



A new natural hybrid of *Sphagneticola* (Asteraceae, Heliantheae) from Guangdong, China

HUI-MIN LI^{1,2}, CHEN REN¹, QIN-ER YANG¹ & QIONG YUAN^{1*}

¹Key Lab of Plant Resources Conservation and Sustainable Utilization, South China Botanical Garden, Chinese Academy of Sciences, CN-510650, Guangzhou, China

²University of Chinese Academy of Sciences, CN-100049, Beijing, China

*Author for correspondence: e-mail: yuanqiong@scib.ac.cn

Abstract

A new natural hybrid, *Sphagneticola* × *guangdongensis* (Asteraceae, Heliantheae), is described and illustrated. Its chromosome number was revealed to be $2n = 53$, lending strong support for its hybridity and parental origin (*S. calendulacea* with $2n = 50$ and *S. trilobata* with $2n = 56$) as previously already confirmed by evidence from morphology and molecular data.

Keywords: chromosome number, invasive species, parental origin

Introduction

Sphagneticola Hoffmann (1900: 36) (Asteraceae-Heliantheae) is a small genus of four species that are common at lower elevations in the tropical and subtropical regions of the world (though not known to occur in Africa), including *S. brachycarpa* (Baker 1884: 181) Pruski (1996: 411), *S. calendulacea* (Linnaeus 1753: 902) Pruski (1996: 411), *S. gracilis* (Richard 1807: 490) Pruski (1996: 412), and *S. trilobata* (Linnaeus 1759: 1233) Pruski (Pruski 1996: 412). Among them, the widespread Asian *S. calendulacea* is the only species native to China (Fujian, Guangdong, Liaoning, Taiwan). *Sphagneticola trilobata*, native to the New World tropics but widespread in the Old World tropics, was originally cultivated as an ornamental ground cover in China but now has become an invasive species at least in Fujian, Guangdong, Guangxi, and Taiwan (Chen & Head 2011).

Recently, a new natural hybrid between *Sphagneticola calendulacea* and *S. trilobata* was discovered from Guangdong in south China (Wu *et al.* 2013; Ni *et al.* 2014). Evidence from morphology and molecular data (microsatellite and nrITS sequences) has strongly confirmed the parentage of the hybrid, with *S. calendulacea* as the maternal parent (ovule donor) and *S. trilobata* as the paternal parent (pollen donor) (Wu *et al.* 2013). The new hybrid is of potential invasiveness, appearing to be an equal competitor to its invasive parent *S. trilobata* and tending to sweep out rapidly its native parent *S. calendulacea* (Wu *et al.* 2013; Ni *et al.* 2014).

This new hybrid, however, has not as yet been formally named and described, causing much inconvenience in communication. In this paper, we name and describe the hybrid to facilitate communication, and report its chromosome number and chromosome morphology to provide cytological evidence for its parental origin.

Sphagneticola × *guangdongensis* Q. Yuan, **nothosp. nov.** (Figs. 1 & 2)

Type:—CHINA. Guangdong: Guangzhou, Tianhe District, Longdong, South China Botanical Garden, 23°11'38.24"N, 113°21'38.24"E, 28 m, 8 July 2012, Q. Yuan & C. Ren 525 (holotype IBSC; isotype IBSC).

Herbs, perennial, procumbent. Stems subglabrous or strigose. Leaves opposite, sessile or shortly petiolate; blade 3-lobed, oblong, (2–)5–8 cm long, (0.8–)1.5–2.5 cm broad, papery, sparsely strigose on both surfaces, base cuneate, apex acuminate, margin remotely serrulate. Capitula solitary on elongate peduncle, radiate; peduncle 6–15 cm long, strigose; involucre hemispheric, green; phyllaries 9–11, lanceolate, 2-seriate, subequal, 9–11 mm long, strigose, apex