

DELINEATION of IMPORTANT HABITATS of THREATENED PLANT SPECIES in SOUTH-EASTERN NEW SOUTH WALES



RESEARCH REPORT
to the
Australian Heritage Commission

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Zieria sp. 15 (sp. "Q"; Box Range South)

Family: Rutaceae

Conservation Status: Endangered (Code 2E/N/58)

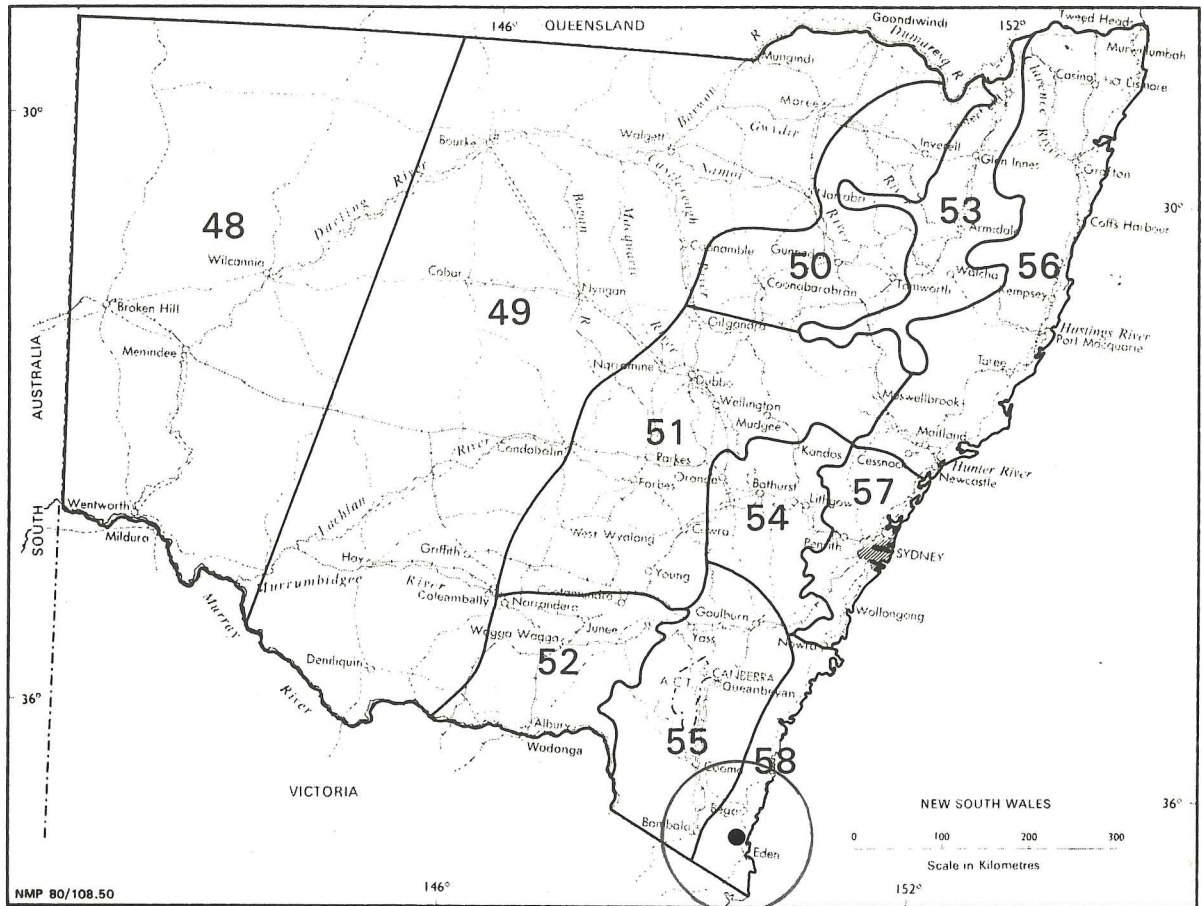


Close-up showing the small white flowers and the characteristic conspicuously warty trifoliolate leaves and young stems.

Description

A much-branched bushy shrub to 3 m high. The young stems and leaves are covered with numerous, conspicuous small warts (tubercules) and a moderately dense layer of short stellate hairs. Leaves opposite and comprised of three leaflets (trifoliolate) and strongly aromatic when crushed. The central leaflet is narrow-lanceolate with recurved margins, 25-35 mm long and 3-4 mm wide, whilst the secondary leaflets are similar but usually only slightly more than three quarters the size. *Flowers* white, arranged in clusters of up to 33 flowers borne on a common stalk 10-15 mm long arising from the leaf axils. Each flower is 7-9 mm across with 4 ovate-elliptic petals. *Fruits* are capsules about 5 mm across which are deeply divided into 4 chambers. Each chamber contains one or rarely two elliptical grey-brown seeds about 2 mm long. **Flowering:** September-November.

Distribution of Zieria sp.15(sp."Q")



Note: This species is to be described by J.D.B. and J. Armstrong and will be given the name *Z. parrisiae* in honour of Mrs Margaret Parris who jointly discovered this species and who has made many valuable botanical collections on the New South Wales Southern Tablelands and South Coast.



One of the four *Zieria* sp. 15 plants not eaten to ground level by feral goats and wallabies. These individuals escaped destruction because they were taller than animal browsing height.

Distribution

Known only from one population of about 40 plants on Box Range Farm, 9 km direct west-south-west of Pambula on the far South Coast of New South Wales. The species was discovered there by M. Parris and N. Fisher in November 1986 during a search for rare plant species on rhyolite and ignimbrite rock outcrops in the area. Extensive searches by D. Albrecht, Fisher, Parris (pers. comms.) and J.D.B. of similar rock outcrops in the area have not located other populations.

Habitat Summary

Zieria sp. 15 grows in skeletal soil on a moderately steep north-east-facing rhyolite rock outcrop which supports a shrub community.

Threats

All but four plants had been browsed and smashed down to near ground level. Most of the damage appears to have been done by feral goats and wallabies, but sheep and rabbits may have also contributed in the lower part of the gully. During the last visit to the site in December 1987 about 35 re-sprouting stumps were located but unless the browsing pressure is permanently removed the new shoots will be continually eaten off and plants will die. The four plants which retain a moderate canopy of leaves do so because they are taller than browse height. All the lower branches on these plants have been smashed down and the foliage eaten. The site is unfenced from nearby grazing land and unfenced from adjacent State Forest in which the feral goats and wallabies live.

The presence of large specimens of the fire-sensitive species *Kunzea ambigua* and *Melaleuca armillaris* at this site suggest that most of this shrub community has not been burnt for a long time (possibly for up to 50 years). Observations of the recovery after fire of other similar shrub communities burnt in recent years indicate that recovery is slow. Frequent burning of such communities is likely to have deleterious effects on their ecology and species composition and hence should be avoided. With the increased use of control-burning management practices in State Forests and private property in the area in recent years there is an increased risk that such communities will be too frequently burnt.



The remains (foreground) of a *Zieria* sp. 15 shrub following severe browsing by feral goats and wallabies. Apart from the 4 largest plants this was the next most intact specimen found. Most plants were eaten or smashed off at ground level.

Reservation

Not reserved.

Cultivation

The species does not have horticultural appeal despite its numerous small flowers. It can be propagated from cuttings and a total of 51 plants from 5 individuals are established at the Australian National Botanic Gardens, Canberra (M. Richardson, pers. comm.). Satisfactory techniques for propagating the genus from seed have not yet been determined.

Recommendations

The species will become extinct within the next few years unless the extent of browsing pressure observed during 1986 and 1987 is reduced. The site should be fenced to prevent access by feral goats, wallabies and domestic stock. The New South Wales National Parks and Wildlife Service is the most appropriate government authority to assume responsibility for this work.

Indications are that plants will be able to regenerate from their old stumps if prompt action is taken. An alternative action would be the culling of the goat and wallaby population but this is a less reliable and less economic alternative in the longer term as constant monitoring and repeat treatments would be required. Because of the regular control-burning conducted in the adjacent State Forest and private land the fencing material will need to be fire-proof. Control-burn fires should be excluded from this shrub community.

This site is now on the Register of the National Estate. Both the property owner and the New South Wales National Parks and Wildlife Service have been advised of the occurrence of this species and its conservation needs. Whilst the land owner has expressed an interest in the occurrence and preservation of this and several other rare species occurring on his property there has unfortunately been a difference of opinion between himself and the Service and others as to how the area should be managed. It is to be hoped that this can be satisfactorily resolved.

SITE DETAILS

Site 1 - Box Range South

Latitude and Longitude: 36° 56' 30", 149° 45' 50".

Altitude: 230 m.

Location: Western slopes of a north-south running gully 1.9 km south-south-west of the junction of Crawleys Creek and Six Mile Creek on Box Range Farm. The site, including an adjacent area containing three other nationally Rare or Threatened plant species, is encompassed by straight lines joining the Pambula 1:25,000 map sheet 8824-11-5 grid reference points 45920785-46050825-46180820-46280790-46220778-46130788-46050778. (See map page 307).



Looking south towards the *Zieria* sp. 15 site. The light green foliage in the small gully near the top of the hill is that of shrubs of *Kunzea ambigua* and *Melaleuca armillaris* which are growing on outcropping ignimbrite. *Zieria* sp. 15 occurs along the western slopes of the gully whilst populations of two Vulnerable species, *Phebalium ralstonii* and *Westringia davidii* and the Rare *Acacia subtilinervis* occur in the shrub community at the head and on the eastern side of the gully.

Land Status: Private freehold.

Area: 3 ha.

Population: 4 relatively undamaged mature plants and about 35 plants browsed down to near ground level but resprouting from their butts. A few seedlings have established where protected by fallen debris.

Habitat

Soil: Skeletal grey loam.

Substrate: Rhyolite, outcropping extensively.

Topography: Mid slope of a steep hillside above a small creek in a narrow gully in generally hilly terrain.

Aspect: North-north-east.

Vegetation: In the boundary zone between a shrub community including *Melaleuca armillaris*, *Kunzea ambigua*, *Acacia mearnsii*, *Cassinia longifolia*, *Commersonia fraseri*, *Platysace lanceolata* and *Dendrobium speciosum* and *Eucalyptus muelleriana* open-forest.

Survey Dates: 22/9/87 and 16/12/87.

Voucher Specimens: J.D.B. and M. Parris No. 2270.

Pambula 1:25000
map sheet 8824-11-S


55'

Zieria sp.14(sp."P")
Box Range North Site
(Site 1)

Precise area containing
the Zieria sp.

Zieria sp.15(sp."Q")
Box Range South Site
(Site 1)

Box Range Shrub
Community Sites a, b & c
(revised nomination)
- 28/9/1987--

 =areas of shrub
community.

Pambula 1:25,000
map sheet 8824-11-S

