



Bartsia lydiae*, a new species of *Bartsia* sect. *Laxae* (Orobanchaceae) from the southern Peruvian Andes with a revised key to *Bartsia* sect. *Laxae

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Abstract

A new species of *Bartsia* sect. *Laxae* is described and illustrated from the Cordillera Vilcanota, southern Peru. The species is distinct from all other members of sect. *Laxae* in being covered with persistent glandular hairs and having a reddish purple corolla. The species is a common element of undisturbed puna vegetation in the Cordillera Vilcanota, being associated with *Polylepis* forests. A revised key to *Bartsia* sect. *Laxae* is included to accommodate this new species.

Introduction

The genus *Bartsia* Linnaeus (1753: 602) comprises 49 species, its centre of diversification being in the Andes of South America with 45 species endemic to this area (Molau 1990). Peru contains the largest diversity of *Bartsia* with 35 species (Brako & Zarucchi 1993, Ulloa et al. 2004) found scattered throughout the Andean foothills and mountain chain, 14 of which are endemic (León 2006). *Bartsia* sect. *Laxae* Molau (1990: 50) is a morphologically well-defined group currently containing 10 species which are distributed from Venezuela to Bolivia and Chile. The section is distinguished by a campanulate calyx with the lobes reflexed from mid anthesis and an exerted capitate stigma. The taxonomy of *Bartsia* is still in debate with recent phylogenetic studies (Scheunert et al. 2012) suggesting the transfer of all South American *Bartsia* species to the resurrected genus *Bellardia* All. (1785: 61). Scheunert et al. (2012) do clearly state, however, that this is perhaps premature as only 3 out of the, now, 46 Andean *Bartsia*'s have been sequenced to date including just one species from sect. *Laxae*.

Bartsia, in the past, was considered notoriously difficult due to the superficial similarities of herbarium specimens and the occurrence of many mixed herbarium collections which deterred most taxonomists from attempting to revise the genus. Despite these difficulties, Molau (1990) produced the first concise world revision of the genus, benefitting the taxonomy of *Bartsia* immensely and allowing the specimens collected to be easily recognised as a species new to science. Based on morphological studies of dry and living material in collections and field studies, I describe this new species of *Bartsia* sect. *Laxae* with a persistent glandular-pubescent indumentum and reddish purple corolla, morphologically distinct from all other species of sect. *Laxae*.

Taxonomy

Bartsia lydiae S.P.Sylvester, *sp. nov.* (Fig. 1–3)

Species perenne distincta ab aliis speciebus notis sect. Laxae, a quibus caulibus vel foliabus hirsutus, pilis glandulosis, corolla purpurea.

Type:—PERU. Cusco, Prov. Urubamba: Distr. Urubamba, Área de Conservación Privada (ACP) Mantabay, 10 km up the valley from Yanahuara in the small valley 3 km E of laguna Ipsaycocha, forest on the SW side of laguna Manalloqsa, 4614m, S13° 11' 59.2" W72° 08' 39.9", 23 June 2012, S.P. Sylvester 1754 (holotype USM!, isotypes CUZ!, GB!, ID!, MO!, Z!)

8. Inflorescence dense, subspicate, the upper bracts prominent, lanceolate to subulate, acute or acuminate, entire or lacinate-dentate, strigose with mostly eglandular hairs *B. bartsioides*
- Inflorescence loose, the bracts smaller than foliage leaves, crenate, dentate or entire, at least the upper ones glandular-hirsute 9
9. Corolla with the galea orange-red and the lip bright yellow, the galea 1.4–1.7 × the length of the lip *B. camporum*
- Corolla purple to deep red throughout, lip sometimes yellow-green, but then the galea 1.8–2.4 × the length of the lip 10
10. Calyx 10–15 mm long, the lobes straight, never reflexed; corolla lip yellow-green *B. weberbaueri*
- Calyx 6–15 mm long, when more than 10 mm long the corolla lip usually red; calyx lobes reflexed..... *B. inaequalis*

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References

- Allioni, C. (1785) *Flora Pedemontana sive Enumeratio Methodica Stirpium Indigenarum Pedemontii. Vol. 1*. Joannes Michael Briolus, Turin, 366 pp.
- Brako, L. & Zarucchi, J. (1993) Catalogue of the Flowering Plants and Gymnosperms in Peru. *Monographs in Systematic Botany from the Missouri Botanical Garden* 45: 1–1286.
- León, B. (2006) Endemic Orobanchaceae of Peru. *Revista Peruana de Biología* 13 (2): 478–481.
- Linnaeus, C. (1753) *Species Plantarum* 2. Impensis Laurentii Salvii, Holmiae, Sweden, pp. 561–1200.
<http://dx.doi.org/10.5962/bhl.title.669>
- Molau, U. (1990) The genus *Bartsia* (Scrophulariaceae: Rhinanthoideae). *Opera Botanica* 102: 1–99.
- Ruiz, H. & Pavon, J.A. (1794) *Florae Peruvianaee, et Chilensis Prodrromus*. Imprenta de Sancha, Madrid, pp. 153.
<http://dx.doi.org/10.5962/bhl.title.11759>
- Scheunert, A., Fleischmann, A., Olano-Marín, C., Bräuchler, C. & Heubl, G. (2012) Phylogeny of tribe Rhinanthaeae (Orobanchaceae) with a focus on biogeography, cytology and re-examination of generic concepts. *Taxon* 61: 1269–1285.
- Ulloa Ulloa, C., Zarucchi, J. & León, B. (2004) Diez años de adiciones a la flora del Perú: 1993–2003. *Arnaldoa, Ed. Especial* 7–242.
<http://dx.doi.org/10.5962/bhl.title.63538>
- Zerbe, S. (1998) Potential natural vegetation- validity and applicability in landscape planning and nature conservation. *Journal of Applied Vegetation Science* 1: 165–172.