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DR ERIC MJÖBERG'S 1913 SCIENTIFIC EXPLORATION OF NORTH QUEENSLAND'S RAINFOREST REGION

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This paper is an account of Dr Eric Mjöberg's travels in the northeast Queensland rainforest region, where he went, what observations he made, and what types of Aboriginal material culture items he collected and returned with to Sweden in 1914. Mjöberg, a Swedish entomologist commissioned by the Swedish government to document rainforest fauna and flora, spent seven months in the tropical rainforest region of far north Queensland in 1913, mainly exploring areas around the Atherton Tablelands. This area was at contact occupied by the Dyrbal language group and specifically the Jirrbal, Mamu and Ngajan dialectic groups. He also spent time exploring areas in and adjacent to the Mulgrave Valley, in Yidiny language territories. Although Mjöberg refers to the ethnographic collections from the rainforest region in various publications, the detailed documentation he made of these artefacts was never published in English. This previously unanalysed ethnographic collection is now primarily located in the Museum of Ethnography in Stockholm, Sweden. The author's Swedish background and knowledge of the German language has enabled the analysis and translations of some of Mjöberg's field notes, short travel accounts, scientific papers, letters and collections. The aims of the analysis of the Mjöberg collection presented in this paper are to: document a little known Aboriginal rainforest material culture collection; and, where possible, pinpoint the geographic locations of the items to establish 'collecting-areas'. The paper briefly reflects upon the evidence for Aboriginal responses to European contact and research presently conducted in the region. Detailed descriptions and discussions of the artefacts in the collection are presented in a series of tables at the end of the paper and provide reference material against which other collections from the north Queensland rainforest region may be compared. Studies of museum collections of this kind are considered useful in constructing notions of regional variation in Aboriginal material culture and society across Australia. □ *Mjöberg, expedition, North Queensland.*

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ERIC MJÖBERG – A SWEDISH SCIENTIFIC EXPLORER

Research in Swedish archives, various government departments, museums in Sweden and Denmark, interviews with Mjöberg's relatives, letters and diary extracts have been used to compile a profile of Dr Eric Mjöberg. Most of the documents used are located in Sweden. Mjöberg was born in 1882 in Ås, Hall, Sweden. After graduating from high school in 1903 he was employed by the Swedish Museum of Natural History. He worked in the entomology department periodically over the summers between 1903 and 1912, whilst undertaking his university studies in Stockholm and at Lund University in Scania, where he received his PhD in entomology in 1910. Mjöberg then received a number of grants to achieve his ambition to explore and conduct scientific research in the tropics. He undertook two expeditions to Australia (1910-1911 and

1912-1913). During World War I, Mjöberg worked at the museum analysing parts of the vast collections he brought home with him from Western Australia. The zoological material was to a large extent analysed by Swedish and foreign specialists and the results published over a number of years in a compilation titled: *Results of Dr E Mjöberg's Swedish scientific expeditions to Australia 1910-1913*. A great number of unknown animal species are described and in the naming of some, Mjöberg has been acknowledged (a sea snake, a frog and an ant carry the name *mjöbergii*). He received a Retzius medal from the Swedish Society for Anthropology and Geography in 1918 and a gold Linné medal from the Swedish Academy of Sciences in 1921 for his contributions to science. Mjöberg spent 1917 and 1918 in the USA on a popular lecturing tour. Ambitions to go to New Guinea in 1915 never eventuated but life in Sweden no longer satisfied

him and he took up a position as director of a zoological research station in Deli on Sumatra. After working as Director at the Sarawak-museum in Borneo and a one-year long expedition to Mount Tibang, he returned to Sweden in 1926 with zoological, botanical and ethnographic collections. He published a further three popular travel accounts, including *Borneo, Land of the Head Hunters* (1927), which was translated into several languages and brought him international recognition. Between 1927 and 1929 Mjöberg undertook three journeys to India where he mainly collected ethnographic items that were later sold to museums and at auctions. After a visit to Java in 1928 his health started to deteriorate and by 1931 he was confined to bed. He died in 1938 in Stockholm after a long period of illness, probably with Parkinson's disease (Svenskt biografiskt lexikon, 1984: 538-41).

MJÖBERG'S EXPLORATIONS IN AUSTRALIA.

The European tradition of foreign expeditions and explorations that began in the 18th Century still flourished in the early 1900s. Between 1903 and 1910, the Swedish Museum's professor, entomologist and explorer Yngve Sjöstedt, who had travelled extensively in West and East Africa during the late 19th and early 20th Centuries, introduced Mjöberg to the 'scientific world of exploring'. Financed by scholarships, Mjöberg organised and led an expedition to the Kimberley in Western Australia in 1910 with three other scientists (Kronstedt, 1989:60). Results from the Kimberley trip were published in various journals but the main publication was a popular travel account titled: *Amongst Wild Animals and People in Australia* (1915). Thousands of faunal and floral specimens were brought back to Sweden as well as a large ethnographic collection of Aboriginal artefacts from the Kimberley region (in excess of 1,000 items) (Ymer, 1912-1913). These were collected and catalogued by the expedition's ethnographer Yngve Laurell.

On Mjöberg's return from Australia in early 1912, Sjöstedt, an influential member of an exclusive 'Traveller's Club', introduced Mjöberg to his fellow members. The purpose of the club was to 'stimulate friendships between men who have travelled and explored at least two continents outside of Europe' (Traveller's Club, 1912). Mjöberg's membership (n. 912) resulted in him receiving a grant from the Club, which made possible a second expedition to Australia, this time to northeast Queensland, in 1912-13.

MJÖBERG'S 1913 EXPEDITION

In a preliminary statement sent to Sweden and published in The Swedish Society for Anthropology and Geography journal *Ymer*, Mjöberg states his intentions:

I have studied the native people of the country with an open eye. The tribes I have encountered in the rainforest have as a rule been in contact with white civilisation but have with a high degree of toughness remained unchanged in all of the essential aspects of their traditional society. I will bring home with me a select collection of their weapons and tools, which in regards to manufacture and practicality are advantageously different from the tribes in Central and Western Australia (Mjöberg, 1913d: 336).

This expedition was inspired by a brief visit to Queensland's southern rainforests after the completion of his first expedition to the Kimberley in 1910. Mjöberg travelled alone with biological and ethnographic research agendas. These included collecting mammal, insect and botanical specimens on behalf of the Swedish Museum of Natural History. Flora and fauna specimens from southern and northern parts of Queensland were collected with the aim of comparing and contrasting the two ecological zones (Mjöberg, 1918: 52). Mjöberg's personal interest in the rainforest indigenous people resulted in an ethnographic material culture collection numbering 200 items with associated documents related to the items but also to other aspects of Aboriginal society. Mjöberg's aim was to publish the results of his ethnographic work on his return to Sweden.

After arriving in Fremantle by ship and travelling via Adelaide, Melbourne and Sydney, Mjöberg spent a few months exploring the rainforests around Mount Tamborine in southeast Queensland where he successfully collected faunal specimens, including 6,000 mammals. Having located a 'primitive stone age axe' he sympathetically writes an account of the disappearance of the Aboriginal people from the southern rainforests (Mjöberg, 1918:52). Leaving southern Queensland, Mjöberg travelled to Mount Colosseum, south of Gladstone, and continued collecting animal specimens. Returning to Brisbane in late 1912 he packed and sent off 10,000 animal specimens to the museum in Sweden (Mjöberg, 1918:6).

SETTING. The tropical rainforest region of northeast Queensland covers approximately 12,000 square kilometres. Mjöberg travelled in northeast Queensland approximately between Cardwell and Mossman in the east and the Atherton Tablelands to the west. These areas are

separated from the coastal plains by a continuous mountain range that includes the highest mountain in Queensland: Mount Bartle Frere at 1,622m above sea level. Major rivers and their tributaries in the region include the Mulgrave River, the North and South Johnstone Rivers, the Russell River and the Tully River drainage system (Fig. 1). Northeast Queensland contains the largest continuous expanse of rainforests in Australia and is characterised by tropical rainforest vegetation that is varied in structure due to climatic and topographical variability (Hopkins et al., 1993: 360). Because of its geomorphic and climatic settings, the humid tropical rainforest region is characterised by extreme gradients of rainfall and temperature. Rainfall is seasonal with most rain falling during summer between January and April. Mean rainfall generally exceeds 1,300mm per annum and annual mean temperatures vary between 25°C on the coastal lowlands to less than 17°C on the highest mountain peaks (Nix & Switzer, 1991). Due to the impenetrable nature of the rainforest and the tropical climate, the process of European colonisation occurred much later here than in other areas of Queensland and Australia, enabling Aboriginal rainforest groups living in the area to maintain a lifestyle similar to their pre-European way of living into the 20th Century.

POST-CONTACT ENVIRONMENT AND IMPACTS ON ABORIGINAL PEOPLE. Historical documents suggest rainforest clearing commenced in the 1880s on the Atherton Tablelands with the search for the red cedar (*Toona australis*) and accelerated from the beginning of the 20th Century. The Tableland Aboriginal people remained more or less undisturbed until this time but expansions in mining, agriculture and pastoral lands led the settled colony to expand in the north to include the Atherton Tablelands (Ritchie, 1989: 114). During this period, major Aboriginal dislocation and upheaval of Aboriginal culture and society took place. Ethnographic observations made on Aboriginal culture and rainforest use between 1870 and 1913 were therefore made at a time of social and cultural disruption for Aboriginal rainforest groups. However, ethnohistorical accounts (e.g. Lumholtz, 1889; Meston, 1889; Palmerston in Savage, 1989; Palmerston, 1883, 1886, 1887; Roth, 1898, 1900, 1901-1910) along with linguistic studies (Dixon, 1972, 1991), archaeological work (Horsfall, 1987, 1990, 1996; Cosgrove, 1997, 1999; Cosgrove & Field, 2003) and studies on Aboriginal subsistence

(Harris, 1978; Pedley, 1992) provide information on Aboriginal rainforest occupation and use. Through these studies, it has become clear that at the time of contact in the late 19th Century, Aboriginal people occupying the rainforest area had a culture well adapted to their environment. Apart from using the diversity of rainforest food and plant species for subsistence and manufacture of material culture items, evidence suggests they engaged in environmental manipulation. Burning kept areas clear from vegetation, making them suitable places to camp. These cleared campsites were called 'pockets' by early settlers and became the starting points in early tree clearing (Smith, 2001: 4) and the ending point for Aboriginal occupation. Such pockets were still occupied by Aboriginal people in some areas of the Atherton Tableland in the early 20th Century and described by explorers such as Mjöberg.

Patches of *Eucalyptus (sic)* trees are interspersed with the dense rainforest vegetation. The white people call them "pockets". These patches are on all sides surrounded by the rainforest with its dark and gloomy curtains. Seen from above, they appear as light islands in a sea of dark rainforest. (Mjöberg, 1915: 323-4)

THE DOCUMENTARY EVIDENCE. Mjöberg strongly opposed the work by missionaries in the region and the effect they were having on the Aboriginal groups he encountered. He documented aspects of rainforest Aboriginal society and behaviour after initial contact with Europeans had taken place. During the time spent among the Aboriginal rainforest groups, Mjöberg witnessed and wrote about the dislocation, degradation and cultural upheaval forced upon the Aboriginal people by European settlement, particularly in areas close to the coast. The sympathy he felt for them led him to attempt to draw the attention of the Queensland government to the situation and to the damage caused by the 'civilising' process undertaken by missionaries (Kronstedt, 1981: 6). At the same time he appealed to the leading scientific societies in Brisbane, Sydney and Melbourne to oppose the missionaries, whom he regarded as ill-advised and misdirected in their aim of converting the Aboriginal people to Christianity (Swedish Biographical Dictionary, 1984: 539). He believed, and argued, that Aboriginal people should be allowed, as far as possible, to live according to their own beliefs and lifestyles (Mjöberg, 1918: 359-60) rather than that which the missionaries imposed upon them as part of the 'civilising' process. His writings demonstrate the sympathy and compassion he felt for the Aboriginal people he

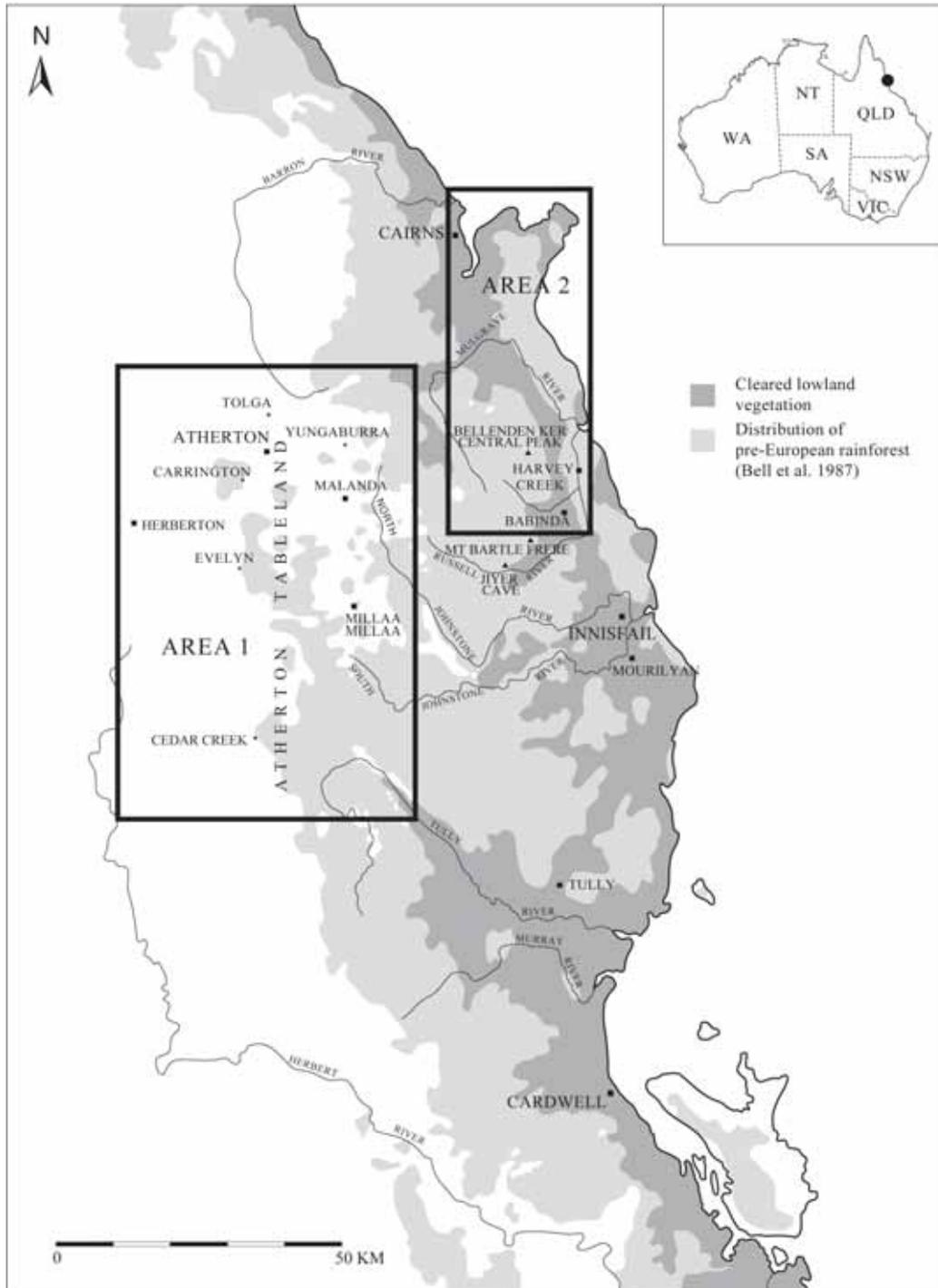


FIG. 1. Extent of rainforest region (after Cosgrove, 1999) and North Queensland study Areas 1 and 2.

TABLE 1. Estimated time schedule of Mjöberg's 1913 rainforest expedition.

Approximate Date	Location	Literary Source
Early January (approx. three weeks)	Atherton	Mjöberg, 1918:100
4-6 February	Yungaburra	Mjöberg, 1918:126-128
7 February	Atherton	Letter from Mjöberg to Yngve Sjöstedt
8 February	Travelled between Atherton and Tolga	Mjöberg, 1918:132
9 February (approx. seven weeks)	Malanda and rainforest areas around	Mjöberg, 1918:92
	Malanda and Millaa	
	Millaa	
	Malanda and Millaa	
	Millaa	
Mid February (approx. four weeks)	Millaa Millaa	Mjöberg, 1918:92
16-27 February	Millaa Millaa	Handwritten document listing mammal specimens collected with date and location stated (mammal list)
14-15 March	Malanda	Mammal list
16 March	Millaa Millaa	Letter from Mjöberg to Einar Lönnberg
Late March	Returned to Atherton then Cairns	Mjöberg, 1918:168
Late March	Herberton	Mjöberg, 1918:168
29 March	Cedar Creek	Mammal list
April (approx. four weeks)	Virgin rainforest areas around Cedar Ck	Mjöberg, 1918:174
29 Mar-17 April	Cedar Creek	Mammal list
Early May	Evelyne	Mjöberg, 1918:201
Early May	Tully Falls	Mjöberg, 1918:195-197
12 May (approx. three weeks)	Harvey Creek	Mjöberg, 1918:214-215
9 May	Russell River	Mammal list
17 May	Top of Mt Bellenden Ker	Mjöberg, 1918:221
Late May	Harvey Creek	Mjöberg, 1918:240
29-31 May	Yarrabah Mission	Mammal list
Early June-Late July	Malanda and Millaa; Millaa revisited	Mjöberg, 1918:259
1-10 July	Millaa Millaa	Mammal list
7 July	Millaa Millaa	Letter from Mjöberg to Yngve Sjöstedt
4 July	Cedar Creek	Mammal list
30 July	Chillagoe (outside rainforest region)	Ymer, 1913:365

had encountered, and lacks the often-held contemporary notion of white peoples' superiority.

After his return to Sweden, Mjöberg published a popular account of his travels with the book *Among Stone Age People of the Queensland Wilderness* (1918). The book is a narrative of his north Queensland expedition and partly deals with the Aboriginal rainforest groups he encountered. Notes on Aboriginal subsistence are particularly detailed, perhaps reflecting his scientific training in biology. Detail is paid to the 'traditional' organic Aboriginal material culture items he collected, but other aspects of Aboriginal society, including some responses to European contact and adaptations and use of the rainforest environment are also discussed. Throughout the book, he refers to existing ethnographic literature relevant to the rainforest region and he uses for example Roth's earlier

observations (1898, 1900, 1901-1910) for comparative purposes with his own experiences and observations. An English translation of the book is located in the Oxley Library, Brisbane. In a German paper titled *Beiträge zur Kenntnis der Eingeborenen von Nord-Queensland* (Contributions to the knowledge of North Queensland's Natives), published in 1925, he presents a primary analysis of his observations and the ethnographic material culture items collected. The material culture items are dealt with in relation to function and provide significant information about Aboriginal rainforest material culture (for descriptions of individual artefacts please refer to Tables 3-10).

RECONSTRUCTION OF MJÖBERG'S NORTH QUEENSLAND EXPEDITION. The following reconstruction is based on unpublished travel accounts and letters sent by him to colleagues and friends in Sweden during his stay,

as well as scientific documents and extracts published in Sweden and Germany. Original letters and some field notes inform on the dates and places where Mjöberg collected items in the rainforest (1913a, 1913b, 1913c, 1914, 1915). Table 1 presents a time schedule of his rainforest expedition based on these sources. Most letters recovered discuss money and zoological material collected. However, since they are dated with a location, a time schedule was devised and maps of Mjöberg's travels in the rainforest region pieced together. His journey began in January 1913 when he arrived on the Atherton Tablelands and ended in late July 1913 when he left the rainforest region. Tracing Mjöberg's movements in the rainforest region and constructing maps of his journey serves to pinpoint the areas in which he collected Aboriginal material culture items and made first-hand observations of Aboriginal culture and society. Establishing the geographic origin of the items collected makes it possible to infer which language group in the rainforest region they are associated with. Figure 1 shows the two areas where Mjöberg spent most time. Figure 2 shows Mjöberg's rainforest expedition routes in the Atherton Tablelands (Area 1).

January. Mjöberg arrived in Cairns on the 3rd January 1913 (Mjöberg, 1918:62). From Cairns, he continued to the town of Atherton, located on the Atherton Tablelands, where he started his seven month journey exploring the rainforests of the region on horseback.

After having organised and overlooked provisions and other equipment in Cairns, I headed for the tablelands during the first days of January. In a small village called Atherton, I set up camp in the open forest in order to explore the rainforest in different directions. Half an hour from where my camp was located in the open forest, was the edge of the dense rainforests. It continued up a steep mountain ridge, which formed part of the Great Dividing Range. (Mjöberg, 1918: 100)

February.

Yungaburra 4th February 1913 Camping on the fringe of the rainforest. We are at present on the Atherton-Herberton Tableland in north Queensland. The tropical heat at this latitude is moderate due to being located at 3,000 feet above sea level. (Mjöberg, 1918:126)

After spending around one month on the fringe of the rainforest in the Atherton area, Mjöberg decided to move deeper into the rainforest region between the Great Dividing Range and the coast. The region includes the highest mountain peaks in Queensland. He left Atherton on the 8th February and briefly travelled north through open forest to Tolga on the fringe of the rainforest (Mjöberg, 1918:132). He arrived in Malanda on

the 9th February, located southeast of Atherton, where some European settlers had set up camp. He established a permanent camp and took day trips into the rainforest for collecting purposes, and began meeting with Aboriginal groups. The impact of European settlement on Aboriginal groups he observed was relatively low except for those located close to the settlements where Europeans hired Aboriginal people in exchange for food, tobacco and clothes. Settlers informed Mjöberg that an old Aboriginal man named Chandy and his group still lived permanently in parts of the North Johnstone River area (probably Mamu dialect group) and only returned to the remotely settled farms outside Malanda for tobacco (Mjöberg, 1918: 160-161). In the middle of February, Mjöberg set up camp and collected faunal and floral specimens and Aboriginal artefacts around a location referred to as Millaa Millaa by the local Aboriginal people, close to a large, roaring waterfall (probably Millaa Millaa Falls) (Mjöberg, 1918: 92). A handwritten list with records of mammal specimens he collected indicates that Mjöberg was in Millaa Millaa between 16th and 27th of February. A letter to E. Lönnberg dated 16th March was also composed in Millaa Millaa (1913a).

March. Mjöberg spent seven weeks in the rainforests around Malanda and Millaa Millaa. Towards the end of March he returned to Atherton and then travelled on to Cairns where he packed the material collected so far and purchased new equipment. He chose a new rainforest area to explore and arrived in Herberton in the open forest at the end of March (Mjöberg, 1918:168). He spent a considerable time in the vicinity of a large Aboriginal campsite he referred to as Cedar Creek. Aboriginal Jirrbal elder Maise Barlow tells of the location of the Cedar Creek campsite and how her mother and other relatives were born there (pers.comm. M. Barlow). On 29th March, he camped at Cedar Creek (now Ravenshoe, Fig. 1) where he wrote:

From Herberton, located in open forest country, a white gentleman, three natives and myself, travelled with a small horse caravan to Cedar Creek, located at the edge of the dark rainforest region. How far these forests stretch is still unknown, these territories are yet to be explored. A few settlers have set camp in order to clear some land and cultivate it. We set up camp at the fringe of the rainforest. One hundred metres away was the location of a large native camp. I was very interested in the indigenous race and discovered many new and interesting things about the natives in the camps close to Cedar Creek that I had not come across earlier in my travels. (Mjöberg, 1918: 170-171)

TABLE 2. Quantities of types of artefacts collected at specific locations (* = locations in Area 1).

Artefacts	Atherton *	Carrington *	Malanda *	Millaa Millaa *	Cedar Creek *	Tully River *	Evelyne *	Harvey Creek	Yarrabah	Rainforest	Total
Spears		1				2	3	2			8
Spearthrowers					2		1	1			4
Boomerangs					1			3			4
Clubs					6						6
Fish hook					1						1
Eel trap					1						1
Fishing nets					1	1					2
Climbing rope				1							1
Torches					7						7
Eating tool					1						1
Nuts/food items					>10		4	7		3	>24
Shields								2			2
Swords	1	1									2
Bark containers	2				1						3
Lawyer cane baskets			1		3						4
Grass basket					1						1
Blankets						2					2
Fire lighters					2	1			2		5
Music sticks			2		3						5
Sharp sticks							5				5
Beeswax figure			1								1
Feather decorations					1		1				2
Pointing bone							1				1
Grinding stones	2		1		1					2	6
Stone axes	1		1	2	3						7
Headache stones			3								3
Nutcracking stones					2						2
Total	6	2	9	3	47	6	15	15	2	5	110

April. Mjöberg spent April exploring the rainforests around Cedar Creek. Collection dates from this location on the mammal list are between 29th March and 17th April. The latter half of April was spent exploring rainforests before returning to the camp at Cedar Creek.

Most of the trees in the rainforest were giants, which had developed enormous buttress roots. The intelligent natives, who make use of their environment in every possible way, produce their large, beautifully painted shields from these roots. They also use the roots in a signalling system. By hitting the roots hard, they produce a shivering noise that travels a long distance through the rainforest. (Mjöberg, 1918: 175)

Mjöberg observed his Aboriginal companions while they pushed their way through the rainforest.

He witnessed them pull off large pieces of bark from a rainforest tree, *Calophyllum tomentosum*, from which they made their 'nobra' or water-carrying bags (Mjöberg, 1918:178).

May. In early May Mjöberg visited a large Aboriginal camp at a place called Evelyn located in open Eucalyptus forest on the fringe of the rainforest on the Atherton Tablelands.

About two miles [Swedish measurement = 20 kilometres] away from my main camp at Cedar Creek was a location called Evelyn, which I visited for a few days. Here the natives were in greater numbers than in other places. My aim was to get in contact with them and gain first hand information about their culture. Two large campsites with several "mia-mias" were located not far away from each other. (Mjöberg, 1918: 201)



FIG. 3. MC7, NES (C57). Stone used by women to cure headache. Malanda.

Returning to his camp at Cedar Creek, Mjöberg continued his rainforest explorations to the south towards Tully River. According to his Aboriginal companions this area was wild and inaccessible. When food was getting scarce at Cedar Creek and surrounds they would leave camp and walk along their well beaten tracks to the Tully River to fish eel. Seasonal ceremonial gatherings were also held at particular locations along the track (pers. comm. M. Barlow).

The rainforests we were travelling in were indeed thick and hard to get through. We stuck to the well-beaten native tracks they follow during their seasonal movements. Suddenly the tracks would go off in the wrong direction and we had to cut our way through with a scrub axe. On the third day we travelled through beautiful dense, undisturbed rainforest. After a few hours we could see daylight filtering through the enormous trees and the roaring of a waterfall was getting louder. We had arrived at Tully Falls. (Mjöberg, 1918: 195-197)

In mid-May, Mjöberg temporarily left the Cedar Creek camp and travelled to the Mulgrave Valley located in collection-area 2 (Fig. 1) in order to explore the rainforests around Mt Bellenden Ker and the coast. Russell River is marked as a zoological collection location on 9th May. A diary entry of 17th May from the top of Mt Bellenden Ker describes very cold weather and how his Aboriginal guides refused to climb to the top, the home of the Great Spirit 'Murgalainya' (Mjöberg, 1918: 122). He spent several days in the Mulgrave Valley collecting mammal specimens and purchasing and trading Aboriginal artefacts from Aboriginal people living at the mouth of the Russell River, near Harvey Creek. According to the mammal collection list he spent the 29th to 31st May at the Yarrabah mission station.



FIG. 4. NMC (1/27). Beeswax figure. Upper North Johnstone River.

June-July. Mjöberg returned to the Malanda area in early June. During this second visit, Chandy accompanied him to dense rainforest areas around the North Johnstone River. Records show that he also revisited Millaa Millaa around the 1st and 10th July. A letter dated 7th July, written in Millaa Millaa to Yngve Sjöstedt (1913c) tells about new faunal species he discovered. Documents further indicate a visit to Cedar Creek on the 4th July which suggests that he moved around in the Malanda, Millaa Millaa and Cedar Creek area in June and July 1913, as he did on previous visits. Mjöberg's rainforest expedition ended in late July when he moved on to Chillagoe and Cape York. While in Chillagoe, North Queensland, on the 30th July 1913 Mjöberg wrote:

During the last seven months I have crossed the Atherton-Herberton Tablelands in every possible direction, with very good results. Besides my zoological work I have kept an open eye for the area's native people. The tribes I have encountered have usually been affected by white civilisation to some degree. However, with a remarkable degree of toughness, they have stayed unchanged in most aspects. I will bring back a select collection of their weapons and tools. (Mjöberg in Ymer, 1913d)

MATERIAL CULTURE COLLECTION – RESULTS OF THE ANALYSIS

Abbreviations. NES, National Museum of Ethnography, Stockholm; NMC, National Museum of Copenhagen; PUL, presently unknown location (believed to be in private collections).

Many of the artefacts Mjöberg collected in the rainforest region are located in the National Museum of Ethnography in Stockholm, Sweden. Upon examination of the Mjöberg collection in Sweden, discrepancies were discovered in the material culture collection between the artefacts present and those referred to in his records. The ethnographic collection Mjöberg described in the 1925 German publication is no longer complete as he sold some of the collection after his return to Sweden in 1926 to settle an outstanding debt. Private letters indicate Mjöberg also gave some items to friends and colleagues as gifts. Therefore, the following discussion is a comprehensive account of the Mjöberg collection as it exists. One hundred and ten Aboriginal material culture items are located in the museum in Sweden and an estimated 90 items are dispersed in private collections in Sweden and abroad. Photographs of a sample of the artefacts located in the museum are included. In the analysis of the collection, items were divided into five categories; (1) hunting and fishing tools (2) utilitarian items (3) ceremonial, ritual and magic items (4) miscellaneous items (5) stone tools. Detailed descriptions, including measurements, of items located in the National Museum of Ethnography, the National Museum of Copenhagen and items described and photographed in Mjöberg's travel account of 1918 and presently at unknown locations are listed in Tables 3-10 at the end of the paper. Most of the items in the main Mjöberg collection held at the National Museum of Ethnography in Stockholm are clearly provenanced. The Mjöberg collection is therefore useful in attempting to understand aspects of Aboriginal material culture in the contact period in relation to specific language groups. The artefacts in the collection consist mainly of the characteristic 'traditional' organic items previously documented in the literature from the rainforest region, i.e. lawyer cane baskets, clubs, fishing nets, bark blankets etc (see for example Pedley, 1992; Colliver and Woolston, 1973, 1980; Brayshaw, 1990). Details of material culture items are available in the works by these authors and need not be described in detail here (refer to Tables 3-10). The bulk of the collection was obtained from Area 1, located

in the Atherton Tableland region (Figs 1 & 2). Observations from Area 2 (Fig. 1), in the Mulgrave Valley, present some important information about the relationship between Aboriginal people and Europeans earlier this century and the effects of colonisation on Aboriginal material culture and society in the post-contact period. Only 17 material culture items were collected in Area 2. Mjöberg states that ceremonial items from Area 2 were bought from Aboriginal groups leading 'civilised' existences at, or near, the Yarrabah mission station (Mjöberg, 1918: 242). To generate extra income, weapons and other utensils were mass-produced by Aboriginal people who originated from all over north Queensland and had been sent to Yarrabah mission.

Traditional items have changed under the influence of other native groups and Europeans. They are involuntary faked items later stated as genuine and traditional, and sold to the rest of the world and find their way to different museums. (Mjöberg, 1918: 240-242)

The following discussion will focus on Area 1, which was thoroughly documented by Mjöberg and least affected by European settlement in 1913. The large number of artefacts collected in Area 1 (88 of the 110 items in the main collection in Sweden) is possibly a reflection of the minimal European disruption to Aboriginal occupation, but also the area where Mjöberg spent most of his time. Table 2 shows quantities of types of artefacts collected at specific locations in the rainforest region. Most of the items were collected within the Jirrbal dialect group, incorporating the locations of Carrington, Evelyn, Cedar Creek and the Upper Tully River (Fig. 2). The remaining 18 items from Area 1 were collected at Millaa Millaa in Mamu country and at Malanda and Atherton in Ngajan country. By 1913, Atherton was an established town and Malanda an outpost settlement. The Aboriginal artefacts from these two locations are the remnants of a pre-European Aboriginal culture under transformation in the post-contact period. Most items display little variability from previously documented material culture items in the rainforest region with two exceptions: headache stones and a beeswax figure. Oval shaped small stones were exclusively collected in the Malanda region and first documented by Mjöberg. It is not clear where these stones were collected, which means it cannot be established exactly which dialectal group or groups they came from. The recorded location of Malanda suggests that they were most likely collected from the Ngajan people. According to Mjöberg's

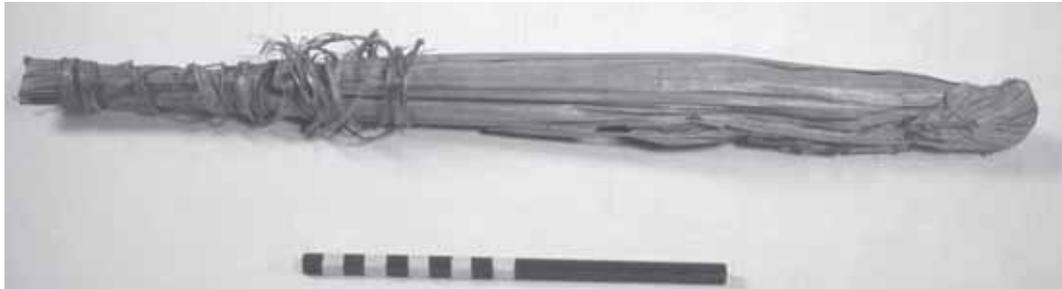


FIG. 5. MC190a-b, NES (C24). Fire lighter wrapped in palm leaf. Cedar Creek.

documentation, these 'headache stones' were believed to have magical powers and were exclusively used by women as a cure of headaches.

When a woman has a headache, well known to be a women's ailment and hence only women use these stone[s], she grasps a headache stone and hits herself hard several times in the head. The new pain inflicted results in the removal of the original headache. The women are quite unwilling to separate themselves from the stones, which are believed to have magical powers. (Mjöberg, 1925: 118)

Jirrbal elder Maise Barlow recalls how Aboriginal women utilised sharp pieces of quartz to cut the skin on their foreheads in order to relieve headaches when she was a young girl (pers. comm. M. Barlow). A beeswax figure (Fig. 4) was collected on the upper North Johnstone River, in traditional Mamu country. The figure is on permanent display in the National Museum of Copenhagen (NMC1/27). The figure personifies an Aboriginal man and Mjöberg argued for phallic conceptions based on the strong masculine character of the figure.

I came across the old man in his hut located deep in the rainforests by the upper North Johnstone River. He was sitting on the ground, modelling a small male figure out of the beeswax I had given him a few days before. I observed him from a distance so that I would not influence him. With his fingers he shaped one part after the other, quite like our own sculptors model in soft clay. The face caused him the most trouble but in a beautiful and characteristic way he shaped the low forehead, the prominent eyebrows and the deep sitting eyes of a native man. He placed a small stick in the clumsily made nose. Arms were bent upwards and flattened at the ends to indicate the hands. The legs were shaped similarly and to top his masterpiece off, he shaped a lump of beeswax into a cylindrical shape that was attached to the body, marking the masculine character of the figure clearly. (Mjöberg, 1923)

A number of other previously unknown types of rainforest artefacts have emerged from this study from Area 1. Mjöberg came across a spear made from the hard and heavy *Halfordia scleroxyla* tree (MC6). Its single purpose was to

kill people with a blow on the head (Mjöberg, 1925:119). Furthermore, Mjöberg also discovered a two-piece spear with ceremonial significance in Evelyn (MC97). A 20cm long sharpened splinter from a human tibia has been attached to the tip of the spear. This spear was used to avenge the killing of a close relative (Mjöberg, 1918: 453-454). An investigation of ethnographic sources also suggests that Mjöberg was the first European person to observe and document many uses of *Halfordia scleroxyla* or 'jitta' wood in Aboriginal material culture apart from characteristic wooden swords. Fire lighters and torches (MC180) (Fig. 5) made from this wood were used for fishing at night in the districts of Cedar Creek, Malanda and on the Tully River (Mjöberg, 1925:127). Mjöberg also observed Jirrbal people sharpening sticks from 'jitta' wood at Evelyn, which were placed upright in the ground as a defensive weapon (Mjöberg, 1918:461). 'Jitta' is still sought after and used by Jirrbal people for its burning quality during toxic nut processing (pers.comm. M. Barlow). One death-bone (or pointing-bone as they are more commonly known) collected at Evelyn, was probably the first one documented in this area (Mjöberg, 1918: 536).

CEDAR CREEK CAMPSITE LOCATION.

Descriptions of Aboriginal campsites in the ethno-historic literature from the northeast Queensland rainforest region are for the most part fleeting glimpses. It is rare to find an Aboriginal campsite in the literature from this region as thoroughly documented as Cedar Creek (located in present day Ravenshoe, the name of one of the original holdings in the 1880s). At Cedar Creek, important ceremonial items were often hidden in the rainforest when Mjöberg came to collect them, indicating the importance of ceremonial items to their owners (Mjöberg, 1918: 459).



FIG 6. MC42, NES (C70). Iron fish hook and vegetable fibre fishing line. Cedar Creek.

During visits to the Tully River tribes [Jirrbal], I often encountered camping grounds where only a few older people had been left behind. The rest were out hunting or fishing. Several ethnographic items were put in different places marked in various ways. The old people watched them and my movements carefully. They were afraid that I would take something. Areas in which material culture items were placed were often marked with a smooth, even circle in which a footprint was located. (Mjöberg, 1918: 395-6)

The items from Cedar Creek account for just over half of the collection. At Cedar Creek, Mjöberg observed and documented Aboriginal material culture, subsistence strategies and the construction of huts and rainforest use generally during the wet season. He spent approximately two months in the vicinity of Cedar Creek and camped close to a large semi-sedentary 'wet-season' Aboriginal campsite while documenting his observations. The documentary and material culture evidence from Cedar Creek indicate that Jirrbal society, their material culture and use of the rainforest environment were changing due to European settlement in the area but links to the recent past were also maintained. One indisputable contact item is represented in the Mjöberg

collection. A fishhook made of iron was collected at Cedar Creek (Fig. 6). Its presence verifies the inclusion of European items into the material culture of the Aboriginal people living at Cedar Creek. Mjöberg also documented the inclusion of other European materials at Cedar Creek, such as steel axes and the abandonment of stone axes for traditional use. Interestingly, he noted that they were kept as reminders of the past (examples of stone axes MC10, MC14, MC15 are described in Table 10). One example of such memorabilia is a gigantic axe head from Cedar Creek which has been fitted with a flimsy handle and covered with ground red ochre on both sides and underneath the handle (MC66) (Fig. 7).

Mjöberg further noted that stone artefacts were no longer in use except for grinding stones made from large, flat basalt rocks (examples MC18, MC19, MC13 are described in Table 10). They still served as an important tool in the preparation of nuts, fruits and roots as well as for grinding ochre at Cedar Creek during the wet season. Such stones were being left behind in the huts or placed in a tree branch during the dry season when the Cedar Creek inhabitants became more mobile in their search for food. At the approach of the next wet season, Cedar Creek was again occupied. Hammer stones or top stones used in the grinding process were carried in a lawyer cane basket all year around (Mjöberg, 1925:118).

In terms of organic artefacts, two previously undocumented types of baskets, one made from bark (MC82) (Fig. 8) and the other from grass (MC87), indicate the inclusion of raw materials from an open environment at Cedar Creek. With the location of Cedar Creek at the western margin of the rainforest region, Mjöberg concluded that



FIG 7. MC66, NES (C7a-b). Large slate axe with lawyer cane handle. Cedar Creek.



FIG. 8. MC82, NES (C24). Wooden vessel hollowed out from a gall of a *Eucalyptus* spp. tree. Cedar Creek.

Jirrbal people utilised raw materials from two environments (open *Eucalyptus* forest and closed rainforest environment) in their manufacture of material culture items, either by visiting these two different ecological zones or by trading with their neighbours (Mjöberg, 1918: 447). Mjöberg specifically documented the importance of *Calamus australis* (lawyer cane) as a raw material in the manufacture of many organic items at Cedar Creek. Many artefacts, including baskets (Fig. 9) used for sieving toxic nuts and essential for rainforest existence, were made entirely or partly of lawyer cane and the substantial 'wet-season' huts housing between 20 and 30 people were built from its vines. Mjöberg concluded that:

The existence of the true lawyer cane, in the shape of a thorny 20-50 metre long winding liana which entangles the jungles of the Tableland, seems to have been important in the evolution of these natives. Not only are a great number of their weapons and fishing and hunting tools made out of lawyer cane, the natives in this dense rainforest region live a more sedentary lifestyle than the typical nomadic tribes of the west. He builds himself a dome-shaped hut out of the tough lawyer cane wickers and leaves which completely protects him from the heavy rains and climatic changes. To the natives of this region, the fibre of the lawyer cane palm has become an invaluable material for a great variety of other things. (Mjöberg, 1913d: 365-366)

SUMMARY. From Mjöberg's travel accounts, notes, letters and published papers two 'collecting-areas' have been identified where he documented Aboriginal rainforest culture. Area 1 was clearly less affected by European contact in 1913. Many of the organic items that, according to Mjöberg's documents, were no longer being used in Area 2 were still in use here. Mjöberg's observations indicate that European contact with Aboriginal groups living in the upper Tully River, Cedar Creek and Evelyn areas in 1913 was limited to exchanging or collecting European goods, which were being incorporated into the existing material culture. The evidence suggests that at Cedar Creek Mjöberg came across, and documented, an intact 'wet-season' rainforest camp, with many common types of rainforest items still remaining in use. Many substantial huts, each housing between 20 and 30 people, had been built in a large clearing at the fringe of the rainforest. From this location 47 of the artefacts in the collection were obtained. At Cedar Creek, organic 'traditional' material culture items continued to play a significant part in Aboriginal rainforest use into the contact period. Notions of continuities in pre-European Aboriginal material culture and rainforest use can be identified, largely because of little European settlement in this area. However, some changes were taking place as a result of contact with European materials and tools and their incorporation into the material culture. The evidence from Area 2, close to the coast, suggests that the effects of European contact quickly

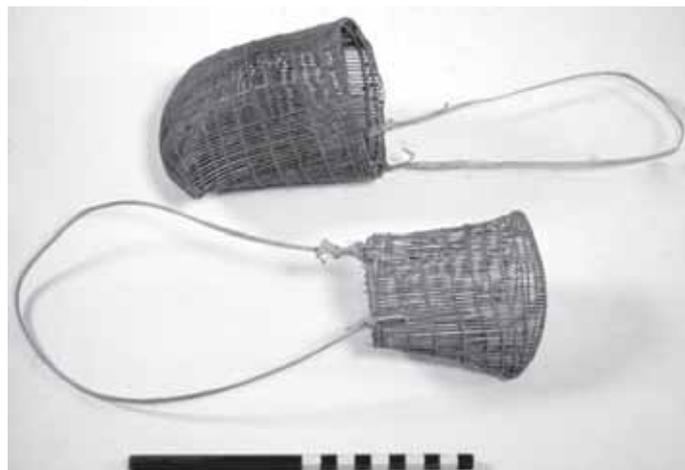


FIG. 9. MC40, NES (C30) and MC41, NES (C31). Lawyer cane baskets. Cedar Creek.

disrupted Aboriginal ways of life, which was transforming at a fast pace.

DISCUSSION

Dr Eric Mjöberg is not a household name in Sweden. However, four pages are devoted to him in the Swedish Biographical Dictionary. The driving force behind his work was to travel and explore exotic destinations, and to collect zoological and ethnographic material. He is referred to as 'omnivorous', collecting all types of zoological material during his explorations and not specialising in a single species (Kronstedt, 1989: 66). However, Mjöberg published his work in the tropics widely and is probably best remembered and recognised for his work as an entomologist and particularly for his contributions to the animal collections at the Swedish Museum of Natural Sciences. The collecting of ethnographic material culture items from indigenous groups of people he encountered in Australia, South-East Asia and India provided him with an income and a base upon which to write popular travel accounts. Regardless of the reasons behind his ethnographic work, he documented his observations thoroughly and many of the material culture items he collected were clearly provenanced. He displayed an attention to detail often lacking in ethno-historical work from this period. His expeditions in northeast Queensland, contribute to the understanding of Aboriginal rainforest occupation and material culture in the transitional contact period. To the Dyirbal language people, and specifically the Jirrbal people, he is an important historical figure whose work provides documentary and material culture insights into the Aboriginal contact history of the area.

PRESENT LINES OF INQUIRY. The Mjöberg collection allows for some preliminary conclusions to be drawn in order to ascertain the effects of European contact on Aboriginal material culture and society. To further investigate this question, evidence from other data sources needs to be incorporated in such investigations. The archaeological record from northeast Queensland's rainforest region confirms the inclusion of European material into pre-contact material culture in the contact period (Horsfall, 1987, 1990; Cosgrove, 1997, 1999; Cosgrove & Field, 2003). During more recent archaeological excavations in traditional Jirrbal country at locations along the Tully River, pieces of flaked glass were recovered at a site dated to between 7,500 BP and 100 BP (Cosgrove &

Field, 2003). Thus, European materials were utilised by Aboriginal rainforest groups early on in the contact period. In a recent survey of the location of Mjöberg's Cedar Creek camp, stone artefacts were recorded as well as glass fragments, some modified into scrapers. The material culture record (archaeological, ethno-historical and oral history data) therefore suggests that the site was occupied before European contact as well as into the contact period. In current postgraduate research on Aboriginal rainforest occupation, an interdisciplinary long-term approach to archaeological investigations of contact between Aboriginal rainforest groups and the new European settlers is being applied. The archaeological evidence recovered from open Aboriginal campsites in traditional Jirrbal country will be interpreted through articulation with oral history data, documentary evidence from ethno-historical records and ethnographic collections. The aim is to explore historical trajectories of open campsite use and material culture change and continuity through time and space. This, it will be argued, will ultimately result in a better understanding of Aboriginal history and the dynamics of human occupation in tropical rainforests in the recent past, including the responses of Aboriginal people as they came into contact with Europeans.

ACKNOWLEDGEMENTS

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APPENDIX

MATERIAL CULTURE DATABASE OF THE MJÖBERG COLLECTION

Tables 3 to 10 present data associated with items of material culture collected by Mjöberg. Figs 10 to 21 further illustrate collection artefacts.

Information derived from museum catalogues is marked with an abbreviation for the museum. Identity numbers are, when possible, Mjöberg's (1925) numbers. However, for reasons unknown, some artefacts located in the National Museum of Ethnography in Stockholm are not described in the 1925 paper. These items were catalogued with a question mark (?) as to what their original numbers were. It is not possible to establish when the collection arrived at the museum. Museum publications (Ymer, 1914:210) suggest that a canoe collected in Cairns arrived at the museum in 1914 with no mention of the collection, which makes it unlikely that it arrived that year. I suspect that Mjöberg kept a large part of the collection in order to analyse and publish the results as well as selling a number of items. A collection catalogue produced in 1944 by Jan Söderström exists in the museum's archives but there is no mention of the year the collection was deposited. Numbers derived from the museum catalogue are indicated with a (C). Comments are Mjöberg's own, derived and translated as closely as possible into English from the published German paper (1925), Swedish book (1918) and from the 1944 Söderström catalogue. The author's comments are in italics. Mjöberg's original catalogue or diaries were not located at the time this research was conducted.

TABLE 3. Spear throwers.

Id No	Location	Raw materials	Dimensions	Mjöberg's comments
MC84 NES (C96)	Cedar Creek	Unidentified type of wood, fibre, string and beeswax.	Length: 90cm Width: 3.7cm Thickness: 0.5cm	Spearthrowers are widely used in the rainforest. There is a tendency for them to be longer in the tableland region than in the coastal areas and more rarely painted and decorated. This specimen is made from a hard type of wood. It is thin and long with no handle. At the end is a diagonally placed hook made from a round stick with a sharp point, attached to the implement with fibre string and wax.
MC92 NES (C97)	Cedar Creek	Unidentified type wood, red ochre.	Length: 107cm Width: 3.7cm Thickness: 1cm	Specimen is of standard length. It differs from the other Cedar Creek specimens in that it has been painted strongly with red ochre. The hook is somewhat thicker than the one on MC84 and without a sharpened point. Carved incisions on both sides of the wider end serve the purpose of a better grip in the hand.
MC105 PUL	Harvey Creek	Unidentified type of wood (somewhat lighter type), red ochre and white clay.	Length: 75cm Width: 5cm	The type of spearthrower represented in the Mulgrave Valley near the coast lacks any attachment for the hand. They are commonly painted in red with white cross lines, a pattern used on several different types of artefacts from this area. The specimen is slightly bent and shorter in length compared to the spearthrowers from the tableland area [Area 1]. The implement is made from a light type of wood and has been painted thickly with red ochre and 20 white, vertical lines, each ½cm wide. On the upper half, several white dots have been painted.
MC107 NES (C98)	Cedar Creek	Unidentified type of hard wood, fibre string and beeswax.	Length: 81.5cm Width: 4.2cm Thickness: 8mm	Relatively thin specimen with a 5cm long <i>Calamus</i> spp. (lawyer cane) strip bound around the spearthrower acting as a support for the hand. At the other end a wooden hook is attached with fibre string and wax. <i>The specimen is not painted or decorated.</i>

TABLE 4. Boomerangs.

Id No	Location	Raw materials	Dimensions	Mjöberg's comments
MC(?) NES C113)	Mulgrave Valley (Harvey Creek?)	Unidentified hard wood, red and yellow ochre.	Length: 52.5cm Height: 20cm	Specimen is decorated with broad red (7) and yellow (6) painted lines covering the whole surface on both sides in an identical mirror image. The yellow has deteriorated considerably whilst the red is still very deep. It is bent at a strong angle resulting in one of the 'arms' of the boomerang being considerably shorter than the other arm. The specimen is of the returning variety.
MC(?) NES (C114)	Harvey Creek	Unidentified hard wood, red ochre and white clay.	Length: 61.5cm Height: 23.5cm	The shape of this specimen is close to form a segment of a circle. It has been painted on both sides in a pattern of 17 white lines on a red background. The white paint has faded. Fairly pointed ends with one of the 'arms' somewhat longer than the other.
MC(?) NES (C115)	Harvey Creek	Unidentified hard wood, red ochre and white clay.	Length: 54.5cm Height: 15cm	Specimen has uniform but slightly bent 'arms'. The middle section is unpainted but a small amount of red ochre is visible in the right corner. Both ends are painted white with one side showing some evidence of black as well.
MC11 NES (C76)	Cedar Creek	Buttress root from <i>Argyrodendron trifoliolatum</i> /Crawfoot Elm or Hickory.	Length: 77cm Height: 16.8cm	Raw material for the making of a boomerang. A carefully selected piece of buttress root from the Crowfoot Elm or Hickory tree. This piece demonstrates the natives' skill of utilising the natural bends and curves in trees in their selection of raw materials.

TABLE 5. Throwing clubs.

Id No	Location	Raw materials	Dimensions	Mjöberg's comments
MC30 NES (C90)	Cedar Creek	<i>Acacia</i> sp. (?), red ochre	Length: 65cm Max diam. head: 3.4cm Diam. shaft: 2.3cm	Bulbous shaped, pointed head. The specimen is strongly colored with red ochre. This type is used by women to kill water birds and bats according to native informant.
MC31 NES (C91)	Cedar Creek	<i>Acacia</i> sp. (?), red ochre	Length: 56cm Max diam. head: 3.4cm Diam. shaft: 1.8cm	Head and shaft have pointed ends. The head has a bulbous and even shape. The entire object is coloured with ochre. The specimen is in perfect condition and looks relatively new.
MC43 NES (C92)	Cedar Creek	<i>Acacia</i> sp. (?), red ochre	Length: 66cm Max diam. head: 3.4cm Diam. shaft: 2.7cm	The head has a bulbous shape somewhat thinner and smaller than in the other specimens. The entire object is painted with red ochre. Both ends are pointed.
MC44 NES (C93)	Cedar Creek	<i>Acacia</i> sp. (?), red ochre	Length: 62cm Max diam. head: 3.2cm Diam. shaft: 2.8cm	Specimen looks relatively new. The shaft is somewhat bent in the lower end. The head is square shaped with a sharpened point. The shaft is round with a sharpened point at the end. The specimen is rougher than the other examples in the collection but is similarly painted with red ochre.
MC45 NES (C94)	Cedar Creek	<i>Acacia</i> sp., <i>Eucalyptus</i> sp. resin	Length: 53cm Max diam. head: 5cm Diam. shaft: 2.5cm	Fairly short in comparison with the others. The head is unusually long and oval shaped ending in a thin point. The tip of the point is covered with melted <i>Eucalyptus</i> spp. resin. Four shallow holes are carved on the head 4-5 mm in diameter, forming a circle around the head. Below these holes, four dotted lines of smaller, engraved holes are placed in circles around the head with a distance of 4cm between each line. Engraved between these lines are dotted lines in a zigzag pattern, thus creating a triangular pattern. The upper points of these triangles occasionally cross over the upper dotted line and ends at the bigger holes. The lower points of the triangles tend to cross the lower dotted line. Specimen is not painted.
MC46 NES (C112)	Cedar Creek	<i>Acacia</i> spp., <i>Eucalyptus</i> sp. resin	Length: 52.5cm	Of similar shape and style as MC45 with the addition of eight parallel rows of dots. Both were discovered placed in a hollow of a tree, hidden away by their owner. I suggest that both specimens are of greater antiquity than others collected, perhaps for use in ceremonial rituals.



FIG. 10. MC45, NES (C94). Throwing club with engraved patterns. Cedar Creek.



FIG. 11. MC30, NES (C90). Throwing club painted with red ochre. Cedar Creek.

TABLE 6. Fishing implements.

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC42 NES (C70)	Cedar Creek	Fishhook and fishing-line. Vegetable fibre (twine), animal ligament and iron.	Length of iron: 2cm Length of leader: 433cm Length of line: 785cm	The iron hook is attached to a leader with animal ligaments. The leader and line are made of twine vegetable fibre.
MC71 NES (C71)	Cedar Creek	Eel trap <i>Calamus</i> sp./ lawyer cane.	Length: 104cm Diam. of opening: 15cm	The eel trap is made from split lawyer cane strips that have been woven in between two lawyer cane wickers and entwined together creating a spiral that runs along the entire trap. The eel traps are similar in appearance to the traps used to catch kangaroos but thinner and longer and with a less wide opening.
MC128 NES (C72)	Tully River	Eel net <i>Linum marginale</i> / native flax and <i>Calamus</i> sp./lawyer cane.		Twine eel net made from native flax or native linen fibre. The net is kept stretched out with the aid of two bent lawyer cane wickers, which can be folded out and placed in a narrow part of the river. It is kept in place by heavy rocks.
MC197 NES	Cedar Creek	Fishing net. Twine made from unidentified strong fibre or plant roots.	Length: 130cm	Oblong in shape and narrow. Twine stitches run along the middle of the net and become larger towards the edges.
MC180 NES (C77)	Cedar Creek	Torches (7). <i>Halfordia scleroxyla</i> / 'Jitta'/ Saffron heart or Ghittoe	Length: 40cm Thickness: 0.2-0.4cm Width: 1cm	A bunch of seven torches. <i>Halfordia scleroxyla</i> contains a large amount of oil and burn intensively with a bright light. Long, narrow pieces of wood serve well for the purpose and provide an excellent strong light when set to fire. The torches provide light during wanderings at camp and particularly as a means of luring the fish and eel in the rivers to the surface at night which may then be caught easily.



FIG. 11. NES (C113-115). Boomerangs. Harvey Creek.

TABLE 7. Containers and baskets.

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC5 NES (C25)	Atherton	Bark container <i>Calophyllum tomentosum</i> / beauty leaf <i>Calamus australis</i> / lawyer cane <i>Melicope</i> resin (Rutaceae) or <i>Panax</i> resin (Araliaceae) or beeswax, red ochre.	Height: 42cm Width of opening: 26.5x21cm Handle: 35cm (folded twice) Capacity: 12 litres	The bark containers have a distinct form and shape. To manufacture one a smooth piece of bark is cut out, peeled off and then folded in the middle. The result is that the outside of the bark ends up on the inside. The edges are fitted together and placed somewhat underneath each other at the top forming two protruding and pointed corners at the bottom. The sides are sewn together with fine strips of lawyer cane using the tibia of a kangaroo or a bird as a needle. The sides and the pointed corners are then covered with resin or beeswax. Along the top of the basket a thin strip of lawyer cane is placed and sewn into place. The result is a round opening at the top of the vessel. The entire vessel is then smeared with resin and beeswax and the bark covered in a layer of red ochre. They hold up to 12 litres of liquid.
MC33 PUL	Cedar Creek	Bark container <i>Calophyllum tomentosum</i> /beauty leaf <i>Calamus australis</i> /lawyer cane <i>Dendrocnide photicophylla</i> /stinging tree resin, beeswax and red ochre.	Height: 31cm Width of opening: 18x15cm Handle: 35cm Capacity: 7 litres	In Cedar Creek, the bark containers sometimes contain soft, thin sheets of bark that are folded up and put at the bottom of the containers. The brown, thin tissues are pieces of soft bark from a larger stinging tree. The bark is carefully prepared by pounding and chewing it, thus making it soft and spongy. It acts like a strainer for use with honey. The honey is squeezed between the hands or between two pieces of wood and dripped onto a bark filter placed on top of the container. It passes through a second filter placed in the middle of the sack and finally reaches the bottom filter clean and clear and ready to consume.
MC65 NES (C26)	Atherton	Bark container <i>Calophyllum tomentosum</i> /beauty leaf <i>Calamus australis</i> /lawyer cane, resin and red ochre.	Height: 44cm Width of opening: 27.5x21cm Handle: 38cm Capacity: 12 litres	Similar in size, shape and construction to MC5. The opening lack any resin or wax.
MC82 NES (C24)	Cedar Creek	Wooden container (basket) <i>Eucalyptus</i> sp., <i>Calamus</i> sp./lawyer cane.	Length: 39cm Width: 28cm Height: 17cm Capacity: 10 litres	A wooden vessel hollowed out from a growth (masur) on a <i>Eucalyptus</i> spp. tree. The bark is ground and two thin carry rods made from split lawyer cane are fastened with two knots which are placed diagonally over each other, thus creating a handle for carrying the vessel.
MC4 PUL	Malanda	Lawyer cane basket or bicornual basket <i>Calamus australis</i> /lawyer cane.	Max diam. opening: 19cm Height: 30cm Length of handle: 35cm	The lawyer cane baskets are made exclusively by older men who with great care plait them out of finally split lawyer cane strips. During the plaiting a large stone is placed in the bottom to avoid the basket becoming crooked. Thicker strips of lawyer cane are used on the inside to strengthen the baskets. The plaiting is done in a pattern with partly vertical strips and others turning in a spiral on the inside and attached to the vertical strips with more, very finely split, lawyer cane strips. At times they are painted in beautiful patterns. At Cedar Creek some baskets had red figures and other patterns painted with human blood but the natives hid them in the rainforest when I came to collect them. An insight into the symbolism of the patterns was lost. They lawyer cane baskets have two pointed ends at the bottom of the baskets in common.
MC49 NES (C29)	Cedar Creek	Lawyer cane basket <i>Calamus australis</i> /lawyer cane.	Max diam. opening: 24cm Height: 38cm Length of handle: 49cm (folded twice)	As above.
MC40 NES (C30)	Cedar Creek	Lawyer cane basket <i>Calamus australis</i> /lawyer cane.	Max diam. opening: 10cm Height: 14cm Length of handle: 23cm	As above but considerably smaller in size. This type used by women and children according to native informant.
MC41 NES (C31)	Cedar Creek	Lawyer cane basket <i>Calamus australis</i> /lawyer cane.	Max diam. opening: 10cm Height: 14.5cm Length of handle: 21.5cm	Smaller in size than the other specimens. This type used by children according to native informant.
MC87 NES (C32)	Cedar Creek	Grass basket Unidentified type of grass <i>Calamus</i> sp./lawyer cane, resin.	Width of opening: 23x17cm Height: 36cm Length of handle: 21cm (folded twice)	Made from a soft but tough grass which makes the whole basket rather soft, flexible and manageable. The outer edge is strengthened with a lawyer cane strip and a handle is attached on the edge. The basket is plaited vertically with blades of grass that link together creating a rounded base.

TABLE 8. Miscellaneous artefacts.

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC12 NES (C78)	Millaa Millaa	Climbing rope <i>Calamus</i> sp./lawyer cane.	Length: 5 m Max. diam: 1cm	Put in five layers. With the assistance of a climbing rope, the natives climb the tall trees of the rainforest. It enables him to harvest all the food sources hidden in the tree canopy. Possums and other tree climbing animals are easily caught this way, as well as nuts and tree shoots growing high up in the tree canopy. Bees nests are also exploited this way. Before the climb, the rope's efficiency is inspected.
MC222 NES (C45)	Cedar Creek	Eating tool <i>Calamus</i> sp./lawyer cane.	Length: 50cm	Used to eat honey. A short piece of lawyer cane is crushed in one end with a rock creating a little brush to dip in honey and suck on.
MC94 NES (C48)	Rainforest	Walnut cake <i>Cryptocarya bancroftii</i> /yellow walnut 'Goaj'.		The natives have discovered during thousands of years of rain-forest use which plants, seeds and fruits are better and more delectable raw or cooked, dried or roasted. Even some poisonous plants become enjoyable after having been treated by leaching. Leaching draws out the poison and the plant becomes edible. The natives either use the nuts to bake flat cakes on the fire or eat them raw.
MC238 NES (C49)	Cedar Creek	Nuts <i>Podocarpus pedunculatus</i> /black pine 'Tjubolas'.		Poisonous. Cracked, leached and roasted in order to consume.
MC36	Harvey Creek	Nuts		As above.
MC37 NES (C50)		<i>Cryptocarya bancroftii</i> /yellow walnut 'Goaj'.		
MC212 NES (C51)	Evelyne	Nuts. Unidentified species. 'Tokon'		Poisonous. Cracked, leached, roasted and ground into flour. Small cakes are made out of the flour that does not taste too bad.
MC174 NES (C54)	Rainforest	Cockroaches <i>Panesthia</i> sp./cockroach 'Kalabaj'.		Black cockroaches the natives call 'kalabaj' and love eating. They crush the hard body with their teeth and suck the contents out.
MC80 NES (C46)	Tully River	Bark blanket <i>Ficus</i> sp.	Length: 135cm Width: 71cm	The blankets are used during the cold months of June and July. The natives sit close together and cover themselves with a type of blanket made from the bark of a large ficus tree. Specimen is old and used.
MC98 NES (C47)	Tully River	Bark blanket <i>Ficus</i> sp.	Length: 125cm Width: 83cm	As above. Specimen is new.
MC76 NES (C20)	Yarrabah	Fire lighter. Unidentified wood.	Length base: 32cm Width base: 4.6cm Length fire stick: 73cm Width fire stick: 1cm	Two parts. The base is made from a soft, lightly coloured wood. Somewhat sharpened in both ends. The long, thin stick is made from a branch of a harder type of wood. No drilled drainage holes. The fire lighter is new and has never been used.
MC77 NES (C21)	Yarrabah	Fire lighter. Unidentified wood.	Length base: 32.5cm Width base: 4cm Length fire stick: 65.8cm Width fire stick: 2cm	Two parts. The base is made from a soft, lightly coloured wood. Somewhat sharpened in both ends. Close to one end is evidence for preparation of a shallow drainage hole close to rectangular in shape, prepared with a stone- or iron tool. The accompanying fire stick consists of a branch of hardwood tree. The specimen has never been used.
MC139 PUL	Tully River	Fire lighter. Unidentified wood.	Length: 60cm	Two long finger-thick pieces of wood. One has a cut out flat end where an appropriate hole for the drainage of glowing powder is located. In addition there are two just visible drilled holes. The fire lighter base lay on the ground and is called "bobarillo" by the Tully River and Cedar Creek natives.
MC190 a&b NES (C22, C23)	Cedar Creek	Fire lighters. Unidentified wood, <i>Xanthorrhoea</i> sp./grass tree, <i>Calamus</i> sp./lawyer cane, beeswax and palm leaf.	Length palm leaf wrapper: 49cm Length fire light base: 27cm Width fire light base: 5.2cm Length fire stick: 50cm Width fire stick: 1.3cm	As above. At and around Cedar Creek, fire lighters are kept wrapped in palm leaves tied together with lawyer cane strips. This way they are kept dry and easy to reuse. The ends of the fire sticks are coated with beeswax to keep them dry. It also makes the twisting process quicker and easier.

TABLE 8. (Cont.)

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC (?) PUL	Evelyne	Sharp sticks <i>Halfordia scleroxyla</i> /saffron heart, ghittoe 'Jitta'.	-	As a defence weapon, the natives around Evelyne and Tully River have arranged a mechanism to stop a pursuer to catch up with them. If a person is being pursued after committing a crime, he will use the hard wood of the ghittoe tree and sharpen a number of sticks in one end. He drives the blunt end into the ground and ensures that they are standing up. They are placed just below a fallen over tree where he himself has walked and jumped down from, covering them up with moss and some rotten leaves. The pursuer following the trail of the offender, runs along the fallen over tree, jumps down and lands on the sharp sticks which penetrate into his bare feet. The pain inflicted leads him to sit down suddenly with the result that more sticks penetrate him into his bottom. The pursuit is abandoned and the offender gets away.
MC (?) NMC (1/27)	Upper North Johnstone River (Malanda)	Beeswax figure. Beeswax, fibre string and unidentified type of wood.	Length: 16.8cm Width: 9.8cm	One day after felling a large rainforest tree I discovered a bees nest. An old native who had never been into the settlements at Malanda or Atherton was standing next to me watching the honey filled cakes. After examining the nest for insects I gave it to the old man. I did not see him again until several days later when I had completely forgot about the event. I came across the old man in his hut located deep in the rainforest by the upper Johnstone River. Quite unexpectedly, I found him sitting on the ground busy modelling a small male figure out of the beeswax I had given him. I observed him from a distance so that I would not influence him and with his fingers he shaped one part after the other, quite like our own sculptures model in soft clay. With great interest I watched his work in progress. The face caused him the most problems but in a beautiful and characteristic way he shaped the low forehead, the prominent eyebrows and the deep sitting eyes of the native man. He stuck a small stick in the clumsy nose. Arms were bent upwards and flattened at the ends to indicate the hands. The legs were shaped similarly and to top his masterpiece of, he shaped a lump of beeswax into a cylindrical shape that was attached to the body, marking the masculine character of the figure clearly.



FIG. 12. MC12, NES (C78). Lawyer cane climbing rope. Millaa Millaa.

TABLE 9. Ceremonial items.

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC106 PUL	Harvey Creek	Shield. Unidentified wood of buttressed tree, red and yellow ochre, white clay, charcoal and beeswax.	Height: 110cm Width: 42cm	Shield made from one complete piece of wood from a buttressed rainforest tree. At the front is a knob with a corresponding dint on the back where a handle is located. It is coloured in red, yellow, white and black. The red form triangular fields on the outside, a wide diagonal handle over the knob and six other figures. The yellow form angled, irregularly wide bands and the white form diagonal lines over the wide bands on the disk, turning into each other diagonally resulting in the creation of two fantastic angular figures. Both sides of the knob are also painted white. Each figure is painted black around the edges as a contrast that greatly raise the patterns. A deep impression from a blow of a sword can be seen which has been filled in with beeswax and painted over in order to make it look new for the next ceremonial combat.
MC (?) NES (C102)	Harvey Creek	Shield. Gyrocarpus americanus/propeller tree, red ochre and blue.	Height: 79cm Width: 31cm	Shield made from a single piece of buttress root of the propeller tree. A knob is located in the middle of the front surface with a corresponding dint on the back complete with a handle. The front surface is painted in a shoal of fish pattern with blue stripes on a light red and dark red background. The shield is small in size and was possibly used by children in 'mock combats'.
MC58 PUL	Atherton	Sword. Unidentified buttressed tree, resin or wax.	Length: 155cm Max width: 14.7cm Length handle: 10cm Width handle: 4cm	The swords are used together with the large shields in ceremonial combats between men. They are held up in the air with one arm and then thrust towards the opponent's protective shield. This specimen is slightly bent and at the handle end is a melted piece of resin or wax.
MC85 PUL	Carrington	Sword. Unidentified buttressed tree, wax and fibre string.	Length: 148cm Max width: 13.2cm Length handle: 8.5cm Width handle: 3.6-6cm	As above but almost straight. Waxed string is tied around the handle.
MC29 NES (C55)	Cedar Creek	Music sticks. Halfordia scleroxyla/saffron heart, ghittoe, 'Jitta'.	Length #1: 40cm Diameter: 4cm Length #2: 28.5cm Diameter: 2.8cm	Two pieces. I have observed the rainforest natives using the music sticks. The sticks produce a certain sound when hit against each other. The ghittoe sticks make a metallic sound that is not unpleasant.
MC69 NES (C56)	Cedar Creek	Music stick Halfordia scleroxyla/saffron heart, ghittoe, 'Jitta'.	Length: 38cm Max. diam: 4.3cm	As above. Somewhat burnt.
MC137 NES (C57)	Malanda	Music stick Halfordia scleroxyla/saffron heart, ghittoe, 'Jitta', red ochre.	Length: 50cm Max. diam: 4.4cm	As above. Sharpened and pointed in one end. Painted with red ochre.
MC32 NES (C58)	Malanda	Music stick Halfordia scleroxyla/saffron heart, ghittoe, 'Jitta', red ochre.	Length: 46.5cm Max. diam: 4cm	As above but rounded in both ends. Soft red colour.
MC57 NES (C59)	Cedar Creek	Feather decoration Cacatua galerita/cockatoo feathers, beeswax.		Used for body decoration. The yellow and white crest of the cockatoo is very sought after and is attached to the hair with beeswax. When moving between camps, the headdress was kept in a basket.
MC89 NES (C60)	Evelyne	Feather decoration Alectura lathami/brush turkey, fibre string.		The large dark green feathers of the brush turkey are used as decoration by attaching them to a piece of fibre string and tying it around the waist.
MC (?) PUL	Evelyne	Death bone. Piece of human tibia bone.	Length: ca 12cm	When a person had died and the skeleton has started to dry, the relatives of the deceased remove the radius and tibia and carry them with them in their lawyer cane baskets. In one basket, I discovered a piece of a polished tibia. The remaining part of the tibia is used in a spear (MC97). The death bone is used to kill or harm people who for one reason or another have committed a crime. While the offender is sleeping a medicine man points and touch the torso, arms or legs with the bone. The result is sickness and sometimes death to the person

TABLE 10. Stone artefacts.

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC18 NES (C11)	Cedar Creek	(A) Grinding stone. Basalt (?), Mjöberg's label trachyte. (B) Hammer stone/top stone Basalt.	Grinding stone: Length: 36.5cm Width: 25cm Thickness: 3.5cm Hammer stone: Length: 11cm Width: 25cm Thickness: 5cm	In all camps and in every hut you find one or several grinding stones. They normally consists of a heavy, flat base (the mill) and a hard egg shaped stone (hammer stone). They are used for grinding hard nuts and fruits with. The grinding stones weigh in excess of 10 kg and are therefore left behind in the deserted huts or placed in the branch of a tree until the next season. The smaller hammer stones are normally carried in a basket all year around. <i>The surface of the grinding stone is concave and shows strong evidence of grinding. It is partly red in some areas from grinding ochre. Ochre remains are visible on the sides of the grinding stone as well as on the hammer stone.</i>
MC19 NES (C12)	Atherton	(A) Grinding stone. Basalt, ochre and resin remains. (B) Hammer stone/top stone. Basalt (?), red ochre remains.	Grinding stone: Length: 36cm Width: 38cm Max thickness: 5cm Hammer stone: Length: 10.3cm Width: 8.2cm Thickness: 5cm	As above. Grinding stone is deeply red in colour on top and sides. <i>Grinding stone has red ochre remains on all surfaces.</i>
MC13 NES (C10)	Malanda	(A) Grinding stone. Slate and ochre remains. (B) Hammer stone/top stone Basalt and ochre remains.	Grinding stone: Length: 44.5cm Width: 25cm Thickness edge: 3cm; middle: 1.5cm Hammer stone: Length: 12cm Width: 7.5cm Thickness: 5cm	I discovered another type of grinding stone in a river bed near Malanda. This specimen was the only one I found of its type. The grinding stone is made from slate and has been incised across the surface to facilitate the grinding procedure. The hammer stone was discovered nearby. It looks like the owner dropped the grinding stone into the water where I discovered it in situ. Clean surface with 38 incised lines. Strong evidence of grinding in the centre of the stone with a concave area as a result. Hammer stone shows traces of black resin, red ochre and yellow ochre or clay on all surfaces.
MC17 NES (C13)	Atherton	Tool type unknown. (River cobble). Unidentified. Possibly slate or schist (light grey in colour).	Length: 16.3cm Width: 11cm Thickness: 6cm	Oval shaped. Relatively large compared to the other hammer stones. Raw material is unclear and Mjöberg suggests sandstone. <i>The surfaces are very smooth and a small area has been polished. Faint traces of ochre that looks like a painting as well as some possible black resin remains. Both sides have incised marks, some in cross patterns.</i>
MC177 NES (C14)	Rainforest/ Tableland region	Grinding stone/river cobble used for grinding ochre. Basalt.	Length: 8.5cm Width: 6cm Thickness: 4.3cm	Used for grinding ochre.
MC184 NES (C15)	Rainforest/ Tableland region	Hammer stone/topstone. Unidentified. Shiny speckles clearly visible. Specimen is heavy.	Length: 11cm Width: 8.3cm Thickness: 6.4cm	<i>Possibly traces of black resin on one surface. No ochre remains. One surface shows clear signs of stone having been used for grinding purposes.</i>
MC10 NES (C2)	Atherton	Stone axe. Slate.	Height: 12.3cm Width: 13cm Thickness: 3.5cm	Grooved, bifacially ground axe head polished on cutting edge faces. Most of the stone axes I collected were discovered embedded in river beds without any traces of the handles once attached to them except for the grooves left on the stone.
MC14 NES (C3)	Millaa Millaa	Stone axe. Slate.	Height: 28.5cm Width: 13.5cm Thickness: 3.5cm	Bifacially ground axe head polished on both faces of cutting edge. <i>Specimen is long and thin.</i>
MC15 PUL	Millaa Millaa	Stone axe. Slate.	Length: 29cm Height: 21cm Weight: 2.3 kg	Gigantic axe head, chipped around its circumference into a nice shape. Discovered underground after a downpour, deep in the rainforest (Millaa Millaa).
MC16 NES (C4)	Malanda	Stone axe. Unidentified.	Height: 18cm Width: 10.5cm Thickness: 2.5cm	Edge ground axe head. Oblong shaped.
MC38 NES (C6)	Cedar Creek	Stone axe. Slate(?), <i>Calamus</i> sp./lawyer cane.	Height: 15.7cm Width: 11cm Thickness: 2.5cm Length handle: 28cm Diameter handle: 1.3cm	Grooved, bifacially ground axe head with small amount of polish on faces of cutting edge with handle no longer attached. Handle consists of a split lawyer cane wicker doubled over the axe head and fixed with lawyer cane strips. Raw material is unclear but some shiny speckles are visible. Circumference chipped into shape. Some traces of resin on cutting edge faces. Axe was still being used at time of collection.

TABLE 10. (Cont.)

Id No	Location	Type of artefact and raw materials	Dimensions	Mjöberg's comments
MC66 NES (C7)	Cedar Creek	Stone axe. Slate, <i>Calamus</i> sp./lawyer cane.	Thickness: 2cm Height: 31cm Width: 24.5cm Weight: 2.8 kg	Large slate axe head, chipped into shape without an obvious cutting edge. Handle consists of a split lawyer cane wicker doubled over the head and fixed with a large lump of wax or resin and fibre string. Axe is too heavy to lift with the existing handle. Used for ceremonial purposes or kept as reminders of a disappearing past. <i>Ground red ochre covers both faces of the axe and can be seen underneath the handle.</i>
MC130 NES (C5)	Cedar Creek	Stone axe. Greenstone.	Height: 10.6cm Width: 7.3cm Thickness: 1.8cm	Small, oval shaped axe chipped into shape with surface flake scars on both faces. Sharp ground edge with polish on both faces of the cutting edge. <i>No grooves.</i>
MC7 NES (C84)	Malanda and surrounding rainforest area	Headache stone. Basalt (?). Red-brown river cobble, red ochre, unidentified black resin or wax.	Length: 7cm Width: 5cm	I discovered oval stones, somewhat bigger than a hens egg, hidden along the walls in the huts or carried around by the women in their lawyer cane baskets. The stones are painted with a layer of wax or resin. They are used to cure headaches with. The women are quite unwilling to separate themselves from the stones, believed to have magical influence. <i>The stone is smeared with a black substance and under this layer, lines and patches of red ochre are discernable. Both short ends have dots of red ochre. Raw material is unclear.</i>
MC8 NES (C85)	Malanda	Headache stone. Basalt (?). Red-brown river cobble, red ochre, unidentified black resin or wax.	Length: 6.7cm Width: 4.7cm	As above. <i>Red ochre lines painted across one short end.</i>
MC22 NES (C86)	Malanda	Headache stone. Basalt (?). Red-brown river \ cobble, red ochre, unidentified black resin or wax.	Length: 9cm Width: 6cm	As above. <i>Only half of the stone is smeared with a black substance. Minute traces of red ochre on short ends.</i>
MC21 and MC90 NES (9a&b)	Cedar Creek	Nutcracking stones. Basalt.	Cracking surface bottom half: 6x12.5cm Max length: 14cm Max width: 10cm Upper half (held in hand): Thickness: 7.5cm Max length: 8cm Max width: 5cm	During rainy and cold days, which the natives tend to spend in their huts, they crack a great number of nuts they have stored. The nut cracking tool consists of two basalt pieces, a bottom half and a upper half, the latter being somewhat smaller. Their flat surfaces fit well against each other. <i>Both pieces have black resin or wax on surfaces. Red ochre stains are also distinct on both pieces. Perhaps a multipurpose tool used for cracking nuts and as an ochre 'palette'.</i>



FIG. 13. MC80, NES (C46). Bark blanket made from a *Ficus* sp. tree. Upper Tully River.

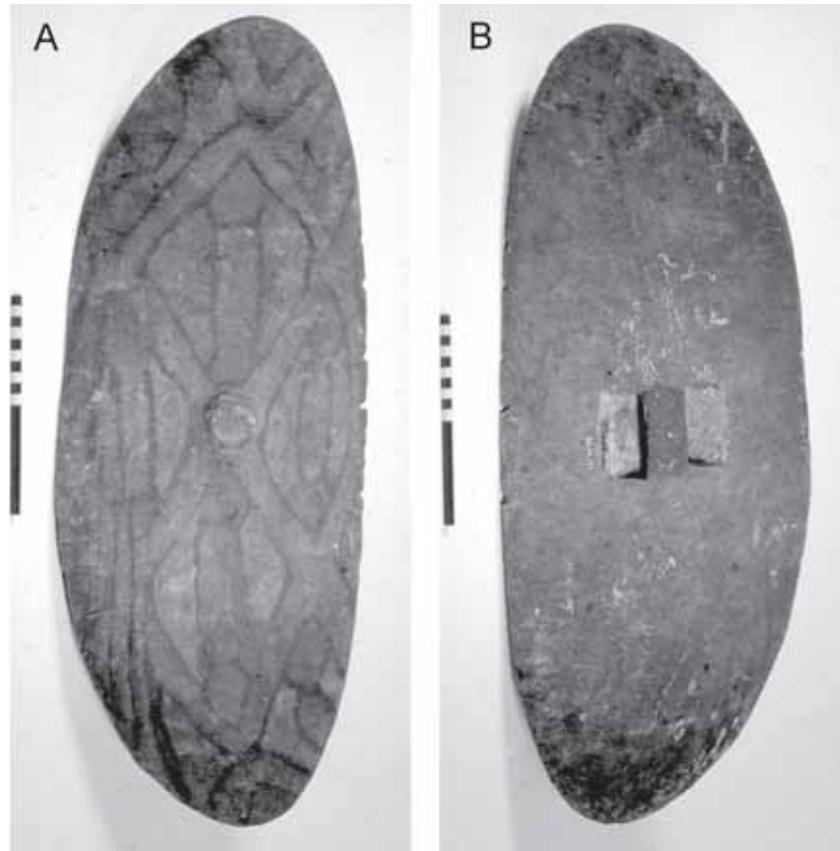


FIG. 14. NES (C102). Shield viewed from: A, front; B, back. Harvey Creek.



FIG. 15. MC137, NES (C57). Music stick made from 'Jitta'. Malanda.



FIG. 16. MC16, NES (C4). Edge ground axe. Malanda.



FIG. 17. MC38, NES (C6a-b). Grooved, bifacial axe with lawyer cane handle. Cedar Creek.



FIG. 18. MC130, NES (C5). Greenstone axe. Cedar Creek.



FIG. 19. MC21 and MC90, NES (C9a-b). Nutcracking stones, basalt. Cedar Creek.

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