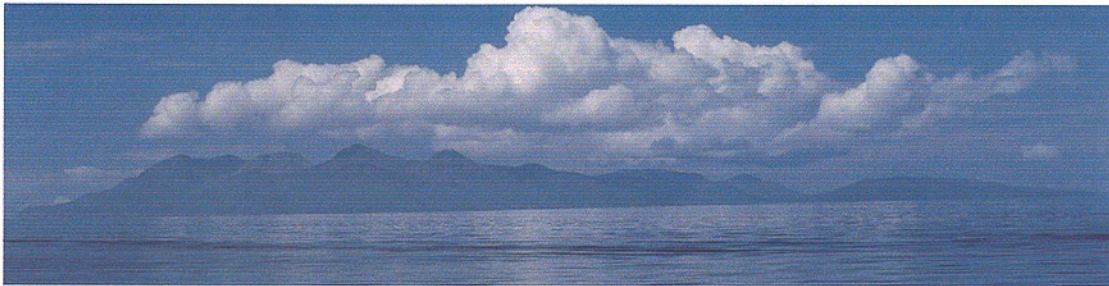
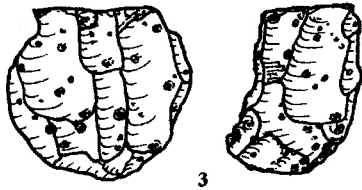


Raonapoll Lithic Scatter Site

Loch Scresort, Island of Rum
NG 4099 9907



By

Steven A. Birch FSA (Scot) PIFA

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for
The Highland Council

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1.0 Introduction

- 1.1 The Raonapoll lithic scatter site is situated on the southern shore of Loch Scresort, on the Island of Rum, the largest of the islands forming the archipelago of the Small Isles. To the north of the site the relatively sheltered waters of Loch Scresort provide shipping with a safe anchorage and is also the terminal for the main ferry service to the island, operated by Caledonian MacBrayne. The southern aspect is dominated by rising moorland and the massive bulk of the Cuillin of Rum, terminating in the rocky summit of Askival at 812 metres. The shoreline comprises isolated low-angled reef complexes interspersed with gently shelving rock cobbles and a sandy/silt matrix. A short distance to the west a shallow bay penetrates the generally featureless coastline, providing a sheltered landing place for small boats and has provided a focus for settlement on the southern shores of the loch. A series of freshwater streams feed into this bay from the moorland to the south.
- 1.2 The area immediately to the east of the site has been severely disturbed by the construction works for the new pier facility on Rum, work that was nearing the completion stages when the author visited the island during September 2001. Large areas of topsoil and peat deposits had been removed down to bedrock to form a level platform for the approach road and site portacabins, while further east larger-scale removal of overburden and underlying rock units had been undertaken at the pier terminal. The excavation of the platform for the site cabins and enhancement of the approach road from the west had cut through a complex and dense area of prehistoric remains comprising lithic material.
- 1.3 Previous work on Rum by the Royal Commission on the Ancient and Historic Monuments of Scotland (RCAHMS, 1983) had shown the potential for the survival of archaeological sites on the island, while the excavations undertaken at Farm Fields, Kinloch by Caroline Wickham-Jones *et al* (Wickham-Jones, 1990) has revealed one of the oldest known Mesolithic settlement sites in Scotland (see Fig.1). The site at Farm Fields produced a large assemblage of lithic artefacts and debitage, and uncovered a range of surviving features relating to the use of the site some 8,500 years ago (Idem:132-36). A series of large hollows, small pits and potential postholes associated with the early phases of settlement were recorded, while later deposits suggested the re-use of the site through the Neolithic Period (Idem:42-47).
- 1.4 In addition to the site at Farm Fields, further lithic scatters were discovered by the project team around the shores of Loch Scresort during 1984. These sites are briefly mentioned in the Rum Monograph (Wickham-Jones, 1990:149-50) although details regarding site location and topography are not included (see Fig.1).

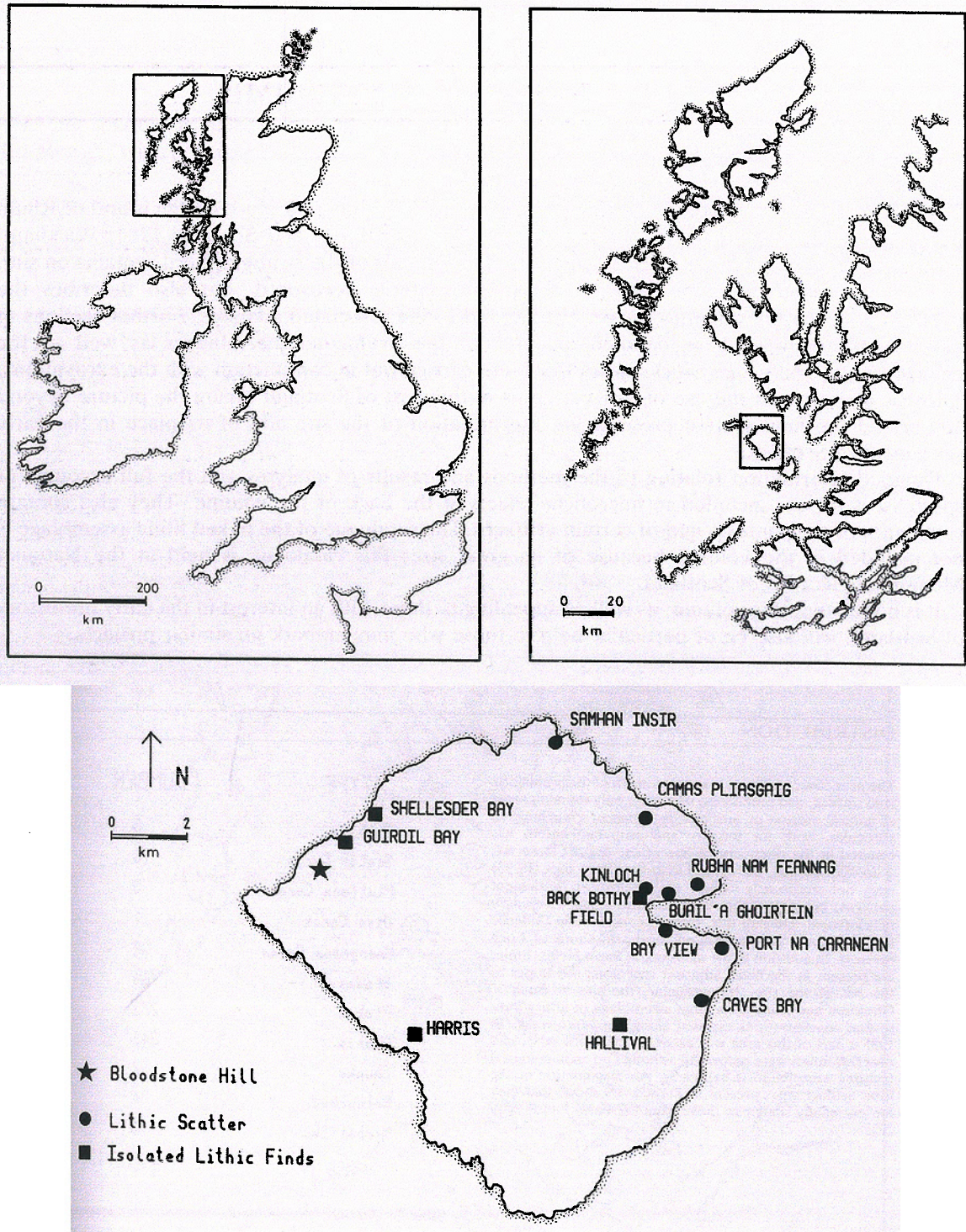
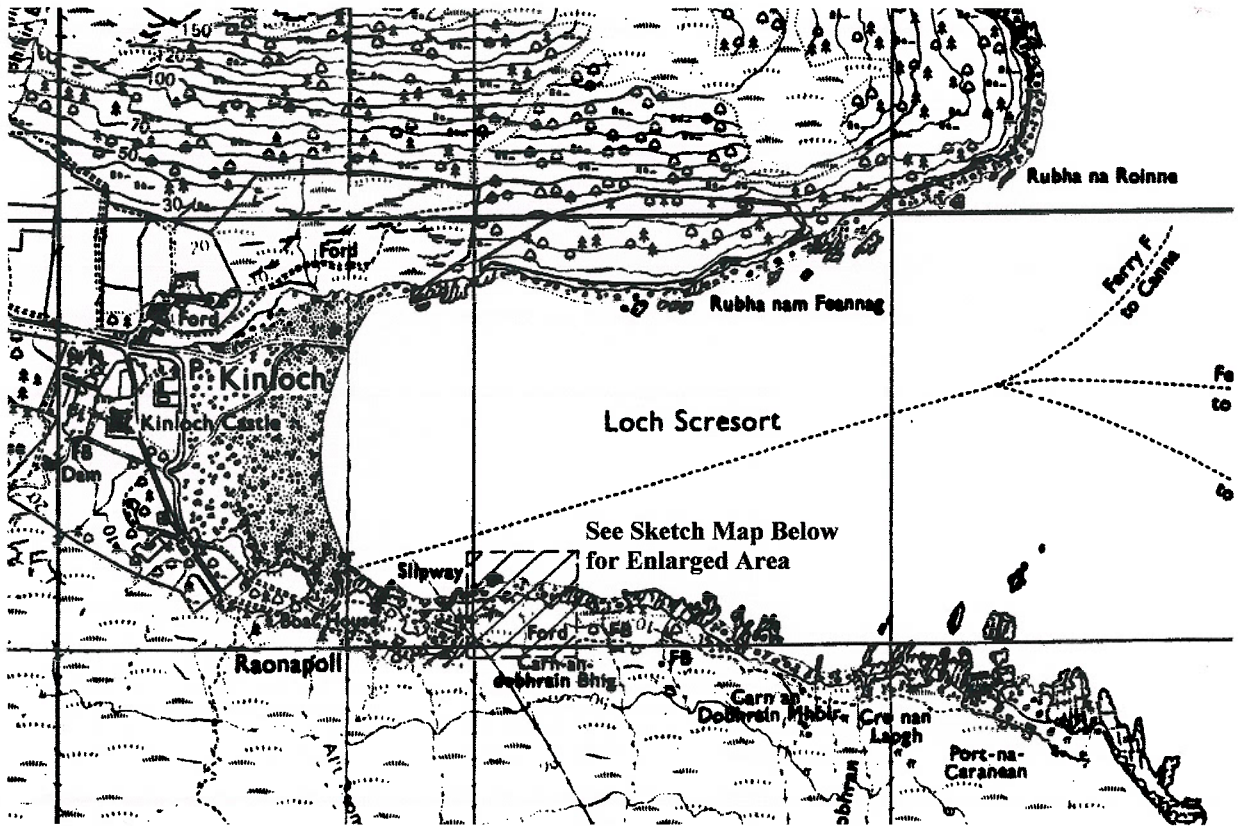


Fig.1 – Location Maps showing the position of Rum, Bloodstone Hill and lithic scatter sites identified by the RCAHMS and the Kinloch research team by the close of fieldwork in 1986 (after Wickham-Jones, 1990: 149). The site of Bay View on the south shore of Loch Scresort, is located in close proximity to the Raonapoll site.

2.0 Site Discovery and Recording

- 2.1 Having completed five days of archaeological fieldwork prospecting for new Mesolithic sites around Guirdil Bay and Bloodstone Hill in the northwest of the island, the author returned to Kinloch on the 5th September 2001 to take the ferry back to Mallaig. However, due to extremely low tidal conditions Scottish Natural Heritage (SNH) Staff on Rum had cancelled the ferry and alternative transport was arranged with the charter boat used by the contracting company building the pier. Having been directed to the Site Manager's Office within the construction compound and informed that the charter boat would take some six to seven hours to arrive, a decision was made to pass the time waiting at the perimeter of the fence enclosing the construction area.
- 2.2 The author had already noticed how the vehicular access track connecting the construction site with the old track to Kinloch to the west, had been cut through the surface of a natural terrace located at 10 to 16 metres OD. Knowing the potential importance of these natural terraces with regards to prehistoric settlement, a search was made of the ditch-cuts and spoil heaps left by the machine excavator in the vicinity of the site portacabins. Some of the spoil heaps had already been landscaped and planted with young trees, while in other areas grass had started to grow back on site. However, after a few minutes search around the site cabins, several large flakes of bloodstone were recovered. A total of 11 pieces of bloodstone and 2 pieces of flint were recovered from these landscaped/spoil heap features, which are situated at the highest elevation of the exposed site at around 16 metres OD (Zone C on the enclosed sketch plan – see Fig.2).
- 2.3 Having a ranging pole, tape measures and other recording equipment with me, it was possible to produce a sketch survey of the major site features and to carry out a controlled collection of any surface finds. Moving in a west-north westerly direction from the original finds area I passed through the gate and perimeter fence of the site compound. Here, the track passed into an area of mixed deciduous woodland and was found to split. One branch of the track turned to the left (south-west) into the trees and terminated at a small cottage, while the second descended steadily in a north westerly direction towards the shores of a shallow bay, backed by the village school and other buildings. This second branch is the main thoroughfare that proceeds along the south shore of Loch Scresort to the village of Kinloch (see Fig.2).
- 2.4 This section of track had been upgraded to provide access for machinery and vehicles on site, extra width of track being provided complete with new drainage ditches and metalling to the surface. The spoil from these operations had been deposited to both sides of the track, some of which had already started to grass over, while the cuts of the drainage ditches revealed a dark, loamy subsoil with a sand/shingle base, capped by a thin layer of peat and leaf litter. Tree roots had been disturbed during the road improvement works in



Loch Scresort, Rum [shaded area enlarged below]

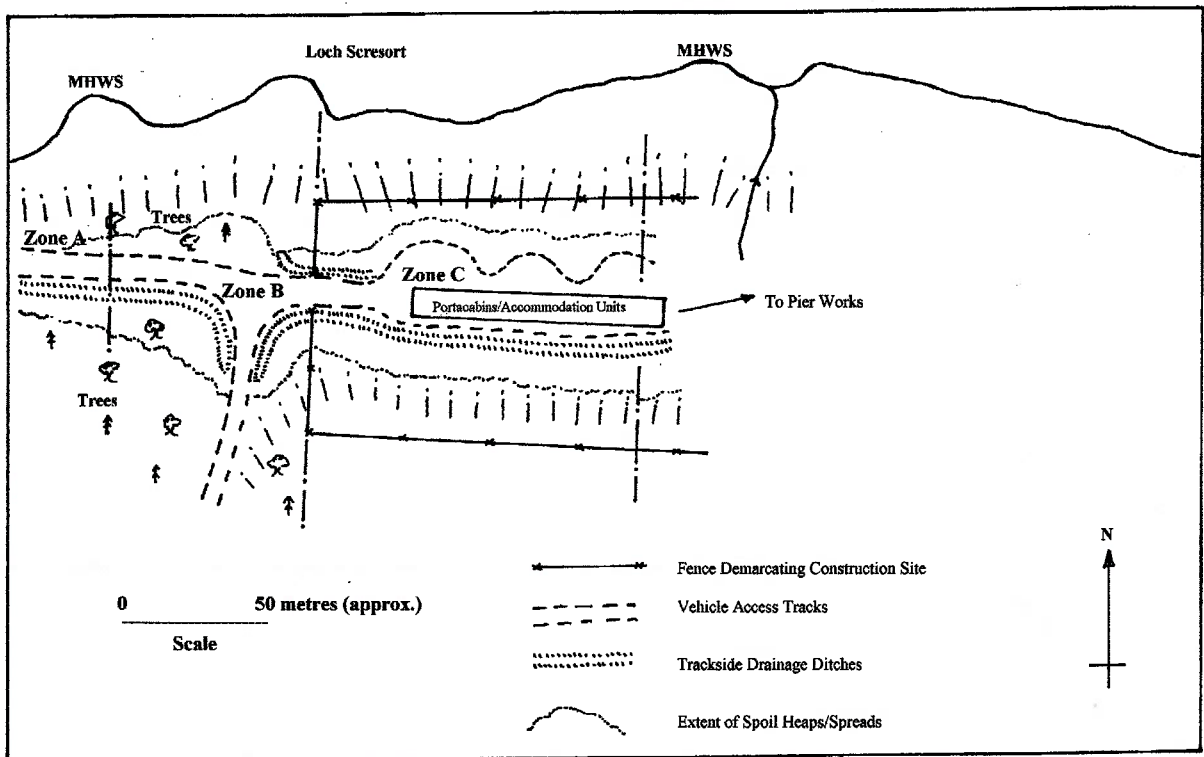


Fig.2 – Sketch Survey of shaded area showing the primary features of the Raonapoll site (scale approximate). For detailed explanation, see text.

this area, which ran down the track for some 60 metres. A closer look at these features under the canopy of trees revealed a dense scatter of lithic material, much of which had been disturbed by the track improvement works and which had since been washed clean by the heavy rains of the summer.

- 2.5 Lithic artefacts were recovered from the surface of the newly metalled track, from the base and sections of the cut ditches and from the spoil heaps to both sides of the track. The construction works had obviously passed through a very rich and dense scatter of early prehistoric material, the ground in this area lying between 8 and 11 metres OD (Zone B on the sketch plan – see Fig.2). A total of 340 pieces of struck stone were recovered from Zone B, while a significant amount of smaller material was left in-situ due to time constraints. However, compared to the material recovered from Zone C, it was the quantity and quality of the material and the number of fine blades and blade fragments (mainly in flint) that impressed. In addition to a significant number of blades and blade fragments, a quantity of bipolar, disc and platform cores were recovered along with a selection of retouched pieces comprising flakes and scrapers. No microliths were recovered at this time, however, lithics of quartz and agate were found in this zone along with a piece of burnt flint, burnt shell and what appears to be a fragment of a bone bevel-ended tool.
- 2.6 Zone A (see Fig.2) is the section of vehicle track, associated spoil heaps and ditch cuts, which continue down the slope in a west/north westerly direction towards the School House Bay. The finds of lithic material were found to decrease significantly down this slope, which lies below the 8 metres OD mark, and the pieces recovered were heavily rolled and polished. This is most likely due to this part of the site being inundated by the sea during the maximum stand of the postglacial transgression, which is thought to have taken place on Rum after 7,000 BP and resulted in maximum elevations of around 9 to 11 metres above present levels (Wickham-Jones, 1990:144-46). Only 39 lithics were recovered from Zone C, although only a limited amount of time was available to make a search of this area.
- 2.7 Highland Archaeology Services in Inverness and Scottish Natural Heritage were immediately notified of the site which had been disturbed on Rum, and this information was in turn passed on to the contractors undertaking the work on the new pier and approach roads. During a site visit to assess the impact of the construction works on the lithic scatter at Raonapoll on the 24th October 2001, attended by John Wood (Senior Archaeologist for the Highland & Islands Region), Colin Howell (Principal Engineer for Highland Council Roads & Transport) and other representatives from the Site Developers and Scottish Natural Heritage, it was agreed that no further development work would affect the site and that no further archaeological work, including survey or recording, was necessary. During this visit, which was conducted under a heavy downpour of rain, a small collection of lithic material was recovered from Zone B (5 x lithics). These included a fine flint platform core and 2 x flint scalene triangle microliths.

3.0 Classification of Lithic Assemblage by Raw Material Type and Composition

3.1 Raw Material

Two different materials were exploited for the manufacture of the majority of the flaked lithics recovered from the Raonapoll site, supplemented by a small quantity of other rocks. All are chalcedonic silicas, the predominant materials being flint and a hydrothermal chalcedony called bloodstone. The less frequent materials found within the lithic assemblage include quartz and agate.

- 3.1.1 A significant number of the flint artefacts recovered retain a weathered cortex suggesting that small rolled pebbles provided the basis of the raw material. The flint is characteristically smooth textured and mottled grey/white in colour, although several pieces display a pale yellow colouration. Flint such as this was commonly used for prehistoric assemblages throughout the coastal areas of western Scotland (Wickham-Jones, 1990:51-56) and recent work undertaken as a part of the *Southern Hebrides Mesolithic Project* (Mithen, 2000) included a survey of the present day coastline to look at the availability of pebble flint (Marshall, 2000:75-77). The results of this survey indicated little in the way of in-situ pebble flint on the beaches of Rum, although the coasts of Islay and other islands within the Southern Hebrides produced a range of good quality nodules. However, although nodules are now only rarely found in the area around Rum today, it is possible that such resources were more common in the past. The types of flint debitage recovered from the Raonapoll site would suggest that whole nodules were reduced on site in the manufacture of tools.
- 3.1.2 Bloodstone is a cryptocrystalline silica which occurs in association with the lavas of Tertiary age that form Fionchra and Bloodstone Hill in the west of Rum. These silicas are recognisable by their markedly different colours, from red (jasper and carnelian), through light green (plasma), to a dark green (heliotrope) and a purple chalcedony (Wickham-Jones, 1990:51). An individual nodule may contain silicas of varying colour and quality, however, it would seem that the prehistoric inhabitants of Rum and the western seaboard of Scotland utilised the raw material in its various forms. The main sources of bloodstone are found on Rum with significant quantities of nodules still to be found in Guirdil Bay, in the west of the island. However, small amounts of coarse nodules and small fragments of bloodstone may still be found on the vegetated talus slopes of Bloodstone Hill and within the small gullies and watercourses which scar the north face of the hill (Birch, *forthcoming*). However, the cortex displayed on some of the lithics recovered from the Raonapoll site and from other prehistoric scatter sites, would suggest that most of the raw material sourced throughout prehistory was found on the beach at Guirdil (see Fig.13).
- 3.1.3 A variety of other siliceous rocks were used to supplement the flint and bloodstone on the Raonapoll site, with the quartz and agate identified also available from outcrops at Bloodstone Hill and from the beaches around Rum.

3.2 Assemblage Composition

3.2.1 A general breakdown of the lithic assemblage from the Raonapoll site including find zone, the total quantity of lithics recovered by zone, condition and raw material type, is provided below in Fig.3. The number of pieces displaying cortex is also shown where this could be positively identified. The total composition of the lithic assemblage is shown in Fig.4 below, identifying the individual types, their production and the raw material from which they are manufactured. Further details regarding the assemblage composition are also discussed.

Zone	Lithics Recovered	Flint	Cortex	Bloodstone	Cortex	Condition
A	39	24	4	15	1	Heavily rolled/polished
B	345	215	45	130	2	Generally mint but with some rolled edges/polish
C	13	2	1	11	-	Generally mint
Totals	397	241	50	156	3	

Fig.3 – Breakdown of the lithic assemblage by Zone, Quantity, Raw Material Type, Cortex and Condition

TYPE	FLINT	BLOODSTONE	AGATE	OTHER	TOTAL
<u>Cores</u>					16
Bipolar		7			7
Platform	4	1			5
Disc	1				1
Amorphous	1	2			3
Blades	21	4			25
Blade Fragments	13	3			16
Regular Flakes	37	46	1		84
Irregular Flakes	62	57		2	121
<u>Modified Artefacts</u>					8
Microliths	2				2
Non-Microlithic	3	3			6

Fig.4 – Composition of the more significant artefacts from the Raonapoll lithic assemblage

3.2.2 Cores

The 16 cores recovered within the lithic assemblage comprise a variety of forms, with platform cores the more frequent type. This is especially so with regards to the flint assemblage while the bloodstone artefacts are dominated by bipolar cores indicating the varied quality of bloodstone as a raw material and the difficulties encountered during the reduction processes. The mean length of the cores at discard are shown in Fig.5 below, a factor controlled by the development of step fractures due to knapper error or flaws in the raw material. However, other likely causes of core discard may be as a consequence of size and the ability to produce flakes or blades of adequate size.

Core Type	Mean Length at Discard (mm)	
	Flint	Bloodstone
Bipolar		36.3
Platform	35.7	30.0
Disc	26.0	
Amorphous	29.0	43.0

Fig.5 – Mean core length at discard

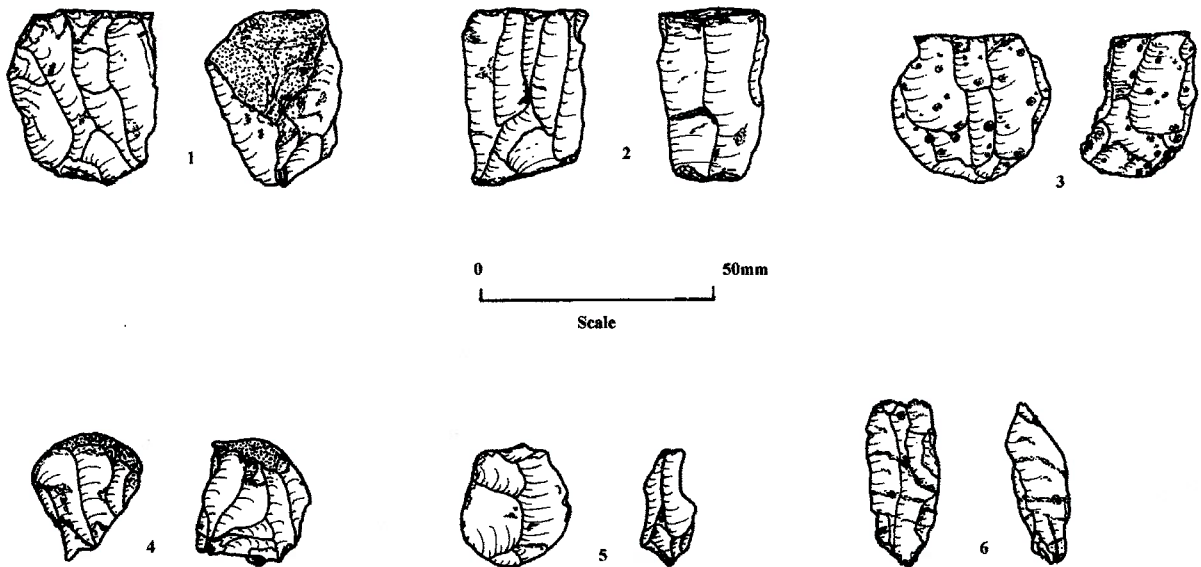


Fig.6 – A selection of the cores recovered from the Raonapoll site. 1, 2 & 4 = platform cores (flint); 3 = platform core (bloodstone); 5 = disc core (flint); and 6 = bipolar core (bloodstone).

3.2.3 Blades

A total of 25 blades and 16 blade fragments were recovered in the Raonapoll lithic assemblage, the majority of these being manufactured from flint and comprising inner detachments. Only 5 blades had cortex present on the dorsal surface, 3 of these being crested blades. A total of 4 bloodstone blades were identified from the assemblage. **Figure 7** shows the length/width ratios of the intact blades recovered from the Raonapoll site.

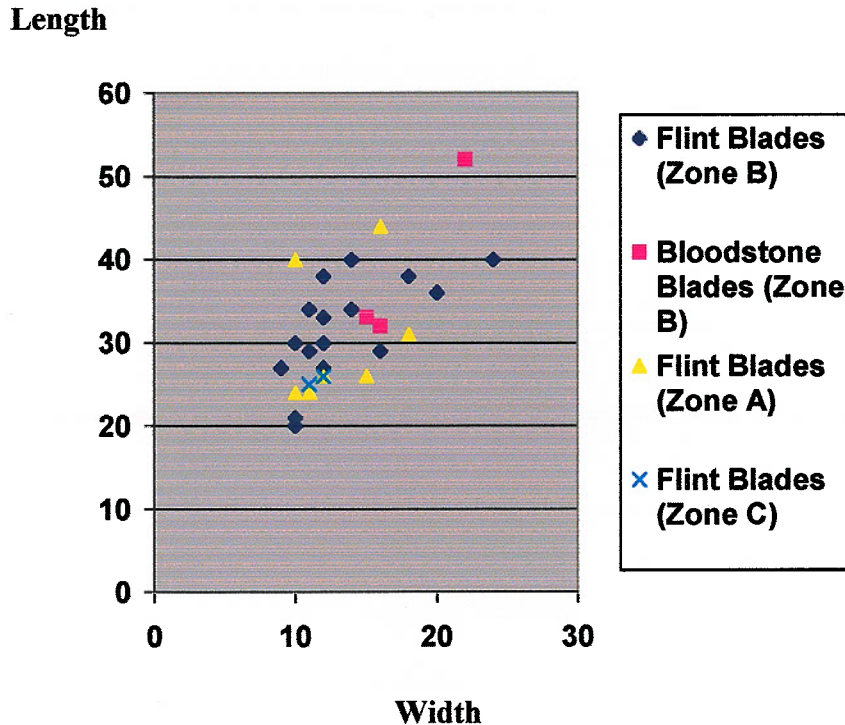


Fig.7 – Length / Width ratios of the intact blades recovered from the Raonapoll site

3.2.4 Regular Flakes

The majority of the regular flakes are of chalcedony; 37 flakes on flint, 46 flakes on bloodstone and 1 flake on agate. Several of the flint flakes are primary and secondary detachments, indicated by the total amount of cortex visible on the ventral surface, while the remainder are inner flakes. Some of the primary and secondary flakes are decortical in nature having platforms of cortex and may be ‘nodule-opening flakes’, that is flakes detached at the beginning of the reduction process. Although more numerous within the assemblage the regular flakes in bloodstone provide little evidence of visible cortex. **Figure 9** shows the length/width ratios of the intact regular flakes.

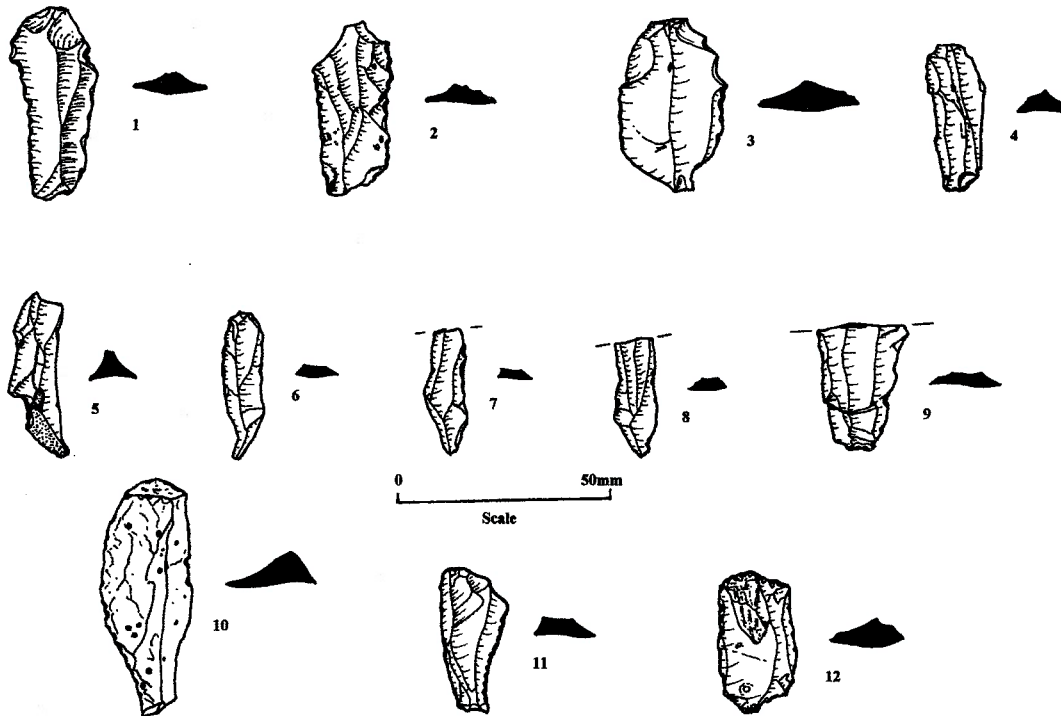


Fig.8 – A selection of the flint and bloodstone blades recovered from the Raonapoll site. 1 – 9 = flint; 10 – 12 = bloodstone.

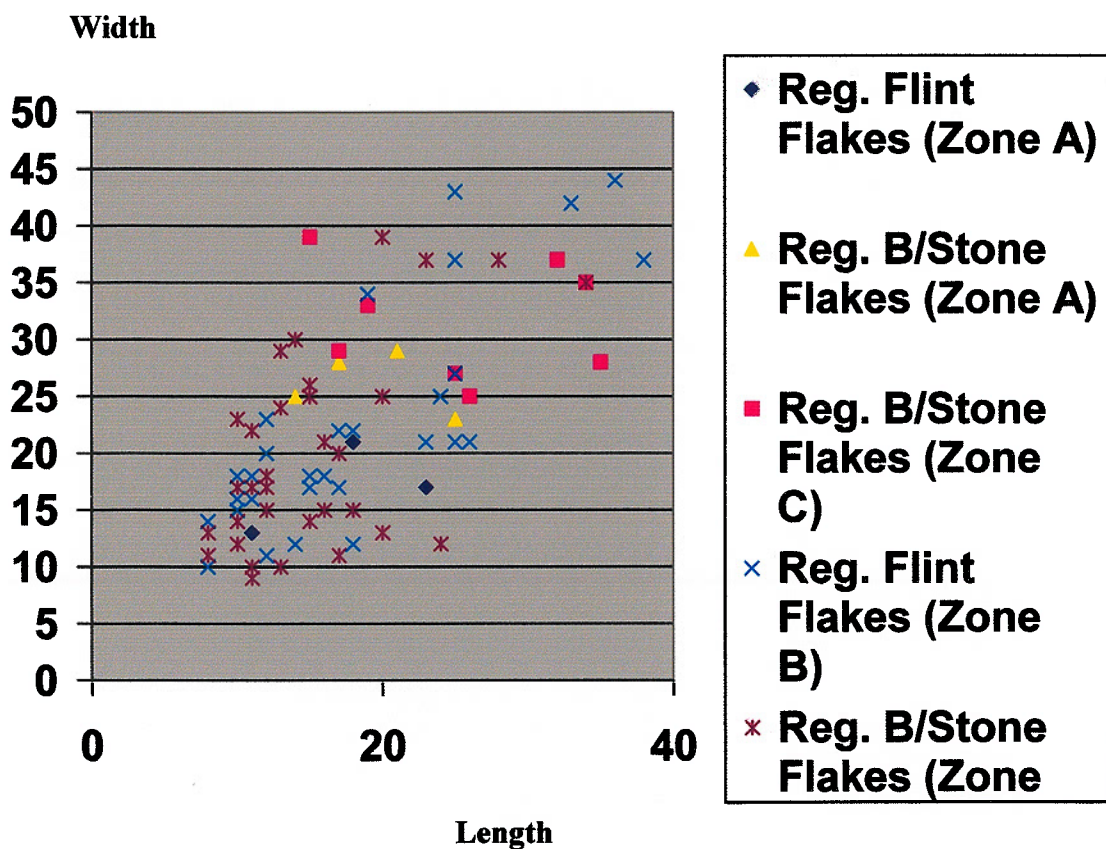


Fig.9 – Length / Width ratios of regular flakes recovered from the Raonapoll site

3.2.5 Irregular Flakes

The majority of the lithic assemblage comprises irregular flakes, a total of 119 identified within the artefacts analysed greater than 10mm in size. However, many of the smaller flakes grouped within a general debitage class may fall within the irregular flake category if these were subjected to full analysis. The irregular flakes of flint although comprising mainly inner detachments, also display a significant proportion of primary and secondary removals.

3.2.6 Modified Artefacts

A total of 8 modified artefacts were recovered from the Raonapoll site; 2 scalene triangle microliths (both manufactured from flint), 2 scrapers (1 of flint and 1 of bloodstone), 2 retouched blades (both of flint) and 2 retouched regular flakes (1 of flint and 1 of bloodstone). The retouch is generally fine and microlithic in nature.

3.2.7 The remaining lithics not accounted for by composition in **Fig.4** generally comprise coarse chunks and debitage (small flakes and chips), much of this too small in size for the author to undertake a basic analysis. This material would most likely have comprised the general waste produced during the knapping process.

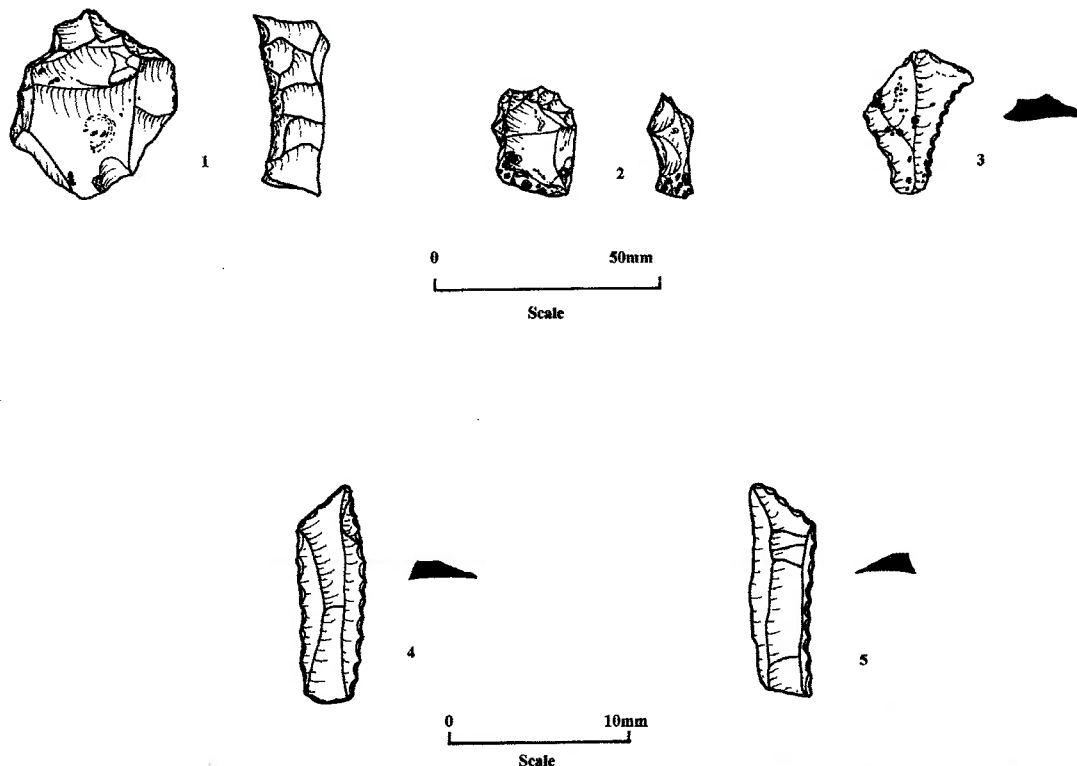


Fig.10 – A selection of the modified artefacts from the Raonapoll site. 1 = flint scraper; 2 = bloodstone scraper; 3 = bloodstone flake; 4 and 5 = scalene triangle microliths (flint).



Fig.11 – Scanned images of a selection of flint blades and cores from the Raonapoll site (4 cores shown at bottom)

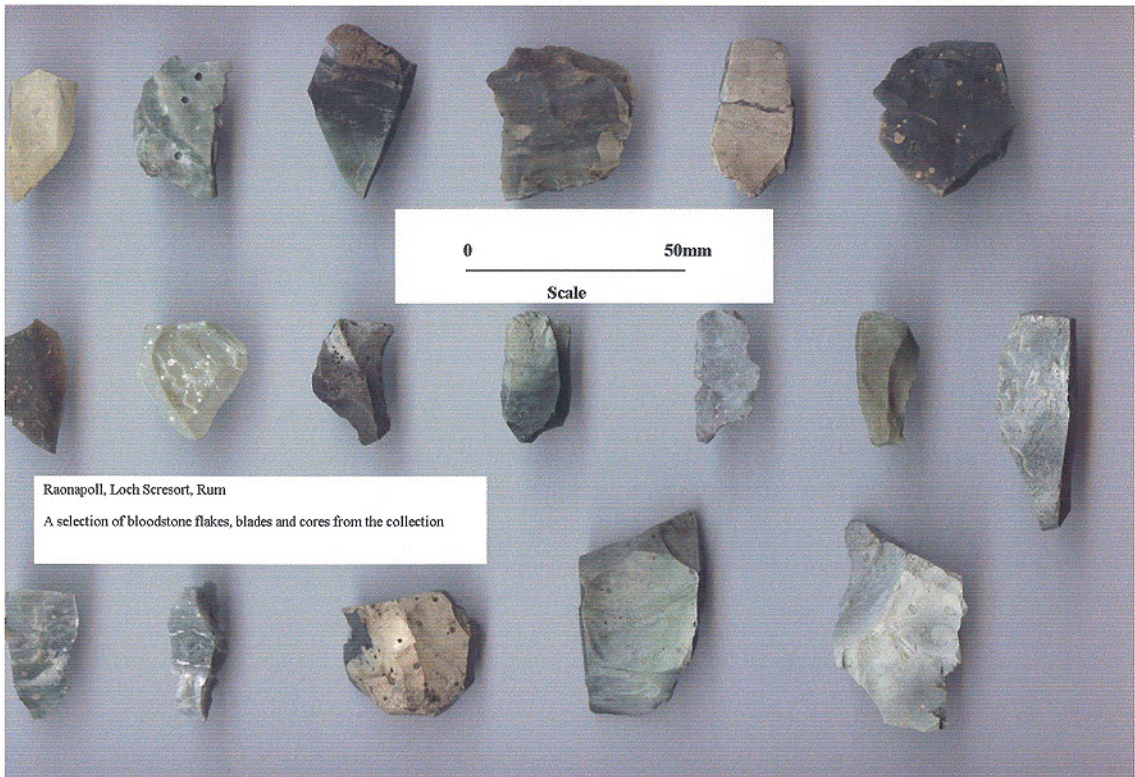


Fig.12 - Scanned images of a selection of bloodstone regular flakes, blades and cores from the Raonapoll site.

3.3 Summary

- 3.3.1 The initial classification and analysis of the lithic assemblage recovered from Raonapoll on Rum suggests that the site contains evidence for both the manufacture and the use of stone tools. The evidence for manufacture consists of the quantities of knapping debris: cores; core trimming and rejuvenation flakes; and chunks. Evidence for use lay in the few modified artefacts, blades, blade fragments and regular flakes, many of which could have been used without further modification. The modified artefacts included scrapers, retouched blades and regular flakes, and microliths.
- 3.3.2 Utilising the lithic assemblage recovered from the Raonapoll site and taking into consideration that this material was found disturbed from its original context, it may be suggested that the primary aims of the reduction process on site was geared to blade manufacture. By comparing the quantity of blades in the assemblage to that of flakes (the *lamellar index*: Bordes & Gaussen, 1970), it is possible to measure the importance of blade manufacture on site. If the site specialised in blade making, then it is accepted that the ratio of blades to flakes must exceed 20%. In the assemblage recovered from the Raonapoll site the lamellar index is 20.3%, indicating that the manufacture of blades may have been of some importance.
- 3.3.3 A brief study of the bulbs of force on the lithics from the site indicated that both hard and soft percussion techniques had been utilised (Wickham-Jones, 1990:58). Pronounced bulbs with readily identifiable ripples running down the ventral face, especially on primary and secondary removals, would indicate hard-hammer percussion; while diffuse bulbs, poorly developed ripples and radial fissures would suggest either direct or indirect soft percussion, using an implement softer than the material to be worked. The fine retouch identified on the few modified artefacts from the site would most likely have been produced using an antler tine.

4.0 Discussion

- 4.1 The lithic scatter site at Raonapoll would seem to be of considerable extent covering a section of the raised terrace in the region of 80 to 100 metres in length. Unfortunately, the higher section of the terrace represented by Zone C (see Fig.2) has been completely destroyed by the construction works for the temporary site accommodation units and the approach road from Kinloch. The peat and topsoil in this area has been removed down to bedrock, any archaeological material from the site having been re-deposited in the various landscaping features at the front (north) edge of the terrace. However, the lithic material recovered from this area was sparse and comprised mainly large, regular bloodstone flakes. This may indicate a later prehistoric date for this section of the site.



During fieldwork in September 2001, the author discovered five new lithic scatters bordering the river valley (beyond the bothy in the photograph - below) and around the flanks of Bloodstone Hill. The largest site is situated on the flanks of the prominent sunlit knoll at top left of the photograph, the collected assemblage containing microliths, scrapers and debitage of bloodstone, agate and flint. Some of the sites located may associated with raw material procurement during the Mesolithic and subsequent prehistoric periods.



Fig.13 – Bloodstone Hill and Guirdil Bay, island of Rum.
 Top – A general view of the hill from the north.
 Middle – The bothy and Guirdil Bay, a major source for bloodstone nodules.
 Bottom – Bloodstone pebbles on Guirdil beach - the dark and light green pebbles are the raw material favoured by prehistoric knappers (1m scale)



- 4.2 There has been less disturbance of the site in the areas comprising Zones A and B (see Fig.2), which is fortunate, because the material collected here, would suggest a focus for prehistoric activity. Diagnostic artefacts recovered from Zone B, in particular the microliths, blade cores and the fragment of bevel-ended bone tool, would usually fit within a Mesolithic typology (Wickham-Jones, 1990:161-62; Mithen, 2000:9-37). The majority of the lithics recovered from the site were found in these areas and the presence of the bone tool and fragments of burnt shell, and burnt flint, indicate a reasonable state of preservation for the in-situ deposits that remain. However, the lower zones of the site will most likely have been disturbed through transgression by the sea during the Flandrian Period and this event is indicated by the heavily rolled and polished nature of the artefacts recovered from Zone A (see Section 2.6).
- 4.3 The basic analysis and classification of the recovered lithic material from the Raonapoll site has provided evidence for both the manufacture and the use of stone tools (see Section 3.0). The reduction methods employed for the manufacture of these tools utilised a number of different techniques, a factor that would have been dependant on the raw materials available. Both flint and bloodstone were available on Rum as beach nodules of varying quality, while agate and quartz may also have been collected locally during prehistory. The quality of the flint must have been reasonable, which is indicated by the number of blades and other modified tools recovered from the site in this material. The bloodstone seems to have been available in larger nodules, although the overall quality was inferior. The difficulties in working the bloodstone nodules are indicated by the use of bipolar reduction techniques, a factor the author has experimented with recently in replication studies.
- 4.4 The relationship between the numbers of blades and regular flakes recovered from the site would suggest some specialisation in blade manufacture. Wickham-Jones (1990:76-78) found the production of blades to be a primary aim of the Mesolithic inhabitants of Farm Fields, Kinloch. Manufactured blades may have been used without modification at Kinloch, however, the assemblage recovered from excavations at this site also contained a number of artefact types which are based on the modification of blades, such as microliths, borers, burins and scrapers (Idem:77).
- 4.5 The use of flint, bloodstone and other 'exotic' raw stone materials used at Kinloch and on the Raonapoll site, is not confined to prehistoric sites on Rum. Survey and trial excavation work undertaken around the Inner Sound by the Scotland's First Settlers Project, has identified Mesolithic sites that show a similar variety of stone raw material exploitation, with both flint and bloodstone being used by the prehistoric knappers (Finlayson, Hardy & Wickham-Jones, 1999; Hardy & Wickham-Jones, 2000 and 2001; and Wickham-Jones & Hardy, 2000). However, few sites identified by the SFS Project so far display the abundance of lithic scatters as found around the

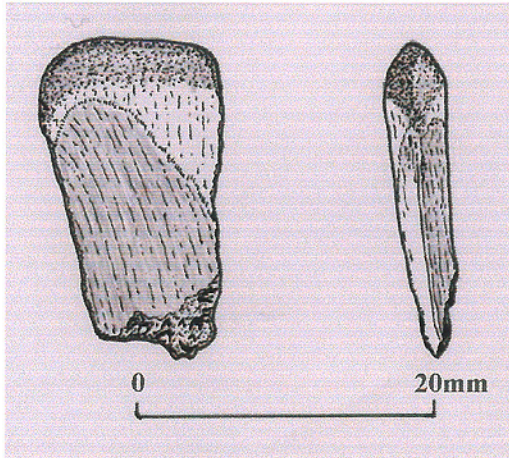


Fig.14 – The fragment of a bevel-ended bone tool from the Raonapoll site (Zone B). Typically associated with Mesolithic sites and especially found within shell-middens, the function of these tools remains controversial. The discovery of this find provides slight evidence for the survival of organic deposits on site.

shores of Loch Scresort on Rum (see **Fig.1**). It may be that on the island of Rum, and in particular within the sheltered and accessible inlet of Loch Scresort, the prehistoric inhabitants were endowed with a wealth of resources, resources that would have been necessary for survival during a dynamic period of our past.

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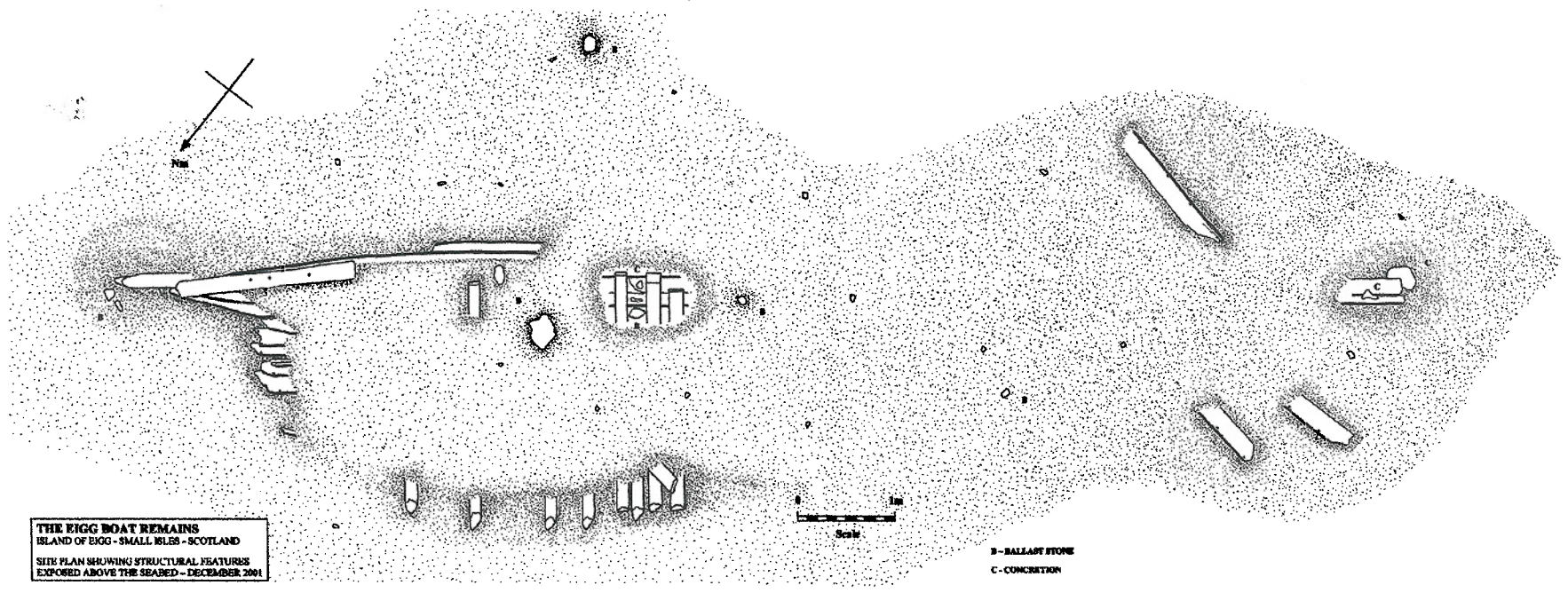
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Steven A. Birch
Narrows Cottage, Scalpay Estate, Broadford, Isle of Skye. IV49 9BS



THE BIGG BOAT REMAINS
 ISLAND OF BIGG - SMALL ISLES - SCOTLAND
 SITE PLAN SHOWING STRUCTURAL FEATURES
 EXPOSED ABOVE THE SEA BED - DECEMBER 2001

B - BALLAST STONE
 C - CONCRETE