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Ribes aureum Pursh (Grossulariaceae): A new record for the flora of Turkey

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Abstract

Turkey has a rich flora with more than 10.000 plant species. During a field trip to Kars some herbarium species were collected from the genus *Ribes* L. After doing detailed studies on morphological description, photos and distribution map of the samples, it was realized that the samples were belonging to a new species, which is unknown in Turkey. All of the morphological features are belonging to *Ribes aureum* Pursh. After checking herbarium materials and published literatures on this species, a new record has been provided as *Ribes aureum* to the Flora of Turkey (A9, Kars).

Key words: New record, *Ribes aureum*, Grossulariaceae, Kars

***Ribes aureum* Pursh (Grossulariaceae); Türkiye Florası için yeni bir tür kaydı**

Özet

Türkiye, 10.000'den fazla bitki türü ile zengin bir bitki örtüsüne sahiptir. Kars'a yapılan arazi çalışmasında bazı *Ribes* örnekleri toplanmıştır. Morfolojik tanımı, fotoğrafları ve örneklerin yayılış haritası ile ilgili ayrıntılı çalışmalar yapıldıktan sonra, örneklerin Türkiye'de bilinmeyen yeni bir türe ait olduğu belirlenmiştir. Örneklerin tüm morfolojik özellikleri*Ribes aureum* türüne aittir. Herbaryum materyallerini ve yayınlanmış literatürleri de kontrol ettikten sonra Türkiye Florasın'a (A9, Kars) *Ribes aureum* olarak yeni bir kayıt yapılmıştır.

Anahtar Kelimeler: Yeni kayıt, *Ribes aureum*, Grossulariaceae, Kars

Introduction

Turkey's flora has been studied for more than a hundred years and found more than 10.000 species (Please use a new reference). New observations and studies on flora of a given region reveal new species and new records (for example, Akkemik and Yılmaz, 2016). Within the woody plant genera, *Ribes* is one of the most important genera because of having edible fruits. *Ribes* is a cosmopolitan genus that includes seven subgenera; subgen. *Berisi*a (Spach.) Jancz. includes dioecious species, subgen. *Parrilla* Jancz. has functionally dioecious species, and subgen. *Ribes*, subgen. *Coreosma* (Spach.) Jancz., subgen. *Grossularioides* Jancz., subgen. *Grossularia* (Mill.) Pers., and subgen. *Oligocarpa* Vals. have hermaphroditic flowers (Janczewski, 1907). The genus has about 150 species (Mabberley, 1997). Approximately two-thirds of the species are distributed in northern temperate and subtropical areas from North America, Europe, eastern Asia, and northern Africa (Janczewski, 1907).

Turkey has 7 of the species belonging to the genus *Ribes*. They are *R. anatolicum, R. multiflorum* subsp. *multiflorum, R. nigrum, R. orientale, R. petraeum, R. rubrum* and *R. uva-crispa* (Chamberlain, 1972; Behçet, 2001; Mataracı, 2012; Eminağaoğlu 2014). During floristic surveys in Kars (Fig. 1), from April 2014 to May 2016, some interesting *Ribes* specimens were collected. Within these plant samples, some belonging to the genus *Ribes* revealed different morphological characteristics from the native *Ribes* species. The purpose of the present study is to share the identification results of these species and describe a new record for the flora of Turkey.

Material and Methods

During a field trip to Kars-Kağızman, many samples were collected from different plant species. When it was realized some different features in samples of the genus *Ribes*, about 10 herbarium specimens were collected from three different localities of the genus. Photos of the living material were taken with a Sony DSCR1 digital camera. Geographical positions were identified using a Magellan eXplorist 710 GPS, and insert in the Fig. 1. and the samples collected were deposited in the herbaria VANF (acronyms according to Thiers 2016), and in the personal herbarium of the author (private Herbarium of Mehmet Fırat).

Identification of the samples were performed using the most related references (e.g. Flora of Turkey) (Davis et al. 1988) and compared with the reference specimens in VANF, In identification process, the leaf shape and dimensions, shoot features, bud arrangement and bud scale features, flower and fruit features were studied.

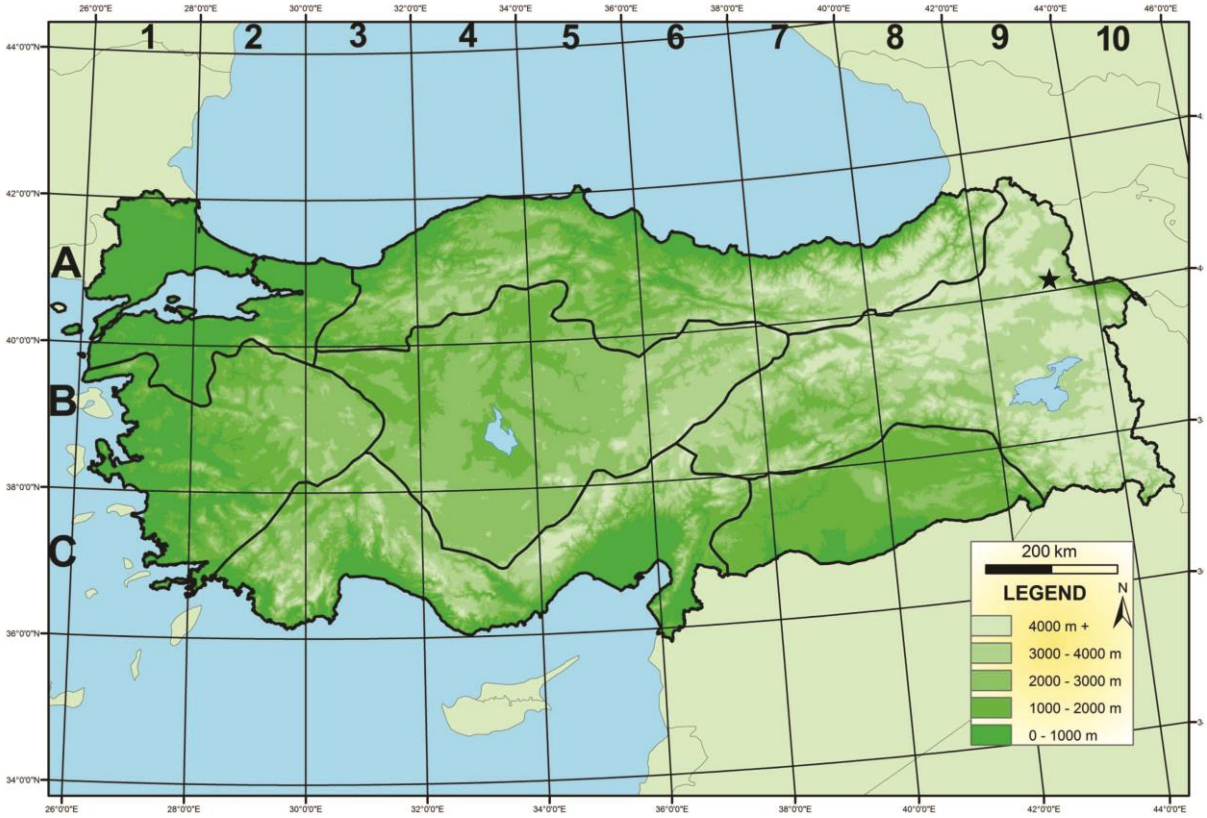

Figure 1. Distribution map of *Ribes aureum* (★) in Turkey.

Results and Discussion

The features used in identification provided that the samples were belonging to *Ribes aureum*. Because this species is lacking in the flora of Turkey it was evaluated as a new record for the flora of Turkey. Description, distribution and some other features of *Ribes aureum* were given below:

Description: *Stems* erect or rounded shrub 1-3 m tall, without spines, the branches reddish and hairless to finely short-hairy when young, hairless and dark gray with age. *Leaves*: alternate, finely short-hairy to hairless when young, but with age thick, pale green, and usually hairless except for few hairs on the edges, broadly triangular-ovate to ovate, with a broadly wedge- to somewhat heart-shaped-base, 2-5 cm broad, mostly 3-lobed less than half their length, the segments entire or with 2-5 rounded teeth. *Flowers*: fragrant, 5-18 in clusters equaling or longer than the leaves. Flower stalks up to 8 mm long, jointed under the ovary. Calyx hairless, golden yellow, cylindrical, 6-8 mm long, the 5 calyx lobes oblong-elliptic, spreading, 5-7 mm long. The 5 petals yellow to orange or reddish, oblong-obovate, erect. The 5 stamens about equaling the petals, the filaments about equal to the anthers. Styles joined almost to the stigmas, hairless. *Fruits*: berries, hairless, round, about 7 mm long, red to black, rarely yellow, palatable (Kamarov 1971).

Habitat: Near district center at the garden (Naturalized plant) 1200-1300 m.,

Phenology: Flowering time is from April to May and fruiting from June to July.

Distribution in Turkey: Kars (Kağızman) province

General distribution: Austria, Great Britain, Canada, Czech Republic, Croatia, Finland with Ahvenanmaa, France, Germany, Hungary, Italy, Former Yugoslavia, Lithuania, Norway, United State, Mexico, Poland, The Russian Federation, Romania, Slovakia, Slovenia and New to Turkey.

Vernacular name: *Ribes aureum* is called as Kurdish name “Yasemina zer” by the local people of the Kars (Kağızman) province, but celled other Kurdisk name for *Ribes* "Kişmiş", "Hengura mîrçikan", "Qolinc", And Turkish name "Frenk üzümü" (Fırat, 2013).

Ethnobotanical usage: The flowers are used to smell pleasant, ripe berries are eaten raw and made from sherbet, also eaten by birds.

Other specimens examined: *Ribes aureum.* TURKEY. A9 Kars: Kağızman Province, at the natural garden, 1294 m, 40°10′03″ N, 43°08′11″ E, coll. 25 April 2014, *M. Fırat 30535* (VANF, Herb. M. Fırat), A9 Kars: Kağızman Province, at the natural garden, 1294 m, 40°10′03″ N, 43°08′11″ E, coll. 9 May 2016, *M. Fırat 32659* (VANF, Herb. M. Fırat).

Figure 2. *Ribes aureum*: A,B. habitus; C,E leaves; D, F, E. flowers; H. young fruit

Conclusion

With this new record, *Ribes aureum*, total number of species in the genus *Ribes* increased to eight in Turkey. Together with the new species the identification key was renewed as follows:

1. Shrub, spines.....***2***

2. Flowers in axillary clusters of 1-3.....***R. uva-crispa***

2. Flowers panicle in clusters of 8-15 .....***R. anatolica***

1. Shrub, unarmed.....***3***

3. Flowers dioecious; axis of inflorescence glandular-hairy.....***4***

4. Buds ovoid, obtuse; fruit glandular-hairy..... ***R. orientale***

4. Buds elongate, acute; fruit glabrous.....***R. alpinum***

3. Flowers hermaphrodite; axis of inflorescence glabrous..... .....***5***

5. Leaves covered beneath with sessile aromatic glands; fruit purplish-black....***R. nigrum***

5. Leaves without sessile glands, fruit red.....***6***

6. Hypanthium nearly flat.....***7***

7. Calyx ligulate.....***R. multiflorum***

7. Calyx lanceolete or spathulate.....***R. rubrum***

6. Hypanthium campanulate.....***8***

8. Flowers 20-40.....***R. biebersteinii***

8. Flowers 5-15.....***R. aureum***

The previous studies and this new record proved that the genus deserves much attention particularly on its taxonomy, and this new species should be included in the new version of the Flora of Turkey.

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