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New Floristic Records of Ranunculaceae Family

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Abstract: A study has been made about the revision of Ranunculaceae family between 2009-2011 years. Turkiye's important and major herbariums (especially Hb. GUL) have been visited and related family patterns were revised. In end of the study; it is determined that 55 taxa as new records for 78 geographical squares in Flora of Türkiye. In this study, the taxa of Ranunculaceae that have new records and spreading in an interesting way are declared.

Key words: Ranunculaceae, Türkiye, New records taxa, Phytogeography, Revision.

Ranunculaceae Familyasından Yeni Floristik Kayıtlar

Özet: 2009-2011 yılları arasında Ranunculaceae familyasının revizyonu amaçlı bir çalışma yapılmıştır. Çalışmada, GUL Herbaryumu başta olmak üzere Türkiye'nin önemli ve büyük herbaryumları ziyaret edilip ilgili familya örnekleri yeniden incelenmiştir. Çalışmaların sonucunda; Türkiye Florası'ndaki 78 coğrafi kare için 55 taksonun yeni kayıt olduğu belirlenmiştir. Bu makalede, yeni kare kaydı olan ve yayılışı ilginç bulunan Ranunculaceae taksonlarına yer verilmektedir.

Anahtar Kelimeler: Ranunculaceae, Türkiye, Yeni Kayıt Taksonlar, Bitki coğrafyası, Revizyon.

1. Introduction

The Suleyman Demirel University Herbarium (GUL) founded in 1994 and is known as 'GUL' in international code. About to 25000 vascular plant samples recorded in GUL. GUL has a rich plant collection consisting of Eastern Anatolia region, Lakes Region; in Ranunculaceae and Caryophyllaceae families; ***Rosa*** L. and ***Cousinia*** Cass. genera; economically important and poisonous plants. A great number of investigators visit and benefit from GUL Herbarium for their researches in every year.

Ranunculaceae family has a major importance in terms of poisonous plants and in taxonomical regards it is one of two richest family in GUL Herbarium. The family has 59 genera and approximately 2500 species in the world. 216 species belonging to 18 genera of this family exist in our country. The endemism rate of this family is % 23,5 in Türkiye [1].

The members of this familya are mostly herbaceous, rarely ligneous or climber. Leaves generally show alternate staggering and the yare without stipules, occasionally the yare at the bottom of all leaves, rarelys how bilateral staggering and the yare auricular. Perianth or perigone is double; calyx and/or corolla arranged in single ring and perigone double. Their flower parts are free and generally including nectarium in their petal bases. Stamens are generally multiplexed, from periphery to center and spiral staggering. Pistil is apocarp, each consist of a single carpel, carrying two or more pistils,

rarely consist of a single carpel or combined. Fruit is achene or follicle, rarely single follicle or berry, single headed. The seeds have an endospherm with small and adipose [1, 2, 3, 4].

The taxa of Ranunculaceae family have many taxonomical problems [1, 3, 4]. New spreadings, new taxon records and updated taxonomical descriptions have been made only for ***Consolida*** (DC.) S.F. Gray and ***Delphinium*** L. genera uptill now [5, 6]**.** This study includes new spreadings of Ranunculaceae family and taxonomical additions to it besides forming a checklist. It is hoped that this study will be a source to researchers interested in this family.

Çetinkaya (2007) has listed the spraeding of the taxa by examining more than 1000 samples belongs to Fabaceae and Ranunculaceae families exisiting in Dicle University Science and Letters Faculty Herbarium(DUF) and rearrenged them in his study [7]. 36 genera and 205 taxa gained after examining 1369 plant samples belongs to Fabaceae and Ranunculaceae families in DUF Ekmekcigil (2006) has made the revision of Ranunuculaceae family‘s samples existing in ANK Herbarium [8]. Concequence of this revision it was founded that there were 1377 plant samples, belongs to 16 genera and 174 Turkish taxa of Ranunculaceae family.

Güzel(2009) had prepared a master thesis on ecologies, chrologies, taxonomies, systematics of ***Ranunculus*** L. taxa in Kütahya and its environs [9].

A revision study aimed based on Ranunculaceae samples in GUL Herbarium by inspiration of this studies, and other major herbariums are visited. This paper clarifies the taxa showing new records and interesting spreadings in Türkiye.

2. Material and Methods

The materials of this study are 728 plant samples belong to 132 taxa and are consisted of 16 genera, 121 species, 24 subspecies and 8 varieties. In addition too the plant samples conserving by other herbariums mentioned in the text. It is paid attention to analyze plant samples that are permitted to usage of other scientists by the authorities, the unpublished personal samples not taken in the account.

The materials for identification of the samples are; The Flora of Turkey and East Aegean Islands [1-3; 6-10; 14, 15] particularly, other systematical sources [2, 3, 11, 12, 13] papers published by the scientists working on these taxa and visited herbariums’(ANK, HUB, GAZI, EGE, KNYA) plant samples. Usual identification tools like stereozoom light microscobe, pincers and needle were used for identifications.

Taxon record informations include geogrophical square, city-town, gathering data, herbarium number and collector record number in case of need. Taxon ordering have been made based on the numbers of family, genus and species as in The Flora [1, 10, 12]. The numeralisation in GUL Herbarium is the same and plant sample numberranked at last.

After analysing these studies [1-4; 16-24] it was decided that the concerned taxon is new.
In the process of building database, datas added on our university's database with Macromedia Dreamweaver 8 Programme, and they loaded on the systemvia "http://fef.sdu.edu.tr/gulherbaryumu/tr/herbaryum-veri-tabani/ranunculaceae-3215s.html" link with Cute FTP 8 Professional Programme.
Abbreviations in the text:
***:** The status of distribution has determined by us for the first time according to habitats, vertical and horizontal distributions, and our observations in the field.
mt.: Mountain
E.: East

3. New Recorded Taxa For Squares and Their Geographical Distributions

ERANTHIS Salisb.
E. hyemalis (L.) Salisb.
B2 Denizli, Çivril; EGE 25572**!**;
B8 Muş, Çizmeburun: HUB 0157**!**, GAZI (T. Ekim 7035**!**);
C10 Hakkâri, Yüksekova; GAZI (M. Vural 4324 **!**).
Unknown its geographical region and distribution.

NIGELLA L.
N. orientalis L.
B10 Ağrı, Doğubeyazıt: EGE 10161**!**;
C3 Antalya, Akseki: GUL 1-3-1-4**!**.
Unknown its geographical region and distribution.

N. latisecta P.H. Davis
A9 Kars, Kağızman: EGE 3642**!**.
Irano-Turanian element.

N. sativa L.
B9 Van, Gevaş: GUL 1-3-8-2**!**;
C2 Burdur, Altınyayla: HUB 0214**!** **Muğla,** Köyceğiz: HUB 0215**!**; GAZI (A. Güner 9189**!**).
Cultured. Cosmopolitan.

N. unguicularis (Lam.) Spenner
C3 Isparta, Sütçüler: GUL 1-3-12-1**!**
Irano-Turanian element.

DELPHINIUM L.
D. formosum Boiss. & Huet
A9 Artvin, Between Şavşat-Ardahan: GUL 1-8-1-1**!**
Endemic, Euxine element.

D. fissum Waldst. & Kit. subsp. ***anatolicum*** Chowdhuri & Davis
B9 Van, Erek(Varak) mountain range: GUL 1-8-9-1**!**;

C2 Burdur, Gölhisar: EGE 37784**!**.
*Endemic, Unknown its geographical region and distribution.

D. albiflorum DC.
B9 Van, Erek(Varak) mountain range(observed in June 1987 year); **Ağrı**, Tahir mountains, GUL 1-8-10-1**!**
C9 Siirt, Pervari: GUL 1-8-10 2**!**.
*Euxine element.

D. kurdicum Boiss. & Hohen.
B9 Van, Erek(Varak) mountain range: GUL (Özçelik 6342**!**
Irano-Turanian element.

D. macrostachyum Boiss. ex Huth
B9 Van, Çatak(observed in July 1995).
Irano-Turanian element.

D. virgatum Poiret
C2 Burdur; Yeşilova: GUL 1-8-19-5**!**
* E. Mediterranean element.

D. bithynicum P.H. Davis
C3 Isparta, Aksu: GUL 1-8-20-1**!**
*Endemic, Euro-Siberian element.

D. venulosum Boiss.
C3 Konya, Beyşehir: GUL 1-8-21-1**!**
C6 Kahramanmaraş, Göksun: GUL 1-8-21-2**!**.
Endemic, Irano-Turanian element.

D. cinereum Boiss.
C3 Antalya, Akseki: GUL 1-8-22-1**!**
Endemic, Unknown its geographical region and distribution.

CONSOLI DA (DC.) S.F. Gray
C. anthoroidea (Boiss.) Schröd.
A8 Erzurum, Tortum: GUL 1-9-3-5**!**
B8 Erzincan, Aşkale: GUL 1-9-3-2**!**
Irano-Turanian element.

C. scleroclada (Boiss.) Schröd. var. ***rigida*** (Freyn & Sint.) Davis
C2 Burdur; Gölhisar: GUL 1-9-4v2-3**!**
C3 Isparta, Gönen: GUL 1-9-4v2-3**!**
*Irano-Turanian element.

C. glandulosa (Boiss. & Huet) Bornm.
B3 Isparta, Şarkikaraağaç: GUL 1-9-12-3**!** GUL 1-9-12-7**!**
B4 Ankara, Polatlı: HUB 0455**!** HUB 0456**!**

Endemic, Irano-Turanian element.
C. cornuta (Davis & Hossain) Davis
B6 Sivas, Gemerek: GUL 1-9-13-1**!**
Endemic, Irano-Turanian element.

C. armeniaca (Stapf ex Huth) Schröd
C5 Niğde, Ulukışla: GUL 1-9-22-1**!**
Endemic, Irano-Turanian element.

C. olopetala (Boiss.) Hayek
A7 Gümüşhane, Köse: GUL 1-13-23-4**!**
C3 Konya, Kazım Karabekir: GUL 1-13-23-2**!**
Endemic, Irano-Turanian element.

CLEMATIS L.
C. vitalba L.
B5 Nevşehir, Avanos: GUL 1-11-1-6 **!** GUL 1-11-1-7**!**
Unknown its geographical region and distribution.

C. cirrhosa L.
C4 Konya, Seydişehir: KNYA(H. Ocakverdi 1553**!** 1554**!**), Ermenek: HUB 0621**!** GAZI (H. Sümbül, 2688**!**).
Mediterranean element.

ADONIS ***L.***
A. aestivalis ***L.*** subsp. ***parviflora*** (Fisch. ex DC.) Busch
A1 Çanakkale, Gelibolu National Park: GUL 1-12-7s2-2**!**
C3 Isparta, Sütçüler: GUL 1-12-7s2-3**!**
C4 Konya, Merdivenli: GUL 1-12-7s2-6**!**
C5 Mersin, vilayet border to Adana: GUL 1-12-7s2-4**!**, GUL 1-12-7s2-7**!**.
Unknown its geographical region and distribution.

RANUNCULUS L.
R. demissus DC. var. ***major*** Boiss.
B2 Denizli, Çivril: EGE 25955**!**
B3 Isparta, Senirkent: EGE 35888**!**
Endemic, Unknown its geographical region and distribution.

R. dissectus Bieb. subsp. ***napellifolius*** (DC.) Davis
B9 Van, Aladağ-Sübhan Mountains: GUL 1-13-16s2-1**!** GUL 1-13-16s2-2**!**
Unknown its geographical region and distribution.

R. dissectus subsp. ***rigidilus*** (Boiss.) Davis
B8 Erzurum, Tortum: GUL 1-13-16s5-2**!**
B9 Bitlis, Sübhan Mountain: GUL 1-13-16s5-1**!**
Endemic, Euxine (mt.) element.

R. velutinus Ten
C5 Adana; Pozantı (GUL 1-13-19-1-4**!** GUL 1-13-19-16**!** GUL 1-13-19-17**!** GUL 1-13-19-18**!** GUL 1-13-19-19**!** GUL 1-13-19-20**! Mersin**, Tarsus: GUL 1-13-19-5**!** GUL 1-13-19-6**!**
Mediterranean element?

R. repens L.
B8 Erzurum, Palandöken mountains: GUL 1-13-20-9**!**
Unknown its geographical region and distribution. It may be Euro-Siberian element.

R. polyanthemos L.
B3 Eskişehir; Ankara yolu: GAZI(A. Baytop 28939**!**).
Unknown its geographical region and distribution.

R. bulbosus L. subsp. ***aleae*** (Willk.) Rouy. & Fouc.
A1 Edirne, Meriç Deltası: GUL 1-13-22s2-2**!**
A6 Tokat, Almus: GUL 1-13-22s2-1**! Amasya,** Yukarıbaraklı village: GUL 1-13-22s2-1**!** GUL 1-13-22s2-3**!** GUL 1-13-22s2-4**!** GAZI(S. Peker 1262**!**). Unknown its geographical region and distribution.

R. constantinopolitanus (DC.) d'Urv.
C7 Adıyaman, Çelikhan**:** GAZI (E. Aktoklu 1244**!)**.
Unknown its geographical region and distribution. It may be Euro-Siberian element.

R. obesus Trautv.
B8 Siirt, Veysel Karani': GUL 1-13-29-1**!**
Unknown its geographical region and distribution.

R. damascenus Boiss. & Gaill.
A8 Erzurum, Tortum: GUL 1-13-33-1**!** GUL 1-13-33-11**!**
Irano-Turanian element.

R. oxyspermus Willd.
A6 Amasya, Aşağıbaraklı village: GAZI (S. Peker 1123**!**);
B7 Erzincan, Kemah: HUB 848**!** HUB 847**!**
Unknown its geographical region and distribution.

R. argyreus Boiss.
B8 Siirt, Veysel Karani: GUL 1-13-35-1**!**
Unknown its geographical region and distribution.

R. cuneatus Boiss.
B8 Siirt-Batman: GUL 1-13-36-15**!** GUL 1-13-36-16**!** GUL 1-13-36-17**!** GUL 1-13-36-18**!** GUL 1-13-36-21**!** GUL 1-13-36-22**!** GUL 1-13-36-22**!**
Unknown its geographical region and distribution.

R. rumelicus Griseb.
C3 Antalya, Köprülü Kanyon National Park: GUL 1-13-38-1**!**
E. Mediterranean element.

R. cadmicus Boiss.
B9 Van, Gevaş: GUL 1-13-47-1**!** GUL 1-13-47-2**!** GUL 1-13-47-3**!** GUL 1-13-47-4**!**
Unknown its geographical region and distribution.

R. heterorhizus Boiss. & Bal.
B1 İzmir; Bergama: EGE 17937**!**
Endemic, Unknown its geographical region and distribution.

R. macrorhynchus Boiss. subsp. ***macrorhynchus***
B10 Hakkari, Yüksekova, HUB 812**!**
C8 Siirt, Veysel Karani: GUL 1-13-53s1-1**!** **Batman,** Kurtalan: GUL 1-13-53s1-2**!**
Irano-Turanian element.

R. macrorhynchus subsp. ***trigonocarpus*** (Boiss.) Davis
B9 Van, Gevaş: GUL 1-13-53s2-3**!** GUL 1-13-53s2-4**!** GUL 1-13-56s2-5**!** GUL 1-13-56s2-6**!**
B10 Hakkâri, Yüksekova: HUB 816**!**
Irano-Turanian element.

R. marginatus d'Urv. var. ***trachycarpus*** (Fisch. & Mey.) Azn.
C4 Antalya, Gazipaşa: HUB 819**!** HUB 822**!**
C5 Adana, Çamlıyayla: GUL 1-13-58s2-1**!**
Unknown its geographical region and distribution.

R. millefolius Banks & Sol. subsp. ***millefolius***
B9 Van, Gevaş: GUL 1-13-55S1-18**!** GUL 1-13-55S1-21**!**
Unknown its geographical region and distribution.

R. isthmicus Boiss. subsp. ***isthmicus***
B2 Uşak, Çakırbeyli: GUL 1-13-56s1-1**!**
Unknown its geographical region and distribution.

R. isthmicus subsp. ***stepporum*** Davis
B1 İzmir, Eskiizmir: GUL 1-13-56s2-6**!**
C5 Niğde, Pozantı: GUL 1-13-56s-2**!** GUL 1-13-56s-2**!** GUL 1-13-56s-3**!** GUL 1-13-56s-4**!** GUL 1-13-56s-5**!**
Unknown its geographical region and distribution. It may be Irano-Turanian element.

R. scandicinus (Boiss.) Davis
B1 İzmir, Eskiizmir: GUL 1-13-59-1**!**
E. Mediterranean element.

R. cornutus DC.
B9 Van, Muradiye: GUL 1-13-60-21**!**

Unknown its geographical region and distribution.

R. muricatus L.
B8 Siirt-Batman: GUL 1-13-61-17**!**
Unknown its geographical region and distribution.

R. chius DC.
B8 Siirt, Veysel Karani: GUL 1-13-62-2**!**
Unknown its geographical region and distribution.

R. arvensis L.
A6 Amasya, Direkli village: GAZI (S. Peker 1200**!**).
* Unknown its geographical region and distribution. It may be cosmopolitan.

R. sceleratus L.
A4 Bolu, Gerede: EGE 40451**!**
*Euro-Siberian element.

R. ficaria L. subsp. ***calthifolius*** (Reichb.) Arc.
C1 Aydın, Koçarlı: GUL 1-13-72s2-1**!**
C3 Isparta, Eğirdir: GUL 1-13-72s1-6**!** GUL 1-13-72s1-7**!**
*Unknown its geographical region and distribution. It may be Euro-Siberian element.

R. rionii Lagger
A3 Sakarya, Sapanca: EGE 23460**!**
Unknown its geographical region and distribution.

THALICTRUM L.
T. lucidum L.
A3 Bolu, Abant: EGE 13639**!**
*Euro-Siberian element.

4. Discussion and Conclusions

At the end of all studies; a database including photos, location records and one herbarium sample of each 132 taxa belong to Ranunculaceae family has been created, and this database loaded on "http://fef.sdu.edu.tr/gulherbaryumu/tr/herbaryum-veri-tabani/ranunculaceae-3215s.html" link. At he same time, field photos of these taxa (for most of them) can be seen on the same web site.

The general distribution areas of ***Eranthis hyemalis*** are Mediterranean region and especially the Taurus mountains. Thus the distribution of it in Denizli may be seen as normal; but new records from Muş and Hakkari are very interesting. This interestingness may increase in new distribution records. It can grow other geographical areas than known. Hence; the distribution areas of this species are discussible.

The habitats and area requirements of ***Nigella orientalis*** could not understood. The distribution of it in Türkiye is not regular. Parallel of this distribution; it's existence in Ağrı and Antalya also could not understood.

N. unguicularis is an element of Irano-Turanian and it is known from South-East region (Siirt-Mardin, Adıyaman, Gaziantep) cities. It's existence in Isparta is surprising. The distribution of this species in Isparta can be illuminated with new studies.

Aconitum anthora is distributed only in A9 Ardahan and Kars vilayets. It grows in alpinic meadows and on rocks between 2600-3000 m. It is widely said by the local people that the doctors coming from the Georgia collected the underground parts of it and they used them for making medicines to curing cancer. Thus it does not become visible easily in the area. It could not seen in given the localities according to literature records [1, 10, 15, 20, 24]. It is needed to protect. If this effectuation continues, it may disappear.

The localities collected *Aconitum nasutum* are A8 Trabzon; A9 Kars, Ardahan, Artvin; streamsides, meadows and the altitudes of 2200-2600 (3000) m. It is an euxine element. It is recommended to be taken in to account this species as an indicator taxon for determining the borders of East Black Sea region. It has restricted distribution [1] and it is more habitat selective than ***Acer campestre* L., *Castanea sativa*** Miller, ***Corylus avellana*** L., ***Mespilus germanica*** L., ***Pinus nigra*** Arnold. subsp. ***pallasiana***(Lamb.) Holmboe, ***Pinus sylvestris*** L., ***Smilax excelsa*** L., ***Sorbus torminalis*** (L.) Crantz**,** ***Crataegus microphylla*** C. Koch**,** ***Ranunculus brutius*** Ten**,** ***Astrantia maxima*** Pall., ***Salvia glutinosa*** L., ***Valeriana alliariifolia*** Adams and this species defined as characteristic euxine province element.

Consolida armeniaca is an endemic species and Irano-Turanian element. It has been observed as surprising in Ulukışla**(**Niğde) environs. Althought this area was placed in Iran-Turanian phytogeographical region is very far to other distribution localities in Türkiye of the species.

There are 4 species belong to *Aconitum* genus. From these species only *A. cochleare* grows at alpinic meadows of some mountains in Van (East Anatolia). The other 3 species (***A. orientalis, A. nasutum*** and ***A. anthora***) grow on high mountain meadows in East Black Sea Region.

The distribution of genus can be used as an indicator for determining the borders of East Black Sea Region (Colchis subregion). ***A. cochleare's*** distribution areas both crossed with the borders of Kolşik sub terrain and are not different from the other species in terms of habitat and altitude.

The distribution and the habitat requirements of ***Delphinium fissum*** subsp. ***anatolicum*** are surprising**.** The records from it in Van and Burdur are the same. Ecological and geographical requirements of this taxon is known inadequately.

Delphinium albiflorum is collected from under the oak forest and steppe areas in **B9** Eleşkirt(Ağrı); Gürpınar, Başkale (Van); **C9** Pervari(Siirt). In the south of these

localities on the route of Siirt-Bitlis and Veysel Karani, Baykan; there are significant populations under the oak forest. The richest populations could be this southern part. ***D. albiflorum*** defined as an Euxine element by us. According to this, the distribution in Siirt can be seen as interesting. Annual precipitation and moisture increases depending on the effect of Van Lake in this areas. Hence; even if geogrophical areas the species distributed are not suitable, habitat is suitable for distribution.

D. macrostachyum has been observed by us in July 1995 alpinic steppes in Çatak of Van. Its population is poor in the area, it is very rare also.

D. virgatum, D. bithynicum, D. venulosum ve ***D. cinereum*** are strictly distributed species. Distribution areas of these species have been expanded with this study.

Consolida scleroclada var. ***rigida*** is an Irano-Turanian element. Distribution of it in Mediteranean Region is surprising.

C. glandulosa is an endemic that ecological requirements are not selective. It is an Irano-Turanian element. It may spread over in the junction point of Irano-Turanian and Mediteranean.

C. cornuta is an Irano-Turanian element with very narrow spreading. The distribution area of it has been expanded with this study.

C. armeniaca and ***C. olopetala*** are distributed mostly among Gümüşhane-Erzincan-Bayburt. Plenty of ***C. armeniaca*** and ***C. olopetala*** found and picked up from an edge of a cropland in Ulukışla (Niğde) for chemical analyses [13]. This situation was notable for a small locality and for a determined year. This surprisingly distribution made us to think that the seeds of this species might be carried with the trucks coming from east.

Water is an important factor for distribution of ***Clematis vitalba*** and ***C. cirrhosa*****; and** habitat selectivity of this species are weak. If the distribution of this species investigate properly, the distribution areas increases.

Unknown its geographical region and distribution of Adonis aestivalis subsp. ***parviflora.*** It is hard to comment about the distribution of the taxon in Çanakkale, Isparta, Konya, Mersin-Adana.

Ranunculus demissus var. ***major*** collected from Taurus mountains before. The new recorded localities previously unknown in the distribution areas of the taxon. With new records it is understood that the taxon draws more closed distribution areas.

Geographical region and distribution of ***R. polyanthemos*** is unknown. The Türkiye reports are generally from East Anatolia region. However; the chioce of habitats and the requirement of altitude are variable. Thus it is expected to distribute in Central Anatolia in Irano-Turanian region.

Geographical region and distribution of ***R. bulbosus*** subsp. ***aleae*** is unknown. Judging by the growth of this species on the alpinic meadows in Tokat and Sivas; this taxon

should be European-Siberian. But colllection and observation insufficient. It is expected that the distribution of this species should be more than recorded in Türkiye. Higher lands less known. Thus; distribution of this taxon known inadequately.

R. constantinopolitanus has a wide distribution area and grows in wetlands of almost every region in Türkiye.

The distribution of ***R. obesus*** in **A9** Kars environs has been recorded. This record is very old and based on Grossheim. Hence; the record is both original and surprising. It confirms that this taxon exists in Türkiye. Flora of Siirt- Batman distincts are the least known parts of our country. If these distincts are scanned properly, interesting results can be found. The new distributions of ***R. argyreus*** and ***R. cuneatus*** are can be thought like this way.

While it is an element of Mediteranean, the given record of ***R. rumelicus*** in this study is the first record from Mediteranian Region in Türkiye. It is very interesting that it is not recorded from Mediteranean region uptill now.

It is the first time indicated that ***R. cadmicus, R. cornutus, R. muricatus, R. chius*** and ***R. millefolius*** subsp. ***millefolius*** grow in East and South Anatolia regions. The main cause of this situation is that the area floristically not known well and this species need high altitudes.

R. heterorhizus ve ***R. macrorhynchus*** subsp. ***macrorhynchus, R. macrorhynchus*** subsp. ***trigonocarpus, R. isthmicus*** subsp. ***isthmicus, R. isthmicus*** subsp. ***stepporum, R. scandicinus*** are endemics showing narrow distribution. The distribution areas of them expanded with this study.

The new square record given by us of ***R. rionii*** is the first record fromTürkiye's Black Sea Region. It is very interesting that it is not recorded uptill now.

In this paper, 55 taxa as new records for 78 geographical squares in Flora of Türkiye. Belong to Ranunculaceae family given based on the results of a revision study made according to geographical system that applied by Davis (1965) for Türkiye [1]**.** The explanations have been made about the surprisingly distributions considered as important, and the reasons of them. Our studies are going on.

These distribution areas will expand; new explanations will be made for the distributions that we could not describe, and for the geographical elements where taxa belong to.

5. Acknowledgement

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