

## New succulent species of Euphorbia discovered in Kenya

December 7 2021







Morphological features of Euphorbia mbuinzauensis. Credit: Neng Wei

During a field investigation in open deciduous woodlands covered by lava outcrops in Makueni County, southern Kenya, in September 2018, a shrubby Euphorbia with densely stellate hairs on the abaxial leaf surface attracted the attention of a research team. Soon afterward, the researchers revisited the area, performed more careful observations on its morphological characters, and collected enough specimens for further study.

Supervised by Prof. Qingfeng Wang and Prof. Guangwan Hu, Ph.D. student Neng Wei from the Wuhan Botanical Garden of the Chinese Academy of Sciences carried out the study of comprehensive morphology and molecular phylogeny of this Euphorbia.

After sufficient literature consultaion, specimen examinations, detailed morphological comparisons, and robust phylogenetic support, this species was finally confirmed to be new to science and named "mbuinzauensis" for its locality. Results were published in *PhytoKeys*.

Morphologically, Euphorbia mbuinzauensis is most similar to E. pseudomollis, but differs mainly by its shrubby habit, abaxial leaves surfaces with densely stellate hairs, 2-4-forked cymes, smaller bracts, smaller cyathia, crimson glands without a narrow smooth margin, smaller fruits and ovoid seeds.

Euphorbia mbuinzauensis is distinct from other species in Synadenium group with strong morphological and phylogenetic support. Using phylogenetic inference based on a nrDNA dataset, the previously



segregated genus Synadenium is believed to be monophyletic. Nevertheless, an expanded and dense sampling of closely related species is needed to confirm this.



The maximum likelihood tree inferred from the complete nuclear ribosomal DNA sequences. Credit: Neng Wei

## It is worth mentioning that the phylogenetic relationships among the



species in Synadenium group exhibit extremely short branches, indicating that this lineage is likely to have emerged very recently.

According to the criteria of the International Union for Conservation of Nature, the new <u>species</u> is assessed as "endangered," given the very limited populations and individuals in the wild. Action is urgently needed, including in situ and ex situ conservation, to protect this fragile and lovely succulent.

**More information:** Neng Wei et al, Euphorbia mbuinzauensis, a new succulent species in Kenya from the Synadenium group in Euphorbia sect. Monadenium (Euphorbiaceae), *PhytoKeys* (2021). DOI: 10.3897/phytokeys.183.70285

Provided by Chinese Academy of Sciences

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