TWO SPECIES OF FLAVOPUNCTELIA NEW TO THE LICHENIZED MYCOTA OF IRAN

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Flavopunctelia flaventior and *Flavopunctelia soredica* are reported as new for the lichenized mycota of Iran. An identification key and a short description of both species are presented.

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Key words. Flavopunctelia, new record, Iran.

گزارش دو گونه گلسنگ جدید از جنس Flavopunctellia برای ایران

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گونه‌های *Flavopunctelia flaventior* و *F. soredica* بعنوان گونه‌های گلسنگ جدید برای ایران گزارش می‌گردند. کلید شناسایی و شرح کوتاهی برای این گونه‌ها ارائه می‌گردد.

Introduction

The genus *Flavopunctelia* (Krog) Hale is a segregate of *Punctelia* Krog (Hale 1984). The status of this genus has been confirmed with molecular studies by Thell et al. (2005). It consists of 5 species (Hale & DePriest 1999) and has its speciation center in Europe, Africa and South America. The genus is characterized by broad, yellow-green lobes with punctiform pseudocyphellae on upper surface and bifusiform conidia (Divakar & Upreti 2005).

No representatives are cited in the preliminarily checklist of Iranian lichens by Seaward et al. (2004), an important step in the investigation of the the lichenized mycota of Iran. This checklist consists of approximately 396 infrageneric taxa, among them 17 parmelioid taxa. Further information on parmelioid lichens in the region was provided by Sohrabi et al. (2007), who list nearly 76 species from the Iran and Caucasus region, including two species of *Flavopunctelia, viz. F. flaventior* (Stirt.) Hale and *F. soredica* (Nyl.) Hale. These have been cited by numerous authors for the Caucasus region, but not for Iran. A third species, *F. darrowii* (J.W. Thomson) Hale, has been reported by Hadji Moniri (2005) for Iran. However, since *F. darrowii* is cited as an endemic species to the American oak-pine forests of southern Arizona and higher elevations in Chihuahua and Sonora, Mexico, by Egan (2004), the occurrence of this species in Iran is highly dubious.

In the present paper *F. flaventior* and *F. soredica* are recorded as new for the the lichenized mycota of Iran. An identification key and short descriptions of the two *Flavopunctelia* species of Iran are presented.

Methods

The samples were collected by the second author in the Hyrcanian forests near Ramsar during her field trip in the north of Iran in 2006. For identification, macroscopic and microscopic characters were examined with stereo- and light microscopes and by reference to recent literature. Following identification, the examined specimens were deposited at the Herbarium of the Plant Pests and Diseases Research Institute, Tehran (IRAN) and the reference herbarium of Mahya Jamshidikia (herb. Jamshidikia).

Key to species

Soralia laminal and marginal; lobes broad, punctate-pseudocyphellate, *Flavopunctelia flaventior*

Soralia marginal only; lobes narrower, pseudocyphellae scarce and inconspicuous *Flavopunctelia soredica*

Flavopunctelia flaventior (Stirt.) Hale

Syn.: *Parmelia flaventior* Stirt.

Thallus large, closely adnate to substratum; lobes broad, rounded and somewhat dissected, crowded; margins wavy, entire to sorediate; upper surface yellowish-green to grey, pseudocyphellate, often with an indistinct patterned wrinkling; soralia marginal and linear, often sinuous, with farinose or subgranular soredia, or submarginal and capitate; medulla white; lower-surface brown to black; rhizines simple to somewhat branched, sparse, dark; lobe edges bare; surface dull to somewhat shiny. Apothecia very rare (Divakar & Upreti 2005) and not seen in Iranian specimens.

This species is mostly corticolous, rarely saxicolous. It grows on trunks and branches of different species of trees in the Hyrcanian forests.

Chemistry: atranorin, usnic and lecanoric acids; cortex K+, medulla K-, C+ red or pink, KC+ red, P-.

Examined specimen: Iran, Mazandaran, Ramsar, Javaherdeh village, beside the road, 7 km from Javaherdeh village, 1800 m, 36˚52´N 50˚36´E, on twigs of living trees, 20.07.2006, Mahya Jamshidikia (herb. Jamshidikia 155, IRAN 5389F).

World Distribution: Asia, Europe, East Africa, North and South America.

Flavopunctelia soredica (Nyl.) Hale

Syn.: *Parmelia ulophyllodes* (Vain.) Savicz, *Parmelia soredica* Nyl.

Thallus medium sized, closely adnate, agglutinated to the substratum; lobes narrow, subirregular, rounded, contiguous to crowded; upper surface yellow-green, pseudocyphellae minute or even absent, sometimes fairly maculate; margins wavy, sorediate; medulla white; lower surface pale brown or blackening, rhizines simple, numerous, distributed in the central part. Apothecia not seen in the examined specimens, rare, saucer-shaped, imperforate; spores undivided, colourless (after Divakar & Upreti 2005).

This species is mostly corticolous, rarely saxicolous; it grows at an elevation of 1700 -2000 m on trunks and branches of different species of trees in the Hyrcanian forests.

Chemistry: usnic and lecanoric acids; cortex K-, medulla K-, C+ red, KC+ red, P-.

Examined specimen: Iran, Mazandaran, Ramsar, Javaherdeh village, beside the road, 7 km from Javaherdeh village, 1800 m, 36˚52´N 50˚36´E, on twigs of living trees, 20.07.2006, Mahya Jamshidikia (herb. Jamshidikia 154, IRAN 5458F).

World Distribution: Asia, Europe, Africa, North and South America.

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References

Divakar, PK, Upreti, DK 2005: Parmelioid lichens in India. Bishen Singh & Mahendra Pal Singh. Dehra Dun. 488 pp.

Egan, RS 2004: Flavopunctelia. - *In:* Nash, TH, III., Ryan, BD, Diederich, P,Gries, C, Bungartz, F (eds.): *Lichen Flora of the Greater Sonoran Desert Region,* Vol. 2. Lichens Unlimited, Arizona State University, Tempe, Arizona, pp. 111-114.

Hadji Moniri, M 2005: Lichen genus new to Iran. – In: Singh et al. [eds], Abstracts book of, 3rd International Conference on Plants and Environmental Pollution (ICPEP-3), Lucknow, India, 29th November – 2nd December 2005 p. 35. University Press, Lucknow.

Hale, B. & DePriest, PT 1999: Mason E. Hale's list of epithets in the parmelioid genera. - The Bryologist 102: 462-544.

Hale, ME 1984: Flavopunctelia, a new genus in the Parmeliaceae (Ascomycotina). - Mycotaxon 20: 681-682.

Seaward, MRD, Sipman, HJM, Schultz, M, Maassoumi, AA, Haji Moniri Anbaran, M & Sohrabi, M 2004. A preliminary lichen checklist for Iran. - Willdenowia 34: 543-576.

Sohrabi, M, Ahti, T & Urbanavichus, G 2007: Parmelioid lichens of Iran and the Caucasus region. - Mycologia Balcanica 4: 21-30.

Thell, A, Herber, B, Aptroot, A, Adler, MT, Feuerer, T & Kärnefelt, EI 2005: A preliminary phylogeographic study of Flavopunctelia and Punctelia inferred from rDNA ITS-sequences. -Folia Cryptogamica Estonica 41: 115-121.