

# New Site Records for Huon Pine and King Billy Pine

<sup>1</sup>Ken Felton, <sup>1</sup>Jean Jarman and <sup>2</sup>Gintaras Kantvilas

<sup>1</sup>Forestry Commission, Tasmania

<sup>2</sup>Tasmanian Herbarium

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## Abstract

*Huon pine and King Billy pine are reported from 16 locations, including several which represent extensions to the eastern boundary of King Billy pine as shown in the literature.*

## Introduction

Huon pine [*Lagarostrobos franklinii* (Hook.f.) Quinn] and King Billy pine (*Athrotaxis selaginoides* D.Don) belong to genera which were once widely distributed across the Southern Hemisphere continents. Macrofossils and/or fossil pollen attributed to *Lagarostrobos* have been recorded from South America, New Zealand, mainland Australia, Tasmania, the Kerguelen Islands and Antarctica (Playford and Dettman 1978; Wells and Hill 1989) whilst macrofossils of *Athrotaxis* have been recorded from South America, New Zealand, Australia and Tasmania (Florin 1963; Townrow 1965). Although some of these fossil records may require validation (Hill 1990; Hill and Carpenter 1990), a comparison between ancient and present-day occurrences of *Lagarostrobos* and *Athrotaxis* suggests that there has been a substantial reduction in the distribution of both genera. Tasmania is now their stronghold, with *Athrotaxis* (three species) being confined to the island, and *Lagarostrobos* having one species in Tasmania and one in New Zealand.

In Tasmania, *Lagarostrobos* and *Athrotaxis* are confined to high rainfall areas, mostly in the west and south-west. Species of both genera are fire sensitive, and their extent has

declined since European settlement, mainly as a result of altered fire patterns but also because of logging, inundation and mining (Brown 1988; Peterson 1990). For example, Brown (1988) estimates that nearly one-third of the pristine King Billy pine forests has been burnt in the last century.

The importance of the genera, scientifically and as a special part of our natural heritage, has been recognised by the major land managing authorities in Tasmania. Detailed maps of the distribution of Huon pine (Peterson 1990) and King Billy pine (Brown 1988) have been compiled to assist in producing an effective management strategy for the species, especially with respect to protection from fire (see also Forestry Commission 1991). Recent records of Huon pine and King Billy pine which are not shown in the surveys of Peterson (1990) and Brown (1988) respectively are reported here. Some of the King Billy pine records are of particular interest in that they provide evidence of long-distance seed dispersal or are from relatively low rainfall areas to the east of the previously recorded distribution of the species.

## Methods

Records were obtained from aerial reconnaissance and/or ground surveys, and are shown in Figures 1 to 5. Base maps used in the figures are segments from the 1:100 000 Tasmapi series published by the Department of Environment and Planning. The format used for the records was chosen to facilitate transfer of information to the maps in Peterson (1990) and Brown (1988).

## Huon pine

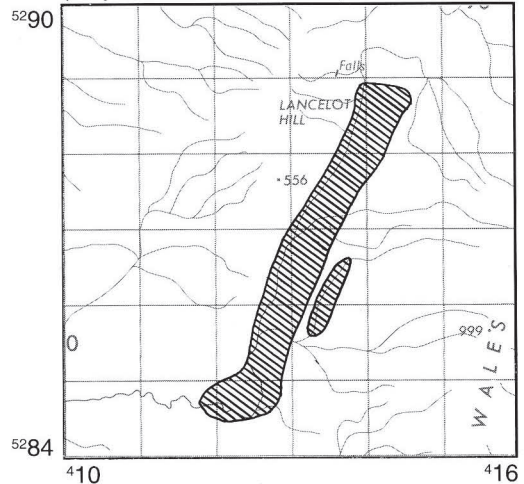
1. Lancelot Hill (Maxwell Valley) (Fig. 1a)  
(Map 19 in Peterson 1990)

The stand of Huon pine is the largest known from the Maxwell Valley and occurs in a small fire-protected valley between Lancelot Hill and the Prince of Wales Range. It is centred on one of the tributaries of the Maxwell River, and extends across the flats bordering the creek. The stand was overflowed by helicopter but not visited on the ground. It is assumed from its location that it is a virgin stand.

2. Collins River (Fig. 1b)  
(Map 33 in Peterson 1990)

Several large Huon pine trees occur in rainforest in the upper reaches of the Collins River (altitude approximately 440 m a.s.l.) which flows southward from Lake Mars on the Western Arthur Range into the Old River. The forest also contains some trees (including one very large specimen) of King Billy pine. No Huon pine has been recorded previously from the Arthur Ranges although it is known from riparian habitats on the Old River to the south (see Map 33, Peterson 1990). The trees were identified during aerial reconnaissance of forests in the area.

Map sheet: Olga  
(Map 19 in Peterson 1990) (a)



Map sheet: Old River  
(Map 33 in Peterson 1990) (b)

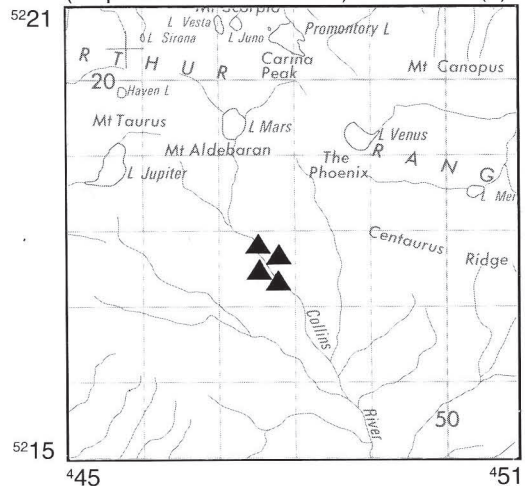


Figure 1. Huon pine at Lancelot Hill (a) and Collins River (b). (Map scale 1:000 000, ▲ = live individual(s), ▨ = live stand)

## King Billy pine

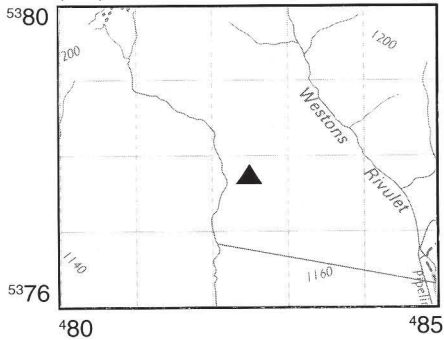
1. Breton Rivulet (Fig. 2a)  
(Map 9 in Brown 1988)

A single healthy tree, 3 m tall, is growing in the ecotone between eucalypt forest and swamp near Breton Rivulet which flows into the northern end of Great Lake. No other trees were found in the area, and the nearest known seed source occurs approximately 3 km to the north, at the upper margin of the Great Western Tiers escarpment.

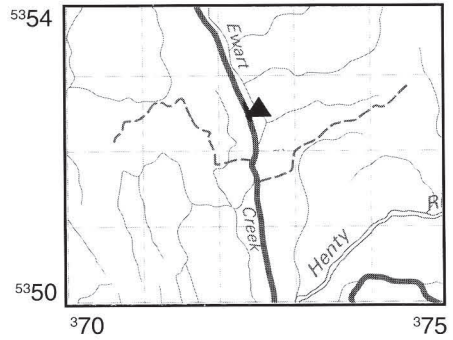
2. Ewart Creek (Fig. 2b)  
(Map 11 in Brown 1988)

A large King Billy pine occurs beside the Zeehan Highway near Ewart Creek, and two smaller trees are growing in the adjacent forest. The crowns of all three are unhealthy, with dead and yellowing foliage. The epiphytic flora of the large King Billy includes a small celery-top pine tree (about 20 cm diameter).

Map sheet: Meander  
(Map 9 in Brown 1988) (a)



Map sheet: Pieman  
(Map 11 in Brown 1988) (b)



Map sheet: Mersey  
(Map 15 in Brown 1988) (c)

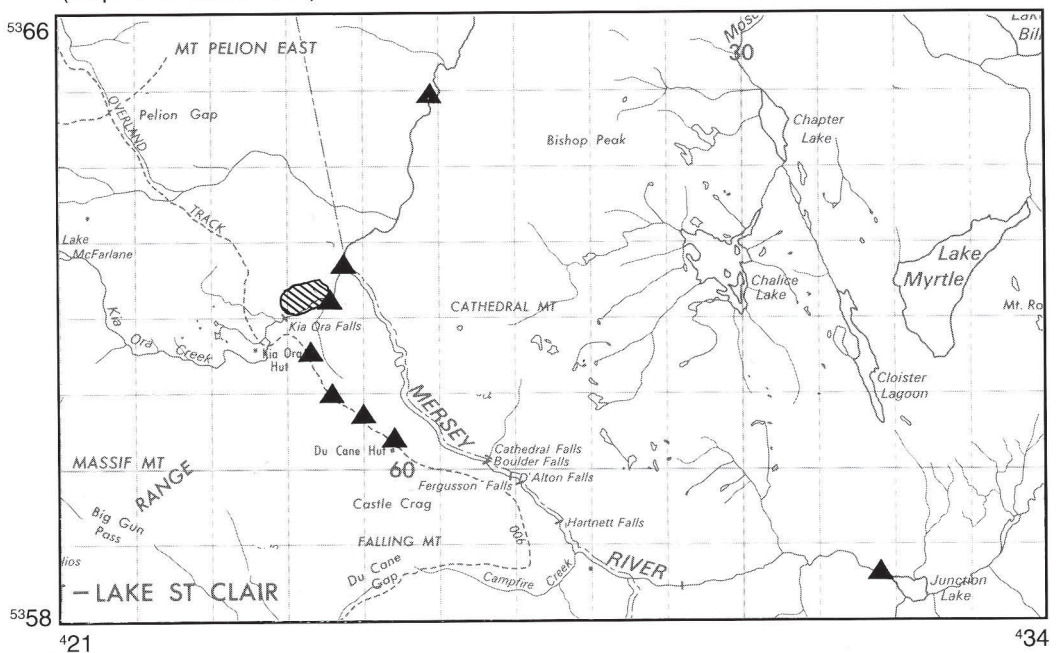


Figure 2. King Billy pine at Breton Rivulet (a), Ewart Creek (b), and Mersey River and Kia-Ora Creek (c). (Map scale 1:000 000, ▲ = live individual(s), ▨ = live stand)

### 3. Mersey River catchment (Fig. 2c) (Map 15 in Brown 1988)

Many saplings of King Billy pine occur amongst myrtle along Kia-Ora Creek and on the adjacent slopes, east of Kia-Ora Falls (north-east of the Du Cane Range). An isolated living tree can also be found downstream of the junction between Kia-Ora Creek and the Mersey River. King Billy pine occurs sporadically on the Overland Track

between Du Cane hut and Campfire Creek, and a single tree occurs at the top of Clarke Falls on the Mersey River, just downstream of Junction Lake.

### 4. Pyramid Peak (Fig. 3a) (Map 20 in Brown 1988)

No living King Billy pine was recorded by Brown (1988) on the Mount Jukes massif,

although several fire-killed stands and isolated dead trees were mapped. Live King Billy pine has now been found at the base of the northern side of Pyramid Peak. Two old trees and some smaller individuals up to about 2.5 m tall were recorded in a fire-affected area.

Rainforest containing King Billy pine also occurs in the lowlands to the west of Mount Jukes, on the flats around Newall Creek, where it is intersected by the HEC road linking Lynchford to the King River dam. An isolated individual occurs upslope of the stand.

5. Cardigan River (Fig. 3b)  
(Map 21 in Brown 1988)

A previously unrecorded King Billy tree, visible from the Lyell Highway, occurs at the edge of the Cardigan River. Large fire-killed stands are present several kilometres away, to the south-west, west and north-west (Brown 1988).

6. Surprise Valley (Fig. 3c)  
(Map 23 in Brown 1988)

Single trees and small patches of King Billy pine are scattered in rainforest and mixed forest on the slopes above Griffiths Creek in the Surprise Valley. The trees were observed from the Lyell Highway.

7. South-west of Wayatinah (Fig. 3d)  
(Map 32 in Brown 1988)

A small patch of King Billy pine occurs below an overstorey of *Eucalyptus* in forest about 5 km to the south-west of Wayatinah. The stand represents an eastward range extension at this latitude.

8. Frankland Range, Pebbly Creek (Fig. 3e)  
(Map 46 in Brown 1988)

A stand of King Billy pine containing patches of both dead and living trees was recorded

from the air on the southern slopes of the Frankland Range near Right Angle Peak. It contains trees of various ages: some with dense cone-shaped crowns but other trees are larger, with broken crowns and dead emergent branches. Saplings and seedlings were found within the forest during a visit to its southern edge and are assumed to occur throughout the stand. A smaller patch of dead King Billy trees to the south-east along Pebbly Creek was recorded from the air.

9. Scrubby Peak (Fig. 4a)  
(Map 46 in Brown 1988)

A single healthy tree, 1.5 m tall, can be found growing in wet scrub amongst small boulders at the foot of a quartzite bluff on the southern side of Scrubby Peak (White Monolith Range). An extensive stand of pine occurs about 1 km away on the northern side of the range (see Brown 1988) and is a possible seed source.

10. Hills between Red Knoll and Junction Creek (Fig. 4b)  
(Map 47 in Brown 1988)

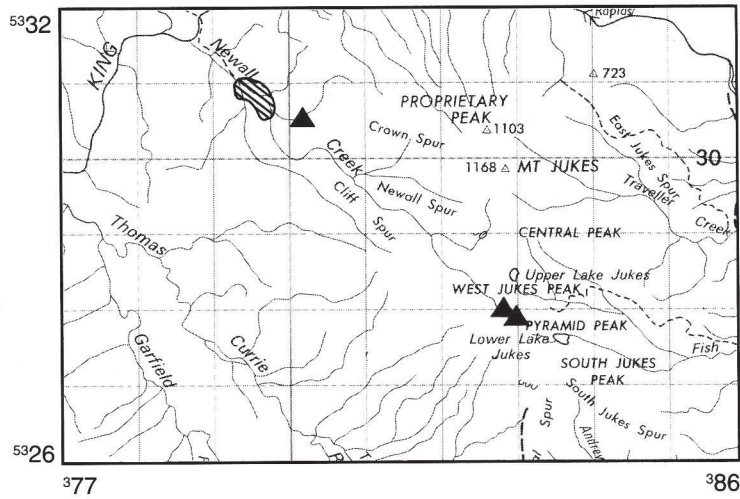
King Billy pine was observed from the air in some of the small patches of rainforest which occur in gullies among the low hills south of Red Knoll and west of McKays Track. Its presence at the upper edges of two gullies, about 4.5-5.5 km south of Red Knoll, was confirmed from the ground.

11. Bermuda Hill (Fig. 4c)  
(No map in Brown 1988, east of Map 49)

King Billy pine occurs on the south-eastern side of Bermuda Hill, at an elevation of about 480 m above sea level. Two mature trees were present in the 1960s but have been illegally logged. Small saplings have been found subsequently amongst rainforest regeneration which has established in soil disturbed by road clearing. The tallest is over 5 m and is growing vigorously. The site

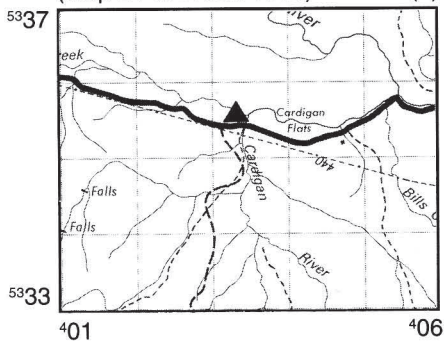
Map sheet: Franklin  
(Map 20 in Brown 1988)

(a)



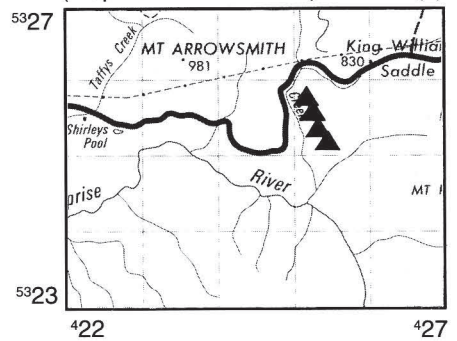
Map sheet: Franklin  
(Map 21 in Brown 1988)

(b)



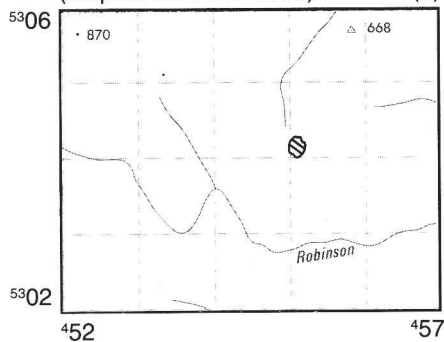
Map sheet: Nive  
(Map 23 in Brown 1988)

(c)



Map sheet: Nive  
(Map 32 in Brown 1988)

(d)



Map sheet: Wedge/Old River  
(Map 46 in Brown 1988)

(e)

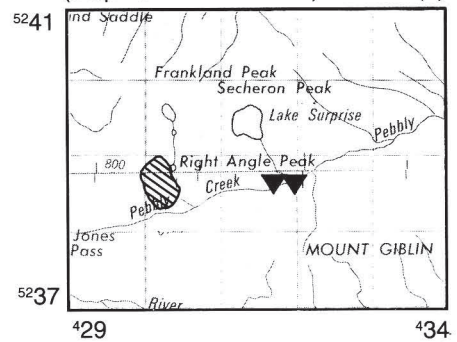
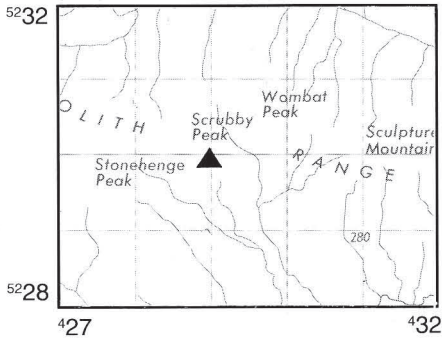
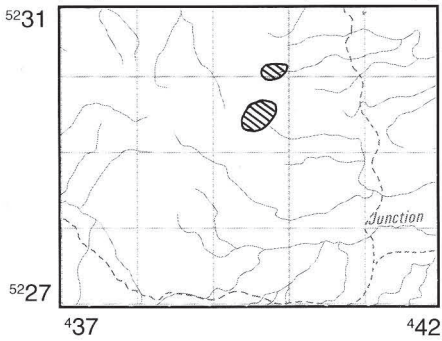


Figure 3. King Billy pine at Newall Creek and Pyramid Peak (a), Cardigan River (b), Surprise Valley (c), south-west of Wayatinah (d), and Frankland Range and Pebbly Creek (e). (Map scale 1:000 000, ▲ = live individual(s), ▼ = dead individuals, ▨ = live stand)

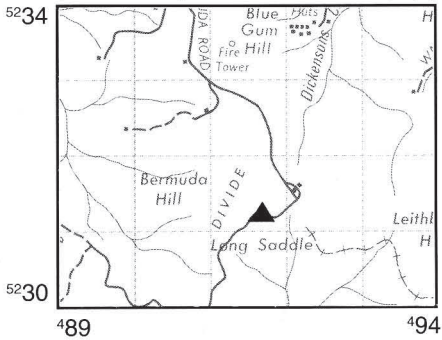
Map sheet: Old River  
(Map 46 in Brown 1988) (a)



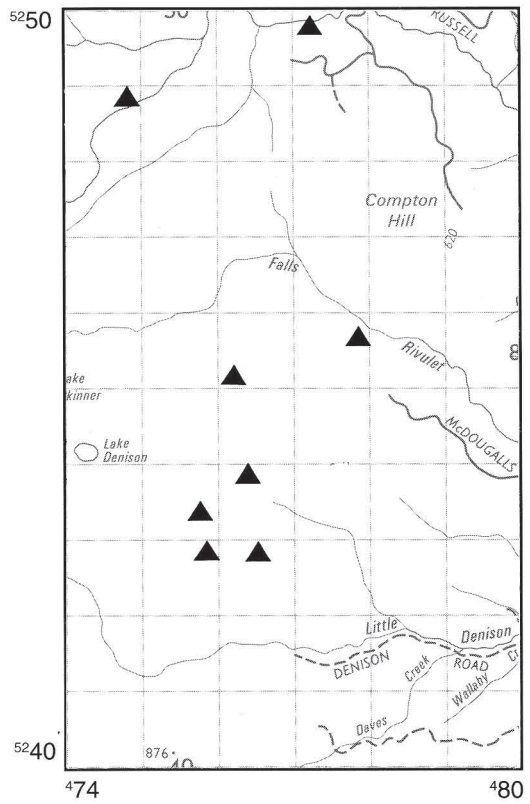
Map sheet: Old River  
(Map 47 in Brown 1988) (b)



Map sheet: Huon  
(East of map 49 in Brown 1988) (c)



Map sheet: Tyenna  
(Map 44, 49 in Brown 1988) (d)



Map sheet: Huon  
(Map 52 in Brown 1988) (e)

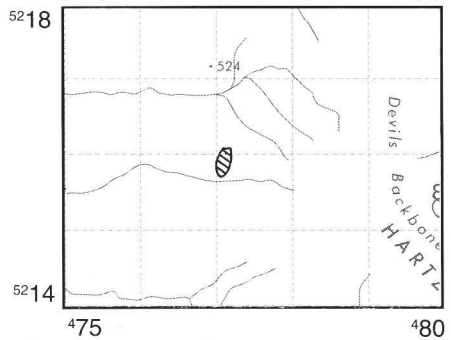


Figure 4. King Billy pine at Scrubby Peak (a), south of Red Knoll, off McKays Track (b), Bermuda Hill (c), Russell River - Little Denison River (d), and Hartz Mountains (e). (Map scale 1:000 000, ▲ = live individual(s), ▨ = live stand)

occurs in an area of relatively low mean annual rainfall (800 - 1000 mm, Australian Bureau of Statistics 1990) compared with that found across the distributional range of King Billy pine. It represents a significant easterly range extension for King Billy pine at this latitude.

12. Russell River - Little Denison River  
(Fig. 4d) (Maps 44, 49 in Brown 1988)

Scattered individuals and small clumps of King Billy pine were recorded in mixed forest on the eastern slopes and foothills of the Snowy Range (c. 400-700 m a.s.l.) during assessments conducted by the Forestry Commission in the 1960s (data collected by P. O'Shaughnessy, R. McCormick and K. Felton). An old tree (not shown in Fig. 4d) was also recorded in the 1960s on the flats along the Little Denison River in the vicinity of Wallaby Creek/Daves Creek, but has been reported since as illegally logged. The precise location of the tree has not been confirmed but the record is one of the most easterly for King Billy pine in the area, as well as one of the lowest altitude records (c. 160 m a.s.l.) for the south-east.

13. Western slopes of Hartz Mountains  
(Fig. 4e) (Map 52 in Brown 1988)

A small patch of King Billy pine containing some large trees was recorded on the western slopes of the Hartz Mountains during assessments conducted by the Forestry Commission during the 1970s (data collected by C. Barry).

14. Moores Garden (Fig. 5)  
(Map 53, 56 in Brown 1988)

Brown (1988) records a large stand of fire-killed King Billy pine which extends from Moores Garden (north of Moonlight Ridge) to the Mesa (west of Adamsons Peak), with tongues continuing further northwards and to the south-east. A ground traverse through

Map sheet: Huon  
(Map 52, 53 and 56 in Brown 1988)

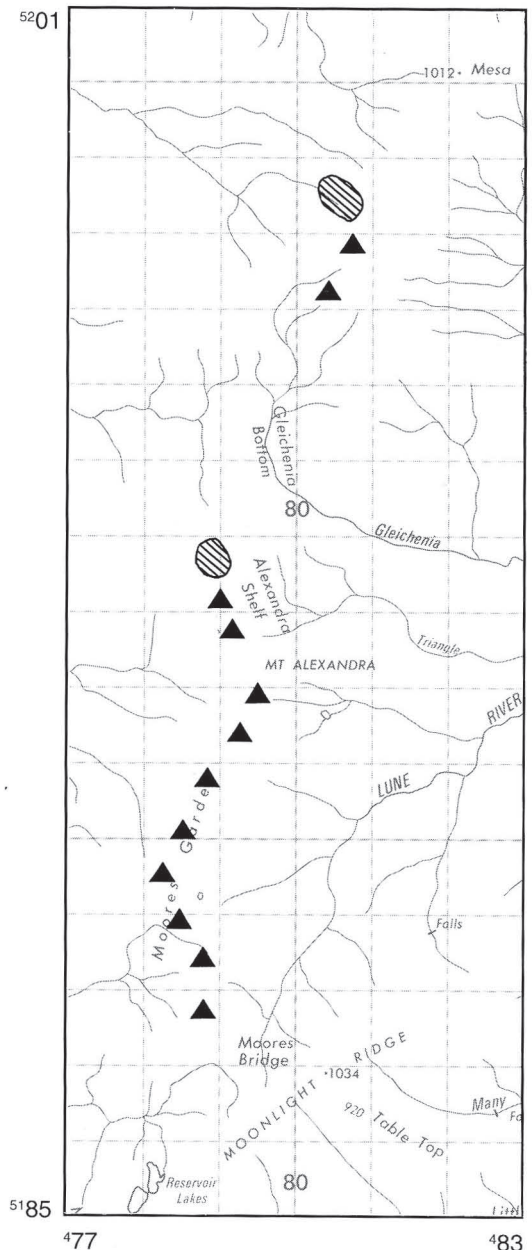


Figure 5. King Billy pine between Moores Garden and Mesa. (Map scale 1:100 000, ▲ = live individual(s), ▨ = live stand)

the stand indicates that occasional small patches of King Billy pine, as well as a few widely scattered trees, have escaped the fire. A living outlier of this stand was also found near Gleichenia Creek.

## Acknowledgements

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