Stone-headed clubs are a characteristic implement type for Torres Strait and other parts of Melanesia (Haddon, 1900; McNiven, 1998). Across Torres Strait, the clubs were generally referred to as *gabagaba* (Haddon, 1912: 190-193) and more recently as *gabagab* in Torres Strait creole (Shnukal, 1988: 131). *Gabagab* were used typically as an offensive weapon by men during inter-island headhunting raids, but they also had important social and ceremonial roles (see McNiven, 1998 for details; Fig. 1). *Gabagab* were recorded by the Torres expedition 400 years ago in 1606 (Stevens & Barwick, 1930: 161) but beyond this observation the antiquity of *gabagab* is unknown as none have been recovered from excavations or other datable contexts. McNiven (1998) documents 26 *gabagab* from seven Torres Strait islands held by museums in Australia and England while McNiven and von Gnielinski (2004) document a unique archaeological collection of eight *gabagab* in various stages of manufacture from the island of Dauan, northern Torres Strait. The 26 *gabagab* described by McNiven (1998) include 19 implements hafted with wooden/bamboo handles and seven unhafted club heads. Three of the unhafted *gabagab* are known archaeological finds (from the islands of Mabuyag and Pulu). Six morphological types of club head are described by McNiven (1998) and McNiven and von Gnielinski (2004) – bi-convex or disc-shaped club heads are the most common, followed by rayed (star-shaped), knobbed, ovoid, doughnut and axe-shaped club heads. The latter two types are represented by single examples only, with the doughnut-shaped type the only known archaeological *gabagab* with surface decoration (abraded grooves). In October 2002, a fragment of a decorated *gabagab* was found by one of us (IM) on the surface of Site 36 on Mua during mapping and excavation of the site. This club head is the second known *gabagab* for Mua and its form and decoration is unique in terms of documented *gabagab* from Torres Strait. This paper describes this artefact and discusses its regional significance.

## CLUB HEAD FORM

The artefact is a segment of a circular club head (designated Mua 36 Surface Find #2) (Fig. 2). One side of the fragment retains approximately 5.5cm of intact original outer curved margin, while the opposite corner exhibits approximately 0.5cm of the original curved margin of the central hafting hole. The distance between these two intact margins ranges from 5 to 6cm. Assuming the original central hafting hole had a diameter of approximately 2cm and the club head was circular, the diameter of the original intact club head was somewhere between 12 and 14cm.
(Fig. 3). The top and bottom faces of the club head are flat, as is the outer margin. The thickest part of the club head is the central hafting hole, which on the fragment has a maximum length of 3.1cm. The flat outer margin surface averages 1cm in width. As such, the club head tapers in thickness (cross-section) from the central hafting hole to the outer margin (Fig. 2). The remnant hafting hole indicates that its original form was bi-conical (hour-glass shaped). Both ends of the remnant hafting hole are raised on the top and bottom faces, suggesting the presence of a slight flange (see cross-section, Fig. 2). The intact surfaces and break surfaces reveal near-identical weathering, indicating that the club head was broken many years ago. Rough texture of the surface is the result of weathering (small-scale granular disintegration) of the original smooth (ground, see below) surface.

DECORATION. Both the top and bottom flat faces are decorated with linear abraded grooves (Fig. 2). On one face the grooves radiate out from the outer edge of the central hafting hole flange to the outer margin. On the opposite face the grooves are oriented differently and form two sets of parallel grooves. All of the grooves are V-shaped and average c.1mm in depth and c.2mm in width. A single groove also runs along the middle of the flat outer margin surface (Fig. 2). In one case, a linear facial groove continues over onto the flat surface of the outer margin to intersect the marginal groove at an angle of 90°.

MANUFACTURE. Surface smoothing and weathering has removed evidence of previous stages of club head shaping and manufacture. This view is informed by analysis of gabagab in various stages of manufacture from Dauan, northern Torres Strait (McNiven & von Gnielinski, 2004). The form of the hafting hole surface indicates final smoothing using a stone reamer in a circular grinding motion working both ends of the hole. It is likely that the majority of the hafting hole was excavated into the bi-conical shape by pecking with a pointed stone working alternately on both ends (see McNiven & von Gnielinski, 2004). The V-shaped cross-section of the grooves is consistent with manufacture by rubbing the sharp edge of a rock backwards and forwards across the surface of the club head.

RAW MATERIAL TYPE. Raw material (petrological) assessment was by macroscopic surface examination with the aid of a ×10 hand lens (the same methodology employed in McNiven, 1998; McNiven & von Gnielinski, 2004; Hitchcock, 2004). The raw material is
fine-grained quartzofeldspathic sandstone/arenite (rocktype: sandstone/volcanic arenite). It comprises moderately fresh (slightly weathered), medium to dark greenish-grey, very fine to fine-grained, moderately sorted, compacted (moderate to poor porosity) volcanic arenite with some crystal fragments. The rock comprises white to cream feldspar (0.1-0.7mm), clear grey quartz (0.1-0.3mm) and black hornblende? or augite (pyroxene)? (0.1-0.6mm). Minor (rare) constituents are silver-white mica (0.1-0.3mm). A faint foliation of the rock is present.

RAW MATERIAL SOURCE. The source outcrop of the raw material is unknown in terms of current geological understandings of Torres Strait (e.g. von Gnielinski et al., 1998; Willmott et al., 1973). However, volcanic arenite is a possible lithology within the Torres Strait Volcanic Group which outcrops across western Torres Strait, particularly in the southwest and the Muralag (Prince of Wales) Group (von Gnielinski et al., 1998: 160). As such, it is possible the club head was made locally on Mua.

DISCUSSION

FORM AND DECORATION. The Mua 36 club head is the second gabagab documented for Torres Strait with a flat outer margin (all other recorded club heads have acute, rounded or knobbed outer margins) and only the second decorated archaeological gabagab known for Torres Strait. Significantly, the only other gabagab recorded for Torres Strait with a flat outer margin is Dauan club head #4, the other known decorated club head from the region (Fig. 4). Decoration on the Dauan club head consists of equally-spaced thin linear grooves radiating out from the central hafting hole across the convex surface of the top and bottom faces and in a few instances continuing over onto the flat outer margin surface and almost intersecting the central linear groove that runs along the middle of the outer margin. Similarity between the form (flat surface of outer margin) and decoration (linear abraded facial and marginal grooves) on both the Mua 36 and Dauan club heads suggest a particular style convention for decorating Torres Strait gabagab. However, linear grooves were not the only way Torres Strait club heads were decorated as Haddon (1912: 192) reports the ‘upper surface’ of a gabagab ‘painted with a 6-rayed red cross’ and another from Mer of tuff ‘coloured black
so as to resemble the ordinary dark stone of which club-heads are made.' The manufacture of the Mua 36 club head from volcanic arenite and the Dauan club head #4 from porphyritic microdiorite indicates that the linear groove decorative style convention is not associated with just one particular raw material or island community. This style convention is not unique to Torres Strait as linear abraded grooves, ranging from fine and shallow to large and deep, are a feature of the top and bottom faces and outer margin of numerous New Guinea stone club heads (e.g. D’Albertis, 1880; McCarthy, 1949). Similarly, painted designs on stone club heads are documented for Papua New Guinea (e.g. Haddon, 1900; Schuurkamp, 1995: 225).

RAW MATERIAL SELECTION. Previous research indicates that Torres Strait *gabagab* were manufactured mostly from igneous (volcanic) rocks (e.g. basaltic andesite, andesite, basalt, trachybasant, ignimbrite, micromonzodiorite and tuff) and igneous (plutonic) rocks (e.g. granite, fine-grained granite [adamellite], microgranite, microdiorite, quartz microdiorite, porphyritic microdiorite, microdiorite / quartz-gabbro) (Hitchcock, 2004; McNiven, 1998; McNiven & von Gnielinski, 2004). Prior to this study, the only known Torres Strait *gabagab* made from sandstone were a knobbled *gabagab* found by one of us (IM) on the surface of the old village site of Goemu on Mabuyag in 1996 and two hafted, knobbled *gabagab* from Erub collected in 1949 – all made from volcanic lithic sandstone (McNiven, 1988: 105, Table 1, fig. 4). Thus, the Mua 36 *gabagab* is uncommon in terms of raw material, but consistent with the established pattern of likely manufacture within Torres Strait using what appears to be local rock (however, further field research is required to determine specific outcrops of volcanic arenite and volcanolithic sandstone in the region.) That volcanic arenite was used as a raw material for other types of stone tools in the region is indicated by two large stone axes of volcanic arenite collected from Kiwi island immediately northeast of Torres Strait (McNiven & von Gnielinski, 2004: table 1). As these axes were also likely made in Torres Strait, they probably moved to the adjacent Papuan lowlands as exchange items. Whether or not Torres Strait sandstone *gabagab* crossed to mainland New Guinea, either as exchange items or raid loot, remains to be demonstrated (cf. Hitchcock, 2004; McNiven, 1998).

CONCLUSION

Mua 36 Surface Find #2 is the second known *gabagab* for Mua. Another *gabagab* (held by the Queensland Museum in Brisbane – registration # QE4411) was collected by W.H. MacFarlane on Mua sometime between 1917 and 1933 and is unhafted, ovoid in form, and made of granite (McNiven, 1998: table 1). However, it is possible this *gabagab* was originally brought over from Mer in the eastern Strait as it formed part of a collection of five artefacts donated to the Queensland Museum in 1959, and the other four artefacts have since been provenanced to Mer (Michael Quinnell, pers. comm., 2007). The new Mua *gabagab* adds to our understanding of the diverse nature of Torres Strait *gabagab*, representing only the second example of a decorated *gabagab*. Thus, while bi-convex or disc-shaped (lenticular) club heads made from volcanic rocks remain the most commonly-known *gabagab* type for Torres Strait, it is clear that Torres Strait Islanders made a wide range of *gabagab*. At this point, no clear pattern exists for a relationship between *gabagab* type and particular raw materials or island communities. Current evidence suggests that the tradition of *gabagab* manufacture in Torres Strait encompassed considerable morphological variability with a focus on volcanic raw materials that were amenable to shaping by high impact percussion flaking and pecking and production of a smooth finish by grinding. In this sense, each *gabagab* was a highly individual creation, its manufacture representing the result of a broad range of social, technological and personal decisions. The durability of these stone implements ensured that they accumulated a colourful biography and were the prized possession of a number of men over a series of generations. Following their use in numerous violent raids and ceremonial exchanges and dances, each new archaeological find of a *gabagab* represents the exciting rediscovery of a rare object with a unique history and tactile personality of which we can all ponder.

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LITERATURE CITED


