



Article

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The first record of *Galinsoga quadriradiata* Ruiz & Pav. (Asteraceae) from ZambiaAlexander P. Sukhorukov,^{1*} Maya V. Nilova¹ and Maria A. Kushunina²¹Dept. of Higher Plants, Biological Faculty, Moscow M.V. Lomonosov State University, 1/12 Leninskiye Gory, Moscow 119234, RussiaEmail: nilova_maja@mail.ru²Dept. of Plant Physiology, Biological Faculty, Moscow M.V. Lomonosov State University, 1/12 Leninskiye Gory, Moscow 119234, RussiaEmail: mkushunina@gmail.com*Corresponding author. Email: suchor@mail.ru

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Abstract

A species of Central American origin, *Galinsoga quadriradiata* Ruiz & Pav., new for Zambia, was found in Lusaka Province during a fieldtrip in March 2021. It seems to be naturalized in this region and was found in abundance together with *G. parviflora* Cav.

Keywords: Africa, Asterales, *Galinsoga quadriradiata*, new record, non-native plants, Zambia**Introduction**

The latest checklist of vascular plants in Zambia (Phiri, 2005) contains 6421 native and alien species, but only one species of *Galinsoga* Ruiz & Pav., *G. parviflora* Cav., is included in the checklist. During a fieldtrip in Zambia, the first author found another alien species of the genus, *G. quadriradiata* Ruiz & Pav., for the first time in that country.

Material and methods

This publication is based on herbarium specimens collected by one of the authors (APS) during a fieldtrip in Zambia in March 2021. Several provinces were visited: Lusaka Province, Central Province, and Copperbelt Province. The specimens of *Galinsoga quadriradiata*, together with other Asteraceae and Caryophyllales, were collected outside the National Parks, and will be deposited in the herbaria MW, K, and G (Herbarium codes follow Thiers, 2021).

Results and Discussion

Galinsoga quadriradiata Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 1: 198. 1798. (Fig. 1)

= *Adventina ciliata* Raf., New. Fl. (C.S.Rafinesque) 1: 67. 1836. ≡ *Galinsoga ciliata* (Raf.) S.F.Blake, Rhodora 24: 35. 1922.

For other synonyms, see Canne (1977).

This species, originating from Central America (Canne, 1977), was found in large numbers in waste places in Kanyama, ca. 10 km west of Lusaka in Lusaka Province (-15.433070,

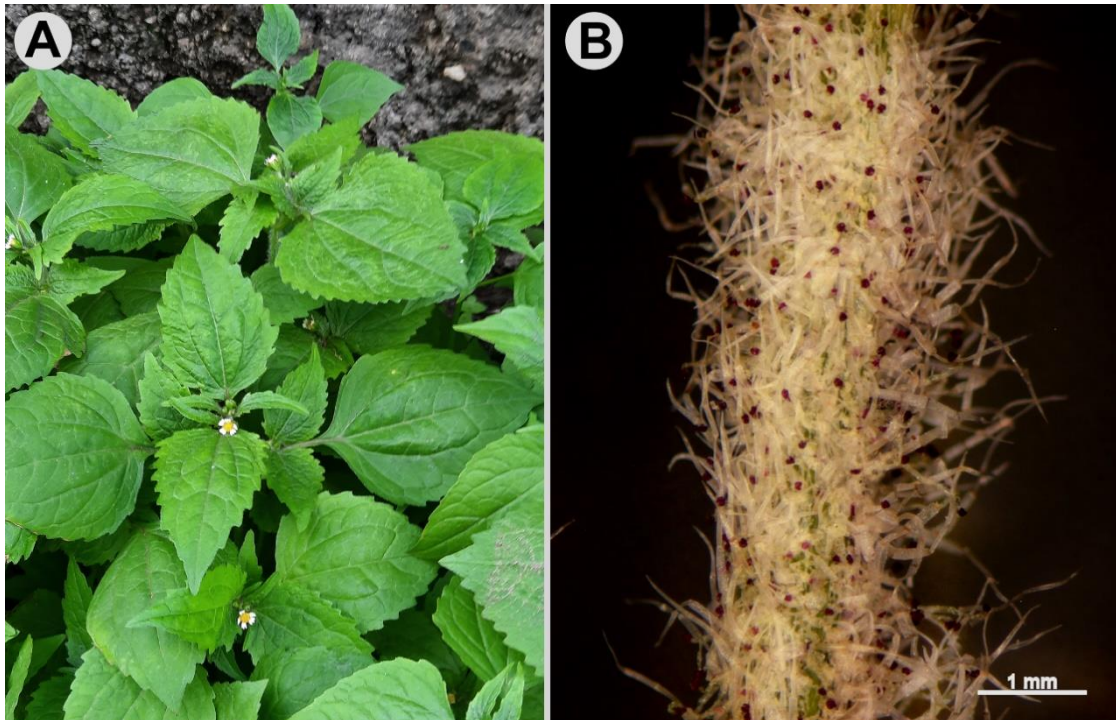


Figure 1. *Galinsoga quadriradiata* Ruiz & Pav. A: The plant *in situ* (Lusaka province, Kanyama, ca. 10 km west of Lusaka). B: Glandular and simple hairs on the upper part of the stem of the specimen collected by A.P. Sukhorukov 68 (G, K, MW). Photographs by Alexander P. Sukhorukov

28.097491), 18.III.2021, A.P. Sukhorukov 68, fl., fr. (G!, K!, MW!). The accompanying species were typical ruderal plants such as *Galinsoga parviflora*, *Portulaca oleracea* L. (Portulacaceae), and *Euphorbia hirta* L. (Euphorbiaceae). Both *Galinsoga* species were growing together in this area, and *G. quadriradiata* can be easily distinguished from *G. parviflora* mainly by its broader (ovate) leaves and glandular pubescence on the upper part of the stem (Fig. 1B). In Zambia the latter species is very common in ruderal habitats at elevations of 0–1000 m, at least in the provinces visited by APS in 2021. The abundance of *G. quadriradiata* near Lusaka may indicate the naturalized status of this alien species in the area. In southern Africa it has also been reported from central and eastern parts of Zimbabwe (Mapaura and Timberlake, 2004, as *G. ciliata*) and different provinces of South Africa (Germishuizen *et al.*, 2006, as *G. ciliata*). Scattered records of *G. quadriradiata* were also reported from other parts of Africa (*African Plant Database*, APD, 2019; *Global Biodiversity*

Information Facility, GBIF, 2020). Based on these data and the presence of *G. quadriradiata* in Zambia, other records are expected from southern Africa, and the invasive status of the species needs further examination.

General distribution (Fig. 2): <http://plantsoftheworldonline.org/taxon/208557-1>

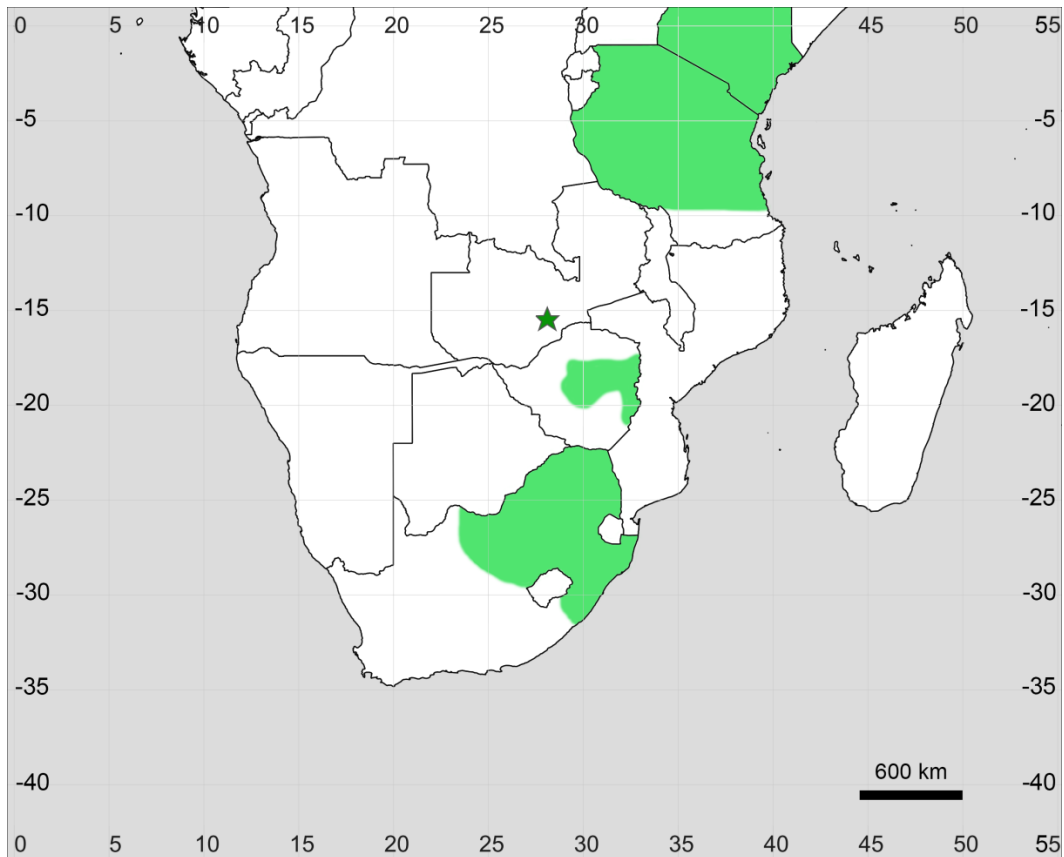


Figure 2. Distribution of *Galinsoga quadriradiata* Ruiz & Pav. in southern Africa. The new record is indicated by an asterisk, and the areas from where the species has been previously reported (Mapaura and Timberlake 2004; Phiri 2005; Germishuizen *et al.*, 2006; APD, 2019; GBIF, 2020) are highlighted in green.

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Authors' contributions

Alexander P. Sukhorukov (APS) collected, preserved, identified and labelled plants, wrote the manuscript, participated in discussion and revision of the manuscript.

Maya V. Nilova (MVN) prepared the image of the pubescence details and participated in discussion and revision of the manuscript.

Maria A. Kushunina (MAK) participated in discussion and revision of the manuscript and prepared the figures.

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