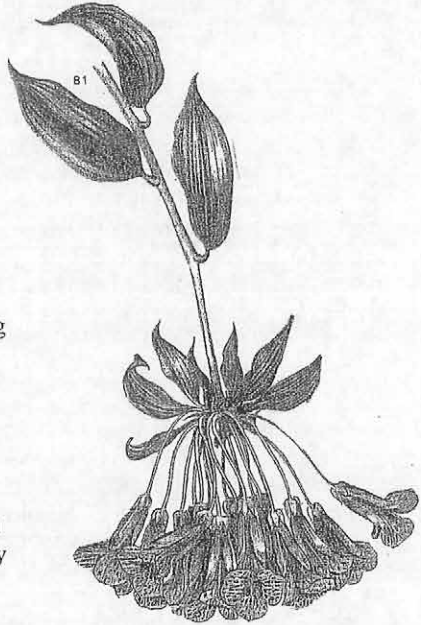


Fig. Bomarea caldasii flower.
(Wild Flowers of the World., 1970.
Painted by Barbar Everard
Text by Brian Morley
Edited by WT Stearn & PS Green.)



***Bomarea caldasii*: reproduction and biomass allocation**

As a postgraduate diploma student studying through the Dept. of Botany at Otago University, my thesis topic has been concerned with patterns of reproduction and distribution in *Bomarea caldasii*, a pest weed in Otago. Upon reading Moira Parker's article entitled "*Bomarea* on the Otago Peninsula", I was approached by Allison Knight to share the results of my research concerning this invasive weed.

B. caldasii is a climbing vine native to Ecuador, and has recently become a serious invasive weed problem to the Otago region. The species is particularly difficult to eradicate due to an underground rhizome from which it can regenerate. *B. caldasii* infests disturbed sites, most importantly native forest remnants where it strangles and smothers native plant species. *B. caldasii* has been recorded in the Otago area as early as 1952, (*pers comm.* McPherson, 2002) yet it is only in the past 2-3 years that populations have begun to spread to pest proportions. My study aimed to investigate the reproduction and biomass allocation of *B. caldasii*, to hopefully provide data to aid in the effective management of the species.

A study of three separate inflorescences over the course of their floral cycle discovered that *B. caldasii* flowers exhibit **protandry**; whereby anthers **dehisc**e before the stigma becomes receptive (Raven, 1991). Field tests for **apomixis** and self-compatibility suggest that *B. caldasii* does not produce seed asexually, yet is self-compatible. Germination experiments of seeds failed to produce any results in the laboratory.

Biomass allocation data of 63 *B. caldasii* individuals of varying size indicates that rhizomes are not produced until plants are at least 20cm in length.

There were also strong correlations that suggested an allocation of plant resources towards above ground plant structures such as stems and leaves once individuals were more than 60cm in length. Various strategies of chemical control of *B. caldasii* have been attempted and although results appear promising, any long term success at killing underground rhizome structures remains to be seen (Parker, 2002).

Peter Nichols, Postgraduate student, Botany Dept.

References:

- McPherson, N. (2002), *pers comm*
- Parker, M. (2002). *Bomarea* on the Otago Peninsula. Botanical Society of Otago Newsletter 33: 5-8.
- Raven P.H., E. R. F., Eichhorn S.E. (1999). Biology of Plants. New York, W.H. Freeman and Company Worth Publishers.

Botanical Definitions of terms in Peter Nichol's article.

Alison Stringer

apomixis: the production of viable seed without fertilisation

dehiscence: to open and shed contents when ripe

protandry: the anthers shedding pollen before the stigma is receptive in the same flower.

Reference: HH Allan. Glossary, *Flora of New Zealand Vol 1*.

Biographical Note

John Smaillie Tennant (1865-1958) *Educationalist, Botanist, Sportsman*

There are members of the Botanical Society of Otago who, as staff or students of the Department of Botany, University of Otago, will be grateful to the Tennant Bequest for research funds or a grant-in-aid to attend workshops or conferences, and there will be other members who have attended the Department's annual John Smaillie Tennant Lecture. Over the years the Bequest has supported distinguished speakers such as David Bellamy, David Galloway, Peter Wardle and Eric Godley among others.

So who was Tennant?

John Smaillie Tennant was born in Dunedin on 15 April 1865. His father, John Tennant, had arrived at Port Chalmers in March 1859 on the *Tamora*, his birthplace given as West Linton, Peeblesshire, Scotland, 1835. Upon settling in Dunedin he took up the post of clerk in a customs agency and soon became Chief Clerk and Cashier for the Government Customs Office. His mother, Elizabeth Colledge, arrived at Port Chalmers on the *Selvilla* in 1862. She was the second child of Joshua Colledge and Elizabeth Farquhar, born in Cavers, Roxburgh, Scotland, 1842. His parents married on 2 June 1864 and were living in Grant Street, Dunedin at the time John, the eldest of six children, was born.

When John was five the household (including cat and dog) were transported by lighter to their new home "Whitfield" in the bush at Ravensbourne, which was an isolated location in 1870, access being via a track around Pelichet Bay (now Logan Park) or by boat. His mother took responsibility for his primary education until the road to Port Chalmers went in. Then he began formal classes at Albany Street School. He much preferred the bush and beach but after his father discovered his "wagging", the daily five mile walk became part of his routine. In addition to this formal education, John, who was a precocious child with an absorbing interest in everything around him –