

## THE RECORD OF PETASITES ALBUS (ASTERACEAE) IN IRAN

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*Petasites albus* (L.) Gaertner as a new record is reported for the first time from Hyrcanian forest zone in north of Iran. The species is different from previously known species (*Petasites hybridus* (L.) P. Gaertner) due to having permanent and white-arachnoid indumentum on below the surface of leaves, longer inflorescence and white flowers with glandular hairs on the phyllaries.

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**Key words.** *Petasites*, Hyrcanian forests, new record, Iran.

گزارش گونه *Petasites albus* (Asteraceae) از ایران

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گونه *Petasites albus* (L.) Gaertner به عنوان گزارش جدیدی از جنگلهای شمال ایران نام برده می‌شود. این گونه از *Petasites hybridus* (L.) P. Gaertner به علت داشتن کرک‌های دائمی تار عنکبوتی در زیر برگها و گل‌آذینی بلند و کشیده و گل‌های سفید رنگ با برگ‌های گریبانه‌ای غده‌دار متفاوت است.

### Introduction

*Petasites* is a genus of ca. 19 species, mostly found in most parts of the northern hemisphere particularly throughout Europe as well as parts of Asia (Eurasia) and another species distributed in North America (Bayer et al, 2006). These species are often found in the humid sites; moreover, these taxa are usually distributed in the forest areas in northern Iran (Hyrcanian forest zone). In this regard, in one of the field studies for plant collection of Mazandaran province as well as adjacent regions (Guilan province), individuals of the genus *Petasites* were observed with its long white spike-like flowers. In Flora Iranica (Rechinger, 1989), *Petasites hybridus* (L.) P. Gaertner is the only species distributed in Iran. More studies and survey on the specimens and the natural sites in Hyrcanian forests showed the presence of *Petasites albus* (L.) Gaertner in the area. So this species is recorded for the first time for the flora of Iran.

### Methods and Material

The investigations of the genus *Petasites* in Iran were done based on field observations and study of the

herbarium specimens collected from many sites in Hyrcanian forests. The important botanical traits were: spikes, length and width of inflorescences at flowering, number of the flowers, color of the flowers and also hair durability and density on the leaves, leaves size and type of teeth, presence or lack of glands on the phyllaries and finally phenology of the species in the habitat.

### Results

The results of this study showed that *Petasites albus* (L.) Gaertner is generally distributed in many parts of Hyrcanian forests (Fig. 1), in addition it has a wide distribution compared with *Petasites hybridus* especially in high altitude of the forest zone. *Petasites albus* is different from the previously known species in Iran. *Petasites hybridus* is with pale pink and several inflorescences clustered on a 5-20 cm stem and eglandular phyllaries (Rechinger, 1989), moreover, short spikes of the flowers are usually produced just before the leaves in spring. While in *Petasites albus*, spikes, due to having white flowers and glandular phyllaries, is different and appears shortly after the



Fig. 1. *Petasites albus* ( $\times 0.58$ ).

leaves from the early to mid- spring.

**Botanical Traits.** A rhizomatous, robust and perennial herb that occasionally forms large stands on the wet sites, often characterized by huge and round or kidney-shaped radical leaves being white and densely wooly on the lower surface. Involucre campanulate, clearly long at flowering, clustered on a long greenish stem. Flowers white. phyllaries glandular, pale green, 1-3-seriate. The flowers are often subdioecious or

dioecious; individual flowers are either male or female, but only one sex is to be found on any one plant so both male and female plants must be grown if seed is required. Male flower tubular and female flower tubular with a few sterile flowers and also many filiform flowers.

**Specimens seen.** Mazandaran, Sari, Dodangeh region, Partkola, Nejim forest, 1750 m., Zare & Amini, 10840; same area, Ezhgheh forest, 1560 m., Zare & Amini,

10835; Sari, Dodangeh region, Sangdeh, Ashek forest, 1600 m., Zare & Amini, 10842; Nowshahr, Kojour region, Veisar forest, 1600 m. Zare & Amini, 8145. - Guilan, Talesh, road of Asalem to Khalkhal, 1300-1500 m., Zare & Poor Amin, 10824.

### Key to the species in Iran

1. Leaves persistently white-arachnoid hairy beneath. Inflorescence clearly longer than the width at flowering. Flowers white (cream). Involucral bracts (phyllaries) green, densely glandular hairy

#### **Petasites albus**

2. Leaves tinged hairy or smooth beneath. Inflorescence usually longer than the broad at flowering. Flowers lilac or pink. Involucral bracts tinged purplish and eglandular

#### **Petasites hybridus**

### Habitat and Ecology.

Ecological range of *Petasites albus* is relatively short and it usually depended on hygrophyte to moderate zone. It thrives on the wet with relatively deep and rich soils along with organic matter and humus in middle or high stage of some Hyrcanian forest sites. This species is not resistant to dry soils but can grow in heavy clay

soil, suitable pH for the plant is acid, neutral and basic (alkaline) soils, it prefers debris and moist soil well drained or sometimes extended on the river margin from full shade (deep woodland) semi-shade (light woodland) or no shade. In optimal conditions, they are mostly quite robust plants with thick, creeping underground rhizomes and very large leaves during the growing season and sometimes they can occupy up to 50 m<sup>2</sup> of the forest area especially adjacent slopes to riverside or forest road. The species pollinated by insect and is not self-fertile.

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