

SHORT COMMUNICATION

New findings of the rare tree *Syzygium paniculatum* (Myrtaceae) in the Wyong area, New South Wales

Introduction

Syzygium paniculatum Gaern. (Brush Cherry or Magenta Lilly Pilly) has only been known from a few isolated localities along the New South Wales coastline between Jervis Bay and Myall Lakes (Hyland 1983). Collections from Bulahdelah, Gosford, Towra Point and St Georges Basin have been recorded (National Herbarium of NSW). It has been found in remnant littoral rainforests, generally in low population numbers.

The species is coded 3ECi by Briggs & Leigh (1988), indicating that it is inadequately conserved in national parks or nature reserves and is regarded as being endangered, with a serious risk of disappearing from the wild within one or two decades. This paper reports recently discovered populations in the Wyong area on the Central Coast and provides basic data on the vegetation and ecology which may contribute towards a management program for the species.

Locations

Following fieldwork in 1989, further populations have been identified (Figure 1). The first population (Site A) is to be found on the North Entrance Peninsula (151°31'10"E 33°18'30"S). It occurs as a narrow linear band along the slope of an east facing sand dune which was left undisturbed during previous sand mining operations. The population appears to number at least fifty trees on the eastern side of the main road with at least twenty trees thought to be present on the western side. The latter has not been field verified. They lie outside the littoral rainforest site No. 171a conserved by State Environment Planning Policy No. 26.

Site B is a small population adjacent to but outside the southern boundary of the Munmorah State Recreation Area (151°34'30"E 33°13'50"S). It lies at the base of a west facing sand dune. Further sporadically distributed individuals have been located around Lake Munmorah nearby.

Site C is along the banks of Ourimbah Creek and may possibly prove to be the largest population. At this stage at least forty trees have been located between the valley's upper and lower reaches (151°20'30"E 33°21'00"S - 151°16'30"E 33°18'30"S). Some trees are large, with one specimen having a diameter (dbh) of nearly 1 metre. Ourimbah Creek is sinuous and private property prohibits further investigation. The survey was confined to the point where Ourimbah Creek and Ourimbah Creek Valley Road meet. Thus, although the trees have been found all along the creek and on the flood plain downstream as far as the Pacific Highway, the full extent of the population remains unknown.

Habitat

Hyland (1983) states that the species is known from 'sandy soil or on stabilised sand dunes in coastal areas'. This description aptly describes their habitat in the Wyong area.

Site A on the North Entrance Peninsula is on Quaternary coastal sand dunes comprising deep medium grained quartz sands with shallow podsol development. Although recontouring of the dune system after sand mining has occurred immediately east of the populations location, they appear to occupy a mid slope position. As far as can be ascertained, because of infestation with *Lantana camara* and *Chrysanthemoides monilifera*, the population is in littoral rainforest. Associated species include *Ficus fraseri*, *Elaeocarpus obovatus*, *Acmena smithii* and *Rhodomyrtus psidioides*.

Site B is similar except that it is located at the base of a sand dune where ponded conditions can occur. Adjacent vegetation is remnant swamp forest of *Melaleuca quinquenervia*. At the time of the survey ponding of water 300 mm deep was present. *Eleocarpus obovatus* is co-dominant with an understorey of *Hypolepis muelleri*.

At site 6 the deep sands of the Quaternary Alluvium extend along the Ourimbah Creek Valley but are absent from adjacent gullies. *S. paniculatum* appears to be confined only to the main Ourimbah Creek where these sands occur and appears to be eliminated from the side gullies where the Terrigal Formation Shales outcrop (viz., Harden 1986, Payne 1987). Vegetation present along the Ourimbah Creek may be described as gallery rainforest dominated by *Cryptocarya glaucescens* and *Acmena smithii* which Floyd (1985) has described as belonging to the *Acmena-Doryphora* alliance.

Annual average rainfall for North Entrance is 1266 mm (at North Head) and at Ourimbah about 1300 mm.

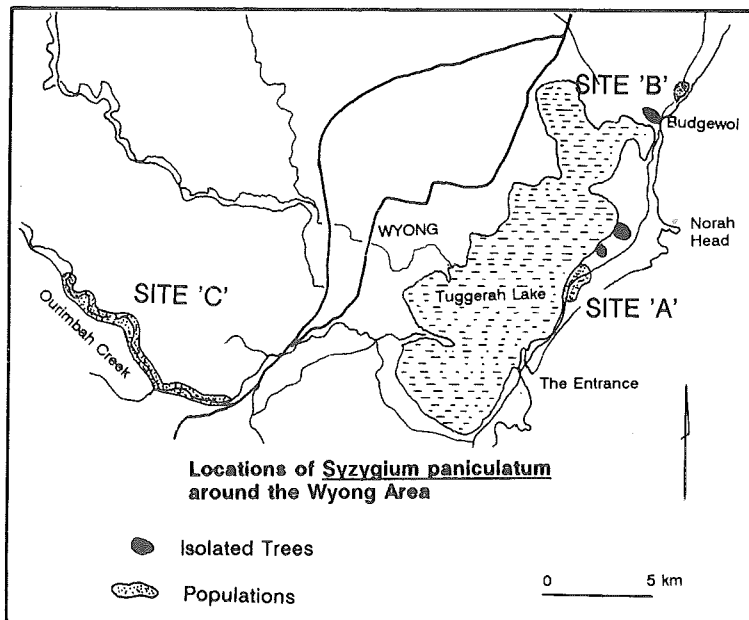


Figure 1. Location of populations of *Syzygium paniculatum*.

Ecology

It appears *Syzygium paniculatum* is able to tolerate both wet and dry conditions on sands. At Site B the presence of an understorey of *Hypolepis muelleri* and the presence of *Melaleuca quinquenervia* adjacent suggests permanent moisture. A flooding regime at Site C further suggests inundation is tolerated. Ourimbah Creek Valley is flooded several times each year.

Fire appears to be a regenerative mechanism. At Site A many trees have coppiced stems with the original main stem being burnt out. This response appears to be similar to *Acmena smithii* and *Backhousia myrtifolia*, though the effect of frequent fires is not known.

No information is available on the regenerative potential from seed. The population in the Ourimbah Creek Valley was revealed because the White-headed Pigeons (*Columba leucomela*) were feeding on the fruit. However there is little evidence of regenerating seedlings but cattle graze amongst the population. A heavy fruit was set in March 1990.

Conservation potential

Planning for the inclusion of the population at Site A into the Wyrabalong National Park is underway. A decision by National Parks and Wildlife Service and the New South Wales Department of Lands is pending.

Site B has potential to be conserved within the Munmorah State Recreation Area for the population lies alongside the southern boundary. Site C has some potential for conservation as the population lies on both rural private property and Crown land.

Conclusions

Syzygium paniculatum in the Wyong area appears to be confined to Quaternary sands in rainforest but absent from the Terrigal Formation shales where gully rainforests occur. It appears to tolerate variable habitat conditions and resprouts after fire. Adequate protection of populations is needed if long-term conservation is to be assured.

Acknowledgments

I would like to thank my two colleagues, Andrew Sourry and Peter Clifford for helping with field work. Many thanks to Peter Wilson for verifying my findings and Doug Benson for editing the manuscript.

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Manuscript received 23 October 1990

Manuscript accepted 7 March 1991

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