

HERBAL MONOGRAPH: KUMERAHOU (KUMARAHOU) (Pomaderris kumerahou; P. elliptica)

Family: Rhamnaceae

Introduction

Kumerahou is a branching shrub growing up to 3 metres high, found in the top half of the North Island of Aotearoa. It's name probably derives from its attractive creamy yellow flowers appearing in early spring to mark the coming of the kumara planting season. Once commonly found on roadsides and in poor, clay soils (hence one of its names, "Poverty weed"), it is becoming less widespread as human activity encroaches more and more on its traditional habitat.

Constituents:

Flavonoids, including the flavonols quercetin & kaempferol, highest levels of which occur in the flowers (Cambie, personal communication).

Ellagic acid & its 0-methyl ethers (Cain et al, 1959)

Saponins (Cooper & Cambie, 1991).

Iron (Anon, 1935; McCammon, 1999)

Pharmacology:

Unfortunately, like most of our native plants, very little scientific investigation has been conducted into the possible pharmacological actions of Kumerahou. Nevertheless, this plant has a strong reputation for the treatment of several conditions, in particular those affecting the lungs. Most of the following is derived from ethnobotanical information on traditional or folklore usage, as opposed to that published in scientific journals .

INTERNAL USES:

Bronchial agent.

The leaves of Kumerahou are best known for their use in the form of a decoction or infusion for a wide variety of respiratory ailments. Bronchitis was treated with it at least as early as 1840, and various early writers reported its popularity as a cure for coughs and colds (Keys, n.d.; Poverty Bay Cookery Calender, ca. 1935; Anon, 1935; Bennett, 1937; Smith, 1940).

It was also widely used earlier this century to treat tuberculosis, sometimes combined with Koromiko and other herbs (anon, 1930; Brooker et al, 1987). In the 1930's it became popular also in the treatment of asthma (Fry, 1933; Poverty Bay Cookery Calender, ca. 1935; anon, 1934; Smith, 1940).

Saponins are probably the main constituents responsible for Kumerahou's reputed efficacy in these bronchial conditions, although these have yet to be characterised. Many saponin-rich plants are well known expectorants effective in coughs and asthma, including such well-known herbs as Liquorice (*Glycyrrhiza glabra*), Mullein (*Verbascum thapsus*) and Senega (*Polygala senega*).

Depurative/Alterative

Various reports exist in the early literature of a 'blood purifying' (depurative) action by Kumerahou (Poverty Bay Cookery Calender, ca. 1935), and it was widely taken internally for skin diseases and as a general 'tonic', in addition to being applied topically. Alleged benefits on the kidneys and a gentle aperient action, could account for increased elimination of metabolites and toxic material from the body.

Kidney tonic

Adams (1945) claimed beneficial but unspecified effects for Kumerahou on the kidneys, while Hamon (1985) reported it to be helpful for bladder troubles.

Aperient

Many other members of the Rhamnaceae family have well-known laxative properties (eg *Rhamnus* spp.); due largely to the anthraquinone glycosides they contain. Saponin-rich plants (eg *Bupleurum* spp., *Glycyrrhiza glabra*) can also produce such an effect.

While the possible presence of anthraquinones in Kumerahou, has yet to be determined, a laxative effect has been claimed by several early authors (Poverty Bay Cookery Calender, ca. 1935; Bennett, 1937; Riley, 1994). Based upon these and more recent reports, a gentle laxative (aperient) action seems likely.

Anti-dyspeptic

Reputed benefit in cases of heartburn and stomach disorders has been reported (Anon, 1935; Adams, 1945), although recent investigation is lacking. Again, it is possible the saponins in Kumerahou have an antidyspeptic action and facilitatory effect on digestion, as seen with other saponin-rich plants such as *Bupleurum* and *Glycyrrhiza* spp.

Anti-rheumatic

Decoctions of Kumerahou leaves were used by early Maori for rheumatism (Fry, 1957). Reports of some Chinese herbalists prescribing it for the treatment of arthritic complaints, have also been made in recent years (Riley, 1994), and its reputation as an aperient and depurative, supports possible efficacy in such conditions.

Anti-diabetic

A few reports of Kumerahou being used successfully in the treatment of diabetes are found in the early literature (Pickmere, 1941), although this has yet to be evaluated by subsequent study.

Sedative

Two early authors report a sedative effect and benefit in cases of nervous debility (Bennett, 1937; Anon, 1935). Although this remains unconfirmed, claims of a mild relaxant and sedative effect, persist today (Schuster, 1997).

TOPICAL USES:

Vulnerary

Leaves and flowers of Kumerahou were used as a poultice on or to bathe wounds, sores and rashes (Cowan, 1930; Miller, 1940; Smith, 1940). Liquid made from Kumerahou was also used in the bath, not only as a soap substitute, but for its soothing emollient properties probably due also largely to saponins (cf *Stellaria media*, *Saponaria officinalis*). Related species from New Caledonia and Tahiti (*Alphitonia neocaledonica* and *A. ziziphoides*), have also been used a lotions for eczema and pityriasis (Brooker et al, 1987)

Cytotoxic

An ointment made from Kumerahou was sold in Auckland many years ago for skin cancer (Brooker et al, 1987). No further information is available on this, and a proper investigation into this possible activity would certainly be useful.

Adverse effects

No significant adverse effects have been reported to date, either from internal or external use of Kumerahou preparations. Like other saponin-rich plants, however, the ingestion of excessive doses or even moderate doses in a few sensitive individuals, may result in emesis or vomiting.

Dosage

Recommended dosage of a 1:2 strength Liquid extract (made from dried leaves and flowers of *Pomaderris kumerahou*): 20-40ml/week.

References

- Anon., Article in 'He Kotuku Kai-Whakaata' No. 11-12, January-February issue, 1930.
- Anon., "Kumerahou" 'Te Waka Karaitiana' Vol 1, No. 8, 1934.
- Anon., "Maori Herbal Remedy", Hawera Star, 4 February, 1935
- Baber J., "The Medicinal Properties of Some New Zealand Plants", Trans. Proc. N.Z. Inst Vol 19, 1887.
- Ballara, B., "Maori Wai Rakau: Medicina Liquida Da Erbe Dei Maori, Etnoiatria Vol. 1, No. 1, Varese, 1961.
- Beatie H., "Medical Lore and Remedies", MS Papers, Hocken Library, University of Otago, Dunedin, 1944-56.
- Bell T.W., "Medical notes on New Zealand", NZ Med J 3: 65-83, 129-45, 1890.
- Bennett F.A., "Medicinal Uses for Native flora", 'Dominion', October 29, 1937.
- Best, E., "Maori Medical Lore", J. Polynesian Soc., 13: 213-37, 1905
- Brooker S.G. et al, "New Zealand Medicinal Plants", Reed Publishing, Auckland, 1987.
- Cain B.F. & Cambie, R.C., "Leaf extractives from *Pomaderris elliptica* Labill", N.Z. J. Sci. 2, 240-243, 1959.
- Cooper R.C. and Cambie R.C., "New Zealand's Economic Native Plants", Oxford University Press, Auckland, 1991.
- Cowan J., 'The Maori: Yesterday and Today', Whitcombe & Tombs Ltd, Christchurch, 1930
- Frost E.T., "Native Medicinal Herbs", The Northlander, Kaitaia, 1930.
- Frost E.T., "Medicine of the Maori", The Weekly News, Nov 26, 1947.
- Fry A.S., "The Aunt Daisy Story", A.H. & A.W. Reed, Wellington, 1957.
- Hamon R., Communications with Murdoch Riley, described in "Maori Healing and Herbal", Viking Sevenses NZ Ltd, Paraparaumu, 1994
- Keys B., MS Papers 407, Alexander Turnbull Library, NLNZ, n.d.
- Lee O. "Reminiscences of Kauri Bushmen" NZMSS 693, Auckland Public Library, 1890
- MacDonald C., "Medicines of the Maori", Collins, Auckland & London, 1974.
- MacMillan D., "Byways of history and medicine", Willis & Aitken, Christchurch, 1946.
- McCammon M., personal communication, based upon independent tests of *Phytomed* Kumerahou liquid extract, 1999.
- Miller W.E., 'Notes', Botany Division D.S.I.R. Christchurch, 1940.
- Moore M., "New Zealand for the Emigrant, Invalid & Tourist", Sampson. Low, Marston, Searle & Rivington, London, 1890.
- Neil J.F., "The New Zealand Family Herb Doctor", Mills, Dick, Dunedin, 1889.
- Pickmere K., 'Notes', Botany Division D.S.I.R. Christchurch, 1941
- Polack J.S. "Manners and Customs of the New Zealanders", James Madden & Co., London, 1840.
- Poverty Bay Federation of Women's Institutes, "Cookery Calender", Gisborne, 1935?
- Riley M., "Maori Healing and Herbal: New Zealand Ethnobotanical Sourcebook", Viking Sevenses, Paraparaumu, N.Z., 1994.
- Smith, "Maori Medicinal Plants", Notes from L. Smith, Botany Division, DSIR, Christchurch, 1940.
- Schuster E., in article by Waghorn S., "GP Weekly", 13 August, 1997, p25-26.
- Taylor R., "A Leaf From The Natural History of N.Z.", N.Z. Spectator & Cook's Strait Guardian, Wellington, 1848.