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Taxonomic remarks on genus *Ramaliella* (Scorzonerinae, Cichorieae, Asteraceae) considering Iranian flora

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INTRODUCTION & AIM

Based on the recent comprehensive taxonomic reassessment of the subtribe Scorzonerinae (Cichorieae, Asteraceae) using molecular, morphological and carpological data, the genus *Scorzonera* s.l. was divided into six distinct genera (Zaika & al. 2020). Each of the species belonging to these new genera received new combination names in accordance with the international plant nomenclature rules (Zaika & al. 2020, Hatami & al. 2022). *Ramaliella* with seven species in the world is one of these new genera (Zaika & al. 2020, Hatami & al. 2022). The species belonging to this genus are widespread in southwest Asia. Iran with five *Ramaliella* species has been considered as an important center of species diversity for this genus (Rechinger 1977, Safavi 2013). No taxonomic review has been performed on *Ramaliella* from flora of Iran. Here, we would represent our survey on Iranian *Ramaliella* species.

METHOD

This work is based on a detailed investigation of relevant literatures (Boissier1875, Rechinger 1977, Safavi 2013, Hatami & al. 2020, Hatami & al. 2022, , Zaika & al. 2020), and on a survey for type specimens of the species via virtual herbarium catalogues at E (https://data.rbge.org.uk/searc h/herba rium/), G (http:// www.ville-ge. ch/musin fo/bd/cjb/chg/), P (https://science.mnhn.fr/institution/mnhn/search), and JSTOR Global Plants (https://plants.jstor.org/). For morphological comparisons, we carefully examined live specimens in the field (Iran) and all the available herbarium specimens deposited in B, MIR and W.

RESULTS & DISCUSSION

Ramaliella was recently segregated from *Scorzonera* s.l. based on molecular, morphological and carpological data and it has been considered as an independent genus (Zaika & al. 2020, Hatami & al. 2022). The name *Ramaliella* was derived from the fact that most of the species belonging to this genus have semi-shrub to cushion-like habitats, otherwise known as brushwood habit (rāmālia: brushwood). Morphologically, members of this genus are characterized by possessing subshrub or cushion-like vegetative form, numerous intricately or divaricately branched stems, filiform basal leaves, reduced and curved cauline leaves, terminal capitula with 3-12 florets, and pollen with 24 lacunae. Furthermore, previous karyological studies on this genus represented the basic chromosome number of n=7 and also demonstrated the presence of different ploidy (2n, 3n, 4n, 6n) and aneuploidy (3n-1) levels. As far as *Ramaliella* was proposed as an independent genus in Zaika & al. (2020) and confirmed in subsequent contributions (Hatami & al. 2022), seven species have been listed as member of this genus. Geographically, the species are widespread in SW Asia with high species richness in the eastern and southern regions of the Irano-Turanian region. Iran with approximately five species of *Ramaliella* is considered as an important center for species diversity in SW Asia. Based on current data, flora of Iran have included five species as *R. tortuosissima*, *R. microcalathia*, *R. intricata*, *R. koelopinioides*, and *R. longipapposa*. Members of this genus are mainly found in stepps or semi-desert areas in the east, center and south of Iran, indicating that the species can tolerate semi-dry or dry climates. Among the species distributed in Iran, *R. intricata* and *R. microcalathia* are endemic to Iran. .Moreover, *R. longipapposa* and *R. koelpinioides* are considered rare species since only limited numbers of individuales were observed in the Khalij-Omani region in south of Iran. Moreover, to define the species delimitation of this genus based on morphological characteristics, we distinguished between traits such as cushion- or not cushion-like life form, the thickness of infloresence peduncle compared to the stem, the density of hairs on the stems, and the length of the capitula, achene and pappus.

REFERENCES

Boissier E. P. 1875: *Scorzonera*. – Pp. 755 – 783 in: Flora orientalis **3.** – Genevae and Basilae: H. Georg.

Hatami, E., Mirtadzadini, M., Bordbar, F., and Jones, K. E. (2020). Delimitation of Iranian species of Scorzonera subg. Podospermum and S. subg. Pseudopodospermum (Asteraceae, Cichorieae) based on morphological and molecular data.Willdenowia 50, 39–63. doi: 10.3372/wi.50.50105

Hatami, E., Jones, K. E., & Kilian, N. (2022). New insights into the relationships within subtribe Scorzonerinae (Cichorieae, Asteraceae) using hybrid capture phylogenomics (Hyb-Seq). *Frontiers in plant science*, 1917.

Rechinger K. H. 1977: *Scorzonera*. – Pp. 16 – 79 in: Rechinger K. H. (ed.), Flora iranica 122. – Graz: Akademische Druck- u. Verlagsanstalt.

Safavi S. R. 2013: *Scorzonera*. – Pp. 353 – 442 in: Safavi S. R., Naseh Y., Jafari E., Tavakoli Z. & Heidarnia N., Tribe *Cichorieae*, *Asteraceae*, Flora of Iran. **77.** – Tehran: Research Institute of Forest and Rangelands [in Persian].

Zaika M. A., Kilian N., Jones K., Krinitsina A. A., Nilova M. V., Speranskaya A. S. & Sukhorukov A. P. 2020: *Scorzonera* sensu lato (*Asteraceae*, *Cichorieae*) – taxonomic reassessment in the light of new molecular phylogenetic and carpological analyses. – PhytoKeys137**:** 1 – 85.