

NSW SCIENTIFIC COMMITTEE

Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the terrestrial orchid, *Genoplesium baueri* R. Br. as an ENDANGERED SPECIES in Part 1 of Schedule 1 of the Act, and as a consequence, to omit reference to *Genoplesium baueri* R. Br. from Part 1 of Schedule 2 (Vulnerable species) of the Act. Listing of Endangered species is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. *Genoplesium baueri* (family Orchidaceae) is a ground orchid described by Jones (1993) as a “terrestrial herb 6–15 cm high, fleshy, brittle, yellowish green or reddish. Inflorescence sparse, 1–3 cm long, 1–6-flowered. Flowers c. 15 mm across, green and red or wholly reddish. Dorsal sepal broad-ovate, c. 3.5 mm long, 4 mm wide, apiculate. Lateral sepals linear to lanceolate, 9–10 mm long, c. 1.5 mm wide, widely divergent. Petals ovate, c. 3 mm long, 1.5 mm wide, striped. Labellum narrow-ovate to lanceolate, c. 4 mm long, c. 2.5 mm wide, margins incurved; callus raised, of 2 linear, curved lobes extending about half way to the labellum apex.”
2. *Genoplesium baueri* is endemic to NSW and generally occurs within coastal areas of NSW from the Ulladulla area of the south coast to Port Stephens on the mid north coast. Most records are from areas between Ulladulla and northern Sydney. There are records for the species as far west as Woodford in the Blue Mountains and Penrose State Forest on the southern highlands.
3. *Genoplesium baueri* usually grows in heathland to shrubby woodland (Riley & Banks 2002) or open forest, shrubby forest and heathy forest (Jones 2006). It usually occurs in sands or sandy loams (Riley & Banks 2002) or well-drained sandy and gravelly soils (Jones 2006). The species does not produce a new tuber at the end of each growing season but instead persists from the same tuber-like perennial root (Jones 2006). Jones (2006) suggests that cultivation is “impossible”.
4. The number of populations of *Genoplesium baueri* is uncertain. Based on records from herbaria and sightings, there is estimated to be between 20 and 30 populations. Some plants do not regularly appear each year, despite favourable seasonal conditions. When plants do appear, they are only above ground for approximately 2 months before dying back to a dormant state. Whilst the appearance of plants above ground may fluctuate from year to year, individual plants may remain dormant in the soil. Nevertheless the number of plants of *G. baueri* is considered to be low. Flowering is usually around December to April (Jones 1993; Jones 2006). Riley & Banks (2002) report that *G. baueri* is most often seen soon after fire, while Jones (2006) suggests that flowering is enhanced by summer fires.
5. The geographic distribution of *Genoplesium baueri* is highly restricted. The area of occupancy was estimated to be 168 km², equivalent to 42 (2x2 km) grid cells, the scale recommended for assessing area of occupancy by IUCN (2010). The extent of occurrence for *G. baueri* was estimated to be approximately 11 500 km². The extent of occurrence is based on a minimum convex polygon enclosing all mapped occurrences of the species, the method of assessment recommended by IUCN (2010).

NSW SCIENTIFIC COMMITTEE

6. Fewer than 10 known populations of *Genoplesium baueri* are within National Parks and Wildlife Service conservation areas: Ku-ring-gai Chase, Royal, Heathcote, Jerrawangala and Conjola National Parks and Triplarina Nature Reserve. Whilst these populations are free of the threat of land clearing, at least two are susceptible to disturbance from road and track maintenance activities.
7. Land clearing and loss of habitat have been threats to the species in the past. There are some old records for *Genoplesium baueri* from suburbs of Sydney. The lack of recent records for these areas and the increase in urban development over the years, suggests that many of these populations have been lost. Land clearing and loss of habitat are ongoing threats to a number of the extant populations. Disturbance to the habitat from trail bike riding, rubbish dumping and nearby urban development affects one of the largest populations at Jervis Bay and the northern population at Port Stephens. 'Clearing of native vegetation' is listed as a Key Threatening Process under the *Threatened Species Conservation Act 1995*.
8. *Genoplesium baueri* R. Br. is not eligible to be listed as a Critically Endangered species.
9. *Genoplesium baueri* R. Br. is eligible to be listed as an Endangered species as, in the opinion of the Scientific Committee, it is facing a very high risk of extinction in New South Wales in the near future as determined in accordance with the following criteria as prescribed by the *Threatened Species Conservation Regulation 2010*:

Clause 7 Restricted geographic distribution and other conditions

The geographic distribution of the species is estimated or inferred to be:

- (b) highly restricted,
- and
- (d) a projected or continuing decline is observed, estimated or inferred in either of the key indicators:
 - (a) an index of abundance appropriate to the taxon, or
 - (b) the geographic distribution, habitat quality or diversity, or genetic diversity of the species.

Associate Professor Michelle Leishman
Chairperson
Scientific Committee

NSW SCIENTIFIC COMMITTEE

References:

IUCN Standards and Petitions Subcommittee (2010) '*Guidelines for Using the IUCN Red List Categories and Criteria Version 8.1.*' Prepared by the Standards and Petitions Subcommittee in March 2010.

(<http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>)

Jones DL (1993) '*Genoplesium*', In: Harden, GJ (Ed.) *Flora of New South Wales*, vol. 4, University of New South Wales Press, Sydney, pp. 163-170.

Jones DL (2006) 'A complete guide to native orchids of Australia including the Island Territories.' (Reed New Holland: Sydney).

Riley JJ, Banks DP (2002) '*Orchids of Australia*' (University of New South Wales Press: Sydney).