Oenothera flava subsp. *taraxacoides*, a new alien plant in the Czech Republic

***Oenothera flava* subsp. *taraxacoides*, nový zavlečený druh v České republice**

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Oenothera flava (A. Nels.) Garrett subsp. *taraxacoides* (Woot. et Standl.) W. L. Wagner, a new alien plant for the Czech Republic, has been found in a waste place in the town Nový Bydžov, East Bohemia. It is highly probable that the taxon is reported from Europe for the first time.

Keywords: *Onagraceae*, *Oenothera flava* subsp. *taraxacoides*, alien plant, new record, Czech Republic

Introduction

In July 2000, we found plants of the genus *Oenothera* at the northern periphery of the town Nový Bydžov (Eastern Bohemia, Czech Republic). These plants differed markedly from taxa reported so far from the Czech Republic and even from Europe. The locality is situated near the road to the village Smidary in the central part of an extensive wasteland. During 2000, the locality was visited in July and October. The plants grew on disturbed, lightly vegetated place together with species such as *Poa compressa, Medicago lupulina* and *Taraxacum* sect. *Ruderalia*, and covered an area of approximately 10 × 2 m. The whole population consisted of about 50 plants in various developmental stages, from small seedlings to robust plants with thick roots. Herbarium specimens are deposited at PR 378338.

Plants were rather conspicuous in overall appearance. They formed basal rosettes with thick taproots crowned with leaf-bases and fruits produced during several previous growing seasons. Flowers on long peduncles (hypanthia) were of the same length or slightly longer than basal leaves, and indurate winged capsules formed dense ring in the middle of the basal rosette.

Taxonomy

By using keys from North American studies of the genus *Oenothera*, the plants were identified as *O. flava* (A. Nels.) Garrett, a member of sect. *Lavauxia* (Spach) Endl. Extremely shortened stems, flowers on long hypanthia, indurate winged capsules, and seeds with wing-like margin around the top are the most conspicuous features of this section. Wagner (1986) recognized two subsections within this section, i.e. subsect. *Australis* Wagner et Dietrich with white flowers, and subsect. *Lavauxia* with yellow flowers. While the former is distributed in South America and includes two species, i.e. *O. acaulis* Cav. and *O. centauriifolia* (Spach) Steud., the latter contains 3 species native to North America:

O. flava, O. triloba Nutt., and *O. acutissima* W. L. Wagner. Nevertheless, in earlier monographical treatments, Munz (1930, 1965) included the genus *Lavauxia* Spach as subgenus in *Oenothera – Oenothera* subgen. *Lavauxia* (Spach) Munz with three species: *O. triloba*, *O. flava* and *O. taraxacoides* (Woot. et Standl.) Munz. Wagner (1986) treated the two latter species as a single one divided into two subspecies: subsp. *flava* and subsp. *taraxacoides* (Woot. et Standl.) W. L. Wagner. They can be determined using the following key:

1a Stigma elevated above or outside the ring of anthers; petals usually obcordate, (2.5–) 3–4.5 (–5) cm long; sepals often flecked with reddish purple splotches and with free sepal tips in bud, (1.7–) 2.5–10 (–12) mm long; seeds over 2.5 mm long ..... subsp. ***taraxacoides***

1b Stigma surrounded by anthers; petals usually obovate with terminal tooth, (0.7–) 1–2.6 (–3.8) cm long; sepals generally lacking reddish purple splotches and with free sepal tips 1–2 (–5) mm long, seeds 1.8–2.2 (–2.6) mm long ..... subsp. ***flava***

Unfortunately, we failed to determine our plants unambiguously, partly due to the lack of sufficient comparative material. A scanned picture of our herbarium sheet was sent to the Missouri Botanical Garden. Curator of herbarium Dr. Peter C. Hoch provided it to Dr. Warren L. Wagner who identified it as *Oenothera flava* subsp. *taraxacoides* (Woot. et Standl.) W. L. Wagner, which grows in the southwestern part of the United States (Arizona, New Mexico) and in Mexico. According to W. L. Wagner, it is cultivated in United States but escapes only occasionally.

Oenothera flava (A. Nels.) Garrett subsp. *taraxacoides* (Woot. et Standl) W. L. Wagner (Fig. 1)

With respect to future possible finds of this taxon, a brief description based on plants collected in Nový Bydžov is given. It should be pointed out that our plants do not fully match subsp. *taraxacoides* and some morphological characters are more or less intermediate between subsp. *taraxacoides* and subsp. *flava*. Further field study of this population is therefore needed.

Description: Perennial acaulescent herbs with basal rosette of leaves with thickened taproot. Leaf blades in outline oblanceolate to narrowly lanceolate, to 15 cm long, 0.5–1.7 cm wide, pinnatifid or rarely entire, midrib obvious, whitish, with short glandular hairs. Hypanthium slender, quite glabrous, gradually expanded at summit. Sepals green, later reddish with linear free tips in bud, about 3 mm long, separated each other, "V" shaped. Petals yellow, broadly obovate, 3–4 cm long, anthers of the same length as petals. Capsules indurate, ovoid, 1.2–1.6 cm long, winged, wings 1–2 mm wide, developed only towards the summit. Seeds numerous, dark brown, minutely granular, cuneate-obovoid, 2.2–2.5 mm long, with winglike margin around the obtuse summit.

Immigration status

Our research supported Dr. Wagner's opinion expressed in his letter: "I do not recall seeing any specimens from cultivation (or naturalised) in Europe." We are not aware of any published record of this species from Czech Republic and even Europe. We suppose that its

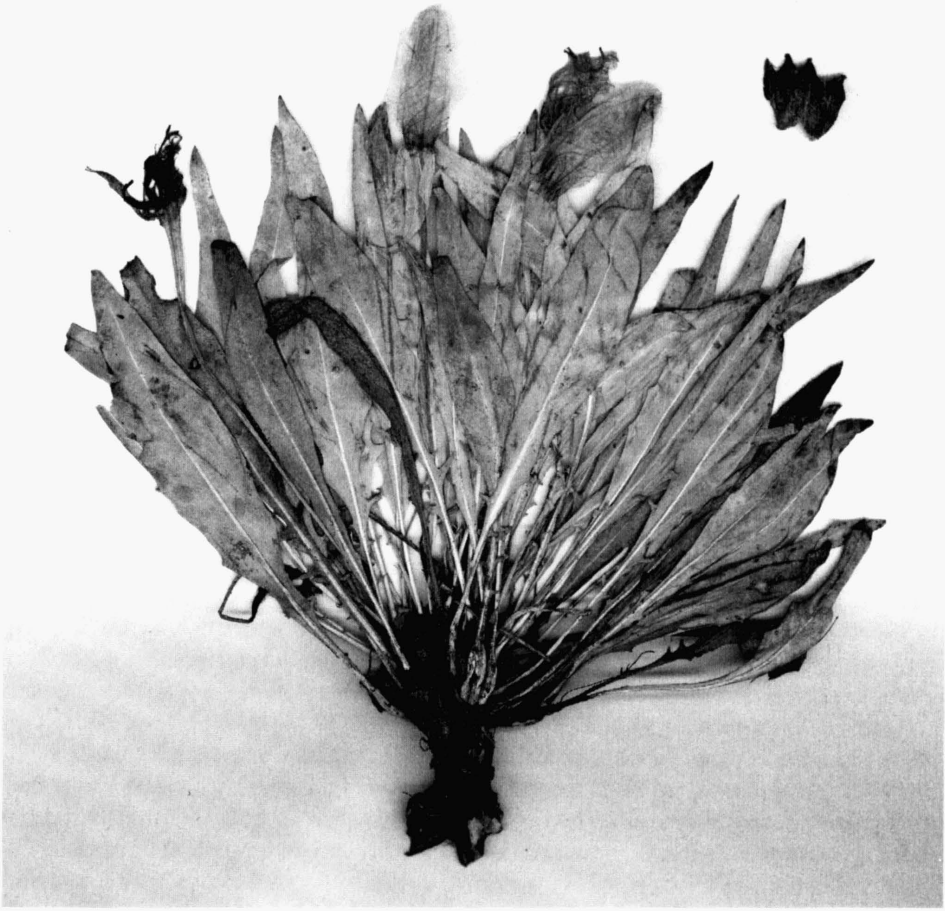

Fig. 1. – Herbarium specimen of an alien taxon *Oenothera flava* subsp. *taraxacoides* collected in Nový Bydžov, East Bohemia, Czech Republic. (PR 378338)

ocurrence can be explained by it being introduced as an ornamental, hence the population reported in this paper probably represents a garden escape.

Acknowledgements

We express our thanks to Dr. W. L. Wagner and Dr. Peter C. Hoch. Z. Kaplan kindly prepared the scanned image of herbarium specimen.

Souhrn

Během výzkumu Novobydžovska jsme nalezli zajímavý druh pupalky, který nebylo možno ztotožnit s žádným doposud uváděným taxonem nejen z České republiky, ale ani z Evropy. Rostliny se vyskytovaly na rozsáhlém ru-

mišti na severním okraji města Nový Bydžov při silnici na Smidary a na první pohled zaujaly svým celkovým vzhledem. Bohaté listové růžice s květy na dlouhých stopkách (hypanthia) dosahovaly délky listů, nebo ji jen nepatrně přesahovaly. Květy byly přes den zavřené až polootevřené. Nápadné bylo i uspořádání dřevnatých tobolek, které tvořily hustý prstenec na bázi listové růžice.

Sebrané rostliny jsme určovali především podle severoamerických studií a dospěli jsme k závěru, že se jedná o druh *Oenothera flava* (A. Nels.) Garrett ze sekce *Lavauxia* (Spach) Endl. Druhy této sekce se vyznačují velmi zkrácenými lodyhami, květy na dlouhých hypanthiích, dřevnatými křídlatými tobolkami a semeny s vyvýšeným lemem okolo vrcholu. Tento druh rozdělil monograf Wagner na dvě subspecie, subsp. *flava* a subsp. *taraxacoides*. Protože jsme si nebyli determinací subspecie jisti, zaslali jsme digitální obraz herbářové položky do Missouri Botanical Garden, kde se problematikou rodu *Oenothera* dlouhodobě zabývají. Kurátor Peter C. Hoch dal ověřit obrázek Dr. Warrenu L. Wagnerovi, který jej určil jako *Oenothera flava* (A. Nels.) Garrett subsp. *taraxacoides* (Woot. et Standl.) W. L. Wagner.

Vzhledem k tomu, že rostliny v plném květu vytvářejí pěkné polokulovité trsy, bohatě kvetoucí, předpokládáme, že tento taxon se dostal do Čech jako okrasná rostlina a posléze zplaněl. Nález od Nového Bydžova představuje s největší pravděpodobností první údaj pro Evropu.

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