

APPENDIX 4: THREATENED, RARE AND REGIONALLY SIGNIFICANT FLORA SPECIES PROFILES

The following profiles are sourced from the Department of Environment and Climate Change.

Barraba Homoranthus - profile

Scientific name: *Homoranthus bornhardtiensis*

Conservation status in NSW: Endangered

Description

Barraba Homoranthus is a low spreading shrub 30 cm tall and up to 1 m wide, with thick, pale green to dull blue-green leaves. The leaves are paired on the stem, with successive pairs at right angles to each other, and are 4.5 - 9 mm long and 0.5 - 1 mm wide and thick with a curved tip. It has small yellow flowers less than 5 mm long, growing between stem and leaf and borne solitary (ie not grouped together), usually with one to four flowers on each branch.



Flowers and form, Barraba Homoranthus. Image: Lachlan Copeland © Lachlan Copeland

Distribution

Known only from Ironbark Nature Reserve and neighbouring properties, north-east of Barraba.

Habitat and ecology

- Occurs in open and exposed sites in shrubland and low woodland on granite outcrops between 650 - 970 m altitude. Often grows in rock crevices on bare rocky slopes and in the surrounding shallow soils.
- Associated species include *Callitris endlicheri*, *Eucalyptus prava*, *Eucalyptus caleyi*, *Acacia cheelii*, *Acacia neriifolia*, *Calytrix tetragona*, *Leucopogon neoanglicus*, *Ozothamnus obcordatus*, *Leptospermum novae-angliae*, *Cryptandra amara* var. *floribunda*, *Prostanthera howelliae* and *Boronia anethifolia*.
- Likely to be highly fire-sensitive and intolerant to frequent fire disturbance.
- At the time of its initial survey, the known distribution of *Homoranthus bornhardtiensis* was restricted to an area of six by seven kilometres. Plant abundances within populations are not known.
- Flowers from October to November.

Threats

- Grazing by feral goats and rabbits.

- Trampling and soil compaction by feral goats.
- Risk of extinction through localised catastrophic events such as fire is high, due to the restricted species distribution and low population numbers.

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Narrow Goodenia - profile

Scientific name: *Goodenia macbarronii*

Conservation status in NSW: Vulnerable

Description

Narrow Goodenia is an annual or short-lived perennial herb to 30 cm tall. Its leaves, at the base of the plant, are fleshy and slightly toothed, to 11 cm long by 5 mm wide. The sprays of small yellow 'crinkly' five-petalled flowers are generally produced in spring and summer.



Narrow Goodenia, Image: Geoff Robertson
© Geoff Robertson

Distribution

Narrow Goodenia grows on the western slopes of the Great Dividing Range in NSW, south from the Guyra and Inverell districts. It is widely distributed throughout the tablelands, western slopes and western plains. The species also occurs in north-eastern Victoria and the Darling Downs in Queensland. In NSW it has been recorded at Tingha, Guyra, the Warrumbungle Ranges, east of Rylstone, the Pilliga and Denobollie State Forests, the Narrabri, Coonabarabran, Torrington and Tocumwal districts, Grenfell, Weddin Mountain, Gungal, the Milthorpe district, and Holbrook (the Type locality).

Habitat and ecology

- Narrow *Goodenia* is an annual which appears seasonally and opportunistically in ephemeral damp or wet sites and is often common at sites after good winter-rainfall periods. It favours moist, shaded, sandy sites, soils with impeded drainage, damp muddy areas of winter inundation, spring-fed paddocks and open areas where water is more available.
- Often found in sites with some form of recent disturbance, such as depressions and clearings made by grading and excavation along roadsides, open grazing land and paddocks inundated by weed species and areas previously cleared and grazed by cattle.
- Associated species at Goobang National Park sites include *Eucalyptus blakelyi*, *Eucalyptus sideroxylon*, *Eucalyptus bridgesiana*, *Eucalyptus melliodora*, *Acacia vestita*, *Acacia deanei* subsp. *paucijuga*, *Acacia penninervis*, *Acacia mollifolia*, *Acacia implexa*, *Callitris endlicheri*, *Leptospermum divaricatum*, *Hibbertia obtusifolia*, and *Lomandra longifolia*.
- Found to be uncommon and scattered within localised populations recorded in Goobang National Park. The species has been recorded as rare, scattered, locally common and frequent in populations, with the yellow-flowering plants forming a closed carpet in one population.
- Flowers chiefly from October to March and is described as a short-lived annual herb. The flowers are insect pollinated.
- The mucilaginous wing or rim of the seed may be a mechanism for absorbing water to secure germination and coincidentally a dispersal temptation for ants.

Threats

- Stock grazing, pugging and trampling and pig rooting may damage the swampy habitat of the species.
- The species grows in disturbed sites such as table-drains and along roadsides and is susceptible to road grading, vehicle disturbance and grazing along roadside stock routes.
- Large localised colonies can appear opportunistically after rains in areas of water-collection and in damp soils, and are thus vulnerable to seasonal conditions.
- Competition from exotic weed species is also a threat, particularly competition from other seasonally opportunistic species.

References

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ROTAP SPECIES PROFILES

Profiles prepared by Dr John Hunter

Callistemon pungens Lumley & Spencer (3RCa)



Photograph of *Callistemon pungens*

Taxonomy

Type: New South Wales, Northern Tablelands, c. 3 km along road to Armidale from junction with road from Armidale/Dorrigo Road to Hillgrove, (c. 4 km from Highway), 30°33'S, 151°54'E, 21.xi.1983, P.F.Lumley 1150 (*holo*: MEL; *iso*: NSW).

Reference: *Muelleria* 7: 253 (1991).

Family: Myrtaceae.

Affinities: close to *Callistemon citrinus* but characterized by purple stamens and pungent leaf tips.

Synonymy: known in cultivation for a number of years as *C. 'Lana'* and *C. 'gilesii'*.

Derivation of name: in reference to the pungent leaves.

Common name: none.

Published conservation status: Lumley and Spencer (1991) considered the species was vulnerable. Given a 3R by Briggs & Leigh (1996). Copeland and Hunter (1999) have given this species a 3RCa coding.

Life history

Growth form: shrub or small tree to 5 m tall with rigid branches.

Vegetative spread: none.

Longevity: unknown but apparently long-lived.

Primary juvenile period: unknown.

Flowers: Spring to Summer.

Fruit/seed: Autumn.

Dispersal, establishment & growth: seed.

Fire response: potentially a resprouter (Clarke & Fulloon 1999).

Distribution

Botanical sub-regions: Northern Tablelands, North Western Slopes and the Darling Downs.

General distribution: from Armidale to Stanthorpe.

Habitat

Habitat: restricted to shallow soils associated with creeks and rivers on granite or rhyolitic soils.

Altitude: 500-1100 m.

Annual Rainfall: 600-1000 mm.

Abundance: common and abundant along creek lines throughout the western margin of the tablelands.

Substrate: found on granite or rhyolite.

Exposure: fully exposed to partially protected.

Management

Population size: common along all major creek banks, often forming a dominant understorey.

Reserved: Ironbark NR, The Basin NR, Stony Batter NR, Watson's Creek NR, Kings Plains NP, Severn River NR, Mann River NR, Oxley Wild Rivers NP, Torrington SRA, Bolivia Hill NR, Goonoowiggal NR, Arakoola NP, Warrabah NP, Sundown NP and *Bornhardtia* VCA.

Threats: inappropriate fire regimes, blackberry invasion and pig rutting.

Derwentia arenaria (A.Cunn. ex Benth.) B.G.Briggs & Ehrend. (3RCa)

Taxonomy

Type: Arid sandy flat on the plain of Daby, Cugeegong River 50 miles north from Bathurst, A. Cunningham, Apr. 1823 (*holo*: K; *iso*: BM, MEL, NSW).

Reference: *Telopea* 5: 264 (1992).

Family: Scrophulariaceae.

Affinities: uncertain.

Synonymy: *Veronica arenaria* A.Cunn. ex Benth.

Derivation of name: *arenaria* meaning sandy, referring to the substrate on which the species is found.

Common name: none.

Published conservation status: 3RC- (Briggs & Leigh 1996). 3RCa proposed by Copeland and Hunter (1999).

Life history

Growth form: herb with a sometimes woody base to 1 m tall.

Vegetative spread: none.

Longevity: unknown but seasonally resprouts from base and above ground shoots die over winter.

Primary juvenile period: unknown but likely to be only 1 yr.

Flowers: Spring to Summer.

Fruit/seed: Summer.

Dispersal, establishment & growth: via seed.

Fire response: unknown but probably resprouts readily in post fire environment.

Interactions with other organisms: unknown.

Distribution

Botanical sub-regions: Northern Tablelands, North Western Slopes, Central Western Slopes and the Darling Downs.

General distribution: from Bathurst to Stanthorpe.

Distribution within conservation areas: found throughout the conservation areas in large numbers, particularly in areas of some disturbance such as the margins of tracks.

Habitat

Habitat: found along side creeks and rivers and rocky slopes.

Altitude: 500-1000 m.

Annual Rainfall: 600-900 mm.

Abundance: infrequent but locally common, likely to be missed as the species is both inconspicuous and annual at least in terms of above ground biomass.

Substrate: granite and rhyolite.

Exposure: fully exposed to partially shaded sites.

Management

Population size: unknown, but likely to be several thousand.

Reserved: Kings Plains NP, Warrabah NP, Ironbark NR, Torrington SRA, Warrumbungle NP and the *Bornhardtia* VCA.

Threats: unknown but likely frequent grazing by cattle and goats will reduce numbers. Invasive grassy species are also a threat. Frequent fires may also be detrimental.

Management considerations: targeted searches in appropriate seasons are needed to establish where this species occurs and what the potential size of the populations is. Basic biological knowledge is also needed before management guidelines can be written for this species.



Photographs of *Derwentia arenaria*.

Eucalyptus quinniorum J.T.Hunter & J.J.Bruhl (2RCa)

Taxonomy

Type: Northern Tablelands: 'Bornhardtia' property east of Barraba, below Bald Rock, 30°21' 150°54', J.T.Hunter & V.H.Hunter, 5 July 1998 (holo: NSW; iso: BRI, CANB, CHSB, MEL, NE, PERTH).

Reference: *Telopea* 8: 257 (1992).

Family: Myrtaceae.

Affinities: *E. oresbia*, *E. volcanica*.

Synonymy: *Eucalyptus cypellocarpa* in part.

Derivation of name: named after Francis and Chris Quinn.

Common name: none.

Published conservation status: 2RCa (Hunter & Bruhl 1999).

Life history

Growth form: mallee or tree to 20 m tall.

Vegetative spread: none.

Longevity: likely to be > 100 yrs.

Primary juvenile period: unknown.

Flowers: Spring to Summer.

Fruit/seed: continuous.

Dispersal, establishment & growth: via seed.

Fire response: resprouter.

Interactions with other organisms: unknown.

Distribution

Botanical sub-regions: Northern Tablelands, North Western Slopes.

General distribution: from Ironbark to Moonbi.

Distribution within conservation areas: found throughout the conservation areas in large numbers, particularly in protected sites and in gullies at higher altitudes.

Habitat

Habitat: found along side creeks and rivers and rocky slopes.

Altitude: 600-1100 m.

Annual Rainfall: 600-800 mm.

Abundance: infrequent but locally common.

Substrate: granite.

Exposure: fully exposed to partially shaded sites.

Management

Population size: unknown, but likely to be several thousand.

Reserved: Warrabah NP, Ironbark NR, Watson's Creek NR, Stony Batter NR and the *Bornhardtia* VCA.

Threats: unknown, but possibly inappropriate fire regimes.

Management considerations: no removal of this species for any purpose.



Scan of *Eucalyptus quinniorum* buds and fruit.

***Thelionema grande* (C.T.White) R.Henderson (3RCa).**

Taxonomy

Type: Mt Norman, Queensland, Nov. 1944, M.S. Clemens (holo: BRI).

Reference: *Austrobaileya* 2: 110 (1985).

Family: Phormiaceae.

Affinities: *Thelionema caespitosa*.

Synonymy: *Stypandra grandis*.

Derivation of name: in reference to the large size; grand.

Common name: Granite Lily.

Changes in conservation status: 3RC- (Briggs & Leigh 1996). Downgraded to 3RCa by Copeland and Hunter (1999).

Life history

Growth form: herb to 1.3 cm tall.

Vegetative spread: yes.

Longevity: unknown.

Primary juvenile period: unknown.

Flowers: spring to summer.

Fruit/seed: summer.

Dispersal, establishment & growth: via seed and rhizomes.

Fire response: resprouter.

Interactions with other organisms: known to hybridise with *T. caespitosa*.

Distribution

Botanical sub-regions: Darling Downs, Northern Tablelands and North Western Slopes.

General distribution: from the study area and also Werrikimbe to just over the Queensland border.

Habitat

Habitat: two distinct habitats, within sedgeland near creek channels or where soils are waterlogged and on exposed granite outcrops.

Altitude: 600-1300 m.

Annual Rainfall: 600-1400 mm.

Abundance: scattered throughout the western side of the tablelands but often abundant where found.

Substrate: granite and rhyolitic outcrops and quaternary alluvium in waterlogged areas.

Exposure: fully exposed positions.

Management

Population size: probably a few thousand individuals.

Reserved: Girraween NP, Mt Barney NP, Bald Rock NP, Boonoo Boonoo NP, Gibraltar Range NP, Ironbark NR, Werrikimbe NP, Torrington SRA, Bolivia Hill NR, Basket Swamp NP, Warra NP and the *Bornhardtia* VCA.

Threats: unknown, possibly pig and goat damage, pollen robbing by feral bees and inappropriate fire regimes.



Photographs of *Thelionema grande*.

***Zieria odorifera* J.A.Armstrong (3RCi)**

Taxonomy

Type: *M.D.Crisp 3609, 8.xi.1977.* NSW: North West Slopes. Warrumbungle Range, Burrumbuckle Rock 31°20'S, 149°04'E, 1050 m alt. Mountain, summit rock ridge, gentle western slopes. Trachyte crevices. Rare under tall, dense shrubland with *Cassinia* and *Eucalyptus dwyeri*. Spreading shrub, 20cm. (holo: CBG 7707801; iso: NSW).

Reference: *Australian Systematic Botany* 15: 412.

Family: Rutaceae.

Affinities: *Zieria aspalathoides*.

Synonymy: none.

Derivation of name: in reference to the strong smell of the leaves when crushed.

Common name: none apparent.

Published conservation status: 3RCi (Briggs & Leigh 1996), unchanged since.

Life history

Growth form: low shrub to 1 m tall.

Vegetative spread: none.

Longevity: unknown.

Primary juvenile period: unknown but probably within 3 yrs.

Flowers: Spring to Summer.

Fruit/seed: Summer to Autumn.

Dispersal, establishment & growth: via seed.

Fire response: regeneration from subsurface epicormic outgrowths has been reported.

Interactions with other organisms: none apparent.

Distribution

Botanical sub-regions: North Western Slopes and Northern Tablelands.

General distribution: from Warrumbungles to Howell and north to the Severn River.

Distribution within the conservation areas: found on the southern slope of Townsend's Mountain within the Nature Reserve.

Habitat

Habitat: shallow soils associated with rock outcrops, scree slopes and their margins.

Altitude: 600-1100 m.

Annual Rainfall: 600-900 mm.

Abundance: disjunct and in low numbers.

Substrate: rhyolite and granite.

Exposure: fully exposed to partial shade.

Management

Population size: unknown probably less than 100 individuals.

Reserved: Warrumbungle NP, Kings Plains NP, The Basin NR, Mt Kaputar NP, Ironbark NR and the *Bornhardtia* VCA.

Threats: known to be browsed by goats. Inappropriate fire regimes.

Management considerations: a targeted search for this species is warranted. Basic information on the basic biology of this species including responses to fire are required.



Scan of *Zieria odorifera*.

REGIONALLY UNCOMMON PLANT PROFILES

Profiles prepared by Dr John Hunter

Acacia cheelii

Acacia cheelii is a tall wattle to 7 m. This species is known to occur from the Glen Davis area north to Torrington. It is very common in parts of the slopes and in some parts of the Northern Tablelands such as Mt Kaputar. The species eastern distributional limit is in the western parts of Torrington SRA and the gorge areas of Warrabah NP. The occurrences on Bald Rock within *Bornhardtia* are at the eastern and altitude range limits occurrence for this taxon.

Acacia montana

Acacia montana is a small shrub from 1-4 m tall that occurs from west of Armidale to Glen Alice, but also occurs within Queensland and Victoria. This species is very uncommon in the northeast. Thus, this species should be considered regionally uncommon.

Baloskion stenocoleum

Baloskion stenocoleum is a tufted herb to 1.5 m tall. The species is restricted to swamps in acid soils on the Northern Tablelands and the Darling Downs of Queensland. It is very common in high altitude swamps on the main part of the range. However, the occurrence here may be a western limit of distribution for this species.



Scan of *Acacia cheelii*.



Scan of *Baloskion stenocoleum*.

Cassine australis var. angustifolia

Cassine australis var. *angustifolia* is a small tree to 8 m tall that grows in dry rainforest areas particularly in drier inland areas. This taxon has not been recorded for the Northern Tablelands previously. It may be found in protected gullies. It is very rare locally and is a significant taxon.

Centrolepis strigosa subsp. strigosa

Centrolepis strigosa subsp. *strigosa* is a widespread herb to 11 cm tall found in most botanical divisions within the state and most states and territories. Occurrences are sporadic and usually infrequent.

Cymbidium canaliculatum

Cymbidium canaliculatum is an epiphytic orchid growing in the hollows of trees that is more common in inland areas. The species is very rare on the Tablelands and near its eastern distributional limit.

Cyperus secubans

Cyperus secubans is a small herb to 25 cm tall with sticky leaves. The species was thought to be restricted volcanic rock shelves in Mt Kaputar. The occurrences within the conservation area is significant as they are a new eastern occurrence on a different rock type. The species was fairly common on rock outcrop sites within the Conservation Area.

Cyphanthera albicans subsp. albicans

Cyphanthera albicans subsp. *albicans* is a disjunctly distributed solanaceous shrub that has only been found a handful of times within the northeast of New South Wales. It has been found in Boonoo Boonoo NP, Torrington SRA and Warra NP. The taxon was found in low numbers in a few localities. Some of the populations have been severely affected by goat browsing, with one population extinct on Bald Rock due to goats.



Scan of *Cyperus secubans*.



Scan of *Cyphanthera albicans*.

Geranium solanderi subsp. grande

Geranium solanderi subsp. *grande* is a perennial herb to 0.5 m tall which is restricted to the Northern Tablelands of New South Wales. It occurs at higher altitudes from Glen Innes to Ebor and west to the higher altitudes of Mt Kaputar. Occurrences are very infrequent on the western parts of the tablelands and thus the occurrence here is of significance.

Hibbertia sp.

Hibbertia sp. is a yet to be described species that is possibly restricted to rocky areas between Attunga to Howell. It is likely to be a rare species. It is under threat locally by goat browsing. The taxon was only found in a few localities on rock outcrops.



Scan of *Hibbertia* sp.

Jasminum sauvisimum

Jasminum sauvisimum is a climbing and scrambling species that is found throughout the north of the state and into Queensland. It has been found within the Northern Tablelands before, but is considered uncommon in this botanical region.

Lilaeopsis polyantha

Lilaeopsis polyantha is a small herb to 30 cm long that occurs on the margins of lakes and streams. It is found on the tablelands and coast from Queensland to Tasmania and South Australia. It is more common on the eastern parts of the tablelands and is rare on the western side of the Northern Tablelands and absent from the North Western Slopes. The occurrence within the local area is considered to be at the western limit of the species distribution of a locally rare species.

Lomandra sp. aff. cylindrica

Lomandra sp. aff. *cylindrica* is a potential new species which is known to occur from this area north to Boonoo Boonoo NP. The species is suggested to be 3RCa by (Clarke *et al.* 2000). However, this species is probably more frequent than collections indicate.

Lyperanthus suaveolens

Lyperanthus suaveolens is a widespread orchid that is very uncommon on the Northern Tablelands. Only one individual was found at one site within *Bornhardtia*. The species has been previously recorded at Watson's Creek Nature Reserve on the Tablelands.

Mirbelia speciosa subsp. speciosa

Mirbelia speciosa subsp. *speciosa* is a shrub to 1 m tall found north of Illawarra. It is common on the Tablelands and Slopes, but primarily between Gibraltar Range to Torrington. The species is uncommon in the southern parts of the North Western Slopes and south western parts of the Northern Tablelands. The species is considered to be locally rare.

Olearia erubescens

Olearia erubescens is a species more common south of the Blue Mountains. It has also been recorded from Drake, near Point Lookout and Nundle on the Northern Tablelands. This species was common in very protected localities in gullies throughout the conservation areas. The occurrences here are of a species that is disjunct in the north east, regionally rare and potentially at its western limit in the north of the state.



Scan of *Olearia erubescens*.



Scan of *Ophioglossum latiusculum*.

Ophioglossum latiusculum

Ophioglossum latiusculum is a widespread species found in most botanical districts in the state and in most states and territories. It however is rarely found within the north east and is regionally infrequent. This species was found on a rock outcrops.

Parsonsia eucalyptophylla

Parsonsia eucalyptophylla has not been formally described as occurring on the Northern Tablelands. However, it has recently been found within The Basin Nature Reserve. The occurrences within the area are the second population found on the Northern Tablelands and are of significance.

Pelargonium inodorum

Pelargonium inodorum is a herb which is regionally uncommon in north east. It appears to be widespread and common in other parts of the state. It has been recorded from Single and Mt Kaputar National Parks within the broader region.



Photograph of *Pelargonium inodorum*.

Pittosporum undulatum

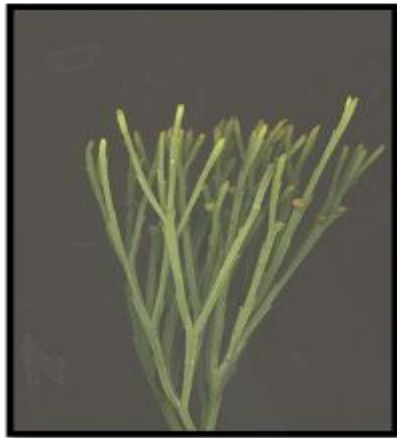
Pittosporum undulatum is a reasonably common species throughout the tablelands, coast and slopes of New South Wales. Its western limit in the north is in the lower valleys of the Nandewar Range of which Ironbark is part. It is locally infrequent found only in steep protected gullies which may have been frequently burnt in the past.

Portulaca bicolor

Portulaca bicolor is a small decumbent annual herb that was previously only known from the North Western Slopes of New South Wales. The species was found on one only on rock outcrops.

Psilotum nudum

Psilotum nudum is a widespread terrestrial fern in central and northern coastal areas of New South Wales. It is rarely found away from coast areas. The species was found within *Bornhardtia* during the survey and is of significance due to its sparse occurrence in the region.



Scan of *Psilotum nudum*.



Scan of *Pultenaea* sp. G.

***Pultenaea* sp.**

Pultenaea sp. G is an unnamed species limited to the area between the Liverpool Range and the Nandewar Range. The species is particularly abundant within Ironbark and *Bornhardtia* but is infrequent elsewhere on the Northern Tablelands apart from Mount Kaputar NP. Locally common but regionally rare.

Sida cunninghamii

Sida cunninghamii is prostrate species not formally described for the Northern Tablelands. However, the species has been found recently in Bluff River NR (Hunter 2002). The species is common on the slopes and other areas of western New South Wales. As this is one of only two described localities on the Northern Tablelands this species is of significance

Viola caleyana

Viola caleyana is a herb found in wet situations in woodlands and swamps on the coast and tablelands areas of New South Wales and also in Tasmania. This taxon is more common towards the east and is very uncommon on the western side of the tablelands. The occurrence within the Conservation Area is at the western limit of the species distribution.