

**Systematic and biogeographic studies on the genus *Alonsoa* Ruiz & Pav.
(Hemimerideae, Scrophulariaceae)**

Tribe Hemimerideae is a small tribe (ca. 67 sp.) of annual and perennial plants found in central and South America, Africa and Madagascar. Following Bentham (1835, 1846, 1876) the tribe consists of seven genera: four endemic to southern Africa (*Diascia* Link & Otto, *Nemesia* Vent., *Hemimeris* L., and *Colpias* Benth.), one endemic to southern Africa and Madagascar (*Diclis* Benth.) and *Alonsoa*, the only genus that spans the Atlantic Ocean occurring both in central and South America and in Southern Africa (Steiner, 1989). Members of *Alonsoa* in South America may form a monophyletic group united by the absence of oil secretion and $2n=56$ chromosomes (Steiner, 1996; Oxelman et al., 2005). *Alonsoa* is a genus of six to fifteen species of perennial herbs and shrubs commonly occurring in the Andes. Most species are neotropical, but there are species in South Africa (Roux, 1986; Steiner, 1989). It exhibits interesting differences among the species in pollination biology, probably related to its amphi-Atlantic distribution. It is important to understand origin and evolution of *Alonsoa* because it may probably provide clues to the age and origin of Scrophulariaceae in southern Hemisphere.

Objectives:

1. Taxonomical revision of genus *Alonsoa* in order to have taxonomical units correctly delimited
2. Analyse phylogenetical relationship between species of *Alonsoa* and related genera from tribe Hemimerideae
3. Analyse the biogeography of the genus, place of origin? Routes of Dispersion?
4. Analyse pollination mechanisms

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