

ISATIS L. TÜRLERİNİN TÜRKÇE YEREL ADLARI VE KULLANILIŞLARI

THE TURKISH VERNACULAR NAMES OF *ISATIS* L. SPECIES AND THEIR USAGES

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SUMMARY

During the research of *Isatis* L. species in Western and Central Anatolia carried out between 1983 - 85, 12 different vernacular names which belong to 6 species of this genus have been reported. The usages of *Isatis* species have also been recorded.

ÖZET

1983-85 yıllarında gerçekleştirilen Batı ve Orta Anadolu *Isatis* L. türlerinin revisyonu sırasında, bu cinsin 6 türüne ait 12 farklı yerel ad rapor edilmiştir. Ayrıca *Isatis* türlerinin kullanılışları hakkında da bilgi verilmiştir.

INTRODUCTION

It is possible to find the vernacular names of a lot of plants in various countries floras and encyclopedias. However, a very little amount of about 9000 species of Turkish flora have the vernacular names. This is because the Turkish Botanists started the taxonomic studies lately.

MATERIAL AND METHOD

During the research of *Isatis* species, many localities and the people living there were visited and the vernacular names and their usages of those plants were asked. The foreign names of the genus *Isatis* were found in various countries floras.

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RESULTS

During the research carried out between 1983-85 (1), lengthy discussions were made with the local people and all the vernacular names for *Isatis* tabulated.

These vernacular names corresponding to species in Latin and their localities have been given below, on table 1.

Table -1: The vernacular names with corresponding in Latin and their localities.

Latin name	Turkish vernacular name	Locality
<i>I. glauca</i>	Yılangelmez	Bucak - Burdur
<i>I. glauca</i>	Soğukot	Avdan Köyü-Korkuteli- Antalya
<i>I. glauca</i>	Galdirek	Küçükköy-Korkuteli-Antalya
<i>I. glauca</i>	Gıvışayak	Sapanlı Köy-Güdül-Ankara Mucur-Kırşehir
<i>I. glauca</i>	Çatlağanotu	Şarkikaraağaç-Isparta
<i>I. glauca</i>	Gerdimek	Sütçüler-Isparta
<i>I. bushiana</i>	Cıvşak	Mut-İçel
<i>I. arenaria</i>	Kelebekotu	Derusu-Istanbul
<i>I. aleppica</i>	Delitürp	Finike-Antalya
<i>I. floribunda</i>	Delizgın	Karaman-Konya
<i>I. tinctoria</i>	Kızlargöbeği	Çukurbağ Köy-Tarsus-İçel
<i>I. tinctoria</i>	Devemercimeği	Kazancı-Ermenek-Konya
<i>I. tinctoria</i>	Köygöğüren	Ermenek-Konya

According to the table 1, 12 vernacular names of *Isatis* genus have been tabulated. But on the other hand, in Akalın's work (2) "Büyük Bitkiler Kılavuzu", and in some Turkish dictionaries the names "Yabançivitotu", "Maviboyakökü" have been used for *I. tinctoria*. In reality, no usage of these names has been come across among the locals. In our opinion, the names given in those dictionaries are the Turkish equivalents of adopted foreign names. The right names are the ones used by the people. Our proposal is to use the name "Gıvşak" as the word corresponding to *Isatis* considering its physical appearance. Because it is more common than the other Turkish names and it fits more to the morphologic characteristics of the species. Our proposal is supported by this fact: when the leather like basal and stem leaves of some species, especially of the *I. glauca* (common in Central Anatolia)

are squashed in hands by two palms, it produces a sound "gıvış" as it is called by the people. Thus, the people, partly because of resembling the resette-like basal leaves to a foot, called this species "Gıvışayak" (gıvışfoot) and as the result of changing of the pronunciation of the word in time it has become "gıvşak".

The names for *Isatis* recorded among various floras are listed on table.2.

Table- 2: The names for *Isatis* listed in various floras in alphabetical order.

The name	Language	The name	Language
Boryt	Czech	Waid	German
Daizei	Japan	Vajd	Danish
Gıvşak	Turkish	Vasma	Arabic
Glasto	Italian	Vayda	Prussian
Isatis	Latin	Wede	Dutch
Isazein	Greek	Weede	Flemish
Pastel	French	Woad	English
Sineroigas	Estonian		

Dioscorides, in his work "Materia Medica" mentioned about *Isatis* for the first time as a document and he has pointed out that this plant has been used for healing the illness of gall bladder and some skin illness (3).

Europe was the continent on which *Isatis tinctoria* was used to produce blue pigment. No evidence has been had for the usage of this species or the other species in Turkey.

Anatolian people have used the species *Rubia tinctoria*, *Alkanna tinctoria* in place of *I. tinctoria* since they have more pigment in their abundant flora.

Believed to have originated in Centrale Europe, *Isatis tinctoria* L. spread all the world by cultivation. It was recorded that it had been grown in ancient times in China and in Egypt as a source of dye. This species biennial or occasionally a perennial, grows up to 1 m. It has the leaves, from which the dye is obtained, oblanceolate, papetry; the inflorescens paniculate-corymbose; the flowers small, yellow and four petaled; the fruits linear-oblong, obovate as a member of the Mustard family (Cruciferae).

According to Leggett (4) preparing the dye from this species, which was used to color wool during the ancient times, is as follows: "the newly gathered, carefully selected leaves, cut off at their base, were quickly crushed or ground to pulp. It was quite early discovered that young leaves supplied a light blue, mature leaves a darker blue, and fully ripe leaves a bluish-black pigment. After crushing the pulp was placed in small heaps to drain until sufficiently dry to cohere. Then by means of hand kneading it was converted into loaf shaped balls. These balls were spread on wicker trays and dried for about for weeks in well ventilated sheds, prior to storage in a dry, airy place pending the gathering and processing of the entire crop, after which the complete lot was fermented. For this purpose, each ball was ground into a fine powder and the entire mass was spread to depth of two or three inches on the floor of an open but roofed shed. By frequent sprinklings with water, the powder was reduced to a paste in which fermentation soon began to operate. For about nine weeks this hot, steaming odoriferous mass was turned over and sprinkled, time and time again. This step necessitated great care, even skill, so that fermentation would be neither so slow that a bulky product would, result nor so rapid that the dyeing properties would be impaired. When fermentation had finally subsided and the stiff paste mass had sufficiently cooled, the dye was packed in casks ready for market. He pointed out the importance of blue pigments for textile industry produced by *I. tinctoria* and he gave vast amount of information about the producing, history, usage and culturing of it. Niel also pointed out three different ways of producing this sort of pigment (5).

Recently, there have been many studies to determine the chemical composition of *I. tinctoria*. The origin of the blue pigment from *I. tinctoria* was given photochemically by Epstein et al. (6). Elliott and Stowe studied that a new indoleglucosinolate, isolated from *I. tinctoria* was identified as 1-sulfo -3- indolylmethylglucosinolate (7). They found out five conspicuous indole derivatives are present in leaves and other tissues of woad (*I. tinctoria*) and identified them as tryptophan, isatan B, glucobrassicin, and glucobrassicin -1- sulfonate (8). These authors also studied that exceptionally high levels in woad of 3-indolic goitrogens, namely glucobrassicin, and glucobrassicin -1- sulfonate, permit the facile study of their distribution in the plant and their changes during its development (9). Mahadevan and Stowe showed that the leaves of woad were found to incorporate efficiently tritiated indo-leacetaldoxine and 35 S from 35 S-L-cystine into glucobrassicin (GB) and sulfolucobrassicin (SGB) (10). Dolya et al. listed a total 13 fatty acids that were isolated from *Diplotaxis tenuifolia*, *Natthiola bicornis*

and *Isatis tinctoria*. L chart indicating the physical and chemical characteristics of the oils and fatty acids and the fatty acid composition of the oils is given (11). Scrimgeour reported fatty acids of the seed oils of Alpine Cruciferae (one of these is *I. glauca*). Fatty acid composition may indicate adaptation to alpine habitats (12). Goetz and Schraudolf isolated four indolglucosinolats from different cruciferous tissues and tissue cultures including *I. tinctoria* and reported the plants which have this material and the tissues that contain it and their quantity (13).

Yıldırımli has pointed out the usage of *I. arenaria* [called Kelebek otu (Butterfly plant)] species as an important frontal plant of the succession to fix the sandy areas (14).

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