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SUBALPINE HUON PINE NEAR FRENCHMANS CAP

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Introduction

Huon pine *(Lagarostrobos franklinii* (Hook.f.) Quinn) is perhaps Tasmania's most famous tree species yet until recently its distribution was poorly known and much is yet to be learned about its ecology. Gibson (1986) has recently provided good distributional data and estimated the area of Huon pine habitat at about 2400 ha. His survey, together with those of earlier workers (Pedley *et al.*, 1980, Davies, 1983), showed that Huon pine is, for the most part, a riparian species which occurs at low elevations. However, in a few localities Huon pine can extend up slopes and well away from rivers. The highest elevation stands surveyed (Davies, 1983, Gibson, 1986), were at 680m and within the catchment surrounding Lake Vera. There is paleobotanical evidence that Huon pine may previously have occurred in high elevation areas with cold temperatures (Macphail and Colhoun, 1985). Fossilized pollen of Huon pine was found at Ooze Lake, situated at 880m in the South Coast Range. The pollen was dated *ca* 17,000 years BP, which was during the last glaciation.

This article lists four additional extant Huon pine stands which occur in the vicinity of Frenchmans Cap. One of the stands is particularly noteworthy as it is quite extensive and its upper margin is over 900m in altitude. It contains several subalpine species not previously reported growing in association with Huon pine (Davies, 1983, Jarman *et al.*, 1984, Gibson, 1986).

The Stands

The four stands were observed from well known bush walking destinations, identification of the Huon pines being considerably assisted by binoculars, and by comparison with distant views of known trees of the species around Lake Vera. The trees were most apparent when viewed at low sun angles.

The locations of the four stands are shown on Map 1 and they are listed in Table 1 along with relevant data.

They are difficult of access but part of the first listed was visited to confirm the presence of Huon pine which can be confused with large specimens of *Diselma archeri* when viewed from a distance.

The Lake Gertrude stand is by far the largest and is mainly situated on a steep south-east facing hillside. The southern portion of the stand occurs on flat areas around the shorts of Lakes Gertrude and Cecily. The stand may have a larger extent along the northern shore of Lake Cecily than shown on the map, as the northern shore cannot be seen from Barron Pass. The density of Huon pine trees was low for most of the area—probably less than 10 trees per hectare. The northern end of the stand was visited (grid reference 048 193) and a species list made. Huon pine voucher specimens were taken for lodgement in the Tasmanian Herbarium.

The plant community at the site is best described as implicate rainforest (species and community nomenclature follows Jarman *et al.*, 1984). The dominant trees are *Lagarostrobos franklinii* and *Athrotaxis selaginoides* up to 10m tall and 60cm diameter (although larger trees occur further into the stand). Other canopy species are *Eucryphia lucida, Nothofagus cunninghamii* and *Phyllocladus asplenifolius* although many individuals are shrubs rather than trees. The shrub layer is dense with tangled individuals of *Archeria serpyllifolia, Nothofagus gunnii, Trochocarpa cunninghamii* and *Trochocarpa gunnii.* Other common shrubs are *Coprosma nitida, Diselma archeri, Lomatia polymorpha, Orites diversifolia, Podocarpus lawrencii, Richea pandanifolia, Richea scoparia, Tasmannia lanceolata* and *Telopea truncata.* Surprisingly, there was an absence of ferns although mosses and lichens were abundant. These formed a ground cover interspersed with clumps of *Astelia alpina.*

The community is remarkable as it contains species such as *Nothofagus gunnii, Diselma archeri* and *Podocarpus lawrencii* which have not been previously reported in Huon pine communities (Gibson, 1986; Jarman *et al.*, 1984; Davies, 1983). The occurrence of *Athrotaxis selaginoides* is unusual but it is known to occur with Huon pine at several localities such as Travellers Creek, Newall Creek, near Teepookana, and the King Billy Range.

Two *Athrotaxis cupressoides* were growing near the recorded community although they did not form part of it. This means that six of the eleven Tasmanian coniferous species were growing in an area with an approximate radius of 100m.

TABLE 1

Stand Name	Grid Reference for Centre of Stand (Franklin, 1:100,000)	Approximate Area (ha)	Highest Elevation (m)	Vantage Point Used to Map
1. Lake Gertrude	048 186	40	920	Barron Pass
2. Pine Knob	060 205	2	600	Daverns Cavern
3. Lake Marilyn	073 175	2	720	Philps Peak
4. Lake Magdalen	035 175	2	840	Clytemnestra

Discussion

The occurrence of additional Huon pine stands in the Franklin River catchment is not surprising. What is unusual is the high elevation of some of these stands and their occurrence with subalpine species not normally associated with Huon pine. Huon pine has generally been considered a lowland species and it has been assumed that it has a low frost tolerance. The occurrence of higher elevation stands suggests that its frost tolerance may be higher than previously thought. However, much of the Lake Gertrude stand lies in a steep-sided valley with good cold air drainage and would be reasonably sheltered from severe frosts and icy winds.

Huon pine can survive at high elevations and the species has a broad altitudinal range, from sea level to 900m. The realization that altitudinal outliers can exist for this species is important when interpreting paleogeographical data and when attempting to draw conclusions about past climatic conditions.

Acknowledgement

Dr M. Brown and Mr N. Gibson provided useful comments on the draft.

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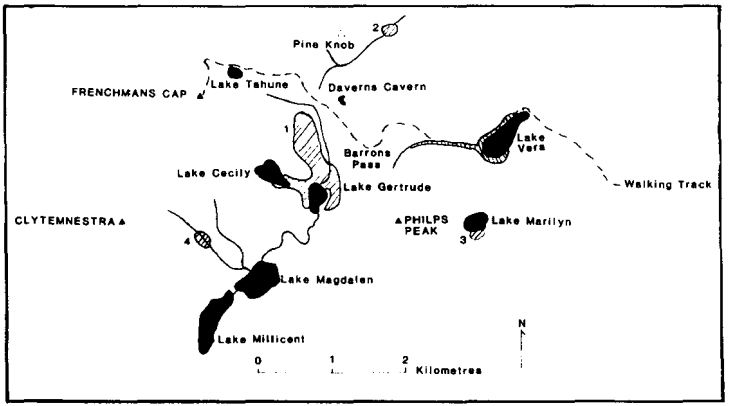

MAP 1—Location of Huon Pine stands near Frenchmans Cap
(Note—Stands near Lake Vera have been previously reported)

BOOK REVIEW

The Cambridge Illustrated Dictionary of Natural History

By R.J. Lincoln and G.A. Boxhall. Published by Cambridge University Press, Melbourne.
R.R.P. $49.50 (hardcover only)

Reviewed by L.E. Wall

This is a very extensive dictionary containing more than 10,000 entries dealing concisely with plants, animals and micro-organisms, their habits, lifestyles, associations, feeding, reproductive strategies, behaviour and physiology, as well as the taxonomic names of all groups of living organisms based on a modern system of classification. Definitions give brief details of structure, biology, distribution, diversity, and are cross-indexed with the most widely used common names.

The most flowering plants, vertebrate animals and some insects the classification is taken down to the family level. Fossil groups are also covered, but more selectively, with an emphasis on well-known names. The text is complemented by a good selection of illustrations of typical or familiar forms that are representative of the groups.

Whilst this book is very comprehensive in its cover of living and fossil forms its cost is likely to limit its market to dedicated students and teachers of natural history subjects.