

Thelymitra matthewsii

COMMON NAMES

spiral sun orchid

BIOSTATUS

Native

CURRENT CONSERVATION STATUS

2023 | Threatened – Nationally Critical | Qualifiers: DPT, EF, RR, TO

[Jump to previous conservation statuses](#)

CATEGORY

Vascular

STRUCTURAL CLASS

Orchids

FLOWER COLOURS

Blue, Violet/Purple

DETAILED DESCRIPTION

Terrestrial orchid up to 150 mm tall occurring as single plants or in small groups of up to 10 individuals. **Leaves** of three types; those of seedlings to juveniles 5–10 mm long, solitary, flexuous, not twisted, apex hooked; those of subadults 10–30 mm long, narrow of uniform width, spirally twisted, apex not hooked; those of mature plants 30–80 mm, broader at base, tapering, mostly linear, spirally twisted around stem, apex not hooked; sheath of adult leaves broad, finely puberulent, dark green to glaucous-green. **Stem** puberulent at base, terete, dark green to glaucous green. **Inflorescence** 1–(2)-flowered. **Perianth** 8–14 mm long, very dark purple-blue with darker veins. **Sepals, petals and labellum** alike, lanceolate to oblong-lanceolate, acute to shortly acuminate. **Column** short; anther exposed; connective prolonged; column arms more or less oblong, thick, fleshy; neither lobed nor ciliate, bright yellow; post-anther lobe absent; small calli occasionally present across back of anther between bases of column arms. **Capsule** broadly ovoid 10–15 mm long.

SIMILAR TAXA

A very distinctive orchid quite unlike any other indigenous New Zealand *Thelymitra* J.R.Forst. et G.Forst. The spirally twisted adult leaf through which the flowering stem protrudes is unique to this species in New Zealand, while the absence of a post-anther lobe is shared only with the quite unrelated *T. cyanea* (Lindl.) Benth., which can be immediately distinguished from *T. matthewsii* by its requirement for acidic wetlands, absence of a spirally twisted leaf, and ribbon-like, spirally twisted rather than erect and fleshy column arms. No other *Thelymitra* in New Zealand has such deep purple (almost purple-magenta) flowers as *T. matthewsii*.

DISTRIBUTION

Indigenous. New Zealand: North Island (locally present around Te Paki. It appears to be extinct at its original New Zealand location on sandhills between Ahipara and Kaitaia). Also Australia (South Australia and Victoria).



Te Paki. Photographer: Jeremy R. Rolfe, Date taken: 05/09/2008, Licence: CC BY.



Spiral leaf and flower stem. Te Paki. Photographer: Jeremy R. Rolfe, Date taken: 05/09/2008, Licence: CC BY.

HABITAT

Coastal to lowland (0–200 m a.s.l.) in open clay pans, on old semi-stabilised but sparsely vegetated sand dunes and in open, ultramafic outwash and gullies. Also found on recently exposed soils and sand blow outs within shrubland. Requiring open sites, this species soon disappears when taller plants invade its habitat.

THREATS

Habitat loss and plant collectors have been the main cause for the decline and extinction of this species at its original New Zealand sites. It was rediscovered in the late 1980s in what are largely secure reserved sites. However, even there weeds such as *Hakea* spp. are a constant threat. It is also very vulnerable to trampling as it prefers open, somewhat unstable, erosion-prone soils. In Australia it is regarded as threatened (at least Vulnerable) and may be extinct in South Australia.

GENUS

Thelymitra

FAMILY

Orchidaceae

AUTHORITY

Thelymitra matthewsii Cheeseman

SYNONYMS

Thelymitra daltonii R.S.Rogers

TAXONOMIC NOTES

As of 2004 APNI list *Thelymitra matthewsii* as a synonym of the highly variable Australian *T. spiralis* (Lindl.) F.Muell. This decision is disputed by J. Jeanes (MEL) who is revising the genus. Jeanes maintains that *T. matthewsii* is distinct from *T. spiralis*. NZPCN follows his advice but further research is desired.

ENDEMIC TAXON

No

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

FLOWERING

(July)–September–(October)

FRUITING

September–December

PROPAGATION TECHNIQUE

Difficult—should not be removed from the wild,

PLANT OF THE MONTH

This plant has been featured as a Plant of the Month – see [Trilepidea: NZPCN newsletter for November 2006](#) for the full story.

ETYMOLOGY

thelymitra: Woman's hat

matthewsii: After Mathews

MANAAKI WHENUA ONLINE INTERACTIVE KEY

[Key to native orchids of New Zealand](#)

PREVIOUS CONSERVATION STATUSES

2017 | Threatened – Nationally Critical | Qualifiers: EF, RR, TO

2012 | Threatened – Nationally Critical | Qualifiers: EF, RR, TO

2009 | Threatened – Nationally Critical | Qualifiers: EF, TO, RR

2004 | Non-resident Native – Coloniser

[Jump to current conservation status](#)

REFERENCES AND FURTHER READING

Moore LB, Edgar E. 1970. Flora of New Zealand, Volume II. Indigenous Tracheophyta: Monocotyledones except Gramineae. Government Printer, Wellington, NZ. 354 p.

Rolfe JR, de Lange PJ. 2010. Illustrated guide to New Zealand sun orchids, *Thelymitra* (Orchidaceae). Jeremy Rolfe, Wellington, NZ. 57 p.

ATTRIBUTION

Description adapted from Moore and Edgar (1970).

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/thelymitra-matthewsii/>

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