

## *Senecio inaequidens* DC. - adventivna vrsta flore Slovenije

*Senecio inaequidens* DC. - an adventitious species of the Slovenian Flora

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**Izvelek:** Južnoafriška vrsta *Senecio inaequidens* DC. se v zadnjih desetletjih hitro širi v deželah južne, srednje in zahodne Evrope, posebej še po severovzhodni Italiji. Od tukaj se vrsta širi na vzhod v Slovenijo, kjer je bila prvič ugotovljena v Podpeči in Strunjanu (KALIGARIČ 1992), nato pa oktobra 1993 v Koprju.

**Abstract:** The South African species *S. inaequidens* DC. has recently been spreading in the countries of southern, central and western Europe, especially so in northwestern Italy. From there it spread to Slovenia, where it was first noticed in Podpeč and Strunjan (KALIGARIČ 1992) and in Koper in October 1993.

### 1. Introduction

During a botanical excursion to the river Po delta in October, 1993 (on the occasion of the Congress of the Italian Phytosociological Society), we saw *Senecio inaequidens* DC for the first time. In the last few years it has been spreading expansively in that part of Italy. It grows in different ruderal habitats such as roadsides or construction material storage areas, in rich populations distinguished by a vivid yellow color of its flowers.

Owing to the fact that at that time *S. inaequidens* was in full flowering, we could follow easily its populations along highway margins as far as Trieste. Since many adventive species (such as *Bidens subalternans* DC., *Galinsoga quadriradiata* Ruiz. & Pavon, *Tagetes minuta* L. and others) have been spreading into Croatia from the west, i.e. from Italy through Slovenia, we watched closely to see whether *S. inaequidens* had penetrated into Croatia as well. The first habitat

taken note of after the Italo-Slovenian border was near a petrol station on the right side of the road on our way out of Koper towards Izola. Following the road Koper-Izola-Portorož-Croatian border, we failed to find out whether *S. inaequidens* was spread eastward Koper toward the Croatian border. Similarly, its presence could not be stated anywhere in the territory of Croatia.

The question is about a newcomer originating from South Africa which has been noticed in the territory of Slovenia and which is in expansion eastward. Presented in this paper are some important data on this species.

### 2. Distribution in Europe

*S. inaequidens* in European flora has been reported under various names, such as *S. harveianus* Mac Owan or *S. lanatus* Solander ex Willd. (Charter and Walters, 1976), while Pignatti (1982) reports as synonyms *S. reclinator* auct. Fl. Ital. non L.

and *S. harveianus* auct. Fl. Franc. non Mac Owan.

As an adventive plant originating from South Africa, it is according to the reports by CHARTER and WALTERS (1976) spread in Belgium, France and Italy. However, numerous authors from different European countries present a chronology of the appearance of this species in Europe implying a much larger distribution area (PIGNATTI, S. & E., 1960; KIEM, 1975, 1976; ANZALONE, 1976; MENGHINI & MINCIGRUCCI, 1976; DICKORE & ADOLPHI, 1977; KUHBIER, 1977; GARSTBERGER, 1978; ADOLPHI, 1979; GOTSCHLICH, 1979; HÜLBUSCH & KUHBIER, 1979; POLDINI, 1980, 1991, SAUERWEIN, 1980; KORNECK, 1982; MELZER, 1983, 1991, 1992; WENTZ, 1983; BÜCHER 1984, 1989; POLATSCHEK, 1984; WEBER, 1987, MOLL, 1989; WERNER et al., 1991).

According to WAGENITZ (1987), this species has been known in the European flora since 1875. Until 1970 it was noticed sporadically and in a rather small number of localities (BUSCHER, 1989). Its recent spreading is intensive, regularly in populated regions, ruderal and abandoned places, along highways and railway lines, in parking lots, in the vicinity of bus and railway stations, in places where various construction materials are stored in the open air.

KIEM (1976) reports the first find for Italy from 1931, while PIGNATTI (1982) reports the find of the species *S. reclinator* near Verona, from 1941, indicating that around Trieste it appeared in 1976 and that afterwards it began spreading intensively in the lower region (0-500 m above sea level) of northern and central Italy.

*S. inaequidens* was first noticed in the territory of Slovenia in Podpeč and Strunjan (KALIGARIČ 1992), Koper being the third locality.

### 3. Morphological characteristics

The genus *Senecio* is both extensive and polymorphous, so in determining *S. inaequidens* some morphological characteristics may be helpful, stated by analysing a herbal specimen (Hb. Croaticum, I. TRINAJSTIĆ) collected near Koper and in Italy, and by using such data as available in the literature.

*S. inaequidens* is an annual, 4-6 dm high plant, densely branched all along its height, resembling a semi-shrub. The stem is unciliated and grooved. Alternating leaves of grayish green are succulent, unciliated, linear, (1) 2-3 x (40) 60-70 mm (gradually getting smaller towards the stem tip), with margins twisted downwards, a pointed tip and an auriculate base. Capitula many, 15-20 (25) mm in diameter and bent down before the flowering; involucre is pear-shaped, 6-7 x 6-8 mm, with 21 bracts which are 5-7 mm long, linear, green with white, scarious margins sometimes brownish on their tops, and with 10-12 supplementary bracts, 1-2 mm long, reddish brown with a clear, white and dry pellicular border; further 1-2 similar bracts being often developed under the flower head. Flowers are golden-yellow in color, 12-13 ligulate ones, about 10 mm long. Fruits are cylindrical, covered with short hairs, of about 2.5 mm long, their pappus being white, downy, twice as long as the fruit itself. Its flowering time is from August to October.

#### 4. Discussion and conclusion

*S. inaequidens* is in a stage of intensive expansion in the regions of southern, central and western Europe. Originating from South Africa, it very likely spread in Europe, from gardens, possibly from the Botanical Garden in Montpellier, where DE CANDOLLE (1806-1893) used to work and to which seeds of plants were sent from all over the world. Its rapid expansion after the Second World War, especially so in the recent times has been facilitated by the permanent improvement in transport, tourism, and bigger and increasingly large construction projects requiring transport of different material and people.

*S. inaequidens* prefers dry and gravel soils so the flysh Istrian soils most likely represent a barrier, at least a temporary one, which it has

not as yet managed to overcome by means of wind transmission. It may, however, be expected to spread further to the east where, in the western parts of Croatia, many suitable habitats are waiting for it.

The locality in Koper has so far been the third find of the species *S. inaequidens* in the territory of Slovenia.

#### 5. Povzetek

Južnoafriška vrsta *Senecio inaequidens* DC. je v Evropi kot adventivna vrsta znana že več kot sto let. Medtem se vrsta v zadnjih desetletjih zelo širi, predvsem ob prometnicah v deželah južne, srednje in zahodne Evrope. Zelo je razširjena tudi po severovzhodni Italiji vse do Slovenske meje. V oktobru 1993 sva jo našla in nabrala v Kopru, ki je zdaj njeno tretje znano nahajališče v Sloveniji.

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Text was only grammatically corrected; the authors are responsible for the contents.