

Boat images in the rock art of northern Australia with particular reference to the Kimberley, Western Australia

Sue O'Connor

Department of Archaeology and Natural History, Australian National University, Australia
sue.oconnor@anu.edu.au

Steve Arrow

12 Gregory Street, Broome, Western Australia, Australia

Introduction

Boats are a recurring motif in the rock art of northern Australia, particularly in the Northern Territory and the Kimberley region of Western Australia. They include Macassan praus, European vessels and a variety of smaller craft, which may be of local or Southeast Asian origin. Recent assessments of watercraft in rock-art assemblages have been undertaken for areas of Arnhem Land in the NT (including Groote Eylandt) and for the Kimberley, WA (Figure 1). These reviews indicate marked regional variation in the types of craft depicted, the style of depiction and the association of people with boats. For example, in Groote Eylandt art, Macassan praus dominate, whereas in the Mt Borradaile area of Western Arnhem Land and in the Kimberley, European vessels and simple canoes are numerically dominant (Bigourdan nd; Roberts 2004:21; Clark and Frederick 2006). It is argued here that these boat depictions are informative about the historical context and the nature of the relationships of contact in the different regions. This paper also describes three previously unrecorded boat images from the Kimberley coast and discusses these within the context of the known corpus of Kimberley boat images in the rock art.

Contact history and boat images in the rock art of northern Australia

Clarke and Frederick (2006) have recently documented the watercraft images on Groote Eylandt, the largest island in the Groote Eylandt archipelago on the western side of the Gulf of Carpentaria, Northern Territory. They analysed 23 depictions of boats, of which Indonesian praus represent 65 percent and European sailing boats 26 percent of all craft (two modern boats account for the rest) (Clarke and Frederick 2006:124, 2008). Most of the Macassan praus show

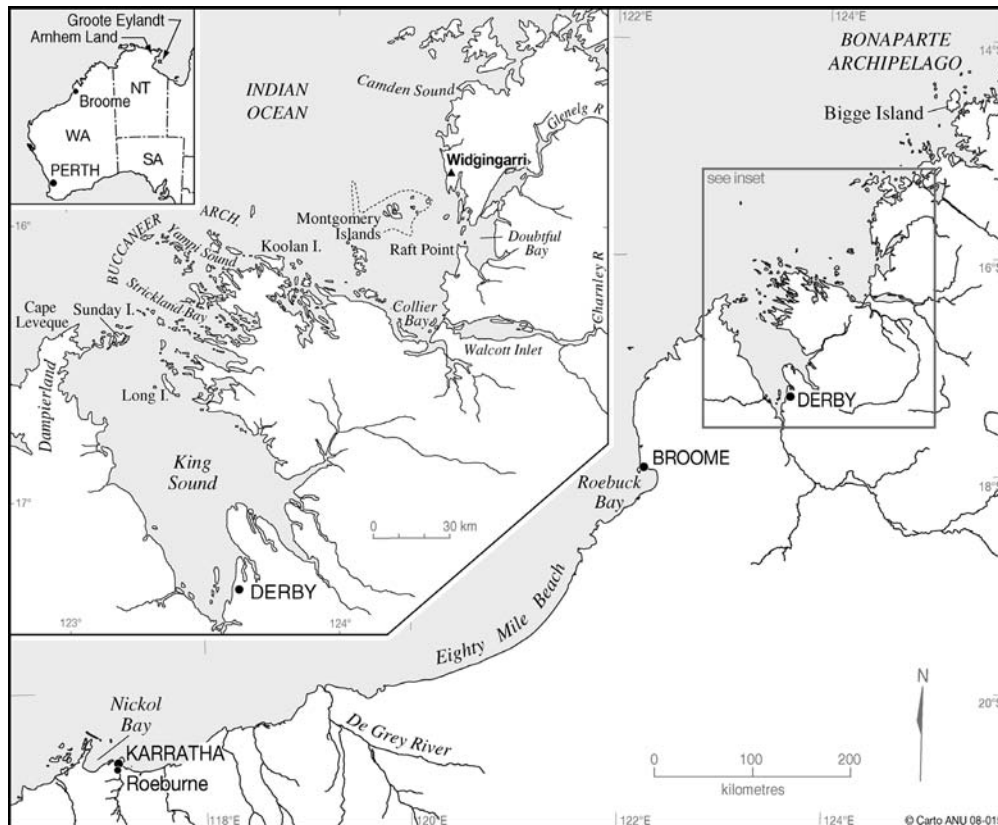


Figure 1. Map showing places and sites mentioned in the text.

people on board. Clarke and Frederick's (2008:2) aim was to examine 'archaeological signatures of art production to understand how cross-cultural engagements between Indigenous Groote Eylandters and non-Indigenous outsiders might be communicated through rock art'. They present a convincing case that the greater representation of Indonesian vessels over European craft, the intricacy of execution and use of multiple colours, and the detail shown on the praus probably reflect the greater frequency and duration of Macassan over European visitation. They also note that the presence of people on Macassan boats contrasts markedly with depictions of European boats, which rarely show people on board, and suggest this may indicate more familial relationships and cross-cultural understandings (Clarke and Frederick 2006).

From the mid 17th century until 1907, Indonesian fishing fleets sailed to the northern coast of Australia in search of edible trepang (also known as tripang, bêche de mer, sea cucumber (Eng.), *Holothurians* (L.)), which had a high value in the Chinese markets. They came predominantly from Macassar in southern Sulawesi (Ujung Pandang), hence are known as Macassans, but some also came from other parts of the Indonesian archipelago (Urry and Walsh 1981; Chaloupka 1996:131), including the islands of Timor, Roti and Aru. The trepang were processed, dried and smoked and the Macassans made large camps on protected areas of the coastline, within which they constructed their tripots, smokehouses and living quarters. Macknight (1976) provides a comprehensive account of the Macassan industry on northern Australian shores and only pertinent information will be outlined here.

The scale of the Macassan visitation to the NT is often not appreciated, although it is well documented historically. King, for example, met a fleet of 15 praus with 300 men on board near the Cobourg Peninsula and consequently named the spot Malay Bay (King 1827,I:77).

Large and regular fleets of praus, with up to two thousand men aboard, sailed in with the north-west monsoon each December. They spent the next four months ... gathering and curing trepang, and returned home with the south-east trade winds in March or April (Chaloupka 1996:132).

They worked sections of the coast in groups of five or six praus and each prau had a crew of 20 to 25 men (Chaloupka 1996:133), and was equipped with a suite of dugout canoes.

The regularity of the Macassan voyaging allowed the establishment of social and trade relationships and while trepang were the primary interest of the Macassans, they also collected a variety of other goods, such as pearl shell, pearls, minerals, sandalwood and turtle shell (Macknight 1976; Chaloupka 1996:131; Clarke and Frederick 2006:119). Local Aboriginal groups stockpiled these items in anticipation of the Macassan return the following season. It has been suggested that the Macassan presence had a significant effect on Aboriginal settlement patterns and exchange networks (Mitchell 1994; Clarke 2000:330–333).

Members of the clan groups in whose estates Makassans established their camps and others from farther inland, attracted by availability of exotic goods, worked alongside the visitors, participating in all their endeavours. As payment they received dugout canoes, cloth, tobacco, spirits and treasured iron knives and tomahawks (Chaloupka 1996:132).

Aboriginal people adopted as a *lingua franca* a 'Macassar' pidgin which allowed them to communicate with the crews of the praus, as well as across Indigenous language groups (Urry and Walsh 1981:91–93). Each year, Aboriginal men sailed along the Arnhem Land coast into the Gulf of Carpentaria and some even undertook the return voyage to the port of Macassar or beyond (Earl 1841:116; Jukes 1847:259; Tindale 1926:130; Chaloupka 1996:138). Some may have been abducted, but the historical record indicates many went willingly and established close long-term relationships with families in the islands (Macknight 1976:86; Urry and Walsh 1981). In the 1870s, there were reportedly as many as 17 Aborigines in Macassar from Port Essington alone (Macknight 1976:86). The Macassan visits effectively ceased in 1907 when they were banned from fishing in Australian waters (Bain 1982:14).

The Macassan contact was recorded in Indigenous oral traditions, ceremonies, stone arrangements and rock and bark paintings. The paintings of Macassan praus demonstrate intimate knowledge of the workings of the boat, sails and rigging. The paintings on Groote Eylandt and many in Western Arnhem Land are executed in traditional x-ray style, enabling internal details and fittings within the hull to be shown (Chaloupka 1996:140).

Conversely, most contact paintings in western Arnhem land reflect European influence, but European influence from the later part of the 19th and the early 20th centuries (Roberts 2004). However, as Roberts (2004:41) has recently shown, while the artistic conventions used in the portrayal of Macassan and European craft may differ, the technical nautical knowledge displayed, and the accuracy of the transference of this knowledge into the paintings, is no less developed in the European boats than in the Macassan craft. In a review of the Mt Borradaile boat images, NT, Roberts (2004:26, 35) demonstrates that the paintings are concise enough with respect to rigging, sails and shape to be able to identify the types of craft depicted. They are mostly sloops, cutters, ketches and schooners, which would have been a common sight on the northern coastlines and rivers from about the 1870s to 1930s. These boats were used by buffalo hunters, European trepangers and others. Roberts (2004:39) describes the way in which the establishment of the buffalo-shooters' camps on the South and East Alligator floodplains generated non-traditional movements in western Arnhem Land as Indigenous people congregated around the hunters' camps. As well as direct contact with the Europeans, these changes, in turn, generated a different sort of 'contact'. The changed residential patterns

stimulated by the attractions of the shooters' camps brought Indigenous groups into contact from regions far outside their traditional seasonal spheres of movement and interaction.

Contact history and boat images in the rock art of the Kimberley, Western Australia

Boat depictions are much rarer in the Kimberley than in the Northern Territory. A recent review of all known watercraft images in the Kimberley region prepared for the WA Department of Maritime Archaeology, Western Australian Museum, reports only 15 watercraft images from the Kimberley coast (Bigourdan *nd*). Of these, one may depict the outline of a prau (Crawford 1968), however this identification is uncertain as the image shows no detail of the boat construction or rigging. The remaining 14 boats are European craft ($n=4$) or canoes/small boats ($n=10$). The European boats include two sailing vessels, one rowboat with oars and rollocks, and one boat identified as 'a European craft' for which no further information is available. These small non-European boats may represent indigenous craft, or dugouts acquired from the Macassans. All of these small boats have people on board. Walsh (2000:32) has made a case that some small craft with high upswept prows and sterns are crewed by Bradshaw-style figures (Figure 2). Bradshaw figures have elsewhere been shown to have a minimum age of 17,000 years (Roberts *et al.* 1997).

Two of the European craft, the rowboat and one of the sailing boats, show people on board. Interestingly, the people in the rowboat are depicted in 'Wandjina-style' (Figure 3).

This paper focuses on three previously unrecorded paintings of European sailing boats recorded by the author in 2006 on the mainland coast adjacent to the Montgomery Islands (Figure 1). These provide enough technical detail to be able to assess their type, probable occupation and the approximate timeframe in which they were painted. This, in turn, may provide an insight into the history and relationships of contact in this region.

The absence of Macassan praus in the Kimberley-region rock art is puzzling. There is no doubt the Macassans were regular visitors to the Kimberley coast, which they called Kaju Djawa or Kai Jawa, although their visits are not as well documented as for the NT (Macknight 1972; Urry and Walsh 1981). Ian Crawford (1969) excavated a Macassan camp and processing site Tamarinda, near Kalumbura in the north Kimberley, and documents other camps and indications of Macassan visitation (Crawford 2001:72–75). We know from the presence of tamarind trees that the Macassans may have ventured as far south as Dampierland (O'Connor 1990:37). The prospector E.J. Stuart (1923:36) noted the remains of several Indonesian camp sites in Yampi Sound during his exploratory voyage up the Kimberley coast in 1917. In 1865, Scholl, the resident magistrate at Roebourne, reported seeing a fleet of praus in Camden Harbour and claimed they were engaged in slaving (Crawford 1968:61; Bain 1982:19), and there are documented cases of Aborigines stolen by Macassan raiding parties being sold in slave markets in the port of Macassar (Shepherd 1975:32; Bain 1982:32).

This may account for the fact that the relationship between the local Indigenous groups and the Indonesian crews of the praus does not appear to have been as convivial as along the Arnhem Land coast. In fact, it appears the Kimberley Aborigines were regarded by the Macassans as hostile (Urry and Walsh 1981:101; Bain 1982:14; Crawford 2001:71) (although Crawford (*pers comm.* in Choo 1994:8–9) reports that Aboriginal women were sent to the Macassan visitors by their husbands in exchange for goods such as metal and food). This may have led to less direct contact with the crews of the praus by Indigenous groups in the Kimberley and thus less familiarity with the working of their boats.

The first European voyages to the Kimberley were close in time to the earliest Macassan



Figure 2. Small craft with upswept prau and stern that may be of bundle reed construction, crewed by Bradshaw-style figures (redrawn from Walsh 2000:32).



Figure 3. Painting of rowboat with rollocks and three 'Wandjina-style' figures from Bigge Island, Bonaparte Archipelago. Photo Pat Barker. This image was originally published by Ian Crawford (1968) in *The Art of the Wandjina*, with the permission of the traditional owners, and is reproduced here with the permission of the WA Museum.

visits. We know that in 1688, William Dampier, arriving in the *Cygnets*, spent time in King Sound repairing his boat. He was followed by the French explorers Baudin in 1803 and Freycinet in 1818. English explorations led by Philip Parker King and Lieutenants Stokes and Grey are known from their journals to have made contact with local Indigenous groups (O'Connor 1999:7–8). These events, however, appear to have gone unrecorded in the rock art of the region.

Boat paintings from the Kimberley coast, adjacent Montgomery Island

During fieldwork in 2006, three new images were added to the existing corpus of Kimberley painted craft.

Boat 1 Widgingarri

This boat is painted in simple red-brown outline over a white background that appears to have been applied using the traditional method of blowing the white pigment from the mouth. This provides a stark contrasting matt background against which to view the red boat. The boat overlies a fish in red outline with partial dotted infill also applied on to a white background, which in turn overlies a large kangaroo in yellow ochre with yellow dotted infill (Figure 4). Figure 5 shows an enlargement of Boat 1 and the outline extracted from the underlying images to better identify its features.

Both scale and detail of the rigging of this craft are very specific. The vessel shown in

silhouette is gaff-rigged. It is not a pearling lugger per se, but rather a schooner. The defining characteristic is the dominant mizzen sail. The mizzen mast (the back one) is clearly the taller of the two masts and carries the larger sail. The artist has even drawn the cap spar, which connects the two masts together, and links the sail load to the clearly defined bowsprit and fore stay.

There is also no doubt the artist had good knowledge of the underwater structure of the boat. The depiction shows detail of the part of the hull that is ordinarily below the water line and not visible to the observer while afloat. This suggests it may be a recollection, in part, of the vessel as seen careened at low tide. These vessels were regularly careened to scrub the copper and caulk the garboard plank. They were probably careened every spring tide, or twice a month.

There appears to be detail of what is called the 'dead wood', or the space between the lower end of the keel and the termination of the garboard plank at the stern. This is where a rudder or a propeller shaft might protrude. There is a thickening of the line in this area, which may be the artist's attempt to show the rudder. Alternatively, the artist may be expressing the rudder as the small lobe extending out from the stern of the keel. In the alternative, this is an expression of the rudder pintle, the point where the rudder attaches to the keel.

Another interesting feature of Boat 1 is the pronounced stern extension above the water-line. This was typical of sailing vessels of this type and from that period. However, in the case of the Broome pearling vessels, there was a strong trend towards the popular counter stern. This was a semi-circular hemispherical or rounded shape that was separated from the deck by knees (usually three). The overhanging rim provided a good platform for controlling dive hoses, but

perhaps more importantly, provided the ideal shape for use as a communal toilet (the overhang providing some degree of clearance from the lower stern hull and at ideal sitting height). The artist seems to be emphasising this shape. However, it is inverted vertically, so it does not read quite as you would see it. The rake of the bow is quite sheer, consistent with the form of the larger schooner-rigged ketches used at the time. There is accentuated roc or curve leading to the stern. Accentuated roc at the stern is a design feature particularly suited to strong following seas as it reduces the chances of broaching when a wave hits or drives against the stern.

Boat 1 is typical of the larger mother ships that supplied and serviced pearling fleets working off Broome in the last part of the 19th century and the early 20th century. Examples of this style of craft could be the *Sri Passir* (Street-er's schooner) or *The Mina* (Normans Schooner ex Beagle Bay).

In support of this interpretation is what appears to be a hafted axe or hatchet painted in outline and to the right of the schooner (Figure 4). The shape is unlike traditional stone axes/hatchets, but is strongly reminiscent of the shell-processing tomahawks that were used to

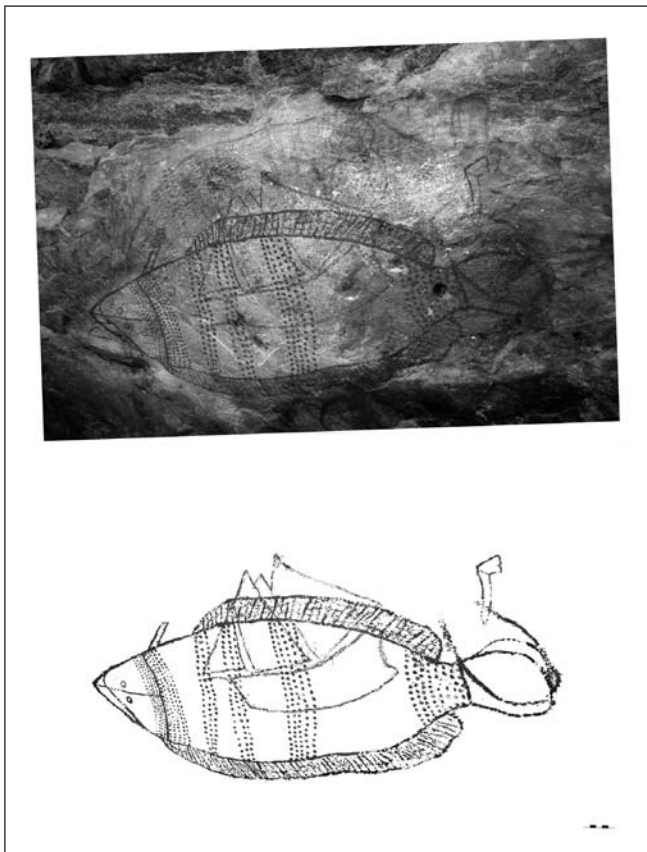


Figure 4. Boat 1 Widgingarri. Painting showing boat overlying fish and kangaroo paintings with possible tomahawk used for cleaning pearl shell to the right of this group (upper panel), and fish, boat and tomahawk extracted from background (lower panel).

clean away marine growth and chop the outer edge or growth process off the shell. This was the common way of removing the soft outer margin of the shell, which, unless removed, would shrink and crack the shell, affecting quality. The tomahawks were usually cut down so the operator had a short stump to wrap his hand around. The hatchet shown has the clearly defined wedge-shaped head and the arched hafting that is characteristic of the mount of the shell-processing tomahawks. Removing the edge of the shell created a neat open slit into which a knife was easily slid. A downward levering action would sever the abductor muscle and the pearl shell would spring open. Schooner mother ships sometimes acted as the processing point for the shell caught by satellite lugger fleets. There were two main reasons for this. Firstly, many of the early luggers were small vessels of about 40 feet. Deck space for processing and holding shell was limited. Handling bags of shell would have been difficult and cumbersome on an intra-vessel at sea basis. It was much easier for baskets of unprocessed shells to be lowered down to a collection dingy and transferred to the mother ship. The second reason was to maintain control over the shell-opening process by a trusted employee, therefore avoiding the potential loss of natural pearls by crew theft, something that was rife in the industry.

These schooners also carried an inventory of spares for the lugger fleets. It is likely they had an abundance of small steel-headed tomahawks. The artist may have stored the shelling tomahawks in the rock shelter while working on a lugger, or may have been given one in exchange for goods or services, or at the end of a period of work.

The detail of the sail plan, especially the detachment of the jib from bowsprit and the knowledge of hull structure below the waterline, indicates an intimate knowledge of the vessel. In summary, the artist is either an extraordinary observer, or has spent some time on this type of boat.

Boat 2 Widgingarri

Boat 2 is another very good example of a ketch-rigged vessel. It is painted in red pigment on to a traditionally applied white background (Figure 6). The hull is shown in solid red infill, as is the attached dinghy. The mast and sails are in red outline. This painting partly overlies a reclining Wandjina figure. The base of the hull of the boat has been painted over the right arm of the Wandjina, nestling closely into the body. Interestingly, this boat has been repainted and the mast configuration and hull shape have been changed at least once. Figure 6 shows the painting as it appears and the extracted outline of the boat, with the upper outline showing the earlier painted masts, as well as the most recent repainting, and the lower outline showing only the most recent painting of the masts. In the earlier configuration of Boat 2, the artist appears to have conformed to the style of Boat 1.

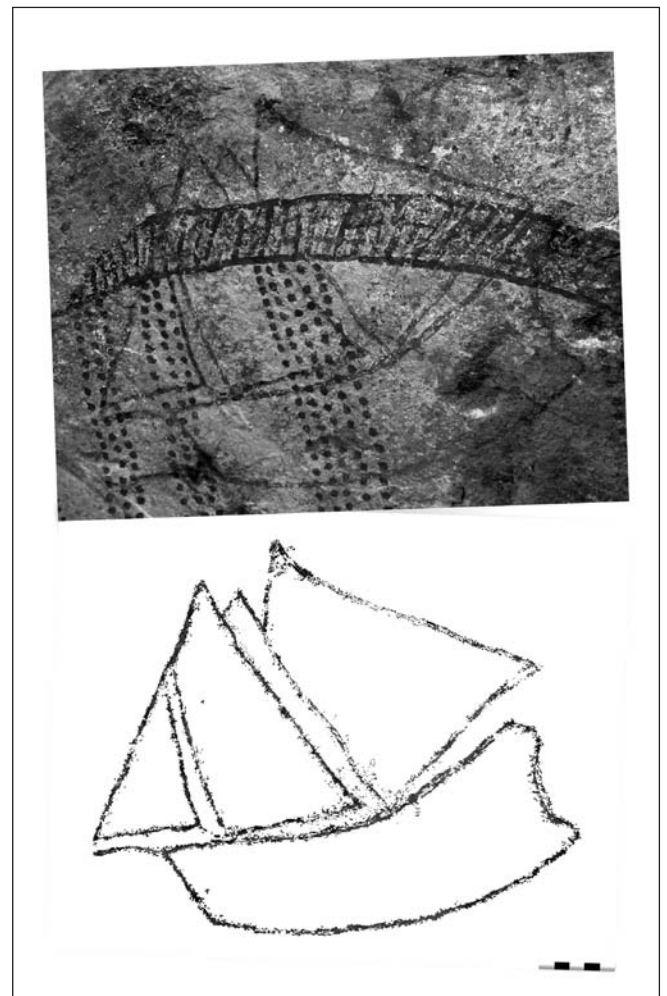


Figure 5. Boat 1 Widgingarri. Enlargement of boat and extracted outline.

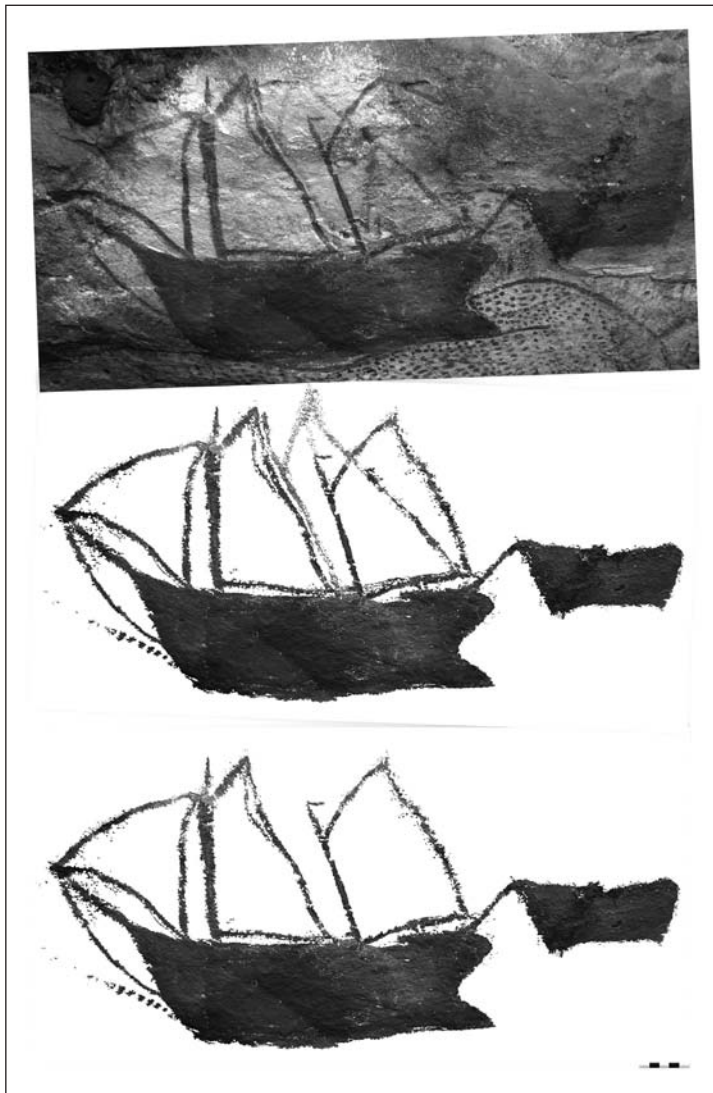


Figure 6. Boat 2 Widingarri. Original painting (upper panel), extracted image of boat (central panel) and extracted image showing only the most recent repainting of the sails (lower panel).

In particular, the mizzen mast and sail follows the trailing edge or luff of the foresail. In the repainting, the mizzen is straightened and separated.

The mizzen mast and sail appear to be either similar in size or larger than the foresail in the original painting. In the repainting, the mizzen mast is shorter than the foremast. It is possible this boat was originally painted as a schooner and later changed to reproduce the features of a lugger.

As in Boat 1, Boat 2 is painted in silhouette and details of the lower hull and counter are apparent. There is some interesting detail at the bow which does not appear on Boat 1. A connective line of dots emerging from the stem at the bow could be an anchor chain. In view of the strong ochre infill of the vessel hull, the careful separation of the dots suggests a deliberate choice on behalf of the artist to show the anchor chain.

The veering of the anchor was not always done when vessels were careened in a creek, mainly because the preference was to use the bases of mangrove trees as tie-off points. This gave the captain much more control over exactly where in the tidal gutter he would lay up his vessel. A single anchor off the bow could not ensure the vessel ended up exactly where it should sit for a good careening. It is possible, however, particularly in unfamiliar places with limited mangrove forest, that the anchor could be veered in order to hold the vessel for careening.

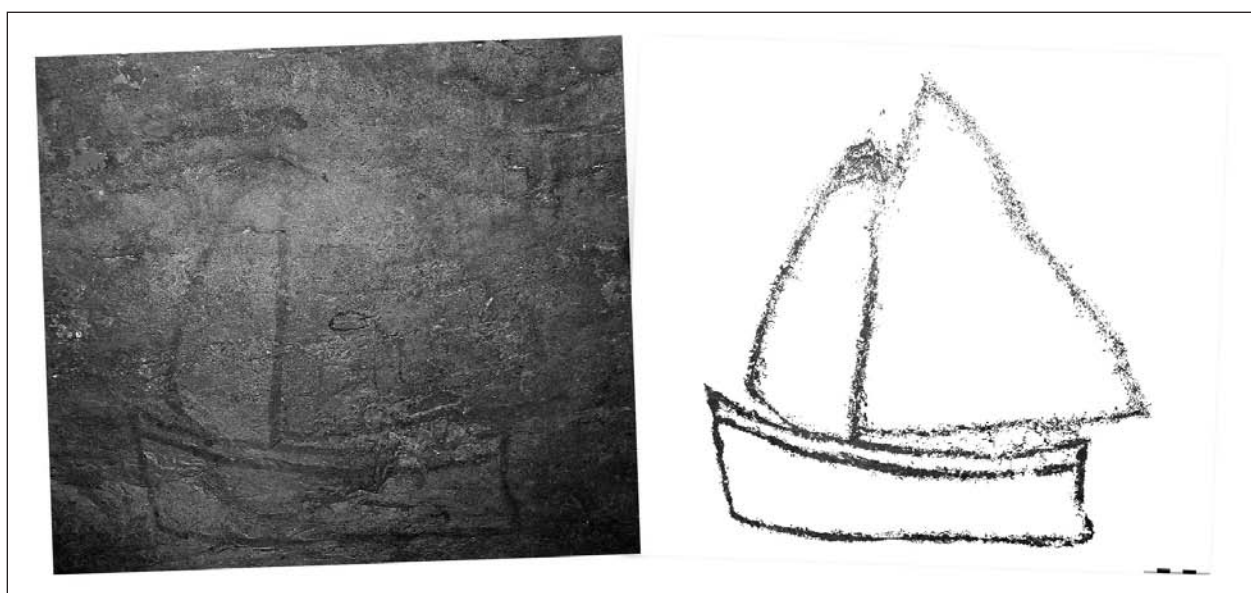


Figure 7. Boat 3 Widgingarri. Painting of small single-masted craft and extracted outline.

In other respects, the vessel seems to resemble Boat 1, but with extra detail. We see here also the inclusion of the bow sprit or bob stay chain. Again, the artist's knowledge of the vessel's rig and the way the sails are flying suggest a very good understanding of these boats. There appears to be an attempt at some structure emanating horizontally from the top of the mizzen mast. This could be an attempt to show the rope and pulley detail between the mast and the gaff, or it could be a flag. Often identification flags were flown from the top of the mizzen. This helped pearlers identify a specific fleet or vessels from a distance at sea.

The bow appears to have the classical elongation of the so-called fiddle bow, an early style that most probably came down with pearling vessels built in the Aru Islands.

It is interesting to note that unlike the ketch-rigged vessel, the dingy off the stern is shown as if it were floating in the water. No attempt has been made to show the detail below the waterline. The dingy has no mast nor rigging and therefore probably represents the standard clinker-hulled sculling vessel used to tender these vessels during the later part of the 18th century.

Boat 3 Widgingarri

Boat 3 is a small single-masted craft (Figure 7). It is painted in simple red outline and is very faded. It was probably executed on a blown white background, but the deteriorated condition of the painting makes this hard to determine. The faded condition of the red ochre and the greenish hue to the background suggests water damage is largely responsible for the deterioration.

This single-masted vessel could depict a cutter or a sloop. However, the length-to-depth ratio of the hull suggests it is a small boat. The small size of the craft and the little bump at the stern, which may be an attempt to indicate a rudder, suggest this is more likely to be a simple dinghy sail rig. Sailing dinghies were used as an alternative to sculling and rowing the various types of clinker-hull dinghies commonly used to tender luggers and schooners.

The following section provides the historical context for the three boats at Widgingarri.

The pearling industry and European sailing craft in the Kimberley

The first tentative pearling venture began in the Kimberley region at Nickol Bay about 200 km south of Broome in 1864 (Bain 1982:14). This was shore-based shell collection and was fairly



Figure 8. Pearling luggers and schooners in Roebuck Bay Broome (courtesy of the National Library of Australia).

short-lived, as shell supplies dwindled and it was quickly realised that pearl shell was more abundant in the deeper waters offshore. During the late 1860s to the mid 1880s, 'bare diving' took over from shore-based collection (Bailey 2001:22). Stripped naked, the divers went down holding their breath and returned with a bag of shell. The early years of the bare-diving phase involved mostly Aboriginal labour and as the profitability of pearling increased and labour requirements grew, Aboriginal labour was forcibly acquired by brutality and blackbirding (Bain 1982:20). The kidnapped Indigenous divers received no pay and at the end of their 'contract', or when they broke down, were often abandoned hundreds of kilometers from their traditional lands. Between 1871 and 1873, legislation was introduced aimed at improving the working conditions for Aboriginals on the luggers, prohibiting women from employment on board and stating that Aboriginals should be returned to their traditional lands at the end of their employment. Due to the remoteness of the Kimberley, there was little enforcement of this legislation (Bailey 2001:28).

Pearling began in Roebuck Bay in 1879 (Figure 8) and Broome was officially gazetted as a town in 1883 (Bailey 2001:29). The pearling industry based out of Roebuck Bay appears to have begun immediately with standard diving dress capabilities (Sam Male pers comm.), although some sources suggest that bare diving by Indigenous divers continued alongside suit-based collection through the 1880s and into the early 1890s (Bailey 2001:30–31). Suited diving was vastly more efficient in deeper water and was undertaken almost exclusively by Asian divers, mostly Japanese. Aboriginals employed in the industry after suit-based diving dominated were few, and were predominantly crew or shell cleaners (Bailey 2001:30–31; Shepherd 1975:178). By 1901, there were 232 pearling vessels working out of Broome, employing 132 whites, 1358

Asians and only 65 Aboriginals. Between 1908 and 1911, Aboriginal numbers had dwindled further, to between 20 and 29, while total Asian participation had risen to between 2094 and 2275 (Choo 1994:Appendix 2).

While the pearling industry was the major supplier of schooners, luggers and cutters along the Kimberley coast, examples of such boats operating between Broome and the north Kimberley coast engaged in less strictly commercial pursuits are numerous. Schooners were used as general supply boats and it is these that were engaged working the coast and supplying settlements between Broome and areas to the north.

The Port George the IV Mission was established on the mainland coast opposite Augustus Island about 1912 (O'Connor 1980:44) and later was moved a short distance inland and was renamed Kunmunya. A schooner regularly travelled between the mission and Broome, collecting and delivering mail and supplies (Stuart 1923:63). The missionary Love (1936:9) reports stopping his lugger on the way to and from Broome so his Indigenous crew could chat with friends or relations, drop off some tobacco, or collect turtle eggs to take back to their families at the mission.

The prospector E. J. Stuart travelled from Broome to Wyndham in 1917 in the schooner *Culwalla* and made observations of the many small maritime commercial operations and settlements using luggers dotting this coastline. For example, the self-styled missionary Hadley established a mission at Sunday Island at the turn of the century, and receiving no financial support from any source, he used small boats to collect trepang, *Trochus* and pearl shell. A highpoint in the calendar of mission life was the arrival of the schooner from Derby, which brought supplies such as flour every three months (Stuart 1923:18).

Harry Hunter, who lived with his large Indigenous family at Hunter Creek on the tip of Dampierland, was a lugger builder and trader and his family crewed his boat.

The Frenchman D'Antoine kept a small lugger at Tyri Island where he lived with a camp of more than 50 Indigenous people who assisted him in the enterprise of collecting trepang, bare diving for pearls and ferrying provisions (Stuart 1923:16). Most of these craft would have had Indigenous crew. For example, Stuart's crew included 'four black boys lent' to him by Hadley from the Sunday Island Mission, for the duration of his voyage (Stuart 1923:3).

In summary, while the historical records indicate that few Aboriginal people were directly engaged on pearling luggers working out of Roebuck Bay, they did work and crew on luggers and schooners working the waters north of Broome and there was no shortage of opportunities for them to observe these boats first hand. A close relationship with the workings of the boats is suggested by the technical accuracy of the rendering.

Conclusion

The three painted craft described here fit well into the artistic tradition of the paintings of traditional subjects in this region of the Kimberley. They are painted in red outline or combination outline and infill over a blown white background. As with most of the animals depicted in this style, they are shown in profile.

As Clarke and Frederick (2006) point out, the term 'contact' evokes the idea of an encounter with the unfamiliar. However, the 'idea that Aborigines regarded these subjects as exotic, foreign entities, existing outside the traditional Aboriginal experience, may be misleading' (Roberts 2004). While the boats represented are European and therefore are categorised as 'contact art', it is unlikely they were perceived as 'foreign' by the Indigenous people painting them. Like the paintings of European craft described by Roberts (2004) from western Arnhem Land, the three European boats described here would have been a common sight along this coast from the early

1900s until as late as the 1950s. The accuracy of observation and reproduction of the technical features of the craft suggests the artist(s) was intimately familiar, both from a technological and a social perspective, with the operation of the boats. Voyages on such boats may even have been part of the daily life of the artist(s) when working away from their traditional lands. They were, therefore, not painting scenes from somebody else's life, but a narrative of their own.

Acknowledgements

The trip to record the painting sites discussed was undertaken with Donny Woolagoodja, Adey Woolagoodja-Lane and Alfie Umbagai. Donny is a senior Worora elder and is thanked for his skill in getting us to this difficult section of coastline and for granting permission to record the art. The project was funded by the Australian Institute of Aboriginal and Torres Strait Islander Studies. Tony Barham assisted with the rock art and site recording. We would also like to acknowledge assistance from Paul Clark, Curator of Maritime Archaeology and History, Museum and Art Gallery of the Northern Territory. Adam Black undertook the extractions of the boat images in Figures 2, 3, 4, 5, 6 and 7. Moya Smith, Head, Anthropology Department, Western Australian Museum, assisted with information on the images of boats that were recorded by Ian Crawford from Bigge I. The WA Museum is thanked for granting permission to reproduce Figure 3 and the National Library of Australia for permission to reproduce Figure 8.

References

- Bailey, J. 2001. *The White Divers of Broome: The True Story of a Fatal Experiment*. Sydney: Pan Macmillan.
- Bain, M.A. 1982. *Full Fathom Five*. Perth: Artlook Books.
- Bigourdan, N. nd. Aboriginal watercraft depictions in Western Australia. Unpublished Report Department of Maritime Archaeology Western Australian Museum, No 216.
- Burningham, N. 1994. Aboriginal nautical art: A record of the Macassans and the pearling industry in northern Australia. *The Great Circle* 16(2):139–151.
- Chaloupka, G. 1996. Praus in Marege: Makassan subjects in Aboriginal rock art of Arnhem Land, Northern territory, Australia. *Anthropologie* 34(1–2):131–142.
- Choo, C. 1994. The impact of Asian-Aboriginal Australian contacts in Northern Australia, particularly the Kimberley, Western Australia. Unpublished manuscript (PMS 5328). AIATSIS collection, Canberra, AIATSIS.
- Clarke, A. 2000. 'The Moormans Trousers': Macassan and Aboriginal interactions and the changing fabric of indigenous social life. In S. O'Connor and P. Veth (eds), *East of Wallace's Line: Studies of Past and Present Maritime Societies in the Indo-Pacific Region*, pp. 315–335. Modern Quaternary Research in Southeast Asia 16. Rotterdam: A. A. Balkema.
- Clarke, A. and U. Frederick In press. The mark of marvellous ideas: Groote Eylandt rock art and performance of cross-cultural relations. In P. Veth, P. Sutton and M. Neale (eds), *Strangers on the shore: Early coastal contacts in Australia*, pp. 148–164. Canberra: National Museum of Australia.
- Clarke, A and U. Frederick 2006. Closing the Distance: Interpreting Cross-Cultural Engagements through Indigenous Rock Art. In I. Lilley (ed), *Archaeology in Oceania, Australia and the Pacific Islands*, pp. 116–133. MA, USA: Blackwell.
- Crawford, I.M. 1968. *The Art of the Wandjina*. London: Oxford University Press.

- Crawford, I. 1969. Late prehistoric changes in Aboriginal cultures in Kimberley, Western Australia. Unpublished PhD thesis, London, University of London.
- Crawford, I. 2001. *We won the victory: Aborigines and outsiders on the North West coast of the Kimberley*. Fremantle: Fremantle Arts Centre Press.
- Earl, G.W. 1841. An account of a visit to Kisser, one of the Serawatti group in the Indian archipelago. *Journal of the Royal Geographical Society* 11:108–117.
- Jukes, J.B. 1847. Narrative of the Surveying Voyage of H.M.S. Fly, commanded by Capt F.P. Blackwood, R.N. in *Torres Strait, New Guinea, and other islands of the Eastern Archipelago, during the years 1842–1846*. London: Ruols.
- King, P.P. 1827. *Narrative of a Survey of the Intertropical and Western Coasts of Australia, Performed Between the Years 1818 and 1822*, Vol. I. London: John Murray.
- Love, J.R.B. 1936. *Stone Age Bushman of Today: Life and Adventure Among a Tribe of Savages in North-Western Australia*. London: Blackie.
- Macknight, C.C. 1972. Macassans and Aborigines. *Oceania* 42(4):183–321.
- Macknight, C. 1976. *The Voyage to Marege, Macassan Tregangers in Northern Australia*. Melbourne: Melbourne University Press.
- Mitchell, S. 1994. Stone exchange network in north-western Arnhem Land: Evidence for recent chronological change. In M. Sullivan, S. Brockwell and A. Webb (eds), *Archaeology in the North. Proceedings of the 1993 Australian Archaeological Conference*, pp. 188–200. Darwin: Northern Australian Research Unit, Australian National University.
- O'Connor, S. 1990. 30,000 Years in the Kimberley. Unpublished PhD thesis, University of Western Australia.
- O'Connor, S. 1999. 30,000 Years of Aboriginal Occupation, Kimberley North West Australia. *Terra Australis* 14. Department of Archaeology and Natural History and Centre for Archaeological Research, Canberra, Australian National University.
- Roberts, D.A. 2004. Nautical themes in the Aboriginal Rock Paintings of Mount Borradaile, Western Arnhem Land. *The Great Circle* 26(1):19–50.
- Roberts, R., G. Walsh, A. Murray, J. Olley, R. Jones, M. Morwood, C. Tuniz, E. Lawson, M. Macphail, D. Bowdery and I. Naumann 1997. Luminescence dating of rock art and past environments using mud-wasp nests in northern Australia. *Nature* 387:696–699.
- Shepherd, B.W. 1975. A history of the pearling industry off the north-west coast of Australia from its origins until 1916. Unpublished MA thesis, University of Western Australia.
- Stuart, E.J. 1923. *A Land of Opportunities: being an Account of the Author's recent Expedition to Explore the Northern Territories of Australia*. London: Bodley head.
- Tindale, N. 1925–1926. Natives of Groote Eylandt and of the West Coast of the Gulf of Carpentaria. *Records of the South Australian Museum* 3:61–134.
- Urry, J and M. Walsh 1981. The lost 'Macassar language' of northern Australia. *Aboriginal History* 5(2):91–109.
- Walsh, G.L. 2000. *Bradshaw Art of the Kimberley*, Toowong: Takarakka Nowan Kas Publications.