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Dear Biodiversity Act Submission readers,

I have been a volunteer bushcarer with SA's Bush for Life on the Bt Barker District Council owned remnant bushland on Piney Ridge Road (Piney) Nairne for over 17 years. Piney Ridge Road cuts through agricultural land in the Adelaide Hills, and has over 50 local native and endemic floral species, from beautiful flowering ground covers spilling over ridges to majestic Manna, River Red, and SA Blue Gums. Some of Piney's flora are rare or endangered. I am also a volunteer bushcarer with Friends of the Mount Barker Summit for about 11 years. As a bushcarer I pull invasive weeds from these sites from one to three times weekly, and keep an eye on other threats to these sites

On Piney Ridge Road's bush site verge, there are three adult rare Acacia retinodes, a tiny remnant of a wattle species endemic to SA. Over the last 1-2 years, 6 seedlings and suckers have grown, battered at times by bike riders, but overall steadily growing, protected from rabbits and kangaroos by tree guards. Early this month (February 2024) I found 5 of the 6 treeguards removed, thrown down the ridge, and only 3 of the 6 little young A. retinodes remain. The attached ALA extract explains why road verges are crucial to the future survival of this declining local endemic species. See Conservation section, p.2.

Also early this month, I found that vandals tore down again the fencing around the Thelymitra bracteata Orchid area. These dozen orchids were totally crushed by the feet of those tearing down the fence first time round, a couple of years ago. It remains unknown if these Piney orchids will sprout again. Seeds of these Piney Thelymetra bracteata Orchids were collected and transported to the SA Herbarium. The attached NOSSA article derails why protection of roadside vushland remnants are crucial to the survival of some of our most vulnerable and endangered species especially Orchids.

Stronger measures such as security strength fencing and rougher laws/higher fines are thus strongly indicated.

Hence, in the new SA Biodiversity Act, inclusion of clauses which protect remnant bushland on roadside verges, and other remnant rare flora species locations such as cemetries, is of crucial importance to the future biodiversity of SA.

Yours sincerely,
Dr Stephanie Jarrett
[redacted]

NOSSA

Native Orchid Society of South Australia

Orchids In Remnant Roadside Vegetation

This week's post written by Leo Davis is an article (slightly edited) from *The South Australian Naturalist* **91** (1): 34 – 37 January – June 2017. In this article, Leo highlights the importance of the role of roadside vegetation in preserving the native orchids and flora.

All photographs are by Leo Davis.



Fig 1: *Thelymitra antennifera* hybrid

One of my rules of thumb is 'If I am in a Conservation Park, I'm on ground that nobody could make a living from.' One, usually more, of nutrient poor soils, excess salinity, extreme rockiness, steepness, poor moisture retention, low rainfall or even being waterlogged, will be a feature of the location. There are a few odd spots that have survived partly intact, that have good soil, sufficient rainfall, etc. These include cemeteries (The Nationally Critically Endangered ghost spider orchid (*Caladenia* (syn. *Arachnorchis*) *intuta*) holds on in a cemetery on Yorke Peninsula) or exclusion zones around water storages (including a reservoir reserve in Lobethal that the public can now access) or abandoned railway yards (including Sherlock, where so far I have found 21 species of orchids and part of a reserve in Halbury.)



Fig 2: Little Yellow Club Mallee Spider Orchid *Caladenia* (syn *Arachnorchis*) *verrucosa*

When I go in search of plants with the Botany Group of the FNSSA (Field Naturalist Society of South Australia), or for orchids with NOSSA (Native Orchid Society of South Australia), or when I do surveys of threatened orchid species with DEWNR (Department Environment, Water and Natural Resources), or orchid seed collection with the Adelaide Botanic Gardens, or go on weeding parties to protect endangered species, the destination is always one of these deprived, rejected sites. The orchids I see are those adapted to or just hanging on in such sites. We never see orchids that lived on better soils, say on the Adelaide Plains. How many have become extinct?



Fig 3: Common Mallee Shell Orchid *Pterostylis dolichochila*

Wherever the land was suitable for agriculture it was clear felled. Almost nothing of the original flora and little of its associated fauna, were left. But there is a tiny flimsy exception. Crossing these highly productive agricultural zones are roads and sometimes these have remnant vegetation. For a person interested in orchids, these narrow strips are normally areas of slim pickings but occasionally finds are made. Near Halbury, the Nationally Endangered Halbury rufoushood (*Pterostylis* sp. Halbury or *Oligochaetochilus lepidus*) can be found in some roadside spots.



Fig 4: Mallee Bearded Greenhood *Pterostylis* (syn *Plumatichilos*) sp. Mallee Bearded Greenhood

The most remarkable piece of roadside vegetation that I have come upon was discovered by and shown to me by Glenn Dean, the Environment Officer with the City of Murray Bridge. He found a section of predominantly broombush (*Melaleuca uncinata*) vegetation, only about 200 m. long, on the verges of a single car sandy track, east of Murray Bridge. It is so close to the vegetation that cars can be scratched. I have found 24 species of orchid (Glenn has found more) blooming there sometime between March and October each year. All images shown here (Figs 1–11) were made at this site. If the little used road was not there the land would have been under crop, being equal in quality to regularly cropped fields to either side, and is of much higher quality than any normally allocated to Conservation Park status. Most of the orchids found can indeed be found in some of the poor sites dedicated as Conservation Parks, including species similar to those found at Ferries McDonald and Monarto Conservation Parks with their poor sandy soils. But this spot, which for some reason supports species that do not grow just 100 metres east or west along the road, has such species as the Nationally Critically Endangered Mallee Leek

Orchid (*Prasophyllum constrictum*) (Fig. 8), that requires soils as good as those demanded by wheat, so it is essentially doomed.



Fig 5: Rusty Rufoushood *Pterostylis biseta* (syn *Oligochaetochilus bisetus*)

Its single plant sighting here is regarded as a 'rediscovery' of a species not seen for years. In the longer term I guess this tiny site of orchid species richness is in a transitory state and most species will disappear. The surrounding cropping land is neither a source of seed nor a suitable landing site for it and it provides damaging wind blown nutrients and other chemicals. So I will cherish it while it lasts and hope others appear, if only briefly. Here is a reminder, that most of you do not need, of the value of roadside vegetation (with the understanding that it can contribute to native animal mortality) and that we should manage, extend and guard its presence.



Fig. 6: Rufoushood *Pterostylis* (syn *Oligochaetochilus*) *boormanii* complex sp.



Fig. 7: Cinnamon Donkey Orchid *Diuris palustris*



Fig. 8: Mallee Leek Orchid *Prasophyllum constrictum*



Fig. 9: Limestone Tiny Shell Orchid *Pterostylis cycnocephala* (syn *Hymenochilus calcicolus*)



Fig. 10: *Caladenia* (syn *Jonesiopsis*) *capillata* x *Pheladenia deformis* hybrid

Acacia retinodes Schltdl.

ALA (https://bie.ala.org.au/species/https://id.biodiversity.org.au/node/apni/2891480) NSL [legitimate] (https://biodiversity.org.au/nsl/services/apni-format/display/69641)

Options

— Schlechtendal, D.F.L. von (December 1847), Sudaustralische Pflanzen. II. Bestimmung und Beschreibung der von Dr Behr in Sudaustralien gesammelten Pflanzen. *Linnaea: ein Journal für die Botanik in ihrem ganzen Umfange, oder Beiträge zur Pflanzenkunde* 20: 664

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Nomenclature

Council of Heads of Australasian Herbaria (2007), *Australian Plant Census* ()

Etymology

"The specific epithet is from Greek for resinous, in reference to the gum yielding properties" (O'Leary 2007: 100, including further details).

Common Name

Wirilda, Hills Wirilda, Silver Wattle.

Description

Tree to 10 m tall, occasionally suckering. Bark rough, furrowed, dark brown to black. Branchlets occasionally pendulous, flattened or angular at extremities, glabrous. Phyllodes variable, crowded on stems (4–10 mm apart), oblanceolate to narrowly oblanceolate or linear, (5–) 6–16 cm long, (2–) 3–12 (–16) mm wide, acuminate, normally uncinate, green to grey-green, not pruinose, glabrous, 1-veined per face, obscurely penninerved; gland small, 0–3 (–7) mm above pulvinus. Inflorescences racemose;

raceme axes 2–4 (–5) cm long; peduncles 3–6 mm long, slender, glabrous; heads globular, (16–) 18–30 (–34)-flowered, pale yellow to cream. Flowers 5-merous; sepals united; ovary glabrous. Pods linear, to 16 cm long, 8–11 mm wide, firmly chartaceous. Seeds longitudinal, oblong to oblong-elliptic, 4–6 mm long, dark brown to black; funicle ¾ or more encircling seed, red-brown to blackish; aril clavate.

Phenology

Flowers December–February.

Biostatus

Native.

Distribution

Endemic to the Mount Lofty Ra. from near Mount Bryan and Clare, S to Normanville and Delamere on the southern Fleurieu Peninsula, South Australia. Also weedy in the extreme SE of the State.

The distribution map, which is derived from the Australasian Virtual Herbarium (https://avh.chah.org.au/), includes records of the related species *A. provincialis* and *A. uncifolia.*

Habitat

Occurs on low hills and ranges in *Eucalyptus* woodland.

Ecology

Details of the breeding system are discussed in the papers of Kenrick and Knox (e.g. 1985). Further information on the biological and ecological features of this species is given in B.R. Maslin and M.W. McDonald, *AcaciaSearch: Evaluation of Acacia as a woody crop option for southern Australia*, RIRDC Publication No. 30/017, 170–174 and 182–185 (2004).

Conservation Status

Only remnants of the original habitat of *Acacia retinodes* remain, many of the remaining populations appear to be confined to road verges, the plant is palatable to stock, and its habitat is negatively affected by grazing. Although some populations occur in conservation reserves they are mostly small remnants, with the long term viability of these being of some concern (O'Leary 2007: 98–99).

Representative Herbarium Specimens

S.A.: c. 2 km due NNE of Normanville Fleurieu Peninsula, *B.R. Maslin 8355* (AD, CANB, PERTH); Mount Bryan, *M.C. O'Leary 2729* (AD); Rockleigh, *D.J.E. Whibley 5654* (AD).

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Uses

A widely cultivated, fast-growing but short-lived hardy species with unobtrusive flowers that occur sporadically throughout much of the year but with the main flush in spring and summer. Further information on the utilisation potential of this species (e.g. cultivation and development for wood, tannin, fodder, seed and gum products) is given in B.R. Maslin and M.W. McDonald, *AcaciaSearch: Evaluation of Acacia as a woody crop option for southern Australia*, RIRDC Publication No. 30/017, 170–174 and 182–185 (2004).

Ethnobotany

See O'Leary (2007: 99–100).

Nomenclature and Typification

***Acacia retinodes* Schltdl.**, *Linnaea* 20: 664 (1847); *Racosperma retinodes* (Schltdl) Pedley, *Austrobaileya* 6: 484 (2003). Type: 'Sehr verbreitet auf fruchtbarem Boden in der Nahe des Wassers im den Thalern.' [Barossa Valley, S.A., perhaps from Schlinckens Creek], *H.H. Behr s.n.*; holo: HAL; iso: MEL616152.

Acacia retinodes Schltdl. ('Normanville' variant), B.R. Maslin & M.W. McDonald, *Acacia Search* 182 (2004).

Taxonomic Notes

The concept of *Acacia retinodes* by Maslin (2001), was revised by O'Leary (2007): *A. retinodes* var. *uncifolia* is now treated as a distinct species, *A. uncifolia*, while *A. retinodes* var. *retinodes* is regarded as comprising two species, *A. retinodes* (from dry sites) and *A. provincialis* (from wetter sites). A taxonomic history of *A. retinodes* and the related species is provided by O'Leary (2007).

Plants from just S of Adelaide that Maslin & McDonald (2004), treated as the Normanville variant of *A. retinodes* are now regarded as a coastal form of the species, *fide* O'Leary (2007: 99).

In the *Flora of Australia* 11B: 144 (2001) under Doubtful Names, B.R. Maslin considered that *A. semperflorens* Jacques might possibly be referable to *A. retinodes*. While O'Leary (2007: 108), also regards this as a doubtful name he considers that the taxon is not referable to *A. retinodes*.

Acacia retinodes is a member of the '*Acacia microbotrya* group' most closely related to *A. provincialis* and *A. uncifolia* (O'Leary 2007: 97, Table 1, for differences); it is also related to *A. confluens*, *A. leiophylla*, *A. rivalis* and *A. gillii*. Maslin (2001: 282) noted that *A. semiaurea* is possibly a hybrid involving *A. retinodes* and either *A. argyrophylla* or *A. dictyocarpa* (which was treated as variant 2 of *A. brachybotrya* in that publication); this can not be confirmed, see O'Leary (2007: 99), for further discussion.

Illustrations

F.J.H. von Mueller, *Iconography of Australian species of* Acacia *and Cognate Genera* dec. 5 [pl. 9] (1887); L.F. Costermans, *Native Trees and Shrubs of South-eastern Australia* 319 (1981); T. Tame, *Acacias of Southeast Australia* 134, fig. 141; pl. 141 (1992); D.J.E. Whibley & D.E. Symon, *Acacias of South Australia*

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2nd edn, 143 (1992); B.R. Maslin & M.W. McDonald, *AcaciaSearch: Evaluation of Acacia as a woody crop option for southern Australia* 171 & 183 (2004); M.C. O'Leary, *Journal of the Adelaide Botanic Gardens* 21: 98, fig. 1 (2007).

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Source

Adapted from B.R. Maslin, *Acacia retinodes*, *Flora of Australia* 11A: 281–283 (2001). Revised by B.R. Maslin & M.C. O'Leary (June 2012); updated by P.G. Kodela (August 2019).

Taxonomy

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- Kingdom: Plantae ()
- Phylum: Charophyta
- Class: Equisetopsida
- Subclass: Magnoliidae
- Superorder: Rosanae ()
- Order: Fabales ()
- Family: Fabaceae (/opus/foa/profile/Fabaceae) ()
- Genus: Acacia (/opus/foa/profile/Acacia) ()
- Species: Acacia retinodes (/opus/foa/profile/Acacia retinodes)

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Acacia retinodes by Richardson, R.G. & F.J., 15/03/2005 (© Richardson, R.G. & F.J.)

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