SHORT COMMUNICATION

Range extensions for several restricted plant species, Northern Tablelands, New South Wales

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Introduction

Several rare vascular plant species have been recorded from Butterleaf State Forest on the Northern Tablelands of New South Wales, particularly in the vicinity of Mt Scott (Binns 1992). Based on these observations further field investigations of the Mt Scott area were made during April and July, 1996. Additional distributional records of rare species, or those not formerly known from the Northern Tablelands, form the basis of material presented here. Vouchers of all species discussed have been lodged at the Department of Botany, University of New England, The National Herbarium of NSW and the Herbarium of the North Coast Regional Botanic Garden, Coffs Harbour. Changes to the ROTAP code of some species are suggested where appropriate.

Locality

Butterleaf State Forest lies 40 kilometres north-east of Glen Innes on the Northern Tablelands of New South Wales, encompassing 5156 hectares of forest on terrain ranging from undulating to hilly over an altitudinal range of 900 metres to over 1300 metres above sea level. The underlying geology is comprised primarily of granites of the New England Batholith, viz. coarse-grained Kingsgate Granite and medium to coarse-grained adamellite. Some areas of Butterleaf State Forest are on fine-grained metasediments and Emmaville Volcanics. The main forest tree species are *Eucalyptus campanulata* and *E. obliqua*. Less frequent overstorey species include *E. nobilis*, *E. cameronii*, *E. brunnea*, *E. laevopinea*, *E. dalrympleana* subsp. *heptantha* and *E. radiata* subsp. *sejuncta*. Disturbances have occurred including logging, grazing and burning.

Mount Scott (29°31'S 152°01'E), a prominent feature in the north western portion of the state forest, represents a large outcrop of Kingsgate Granite extending over an area approximately 1.5 km in length and 0.5 km in width, and rising to 1358 metres above sea level at the trig. station. The vegetation on these outcrops includes monospecific stands of *Eucalyptus codonocarpa* as mallee woodland and mixed heathlands dominated by *Leptospermum novae-angliae*, *Calytrix tetragona*, *Kunzea obovata* and *Leucopogon neo-anglicus*.

The environmental impact statement prepared for the Glen Innes forest management area (Manidis Roberts 1992) proposed the reservation of Mt Scott and environs for the

protection of significant vascular plant species known to occur there. This area has subsequently been classified by the Forestry Commission of NSW as Preserved Native Forest (FCNSW 1993) to protect its biological values. This means that the area is managed as a Flora Reserve, but does not have the formal protection afforded a Flora Reserve.

Notes

1. *Brachyloma saxicola*

Restricted to granite outcrops and known to occur at Gibraltar Range NP, Guy Fawkes River NP, Crown Mountain Flora Reserve, Backwater, Torrington Regional Reserve, Mount Jondol and Bolivia Hill, all within the north-east of New South Wales.

Hunter and Williams (1994), following Williams and Wissmann (1991), suggested the ROTAP code of 2VC (Briggs & Leigh 1996). Quinn et al. (1995) have subsequently suggested the code 3RCi. With Torrington Regional Reserve being recently moved to the control of the New South Wales National Parks and Wildlife Service, and the addition of this population on Mt Scott, where the species is reasonably common, the conservation of this species is adequate and therefore a 3RCa code would be appropriate.

2. *Cryptandra lanosiflora*

This species is restricted to rocky exposed areas and is known from Girraween NP in Queensland, Gibraltar Range NP, New England NP, Werrikimbe NP, Black Mountain at Glen Elgin SF, Backwater, Bolivia Hill, the Liverpool Range and Parlour Mountains in New South Wales.

This additional population of *Cryptandra lanosiflora* should not affect its current ROTAP coding of 3RCa.

3. *Eriostemon myoporoides* subsp. *epilosus*

Restricted to exposed rocky outcrops, this species has been recorded from Girraween NP in Queensland, Bald Rock NP, Boonoo Boonoo NP, Demon Nature Reserve, Boonoo SF and Bolivia Hill in New South Wales.

This species was found to be common on the rock platforms of Mt Scott and in similar habitat on adjacent private properties (Hunter, unpublished data). With the addition of this protected population to the large reserved populations in Girraween and Bald Rock National Parks, the present ROTAP code of 3RC- should be changed to 3RCa.

4. *Eucalyptus codonocarpa*

Populations of this species are known from Girraween NP in Queensland, Cathedral Rocks NP, Crown Mountain Flora Reserve, Backwater and Gibraltar Range NP in New South Wales.

An estimated 5 hectares of pure stands of *Eucalyptus codonocarpa* occur around the summit of Mt Scott, the estimated population size being about 8000 to 10 000 plants.

Some plants have been destroyed during construction of the trig. station at the summit of Mt Scott. Some stands have been burnt and are regenerating successfully. A ROTAP code of 3RC- has been given to this species. With this additional record and the subsequent reservation of this area, preservation is adequate for this species and the ROTAP code should be 3RCa.

5. *Eucalyptus retinens*

Eucalyptus retinens occurs primarily on the sides of steep gorges to the east of Armidale at Enmore, Bakers Creek Falls, Hillgrove, and Wollomombi in Oxley Wild Rivers NP and Chaelundi Falls in Guy Fawkes River NP in New South Wales. It was recently recorded from the Kingsgate Mine area east of Glen Innes (Sheringham & Westaway 1995).

Small populations of *Eucalyptus retinens* were found at the western end of Butterleaf State Forest and in Brother State Forest (30 km east of Glen Innes) and represent a significant extension and disjunction in the distribution of this species. The habitats in which these populations were found, i.e. open forest on undulating terrain, are unlike that previously known for this species. The identity of vouchers has been confirmed (Ken Hill, pers. comm.). Johnson & Hill (1990) did not assign a ROTAP code for this species and none have subsequently been suggested. Sheringham and Westaway (1995) regard *E. retinens* as regionally uncommon, reaching its northern distributional limit in upper north-east New South Wales. We believe that the distribution of this species is restricted and warrants the code 3RC-.

6. *Lasiopetalum ferrugineum* var. *cordatum*

Although common in Victoria and eastern and southern New South Wales, this species has not been recorded for the Northern Tablelands of New South Wales. The discovery of populations on Mt Scott and also on similar rock outcrops on adjacent private properties (Hunter, unpublished data) have extended the distribution of this species onto the Northern Tablelands of New South Wales.

7. *Leucopogon cicatricatus*

Several disjunct populations are known for this species with localities being recorded from Girraween NP (Hunter 1996) and Mt Barney NP in Queensland, Cathedral Rocks NP, New England NP, and Rowleys Rock Flora Reserve, Dingo/Bulga SF (Binns & Chapman 1992) in New South Wales.

Large numbers of this species were found on Mt Scott, in crevices of exposed areas of the outcrop. The population was estimated to be in excess of 500 individuals. A ROTAP code of 3RC- has been given to this species. With the addition of this large population in the newly designated forest reserve and the recently discovered population in Girraween NP (Hunter 1996) the reservation of this species is adequate and the code 3RCa is appropriate.

8. *Muehlenbeckia costata*

This species has been recorded from Girraween NP in Queensland, the Blue Mountains, Mount Kaputar NP, Bald Rock NP (Hunter 1995) and Crown Mountain Flora Reserve (Binns 1992; Hunter 1995) in New South Wales.

Muehlenbeckia costata was found to be abundant in recently burnt areas on the western face of Mt Scott. Many of the plants were amongst the resprouting stands of *Eucalyptus codonocarpa*. A single plant was also recorded by Richards (1996) in a recently burnt area on Garrett Trig. in Butterleaf SF. This species has a current ROTAP code of 3KC-. Recent discoveries of large populations in reserved areas as well as controlled burns and germination experiments by Hunter (unpublished data) have significantly improved the information known about this species. Although it has a restricted habitat preference and is vulnerable to inappropriate fire regimes, this species is adequately reserved, and a code of 3VCa is appropriate. Note that the 'vulnerable' coding should be retained as the ephemeral nature of this species poses fire management problems and creates extreme fluctuations in population size.

Discussion

The vegetation found on outcropping granite at Mt Scott represents a link in the granitic outcrop flora of the New England region of New South Wales. Crown Mountain Flora Reserve north east of Guyra, and Girraween and Bald Rock National Parks north of Tenterfield contain large expanses of granite outcrops at high altitudes (above 1100 metres). Mt Scott is the only large granite outcrop between these two regions at high elevations on the Northern Tablelands. It is probably for this reason that rare species such as *Eucalyptus codonocarpa, Leucopogon cicatricatus* and *Muehlenbeckia costata* occur there. The vegetation communities on Mt Scott are closely allied with those found within Crown Mountain Flora Reserve (Hunter, unpublished data).

The Mt Scott area has made a significant improvement to the conservation status of several ROTAP species. This highlights the need for continued evaluation of the distribution and biology of the plant species of areas such as rock outcrops, which behave as ecologically distinct 'islands' supporting an interesting and unique flora. It is important that management decisions concerning such areas are made using as up-to-date information as possible, hence the need to report on significant locations like Mt Scott.

It is appropriate that the Mt Scott environs has been recognised as an area of significance and has been classified as Preserved Native Forest, although elevation to Flora Reserve status would be highly desirable. However, at present there are no threats to the populations of rare plant species that occur there and if management practices do not change the present reservation status will provide adequate protection.

Acknowledgments

We would like to thank Darren Moffatt (SFNSW) for assistance in field work and P.W. and D.C. Morton and T.B. Hollingsworth for allowing access to their land. Steve Toms, District Forester, Glen Innes District, made aerial photographs available.

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Manuscript accepted 16 April 1997