

Putting the endoparasitic plants Apodanthaceae on the map

April 30 2014



This is *Apodanthes* on a willow host (*Casearia*) in Panama. Credit: C. Galdames

The Apodanthaceae are small parasitic plants living almost entirely inside other plants. They occur in Africa, Iran, Australia, and the New World. Bellot and Renner propose the first revision of the species relationships in the family based on combined molecular and anatomical

data. They show that Apodanthaceae comprise 10 species, which are specialized to parasitize either legumes or species in the willow family.

Few [plants](#) are obligate parasites, and fewer still are endo-parasites, meaning they live entirely within their host, emerging only to flower and fruit. Naturally, these plants are rarely collected, and their ecology, evolution, and taxonomy are therefore poorly understood. Perhaps the weirdest of these families is the Apodanthaceae, which Bellot and Renner now deal with in a paper in *PhytoKeys*.

Based on most material available of this family, they conclude that it has 10 [species](#) occurring in Australia, Africa, Iran, California, Central America and South America. Because the environment that matters to Apodanthaceae is the host, not anything outside it, these plants occur from the lowlands to 2500 m altitude and from deserts to Amazonian forest.

Bellot and Renner obtained DNA data to investigate species limits, and they also provide a key to all species, many illustrations, and a distribution map. The work will thus literally help putting Apodanthaceae on the map.



This is *Pilostyles* on a legume host (*Astragalus*) in Iran. Credit: S. Bellot

"I am currently assembling the plastid genome of the African species," says Bellot, "and am already seeing that it is extremely reduced, fitting with the special lifestyle of Apodanthaceae."

More information: Bellot S, Renner SS (2014) The systematics of the worldwide endoparasite family Apodanthaceae (Cucurbitales), with a key, a map, and color photos of most species. *PhytoKeys* 36: 41. [DOI: 10.3897/phytokeys.36.7385](https://doi.org/10.3897/phytokeys.36.7385)

Provided by Pensoft Publishers

Citation: Putting the endoparasitic plants Apodanthaceae on the map (2014, April 30) retrieved 10 April 2024 from <https://phys.org/news/2014-04-endoparasitic-apodanthaceae.html>

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