Endemic Species Residing to the Genus *Hypericum* L. in Azerbaijan

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Abstract: *Hypericum* L. is the genus of flowering plants in the family *Hypericaceae*. The genus comprises almost 500 species of small shrubs and herbs, which has a worldwide distribution, with representatives in nearly every continent, being only absent from the poles, deserts and low-altitude tropical areas. Nowadays the largest diversity in the genus is found in the Eurasia and North America, but it is also abundant in high-altitude tropical areas of the Southern Hemisphere. Species of *Hypericum* do not grow the habitats that are extremely hot, cold or dry. Species of this genus grow on damp soils, meadows, swamps and even just in small water, at the region of lakes and the rivers (*Hypericum eloides* L.). Species meet in the foothill sand high lands, coming in to the Alpine belt.

Keywords: *Hypericum*, Azerbaijan, Species, Herbs, Meadows, Belt

1. Introduction

The first genetic description of *Hypericum* was given by Tournefort (1700). Linnaeus (1737) in his “Genera Plantarum” recognized the two genera *Hypericum* (5 petals, numerous stamens) and *Ascyrum* (4 petals, numerous stamens). For this species a worldwide taxonomic monograph was produced by N. Robson (between 1977 to 2012). Also he is recognized 36 sections within *Hypericum*.

This species has been associated with pharmacy and folklore for many centuries. Plant species of the genus *Hypericum* are well known for their use in traditional medicine due to the therapeutic efficacy of its many different species. For example *H. perforatum* L. have been used in traditional medicine based on the pharmacological properties of their active compounds such as hypericine and pseudo-hypericine, which are used as pain killers, antidepressants, anticancer treatments.

*Hypericum* belongs to the family *Hypericaceae* Juss.

The species of the genus *Hypericum* can be recognized by their opposite extipulate entire or gland-fringed leaves, the presence of glandular secretions, and yellow bisexual flowers with petal sand sepals five in number and several stamens in 3 or 5 fascicles, ovary superior, with connate carpels, 3-5 locular with free 3 style sand the presence of pale and sometimes reddish to black glandular secretions.

The characteristics feature for *Hypericum* is yellow colored petals, which are used to define borders of the genus. The presence of dark glands (in one organ or more) is synapomorphic trait with morphological importance, for these species. Flowers of *Hypericum* are generally nectarless. They are typical pollen-flowers visited by less-specialized insects. The gynoecium is typically syncarpous with an axile placentation. The fruit is a fleshy, or non-fleshy; dehiscent, or indehiscent; a capsule, or a berry, containing small cylindrical light brown to black seeds.

With a concept Enda (endemic) or an endemic element apparently special difficulties don't arise. This category is formed by the taxons extended only in the territory of the studied flora and which aren't over stepping her bounds. Thereby, endemic taxons make a specific part of flora and serve as her absolute difference from all other florae.

Endemic plants are special because they are found in only one location on the planet and now here else. The endemic plants of Azerbaijan are the most vulnerable component of its flora and loss of any of them means irreplaceable loss of biodiversity as a whole. There for by impacts of anthropogen factors many of precious shrubs in forests areas are
extremely reduced.

There are two endemic species for Azerbaijan *H. apricum* (syn: *H. karjagini*) and *H. theodorii*.


*H. theodorii* Woronov. 1906, Flora Caucasian. 3, 9:43. – perennial herb, stems numeros thin branched, absent-minedly red glandular. Leaves sessile, elliptics, 5-11mm. Inflorescence corymbose. Sepal sequal, free, ovoid with black ciliate-glands one dge, 3mm. Petals yellow, are longer than sepals, on edge ciliate-glandular. Stamens are numeros. Ovary ovoid with 3 styles. Capsule brown, ovoid to ovoid-lanceolate, 11mm. Seeds lightly curved, and longitudinally striped, 2mm. Flowering period from July till August. It grows in clay slopes. Found in Kobustan.

2. Materials and Methods

Plant materials were collected in 2015-2016 in Qobustan and Quba districts of Azerbaijan. Also the herbarium specimens stored in the Herbarium fond of the Institute of Botany ANAS were used in this study. Classic comparative morphological methods were used for identification of species.

3. Result

Taxonomy of this genus, have not been studied for many years in Azerbaijan. Only few species of genus have been studied by R. Rzazade (1955). Our aim is to study the endemic species of the *Hypericum* growing in Azerbaijan.

4. Conclusion

Another critical problem is the continuous practice of illegal logging for fire wood in the forests which are damaging the biodiversity and are resulting in economic and social losses. Due to the poor management in many regions, and especially villages located in proximity to the forests, acts of illegal logging exist and pose a significant threat to the forests. The same threat comes from the unsustainable tourism and recreation practices. At the same time the forests of Azerbaijan feel the impact of the global climate change with an increase of forest fires during the summer. For this reason the territory of endemic species has to be protected.


These endemic species belongs to the sections Hirtella Stef. (*H. apricum* Kar et Kir.) and Taeniocarpium Jaub et Spach. (*H. theodorii* Woronov.)

<table>
<thead>
<tr>
<th>Species</th>
<th>Sections</th>
<th>Characteristic features of sections</th>
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<tbody>
<tr>
<td><em>H. karjagini</em></td>
<td>Hirtella Stef.</td>
<td>Perennial herbs, with branched emergences, rarely glandular, with stems decumbent at the base from taproot.</td>
</tr>
<tr>
<td><em>H. elongatum</em></td>
<td>Taeniocarpium Jaub et Spach.</td>
<td>WIrry perennial herbs, glabrous to pubescent with stems erect to rooting and branching from taproot.</td>
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</tbody>
</table>

Table 1. Endemic species of the genus *Hypericum* L. in sections

Figure 1. *H. theodorii* Woronov.
References


