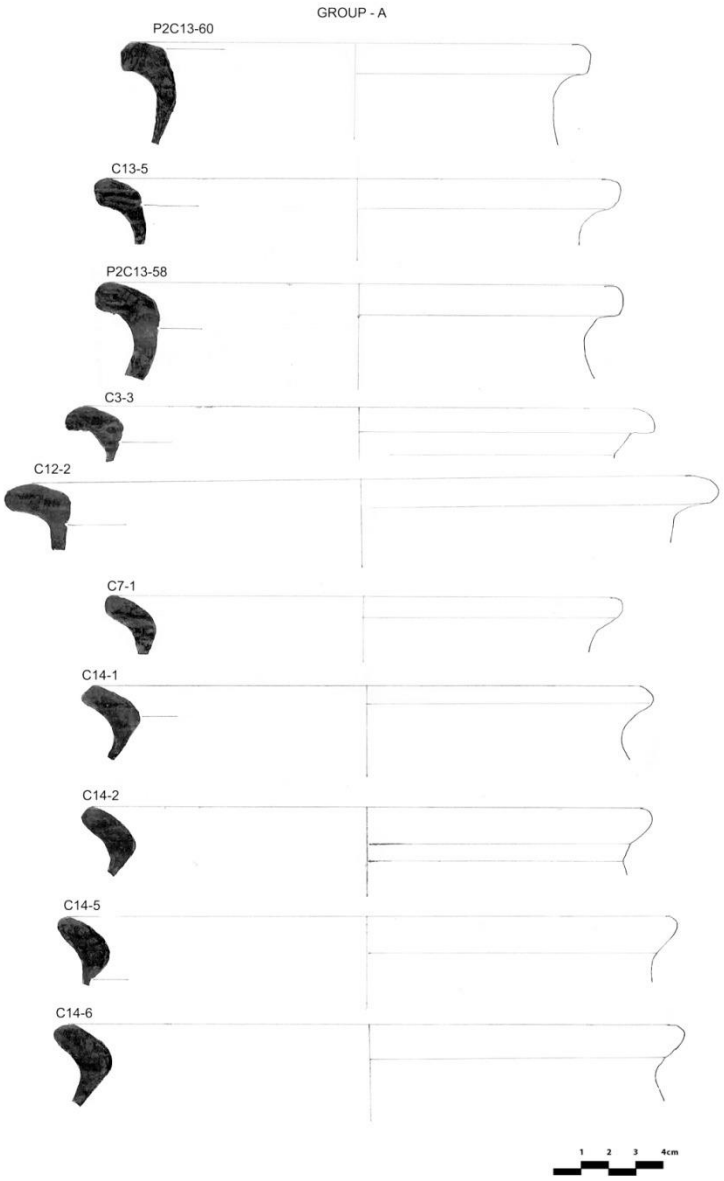
Pottery

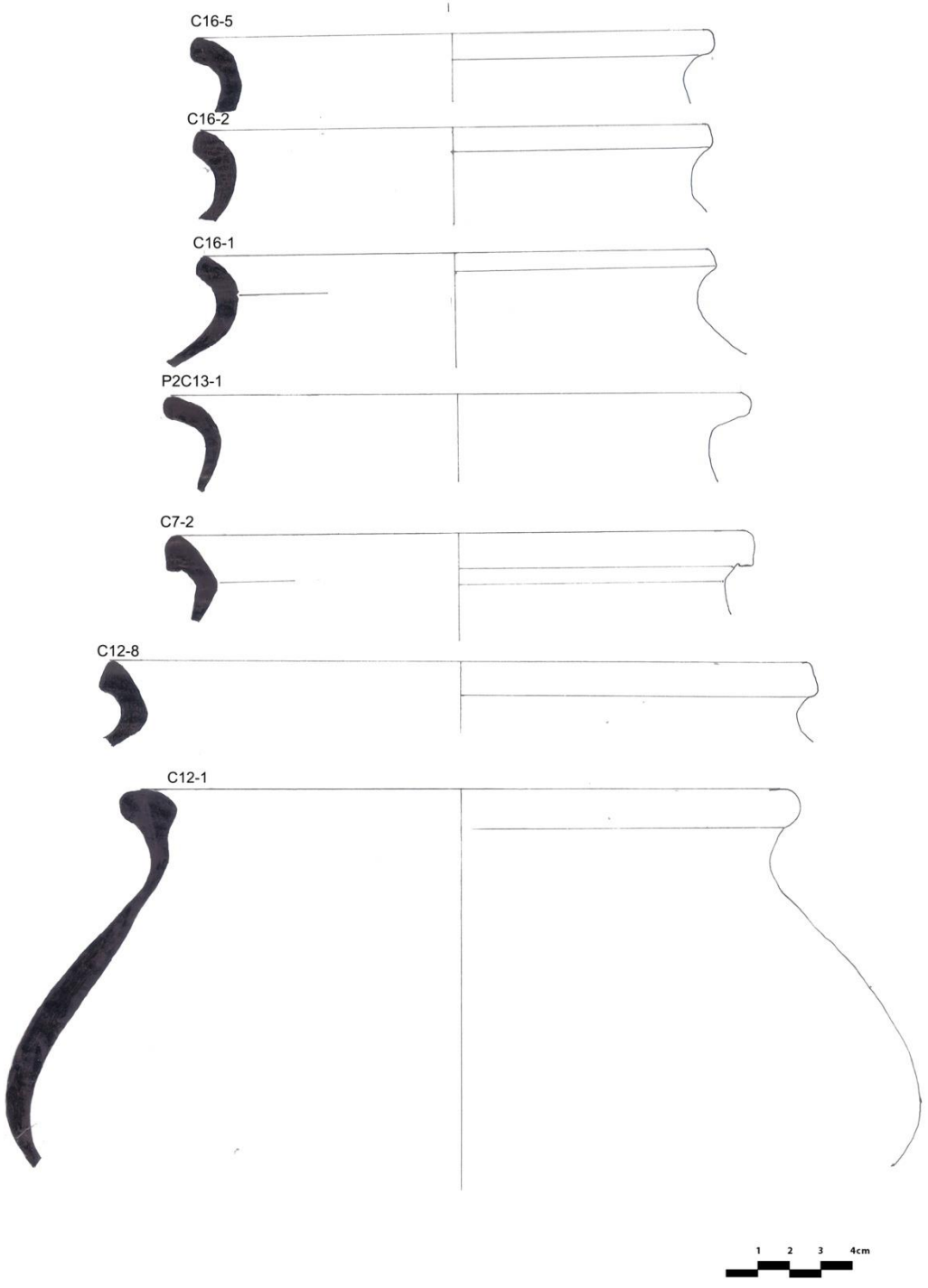
In this excavation we have found pottery collection dates the collection of pottery from the 500 BC. The pottery collection was also clear field nosing the system outline based on the Tissamaharama, record. The untitled pottery classification was conducted on the basis of predominate Color, Rim, Shape and Body shape. Subsequently the results as the classification system introduced the nine pottery form. These pottery form were classified and categorized types (form) and based on a comparison with the Anuradhapura, Pomparippu, Kok-ebe and Pinwewa Galsohon Kannaththa pottery types (Table No.01). According to the pottery conservation program we have identified three early Brahmic letters on the pot shard (Sinhala Tha, Tha and Sha). Beta analytic U.S.A has dated this burial from 500- 507 B.C. Previous Sri Lankan researchers have not found early Brahmic letters inside the proto history burial of their excavations .This is very important as this is the earliest date regarding early Brahmic letters in Sri Lanka

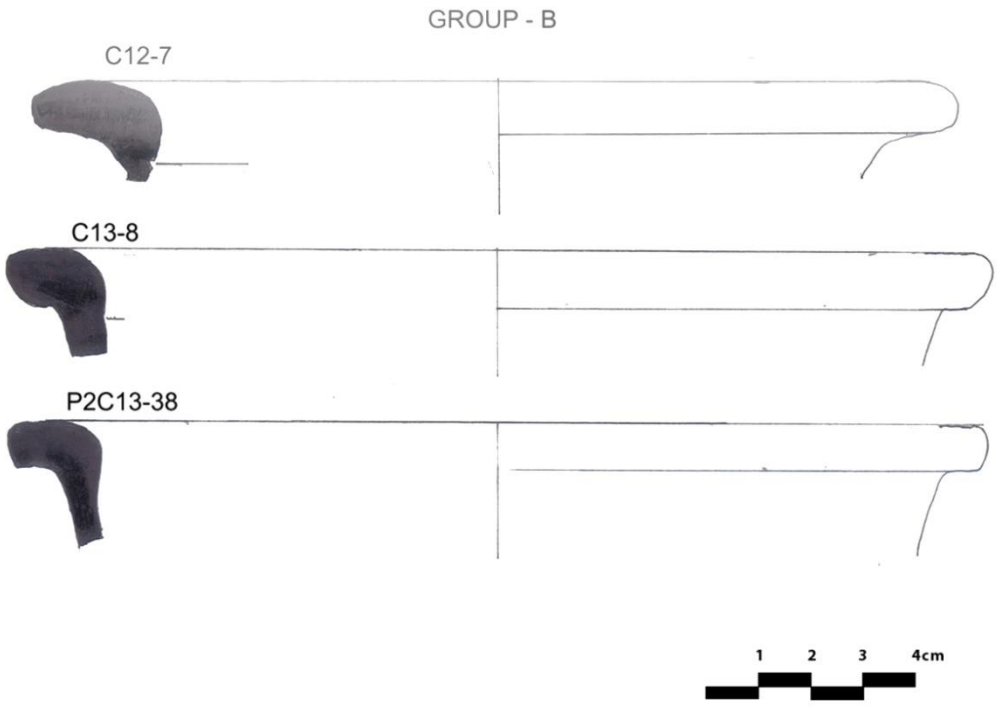
Pottery Type	Discription
A	Haliya or Muttiya - Pot With Restricted and Inverted Upper Body With Everted and Flared Rim Zone
A2	Attiliya or Halliya - Large Bowl With Wide Orifice
C	Halliya - Deep Globular Bowl With Restricted Upper Body and Mostly Triangular Thickened Rim
D	Baraniya/Muttiya - Small Storage or Water Jug With Narrow and Short Neck and Globular Body
E	Baraniya - Huge Storage Vessel With Thick Walls and no Neck

F	Small Jug With Mostly lenticular Built Body a Narrow Orifice and High and Funnel Shaped Neck
G	Pattaraya - Begging Bowl With Narrow Neck and Globular Body
H	Conical Dish

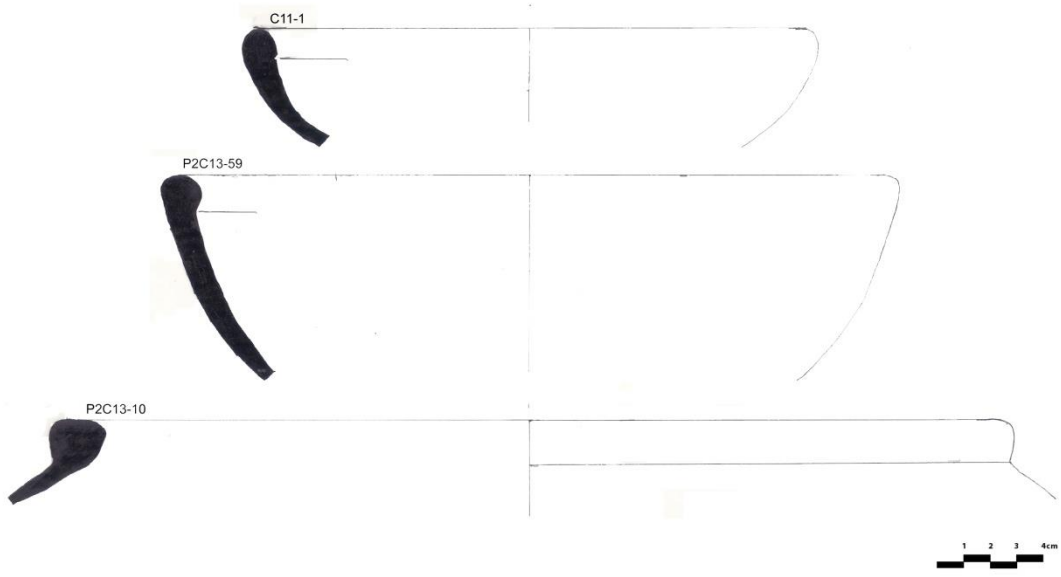
Table No. 01 - Pottery form Details




C16-5
C16-2
C16-1
P2C13-1
C7-2
C12-8
C12-1
1 2 3 4cm


GROUP - B
C12-7
C13-8
P2C13-38
1 2 3 4cm

Group C


C11-1
P2C13-59
P2C13-10
1 2 3 4cm

GROUP - D

C8 - 3

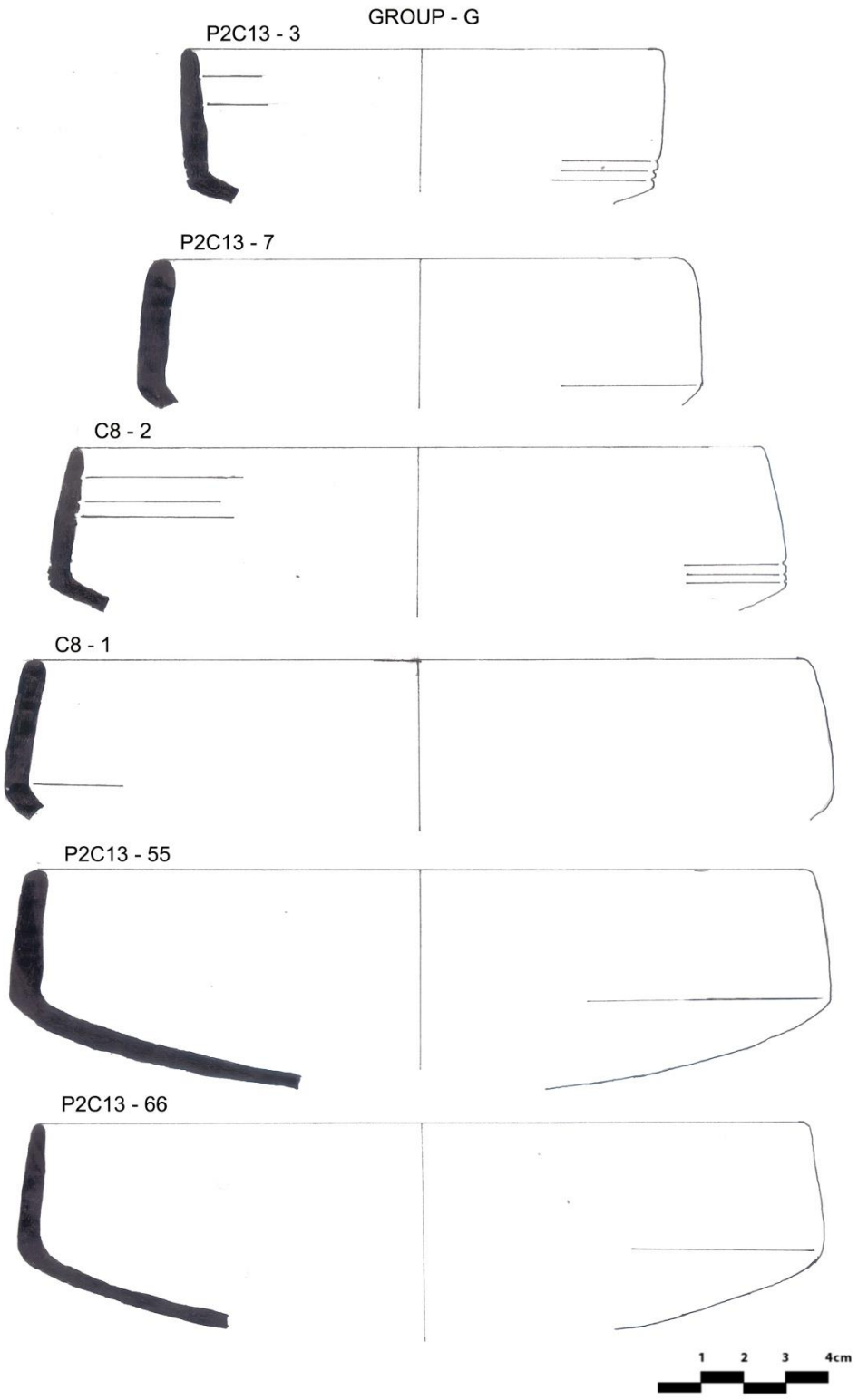
C16 - 4

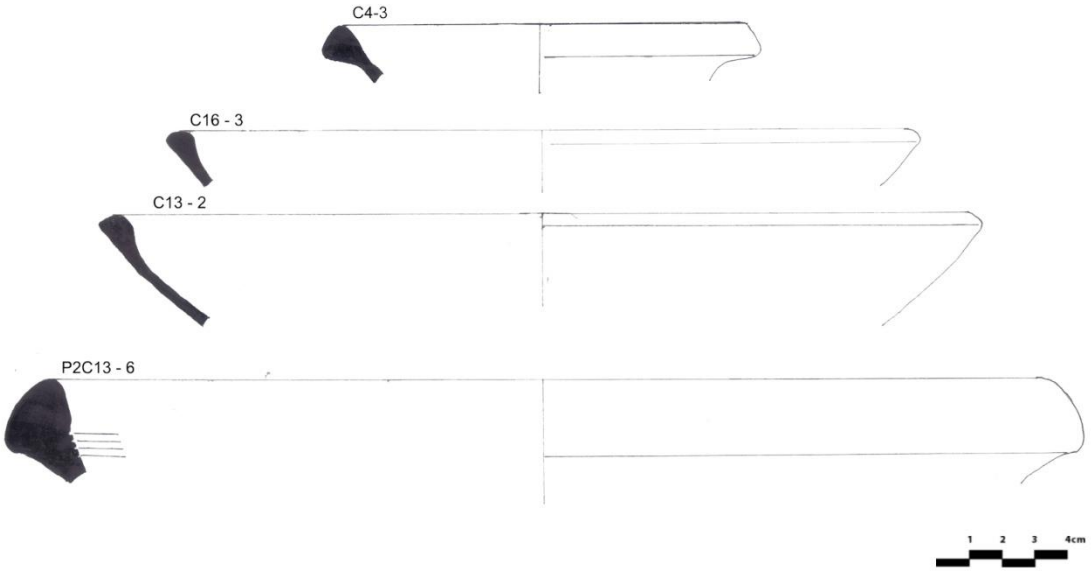
GROUP - F

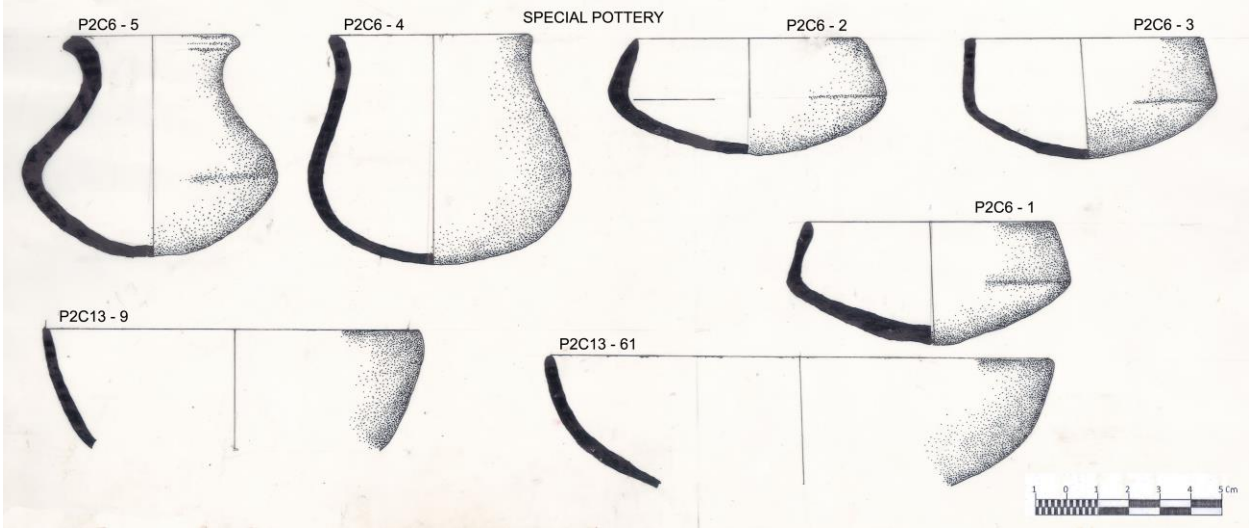
C13 - 1

C13 - 3

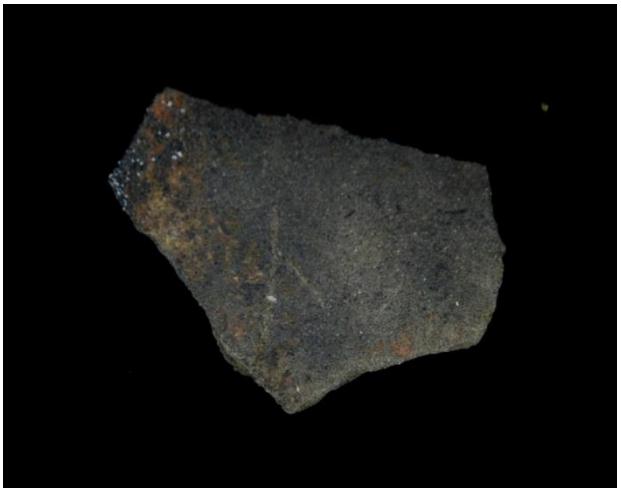
GROUP - G




C4-3
C16 - 3
C13 - 2
P2C13 - 6
1 2 3 4cm


SPECIAL POTTERY
P2C6 - 5
P2C6 - 4
P2C6 - 2
P2C6 - 3
P2C6 - 1
P2C13 - 9
P2C13 - 61
1 0 1 2 3 4 5 Cm

Black and Red Ware Pottery Andarawewa



Three Brhamic Letters on potshard

Beads

Mineral and glass beads production had introduced by proto history people for this basing. In this excavation over 50 beads had found excavation team. All beads made by glass. Exploration team has identified bead production site (Furness) beyond north side of burial site. It was situated at near the stream bank and canal had prepared by Irrigation Department they have destroyed it. According to previous Survey at the site of Giribawa has revealed a large amount of glass as well as beehive-shaped furnaces, possibly for the primary production of raw glass. We observe these two furnaces they are same type. These two furnace area that appear to be waste from primary glass production.

According to James Lankton all of the new Giribawa samples were made from mineral soda glass with high alumina, variable potassia and lime, low cesium and low to moderate uranium. Comparing the chemical compositions of the new samples with those from previous analyses by Dussubieux (2001) and ourselves, there appears to be no significant difference in the range of values for individual oxides. In addition, there was no significant difference in composition between the beads and fragments at the site and the furnace samples, providing additional evidence that all or almost all of the glass found at the site was most likely made there(Lankton 2014:5)

In order to answer the important questions of dates for glass production plus possible mechanisms for exchange of the finished products, we compared the glass from Giribawa with similar glass from other sites in Sri Lanka, including Mantai, Godavaya and Kuchchaveli, as well as with glass from Manikollai, a bead making centre in Tamil

Nadu most likely importing glass from a variety of South Indian sources, using the multivariate statistical techniques of PCA and cluster analysis (*ibid)*. As expected, the Giribawa glass was very different from the South Indian glass. Surprisingly, given the geographic proximity, there was little overlap between the glass found at Mantai and the Giribawa glasses, raising the possibility that the two sites were independent glass producers, or, possibly, were most active during different periods. There was one Sri Lankan site, Kuchchavelion the eastern coast, whose glass, in the form of drawn beads, was sufficiently similar to Giribawa glass to strongly suggest an exchange relationship (*ibid)*. Twenty out of twenty-two Kuchchaveli samples overlapped with Giribawa, with only two more similar to glass from Mantai or possibly Manikollai. This similarity to Giribawa glass is quite remarkable, since most sites thought to be trading or consumption sites, such as Kuchchaveli, usually have glass beads from a variety of sources. The significance of this strong apparent relationship will no doubt be important for the interpretation of both Giribawa and Kuchchaveli. One immediate result is that we now have at least some evidence for dating the Giribawa production. The glass beads from Kuchchaveli came mainly from two layers, the first dated to the 1st to 3rd c. CE and the second from the 7th to 8th c. CE. There was Giribawa glass in both of these layers, suggesting that glass production at Giribawa at least spanned the two periods (*ibid*). Whether Giribawa production began earlier or extended later we still do not know, but the Kuchchaveli dates are a very important step to interpret glass production at Giribawa and in Sri Lanka in general (*ibid)*.According to comparison studies Girbawa and Andarawewa furnace we could identified as same type and believe Andarawewa furnaces can be dated 3rd Century B.C or before 3rd Century B.C

According to Dr. Young and Prof Isiga investigation they have identified included below chemical composition in Andarawewa glass smelting furnace

Chemical composition

Sample	**Element**	**1**	**2**
Remarks		Dark part	White part
Trace elements (ppm)			
As	Arsenic	18	34
Pb	Lead	483	740
Zn	Zinc	40	30
Cu	Copper	855	1083
Ni	Nickel	21	20

Cr	Chromium	47	32
V	Vanadium	58	38
Sr	Strontium	313	359
Y	Yttrium	24	17
Nb	Niobium	11	9
Zr	Zirconium	391	337
Th	Thorium	2	ND
Sc	Scandium	ND	ND
TS	Total Sulphur	ND	ND
F	Fluoride	167	120
Br	Bromine	2	2
I	Iodine	73	96
Cl	Chlorine	ND	ND
Major elements (wt %)			
TiO_2	Titanium dioxide	0.57	0.36
Fe_2O_3	Ferrous Oxide	2.55	1.54
MnO	Mangonous Oxide	0.08	0.05
CaO	Calcium Oxide	1.65	2.52
P_2O_5	Prosperous Pentoxide	0.06	0.11

ND- Not detected

Glass chips are not inside of material, they are attached to the outer surface.

Glass chips may be artificial, considering melt feature and small cavities.

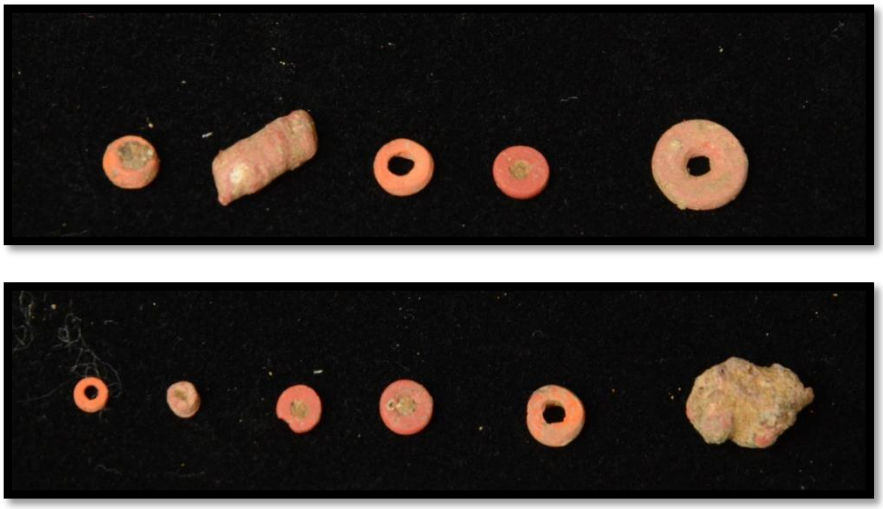
The X-Ray Fluorescence (XRF) results of slag show that, Pb and Cu are having very high values which is almost two times. Thus, the white part contains higher Pb and Cu. Also, iodine has been detected. The halides F, Br and I are almost similar in the white (glass) part and dark (slag) part.

If these are reimagining's of glass production, the sands used for glass production should contain high contents of Pd, Cu and low Fe content (1.54-2.55 wt %). (Pb, Cu and Fe Upper Continental Crustal (UCC) values are 20 ppm, 25ppm and 5.04 wt %). The white part has higher Ca content and lower Fe content while the dark part has the opposite composition.

Arsenic is also high (18-34 ppm) compared to UCC of 4.8 ppm.

Zircon content is almost two times higher (337-391 ppm) than UCC (190 ppm).

Sand minerals and soils of surrounding archeological area with the profile and surrounding environment has to be examined for better interpretations.



Glass Beads Andarawewa

Part of furnace Andarawewa

Iron Object

The typological rang and the number of metal object found within the megalithic burials in Sri Lanka. The objects may be listed as knife, arrow- blade, nail (Senavirathne 2007: 170., Begley 1981: 77-78). Most of these were used in hunting or as weapons (Senavirathne 2007: 170). In Andarawewa excavation we have discovered two

iron chisels inside the burial pot. These two iron chisels dated 500 B.C It may be used by carpenter it is not used as weapon. The raw material required for the production of iron implement may have been obtained from the locality itself. Iron concretion of hematite/limonite may be easily procured Brown Earth and the Red Earth in north west Sri Lanka(Senavirathne 2007: 170 ., Dahanayake *et* Jayawardena 1979:433-440., Cooray, .1984).Such iron concretion can be used for smelting, Iron slag has been reported from near Andarawewa burial site, According to S. Senaviratne he has explained limonitic nodules in direct association with iron slag (Senavirathne 2007: 170) Geologycal investigation have also established the vast deposit of magnetite at Vilagedara Panirendawa. This deposit can be processed for production.

Iron Chisels Andarawewa

Cist burial was covered by big capstone

Removing big capstone


N
Pali aru
Per aru
Kanagarayan aru
Nay aru
Parangi aru
Mee oya
Mamaduwa
Ma oya
Kunchikumban aru
Kal aru
Pankulam aru
Malwathu oya
Modaragam aru
Per aru
Pomparippu 800 BC
Anuradhapura Citadel 1000 BC
Thammannagodalla 490 BC
Kok-ebe 800 BC
Andarawawa 500 BC
Kalawalla Ulpotha 520-390 BC
Polpithigama 520-310 BC
Pinwawa 420 BC
Ibbankatuwa 700-400 BC
Kala oya
Mahawali ganga
Kalagamu oya
Rathambala oya
Daduru oya
Mi oya
Legend
Dated site
Megalithic Site
0 5 10 20 30
Kilometers
Date: 2018/08/09
Created by: Nadeera Harshajith

Bibliography

Cooray, P.G.1984., ***an Introduction to the Geology of Sri Lanka*** (Ceylon), Colombo, National Museums of Sri Lanka.

Deraniyagala, S.U.1972., The Citadel of Anuadhapura: Excavation in the Gedige area, ***Ancient Ceylon no.02***, 48-165, Archaeological Survey Department, Colombo.

1992., ***The Prehistory of Sri Lanka***, an Ecological Perspective, Archaeological Survey Department, Colombo.

Lankton, J. 2014***, and Glass from Sri Lanka: Preliminary Report of 2014 Analyses***, Institut de Recherche surles Archéomatériaux, Centre Ernest Babelon, C.N.R.S., 3D rue de la Férollerie, F-45071 Orléans cedex 2.

Paranavitane,S. 1970.,***Inscription of Ceylon***, Vol. I, Department of Archaeology. Colombo.

Seneviratne, S.1984 . The Archaeology of the Megalithic - Black and Red Ware Complex in Sri Lanka, ***Ancient Ceylon*** No.5: 237-305, Archaeological Survey Department, Colombo.

1995., The Ecology and Archaeology of the Seruwila: Copper Magnetite prospect North- East Sri Lanka in ***Sri Lanka Journal of Humanities***. Vol. xxi (1&2):114-146

2007., The Archaeology of the Megalithic - Black and Red Ware Complex in Sri Lanka, **the Art and Archaeology of Sri Lanka.** 135-202, Central Cultural Fund, Ministry of Cultural Affairs, Colombo.