

## **Differences in spur length of *Habenaria tridactylites* on the Canary Islands suggest an evolutionary arms race with pollinators**

**Jean CLAESSENS<sup>1,\*</sup>, Juan José BACALLADO<sup>2</sup>, Liliane DEDROOG,  
Reinout HEIJUNGS<sup>3,4</sup>, Rob LANGELAAN<sup>1</sup>, Erik VAN NIEUKERKEN<sup>1</sup>,  
Kees VAN DEN BERG<sup>1</sup>, Barbara GRAVENDEEL<sup>1,5</sup>**

<sup>1</sup> Naturalis Biodiversity Center, Vondellaan 55, 2332 AA Leiden, The Netherlands

<sup>2</sup> Museo de Ciencias Naturales de Tenerife, Canary Islands, Spain

<sup>3</sup> Institute of Environmental Sciences (CML), Leiden University, Leiden, The Netherlands

<sup>4</sup> Department of Econometrics and Operations Research, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

<sup>5</sup> University of Applied Sciences Leiden, Leiden University, Sylviusweg 72, 2333 BE Leiden, The Netherlands

\* [jean.claessens@ziggo.nl](mailto:jean.claessens@ziggo.nl)

Virtually nothing is known about the pollination of *Habenaria tridactylites*, an endemic orchid of the Canary Islands. This species grows in a zone influenced by moisture providing trade winds. The entirely green, widely open flowers have a long spur containing nectar. Most *Habenaria* species are moth-pollinated. In this study, we investigated: 1. by which moth species this orchid is pollinated and 2. whether there is a relationship between mean spur length and tongue length of local flowers and pollinators and 3. if there is a relationship between mean spur length and the age of the island, altitude, latitude, and surrounding vegetation. Our study showed that *H. tridactylites* is pollinated by both small and larger moth species. Analysis of data collected at various sites indicates that there seems to be a correlation between the age of the islands and the mean spur length of local populations of *H. tridactylites*.