Developing in Arnhem Land and the surrounding islands, in the mid-late 19th century, bark paint-
ings have become synonymous with Australian indigenous art. This form is still widely practiced by artists today and continues to be a vibrant and dynamic contemporary art form, deeply rooted in traditional practices.

Bark paintings are notorious for their complex degradation issues which largely arise from move-
ment of environmentally sensitive hygroscopic bark supports and underbelts and artist prepared paint films. Little research has been carried out into the binding material used by indigenous artists across the region, which can include naturally occurring, locally sourced materials such as plant gums and mucilages, eggs, honey and wax as well as more recently, PVAs [1][2][3]. Although since the 1990s the use of PVAs has been more widespread, the most predominant of the natural binding media is orchid juice [4]. Little is known regarding the use of this material, both historically and today. What research is available tends to shy almost exclusively from published accounts written by early explorers between 1920 and 1960 [5][6][7][8][9][10][11], with a few notable excep-
tions, and an indigenous perspective is notably lacking.

For the Minor Thesis subject in the Masters of Cultural Materials Conservation at the University of Melbourne, a literature review of the use of orchid juice binders in bark paintings was carried out and supplemented by an interview with Indigenous artist and senior Yulibara based painter, Wulan Wanambi regarding his use of the material. Four species of orchid were identified as being used as a binding material in bark paintings, and different methods and mixtures of binding materials were related specifically to the regions of Arnhem Land, Groote Eylandt and the Tiwi Islands.

Various accounts of binder preparation are noted throughout the literature. Various methods of application are noted. It can be rubbed into the surface of the bark prior to the application of pigment, or mixed with pigment and water prior to the painting process or occasionally rubbed over an already pigmented surface. These methods can also be used in conjunction with one another. The Geouraudium pictum also has a unique application, where it is heated and then rubbed into the bark to increase strength rather than fix pigment [15]. The juice is extracted from the pseudobulb (often just referred to as the bulb, tuber or stem) in a variety of ways depending on the artist and the community. One method is to chew on the plant tissue and spit out the juice to mix directly with the pigments on the grinding stone [2]. This produces a thick consist-

ciability of paint because the pigment particles are more fully coated in the binder and orchid juice acts as a thickening agent [16]. Saliva can also be in-

corporated in the media. The pseudobulb can also be crushed and the sticky exudate removed from the plant and mixed into the paint [15]. When applied directly to the bark, the pseudobulb is split and rubbed directly on the surface of the bark support. Pigments are then layered on top but can only be applied very thinly, otherwise they fail off [20].

Limited information is available regarding the opinions of Indigenous artists regarding conservation [24]. An inherent interest in preservation could be incorporated through the widespread use of synthetic binders and underbelts in the media, and it has also been noted that there are Indigenous practices for protecting and caring for their cultural material which would further em-
phasise this idea [3]. Wanambi noted that orchid juice is used by artists to touch up bark paintings when the ochre come away from the bark support, stating that orchid juice could be used to patch up losses by art-

ists [18]. Given these Indigenous approaches to conservation and the ethical issues of imposing Western values through the act of conserva-
tion, this material could provide a culturally sensitive alternative for use in the conservation of painted films on bark paintings. However further search regarding its stability and material suitability in this application would need to be explored.

The main orchid types identified throughout the literature are the Dendrobium affine (which until the 1940s was known as the Dendrobium discolorum), the Dendrobium canaliculatum, the Cymbidium canaliculatum, and the Geouraudium pictum (also known as the neomalesianum or denervatum.) The Cymbidium canaliculatum was also further identified as the Dendrobium canalicu-

latum var. bennetii [9]. The Dendrobium nobile or any other orchid is mentioned as a replacement binder used in the absence of the Dendrobium affine or Cymbidium canaliculatum [12] which could suggest that artists are relatively versatile when selecting plants for this application.

Although commonly referred to as ‘juice’ or ‘sap’ in the literature, the sticky exudate from the orchid used as a binder is a scientifically the mucilage of the orchid. A mucilage is essentially a thick, gluey substance that is produced by most plants to aid water storage and seed germination [14]. Mucilage is found in the pseudobulb of all orchids used in the region with the exception of the Geouraudium pictum, which does not have a pseudobulb. In this case, mucilage is stored in the bulb [15]. It is widely accepted that the mucilages found in orchid species are glucomannans [14][16][17].

Although this has been widely used to explain the formation of so-called ‘natural’ sealants and binders in various cultures, it is surprising that the use of mucilage in this way has not been more thoroughly examined [16].

References
6. Mountford, C.P., The Tiwi Art of 1937 and Memory, Musee Reine Victorine, Li-

9. Mountford, C.P., The Tiwi Art of 1937 and Memory, Musee Reine Victorine, Li-

10. McCarthy, F.D., ‘Diary 1: Field Notes Groote Eylandt’, The Papers of Frederick David McCarthy, Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), MS 3513/14/1, entry for April 19, pp. 50 (1948).
13. Tindale, N.B., ‘Natives of Groote Eylandt and of the West Coast of the Gulf of Car-

pentaria’, in Oceania 6, 61-143.


22. Mountford, C.P., The Tiwi Art of 1937 and Memory, Musee Reine Victorine, Li-