



## Two new species in *Tillandsioideae* (Bromeliaceae) of Machu Picchu, Peru

ERIC J. GOUDA<sup>1</sup>

<sup>1</sup>Botanic Garden, University of Utrecht (U), Utrecht, Netherlands. E-mail: E.J.Gouda@uu.nl

### Abstract

Two new species belonging to the subfamily *Tillandsioideae* from Machu Picchu, Cusco, Peru are described and illustrated here. The new species *Tillandsia machupicchuensis* is close to *T. tovarensis* and the other new species *Guzmania inkaterrae* is close to *G. morreniana* and *G. tenuifolia*. Both species are abundant in the area.

**Key words:** Taxonomy, Flora of Peru, *Tillandsia*, *Guzmania*

### Introduction

During our expedition to Machu Picchu (the famous Inca ruins) two unknown and very abundant *Tillandsioideae* attracted our attention. One remarkable *Tillandsia* species grows by the thousands on steep rocky face along the Rio Urubamba near Aguas Calientes. There are two colour forms: one with green rosettes and one with red rosettes. Some rocky faces seem to be covered by the green ones and other rocky faces in the neighbourhood are covered by red rosettes. Remarkably some other rocky faces have a mix of both, having a mosaic of red and green rosettes so the coloration seems not to be triggered by exposure to sun light only. Some plants can be found on the Inca ruins, but are probably planted there.

Another unknown *Guzmania* species was planted by the thousands at the Inkaterra Machu Picchu Pueblo Hotel, where we were invited to stay for a few days to make an inventory of the *Bromeliaceae* in their remarkable natural gardens (mainly orchid garden) of this beautiful hotel that consist several small buildings build between the mountain forest that was left in tact. Two *Guzmania* species were used as massive planting along the pathways. Most abundant was this new species and in between *G. cuzcoensis* Smith (1972: 445) was also found.

Both *Guzmania* species can be found as epiphytes in trees along the Rio Urubamba near Aguas Calientes, where it grows with several other *Tillandsioideae* like *Tillandsia confinis* Smith (1953: 218), known from that area as *Tillandsia dudleyi* Smith (1974: 32; see Gouda 2011), *Tillandsia appendiculata* (= *T. engleriana*?) Smith (1949: 307) and *Tillandsia fendleri* Grisebach (1865: 17). The *Tillandsia* species are growing in the more sun exposed places, whereas the *Guzmania* species are found in the interior of the mountain forest.

### Taxonomy

*Tillandsia machupicchuensis* Gouda & Julio Ochoa *sp. nov.* (Fig. 1–3)

This new species is characterized by its large green saxicolous rosettes, a very thick curved peduncle bearing a more or less horizontal bright red cylindrical twice-branched inflorescence of about 20 short spreading branches.