

Ficinia spiralis

COMMON NAME

pīngao, golden sand sedge, pikao

SYNONYMS

Isolepis spiralis A.Rich., *Desmoschoenus spiralis* (A.Rich.) Hook.f., *Anthophyllum urvillei* Steudel, *Scirpus frondosus* Boeck, *Scirpus spiralis* (A.Rich.) Druce

FAMILY

Cyperaceae

AUTHORITY

Ficinia spiralis (A.Rich.) Muasya et de Lange

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

Yes

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Sedges

NVS CODE

FICSPI

CHROMOSOME NUMBER

2n = 30

CURRENT CONSERVATION STATUS

2017 | At Risk – Declining | Qualifiers: PD, RR

PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Declining | Qualifiers: PD, RR

2009 | At Risk – Relict | Qualifiers: CD, Inc, Sp

2004 | Gradual Decline

DISTRIBUTION

Endemic. New Zealand: North, South, Stewart and Chatham Islands.

HABITAT

Coastal sand dune systems. It favours sloping and more or less unstable surfaces, growing mostly on the front face of active dunes but also on the rear face and rear dunes, provided that there is wind-blown sand. It can also grow on the top of sand hills. It is effective at trapping sand.



Mason Bay, Stewart Island. Photographer: John Sawyer, Licence: CC BY-NC.



Ship Creek, West Coast. Photographer: John Sawyer, Licence: CC BY-NC.

DETAILED DESCRIPTION

Stout, yellow-green when fresh, golden when dry, shortly creeping plants with stiff culms and very harsh leaves.

Rhizome lignaceous, 10–15 mm diameter, shortly creeping, covered by red-brown to brown, fibrous strands left from decaying leaf-sheaths. **Culms** numerous, 0.3–1.2 m tall, 2–4 mm diameter, erect, obtusely trigonous, very leafy at the base. **Leaves** numerous, \pm = culms, 2–5 mm. wide, stiffly erect or weakly curved, coriaceous, linear, concavo-convex or \pm channelled, margins and keel sharply denticulate, narrowed to a long, trigonous tip; sheaths submembranous, much broader than leaves, with numerous, red-brown veins. **Inflorescence**, paniculate 70–300 mm long, each panicle composed of c. 12 confluent clusters of sessile spikelets, each cluster subtended by a rigid leaf-like bract adnate to the axis and broadening at base to an open sheath, lower bracts much exceeding inflorescence. **Spikelets** 4–5 mm. long, dark red-brown. **Glumes** coriaceous, rigid, broadly ovate, obtuse, distinctly nerved, finely mucronulate, the lower ones \pm keeled. **Nut** 2.5–4.0 \times 2.0–2.5 mm, broadly obovoid, concavo-convex, compressed, obtuse, dark brown, smooth and shining.

SIMILAR TAXA

None. Easily recognised by the widely spreading rhizomatous growth habit, distinctive overall orange colouring of the plant, paniculate spiral seed heads, and by the possession of a gynophore (see taxonomic notes).

FLOWERING

Spring and early summer

FLOWER COLOURS

White, Yellow

FRUITING

Late summer

PROPAGATION TECHNIQUE

Can be grown from fresh seed and cuttings. Fresh seed germinates easily but plants resent root disturbance, and they should be grown in root trainers. Although it will tolerate most soils and moisture regimes, it obviously does best in coastal situations within active sand dunes.

THREATS

Competition from marram grass (*Ammophila arenaria*), dune stabilisation and compaction, harvesting, trampling, vehicle traffic and browsing animals. Because this species is wind-pollinated, individuals of small, isolated populations may not receive pollen during flowering, and therefore there will be no seed production. Browsing and trampling by sheep and horses; browsing of seedlings by possums; seed destruction by rodents; fire and insensitive harvesting.

ETYMOLOGY

ficinia: Named after Heinrich David Auguste Ficinus, 19th century German botanist

spiralis: From the Latin spira 'coil' or 'twist' and -alis 'resembling', resembling a twist or corkscrew, spiral-shaped

TAXONOMIC NOTES

Desmoschoenus has been submerged into the mainly South African genus *Ficinia* (Muasya & de Lange 2010) based on an analysis of molecular and morphological characters. Multiple DNA markers showed that *Desmoschoenus* was firmly embedded within *Ficinia*, and that, along with its possession of a gynophore (a small cup like structure found at the base of ovary/nut otherwise known only from *Ficinia*) were considered firm reasons for its merger.

Furthermore *Desmoschoenus* closely resembles those *Ficinia* which the molecular study placed it with. Read more about this research: [A new name and genus for pingao](#)

VIDEO STORY

[Pingao](#) - Watch the TVNZ Meet the Locals video.

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (6 August 2006). Description adapted from Moore & Edgar (1970).

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.
- Muasya AM, de Lange PJ. 2010. *Ficinia spiralis* (Cyperaceae) a new genus and combination for *Desmoschoenus spiralis*. *New Zealand Journal of Botany* 48: 31–39. <https://doi.org/10.1080/00288251003660703>.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/ficinia-spiralis/>