

Dodonaea viscosa

COMMON NAME

akeake

SYNONYMS

Dodonaea viscosa Jacq. subsp. *viscosa*

FAMILY

Sapindaceae

AUTHORITY

Dodonaea viscosa Jacq.

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

No

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

NVS CODE

DODVIS

CHROMOSOME NUMBER

2n = 28

CURRENT CONSERVATION STATUS

2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

BRIEF DESCRIPTION

Bushy shrub or small tree with flaky reddish bark and bearing long thin wavy leaves. Young parts sticky. Leaves 4-15cm long by 1-4cm wide, green to red-purple gradually narrowing to short leaf stalk and quickly narrowing to a rounded leaf tip. Flowers in panicles, small, yellow-green to red-green, developing into green dry 2-4-winged capsules.

DISTRIBUTION

Indigenous. New Zealand: Three Kings, North, South and Chatham Islands. Widespread throughout the world (see Harrington & Gadek 2009). Though long regarded as naturalised on the Chatham Islands (de Lange et al. 2011), recent unpublished pollen core data show this view is incorrect (J. Wilmshurst pers. comm. 2014).

HABITAT

Coastal to lowland forest, occupying a range of habitats from dunefields and boulder beaches through coastal scrub to lowland forest. Rarely forming a dominant tree in coastal forest and especially on offshore islands



Coromandel, November. Photographer: John Smith-Dodsworth



Coromandel, November. Photographer: John Smith-Dodsworth

FEATURES

Shrub or small tree 3-12 m. Bark reddish brown, flaking readily in irregular shards, flakes often detaching in masses toward trunk base; young branchlets flattened to triangular, glabrous. Young growth and buds sticky (viscid). Leaves sessile or on petioles 8-12 mm. long; lamina membranous, subcoriaceous to coriaceous, initially viscid, 40-150 × 10-35 mm, green, yellow-green, bronze or red-purple; linear-lanceolate, lanceolate, elliptic to oblanceolate; base narrowly attenuate to cuneate; apex obtuse, rarely emarginate or subacute; margins entire or (very rarely) finely denticulate. Inflorescences terminal, in panicles 30-80 mm long. Flowers yellow-green to red-green; pedicellate, pedicels 10-40 mm long, viscid, minutely puberulent, hairs often deciduous. Male flowers with 3-4, 1.3-3.0 mm long, lanceolate-ovate to oblong, caducous sepals; stamens 6-10; filaments 0.1-0.6 mm long; anthers 1.2-2 mm long. Female flowers similar though sepals narrower; style bifid, prominently exerted. Capsule 2-4-winged, 15 × 15 mm broadly ellipsoid, initially cream to red tinged, resinous, drying amber to pale brown, lustrous; wings 3-10 mm wide, even, membranous, base cordate, apex emarginate, margins undulate. Seeds 2.9-3.4 mm long, dark purple-black or black, elliptic-oblong to ovoid, compressed, biconvex.

SIMILAR TAXA

None

FLOWERING

August - November

FLOWER COLOURS

Red/Pink, Yellow

FRUITING

November - April

LIFE CYCLE

Winged fruit are dispersed by wind and possibly also by water (Thorsen et al., 2009).

PROPAGATION TECHNIQUE

Easily grown from fresh seed. Often self-establishes in gardens. *Dodonaea* is an attractive fast-growing shrub or small tree. It is frost sensitive but otherwise remarkably resilient and will tolerate all but waterlogged soils. It should be planted in full sun. The most commonly cultivated form is *D. viscosa* 'purpurea' a colour-sport that sporadically occurs in wild populations, and which occasionally reverts in cultivation.

ETYMOLOGY

dodonaea: Whispering

viscosa: Sticky

ETHNOBOTANY

The exceptionally hard wood of akeake (*Dodonaea*) was much favoured by Maori for making taiaha, patu and other weapons as well as garden implements. The name akeake meaning 'for ever for ever' is best summed up by the words spoken by Hauraki Tonganui on 2 April 1864 at the battle of Orakau "E hoa, ka whawhai tonu ahau ki a koe, ake ake!" meaning: "Friend, I shall fight against you for ever, for ever!"

TAXONOMIC NOTES

Dodonaea viscosa is a highly variable species with a complex, confused and many would say unworkable intraspecific taxonomy (Harrington & Gadek 2009). The most recent conclusion is that *Dodonaea viscosa*, spread as it is over all the continents (except Antarctica) and with a wide latitudinal spread is better treated as an 'ochlospecies' (Harrington & Gadek 2009). This is a difficult concept to understand but it may perhaps be best summed up as: a term used to reflect any extremely variable taxon forming numerous populations of genetically similar individuals that do not have a unique genetic history relative to the other variations of that taxon found elsewhere in its range. Such taxa would therefore show greater clustering in genetic space, but would not be genealogically exclusive. For this reason the New Zealand plant is referred to *D. viscosa* and no subspecies recognised (though the New Zealand plant has, of course been consistently referred to the type subspecies by other workers)

SEXUAL EXPRESSION

Dodonaea viscosa is described by Allan (1961) as dioecious, however, New Zealand populations are either monoecious (i.e. male and female on the same tree), weakly dioecious (male and female on separate plants) or more rarely gynodioecious (comprising fixed female and mixed male / hermaphrodite plants). Hermaphroditic flowers are not described here. The sexual expression of this species would make a worth while study.

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 11 November 2014. Description adapted from Allan (1961) and Webb & Simpson (2001), supplemented with observations made from fresh and dried material.

REFERENCES AND FURTHER READING

- Allan, H.H. 1961: Flora of New Zealand. Vol. I, Wellington, Government Printer.
- de Lange, P.J.; Heenan, P.B.; Rolfe, J.R. 2011: Checklist of vascular plants recorded from the Chatham Island Islands. Department of Conservation, Wellington. 57pp.
- Harrington, M.G.; Gadek, P.A. 2009: A species well travelled – the *Dodonaea viscosa* (Sapindaceae) complex based on phylogenetic analyses of nuclear ribosomal ITS and ETSf sequences. *Journal of Biogeography* 36: 2313-2323.
- Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309
- Webb, C.J.; Simpson, M.J.A. 2001: Seeds of New Zealand Gymnosperms and Dicotyledons. Christchurch, Manuka Press.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

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