



Pimelea villosa

Common Name(s):

sand daphne, autetaranga, toroheke, sand pimelea

Current Threat Status (2012):

At Risk - Declining

Distribution:

Endemic. North, South and Rekohu (Chatham Island). Abundant on Rekohu.

Habitat:

Confined to sand dunes and associated swales and flats - usually in free draining sites but sometimes bordering streams in places prone to sudden flooding. On Rekohu (Chatham Island) this species often extends outside these habitats onto the sandy peat soils that were once forest and are now mostly pasture, and in these places it sometimes extends into dune forest remnants. It can be very common in pasture there probably because the soils are free draining and sandy and also because it is toxic and so cattle and sheep will not eat it. On the southern tablelands it is sometimes found within clears (on shallow peat soils) where it grows with other plants typical dune country such as *Coprosma acerosa*. Unusually for this species around Te Whanga it sometimes grows on limestone outcrops.

Features*:

A medium-sized to large, much-branched, erect to decumbent, sometimes prostrate shrub; stems stout to slender, flexible to stiff, to 1.5 m long, usually shorter, sometimes developing adventitious roots if buried by sand. Young branchlets densely covered in short to long, white, or rarely yellowish, appressed hair. Internode length 0.8–10.0 mm; older stems sparsely hairy, or hairless, brown. Node buttresses short (0.25 mm), lunate, glabrous, or with short hairs, but masked by internode hair on young stems; not prominent on leafless stems. Leaves decussate, ascendant or spreading, then often deflexed, imbricate or distant, on short (0.2–0.8 mm) often red petioles. Lamina 5–15 mm long × 3–7 mm wide, broad-elliptic to broad-ovate, flat; obtuse, or acute, base cuneate. Upperside of leaf glaucous to medium green, usually glabrous, but young leaves sometimes sparsely hairy, above. Lower sides and margins are densely covered by appressed white to dull white or sometimes yellowish hair; midvein not prominent. Stomata on both leaf surfaces. Inflorescences terminal on branchlets, 3–7-flowered. In some individuals grouped in clusters of 2 or more. Receptacles very hairy. Involucral bracts 4, of similar size to, or smaller than, adjacent ordinary leaves (8–10 × 5–7 mm), broad-elliptic to broad-ovate, densely hairy below, usually glabrous above but sometimes with a few hairs on that side. Plants gynodioecious. Flowers white or sometimes cream, on short pedicels (0.5 mm); tube and calyx lobes very hairy outside, inside hairless or with a few hairs in the ovary portion, lobes open in ascendant or salverform fashion. Female tube 4–5.5 mm long, ovary portion 3–4.5 mm, calyx lobes 2.2 × 2.0 mm; hermaphrodite tube 5–7 mm, ovary portion 3.5–5 mm, calyx lobes 2.5–2.7 × 2–2.5 mm. Anther filaments short, inserted at mouth of tube; anther yellow. Ovary partly or completely hair-covered. Fruits ovoid, fleshy, dark purple-black, red, pink or white, opaque, 5.2 × 4.2 mm. The tube breaks off irregularly as the fruit ripens. Seeds 4 × 2.2 mm. Description based on Burrows (2009)

Flowering:

September - March

Fruiting:

October - April

Threats:

Threatened throughout its range (except possibly Rekohu (Chatham Island) by competition from marram grass; trampling by cattle, sheep and horses; browsing of seedlings by possums; seed destruction by rodents; vehicle damage and fire. More worryingly it has been observed that fruiting plants are now rarely seen over large parts of its range despite apparently good sex ratios within populations. It is suspected that the low fruit set being observed is due to the decline of and perhaps loss from some areas of pollinators. Further study is needed to confirm this. Although treat in the broad sense here the southern variant (*Pimelea* aff. *arenaria* (AK 216133; Southern New Zealand)) is by far the less common and more threatened of the two forms.

*Attribution:

Fact Sheet by P.J. de Lange (1 November 2009). Description based on: Burrows (2009).

References and further reading:

Burrows, C.J. 2009: Genus *Pimelea* (Thymelaeaceae) in New Zealand 3. The taxonomic treatment of six endemic hairy-leaved species. *New Zealand Journal of Botany* 47: 325-354.

de Lange, P.J.; Norton, D.A.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Hitchmough, R.; Townsend, A.J. 2009: *Threatened and uncommon plants New Zealand Journal of Botany* 47: 61–96.

Merrett, M. 2005. The lowdown on *Pimelea arenaria*. *Wellington Botanical Society Bulletin* 49: 3-6

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=193



Caption: A plant showing imbricate and larger lax leaves (see comments on taxonomy). Spirits Bay. Nov 2010.
Photographer: Jeremy Rolfe



Caption: *Pimelea arenaria* at Tokerau Beach
Photographer: Bill Campbell