

NSW SCIENTIFIC COMMITTEE

Preliminary Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Preliminary Determination to support a proposal to list the herb *Pterostylis chaetophora* M.A.Clem. & D.L.Jones as a VULNERABLE SPECIES Part 1 of Schedule 2 of the Act. Listing of Vulnerable species is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. *Pterostylis chaetophora* M.A.Clem. & D.L.Jones (family Orchidaceae) sometimes called the Tall Rustyhood or the Ruddy Hood, is described on PlantNet (Royal Botanic Gardens and Domain Trust 1999–2012) as follows: “Terrestrial herb. Rosette leaves 6–8, elliptic to ovate, 1.5–3.5 cm long, 10–15 mm wide, margins entire. Scape to 40 cm high, with 3–5 closely sheathing stem leaves. Flowers 4–12, c. 1.5 cm long, semi-erect, transparent with red-brown suffusions. Dorsal sepal with a straight filiform point 8–11 mm long. Lateral sepals elliptic in outline when flattened; conjoined part flat, 7–8 mm long, 8–10 mm wide, margins flat or slightly incurved, glabrous or sparsely ciliate; free points filamentous, 7–20 mm long, swept backwards, widely divergent, c. 15 mm apart at the tips. Petals with a poorly developed proximal flange. Labellum obovate, 5–6 mm long, 2–3 mm wide, dark reddish brown; marginal trichomes 8–12 pairs, 2–3 mm long, white, spreading; basal lobe prominently raised, with 6–8 pairs of white trichomes c. 1 mm long.”
2. *Pterostylis chaetophora* M.A.Clem. & D.L.Jones is currently accepted under that name at the National Herbarium of NSW. There is an alternative view, adopted by Jones (2006), that places the species in the segregate genus *Oligochaetochilus* as *O. chaetophorus*.
3. *Pterostylis chaetophora* occurs in Queensland and NSW. In NSW it is currently known from c. 18 scattered locations in a relatively small area. It occurs in an area between Taree and Kurri Kurri, extending to the south-east towards Tea Gardens and west into the Upper Hunter, with additional records near Denman and Wingen. There are also a few records from the Sydney region (Glenhaven (1949), Ingleburn (1987) and Picnic Point (1987)), but it is unclear if any of these populations still exist. Identification of two of these Sydney records have not been verified from voucher specimens.
4. Within NSW, the geographic distribution for *Pterostylis chaetophora* is highly restricted. The area of occupancy (AOO) is 80 km² based on reliable records within the species’ currently accepted range, equivalent to 20 (2x2) km grid cells, the recommended measure for area of occupancy in the IUCN Guidelines (2011). The extent of occurrence for all confirmed records is approximately 13,000 km², measured by a convex polygon encompassing the currently known sites, as recommended in the IUCN Guidelines (2011).
5. *Pterostylis chaetophora* is a cryptic ground orchid with a persistent underground tuber, so detection is problematic and can only be detected with the appearance of leaf rosettes and flowers. Population size estimates vary from single individuals to

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'100s'. The population in the Grahamstown Lake Catchment Area was estimated to have "hundreds of plants in one 100 meter square area" (E. Burton and B. Abbott *pers. comm.* Feb 2012) but other populations are reported to be much smaller. For the populations within the Taree to Nahiab area the total observed number of individuals was c. 90, for those in the Tea Gardens to Clarence Town area totalled c. 50–60 individuals, in the Kurri Kurri to Neath area c. 30–40 individuals, and in the upper Hunter area c.10 individuals. There are no estimates of population size for a number of sites across the known distribution including the Sydney records. Thus the total number of individuals is low.

6. The species is known to occur in two formal conservation reserves, Columbey National Park near Clarence Town, and Wingen Maid Nature Reserve. At Columbey National Park, a small population was found in regrowth *Eucalyptus amplifolia* subsp. *amplifolia* forest (Bell 2009).
7. The preferred habitat of *Pterostylis chaetophora* is seasonally moist, dry sclerophyll forest with a grass and shrub understorey. This habitat type is susceptible to invasion by weeds with resultant change to vegetation structure. *P. chaetophora* is also threatened by habitat loss and disturbance from road works, rubbish dumping and uncontrolled vehicle access.
8. *Pterostylis chaetophora* M.A.Clem. & D.L.Jones is not eligible to be listed as an Endangered or Critically Endangered species.
9. *Pterostylis chaetophora* M.A.Clem. & D.L.Jones is eligible to be listed as a Vulnerable species as, in the opinion of the Scientific Committee, it is known only from a low number of mature individuals as prescribed by the *Threatened Species Conservation Regulation* 2010:

Clause 9 Low number of mature individuals of species

The total number of mature individuals of the species is observed, estimated or inferred to be:

- (c) low.

Associate Professor Michelle Leishman
Chairperson
Scientific Committee

Proposed Gazettal date: 20/12/13
Exhibition period: 20/12/13 – 14/03/14

References:

Bell SAJ (2009) Vegetation and floristics of Columbey National Park, lower Hunter Valley, New South Wales. *Cunninghamia* **11**, 241–275.

IUCN Standards and Petitions Subcommittee (2011) Guidelines for Using the IUCN Red List Categories and Criteria. Version 9.0. Prepared by the Standards and Petitions Subcommittee.

<http://www.iucnredlist.org/documents/RedListGuidelines.pdf>

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

Royal Botanic Gardens and Domain Trust (1999–2012) NSW Flora Online. *Pterostylis chaetophora* <http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Pterostylis~chaetophora>