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ASTEROLINON LINUM-STELLATUM (PRIMULACEAE) IN HUNGARY

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The first report of *Asterolinon linum-stellatum* from Hungary is provided, based on a specimen that was collected by Gyula Tauscher at Tarnaörs (North Hungary) in 1863, and its voucher was recently found in the BP herbarium. There is little chance of erroneous labelling, or accidental introduction of the species, thus the specimen most likely represents a small native outlying population several hundred kilometres from the continuous distribution of the species. The natural habitats of the Tarnaörs region had been completely destroyed over a hundred years ago and in lack of a subsequent confirmation of the plant's occurrence, the taxon should be treated as an extinct member of the Hungarian flora.

Key words: Great Hungarian Plain, Gyula Tauscher, new record, vascular plants

INTRODUCTION

With only a very few species described in this genus, *Asterolinon* is closely related to *Lysimachia* (Martins *et al.* 2003). *Asterolinon linum-stellatum* (L.) Duby is distributed over a large area encompassing the Mediterranean regions of South Europe, North Africa and the Middle East. It has become introduced into South Australia, where it is naturalised in rocky outcrops (Barker *et al.* 2005). It is a rare alien in Europe outside its native circum-Mediterranean area (in Belgium: Verloove 2006, DAISIE 2009).

There is no mention of the species in Hungarian flora works (Király 2009, Simon 1992, 2000), and has no records from the current territory of the country (Jávorka 1925).

RESULTS

In the Herbarium Carpato-Pannonicum of the Hungarian Natural History Museum (BP), one specimen of *Asterolinon linum-stellatum* has been found (BP 715087). It was collected by Gyula Tauscher at Tarnaörs (Heves county, North Hungary) on 5th May 1863, and labelled as "Hungaria. Comitatus Heves. – E pascuis arenosis siccis prope Tarna Eörs", with the handwriting of Tauscher. The herbarium specimen includes 7 plants with mature fruits.

The specimen was correctly determined by Tauscher, but was never published (similarly to most of his records). Tauscher, one of the greatest collectors in Hungary, worked in Tarnaörs as a physician in 1863 and 1864 (Barna 2006). At that time Tarnaörs was located near the main transport route of the region, and there was an estate of the Orczy family with a large pheasant hunting area (Schmotzer 2014) (Fig. 1).

DISCUSSION

Tauscher collected a number of rare, and currently missing, taxa from the surroundings of the village (Schmotzer 2014), one of these could be *Asterolinon*. Previously, he was within the known range of *Asterolinon linum-stellatum* only when he had to be in service during the Second Italian War of Independence in 1859. According to his biography, he had no later possibility to collect this plant in the Mediterranean; however, he received a number of herbarium specimens as exchange from contemporary botanists (Barna 2006).

The occurrence of *Asterolinon linum-stellatum* in Hungary is vouchered only with a single herbarium specimen, collected by Gyula Tauscher at Tarnaörs (N Hungary) in 1863. The locality is far from the continuous range of distribution of the species (the nearest known localities are in Croatia, from *ca* 500 km of Tarnaörs), and has quite different climate (mainly continental, instead of Mediterranean). As there are no additional records of the species from the region or even from Hungary, the reliability of the record may raise questions of verification.

Tauscher had tens of thousands of herbarium specimens received in exchange (Barna 2006); however, this period occurred after he moved from Tarnaörs. The origin of *Asterolinon* from exchange material and its mislabelling to Tarnaörs is conceivable only if he had labelled the specimen (much) later, when he already had samples of *Asterolinon* from exchange. Yet no other specimens of *Asterolinon* can be found in the material of Tauscher at our BP Herbarium Carpato-Pannonicum. Since Tauscher was a qualified botanist and a precise collector, thus it is highly improbable that he mixed up an exchange specimen with one that was collected in Tarnaörs by him. Tauscher, as an eminent botanist, had contributed a number of significant records, perhaps the most interesting of them being *Nepeta parviflora* M. Bieb. in Mezőföld (Central Hungary); however, this record, and even the occurrence of the species, was left out from the Hungarian flora until a recent confirmation by Lendvai (1993). On the contrary, it should be noted that there is a databased record of *Seseli leucospermum* W. et K. from Tarnaörs by Tauscher (BP 226793), which is surely erroneous as the plant is endemic to the dolomite regions of North-Central Hungary and could have

Fig. 1. Voucher specimen of *Asterolinon linum-stellatum* (L.) Duby, collected by Gyula Tauscher in Tarnaörs, Hungary (BP 715087) (photo: Balázs Pintér).

never occurred in the Great Hungarian Plain, well outside its spontaneous area and without any suitable bedrock outcrop (Kun 1998).

The sandy areas around Tarnaörs could have habitats similar to those of *Asterolinon linum-stellatum* along the Adriatic coast. It is not without a precedent, that some species of the Mediterranean coastal sand dunes appear also in the sandy areas of the Great Hungarian Plain (e.g. *Alkanna tinctoria*) showing a large gap in their distribution. All naturally sandy habitats in the Tarnaörs region were unfortunately destroyed at around the beginning of the 20th century, thus a number of notable species collected there previously by Tauscher were also wiped out, such as *Fritillaria meleagris* L., *Polygala major* Jacq., *Astragalus dasyanthus* Pall., *Plantago maxima* Juss. ex Jacq. None of these have later confirmations (Schmotzer 2014) or even previous reports, similarly to *Asterolinon linum-stellatum*.

Accidental introductions of plants, i.e. via transport or other "attached introduction", in the middle of the 19th century in Hungary were far more limited than in recent times. Thus the spontaneous occurrence of *Asterolinon linum-stellatum* at Tarnaörs may be safely assumed. This could be similar to the spontaneous presence of *Ophrys bertolonii* Moretti, another Mediterranean species, recently showed in the Great Hungarian Plain (Molnár *et al.* 2011).

Consequently, *Asterolinon linum-stellatum* seems to be a "justified" member of the Hungarian flora, and there are no serious reasons to discredit the reliability of the herbarium voucher. Since around Tarnaörs could have been similar habitats where the species could naturally occur, and that the accidental introduction of plant species' was a rare event at the middle of the 19th century, the possible (human-induced) introduction of the species is unlikely. However, we can speculate on that *Asterolinon linum-stellatum* was not a permanent member of the Hungarian flora, but appeared only temporarily under suitable environmental conditions. As the naturally sandy habitats were all destroyed in the region, and the occurrence of *Asterolinon linum-stellatum* from the same region (and generally, from Hungary) has not been confirmed to date, the plant should be treated as extinct from Hungary.

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