

Canadian Journal of Applied Sciences. 2(4): July, 2013. 57-75
ISSN 1925-7430; Available online <http://www.canajas.ca>

Original Research Article

ENDEMIC AND RARE PLANTS OF HUZURLU PLATEAU (GAZIANTEP, TURKEY)

Yusif ZEYNALOV*

Iğdır University, Agricultural Faculty, Department of Landscape Architecture, Iğdır, Turkey.

ABSTRACT

This study was conducted to investigate flora of the Huzurlu Plateau in Gaziantep located in the south-east Anatolia region of Turkey. For this aim, during the floristic surveys of the Huzurlu Plateau in Gaziantep province of the Turkey, 715 species of 331 genera belonging to 85 family were recorded. Of all the collected specimens, 29 and 91 taxa were found to be rare plants and endemic, respectively, for Turkey. According to IUCN categories, 2 were Critically Endangered (CR) and 10 were Endangered (EN) of total 12 taxa recorded in this study area, besides, 101 taxa (84%) for Gaziantep and 32 taxa (26%) were new records for C6 grid square of the collected endemic and rare plants. As a result, this is the first study of investigating the flora of the Huzurlu Plateau in Gaziantep province, at the south-east Anatolia region of Turkey.

Keywords: Endemic plant, Rare Plant, IUCN, Huzurlu Plateau, Gaziantep Turkey

***Corresponding Author's:** Yusif ZEYNALOV*, Iğdır University, Agricultural Faculty, Department of Landscape Architecture, Iğdır, Turkey. Yusif.Zeynalov@igdir.edu.tr

INTRODUCTION

Turkey includes different habitations due to its geographic location, geologic and geomorphologic formation and the presence of various soil groups and various topographic conditions at a least distance. Turkey has a rich flora because of not only being affected by 8-10 different phytogeographic zones but also having different climate patterns. The climate of Turkey is characterized as pluvial and so its mountains and high parts are invaded by plants originated from Euro-Siberian [1]. In Turkey, approximately 10,500 taxa including sub-species and varieties were recorded [2]. However, in recent studies this record has reached approximately 12.000 [3].

Huzurlu Plateau is located in the east of Islahiye district in Gaziantep province and between Hatay and Osmaniye border. The ridges surrounding Huzurlu Plateau, rich out to North East-Southwest and belonging to Amanos mountain range and also are localized around the south line of Anatolian Diagonal. Mediterranean diagonal is a system which consists of mountains and valley and constitutes migration pathway of taxa from North to South of Turkey, for this reason, most of Northern plants migrated to South on this range in the glacial period [4]. A part of this research was performed phytosociologically by [5] and the present results from this study were implicated in the flora of Turkey. However, to our knowledge, vegetation and floristic studies are scarce. Therefore, this study is expecting to contribute to the flora of Gaziantep province, the south-east Anatolia of Turkey.

The Euro-Siberian elements from this research area can be explained by the migration of these species from the north to the south in the Glacial period. The migration pathway of taxa is the range and valley system which begins from Gumushane province and reclines to the East Toros and Amanos mountains. This system named the Anatolian Diagonal consists of a mountain which sets apart with the East Anatolia and the Central Anatolia. This range reaches ahead of the East Toros Mountains in South and then it bifurcates into the Amanos and the Toros Mountains.

No regular floristic study was conducted for our research area except the phytosociological study of Amanos [5]. Recently, the floristic and vegetation studies have been carried out in the South-East Anatolia, for example, "The Flora of the Berit Mountain" [6], "The Contributions to the Flora Of Karacadag" [7], "The Vegetation of the Engizek Mountain" [8], "The Vegetation flora of the high mountain step of Ahri Berit, Binboga and the Oksuz Mountains" [9], "The Flora Of the Koruyaz Mountain" [10], "The Flora Of the Başkonuş Mountain" [11], "The Flora of The North Ceyhan Valley" [12], "The flora of the Dörtöyl and the Erzin (Hatay)" [13], "The vegetation of the Nemrut Mountain (Adıyaman)" [14], "The Flora of the Ceylanpınar" [15, 16], The Morphological Investigation on the Natural Species of the Poaceae family in Malatya" [17].

The present study was designed to identify to the flora of Gaziantep province, the south-east Anatolia of Turkey.

MATERIAL AND METHODS

The collected plant samples were dried in the press according to the standards of the herbarium method. The botanical identification in the present study was recognized on the basis of the book with title "the Flora of Turkey and the East Aegean Islands, Vol. 1-9 (1965-2000)". In the identification of plant samples, trino-cular stereomicroscop (Ivymen ZO2) was used. Identified plant samples were stored as herbarium materials in the Herbarium of Biology Department, Science and Arts Faculty, Gaziantep University.

The specimens were photographed by Fuji Fine Pix 600 and Olympus C7070 Wide Zoom digital cameras during the study area. The threatened categories were proposed for endemism according to the IUCN categories and "Red Data Book of the Turkish Plants" was used for this aim [18].

RESULTS

During the floristic study of Huzurlu Plateau, 715 taxa were detected. Among those, 29 and 91 were found to be rare taxa and endemic, respectively, for Turkey (Figure 2). Of the collected taxa, 101 were new records for Gaziantep province and 32 were new records for C& grid square (Figure 5).

The Fabaceae family was found with the highest number of species (19). The genera with the highest number of species were Lamiaceae (10), Asteraceae (7) and Liliaceae (7), respectively (Figure 7).

The genera with the highest number of taxa were Astragalus (11), Salvia (4) and Verbascum (4) (Figure6).

All endemics and rare taxa in the study area were evaluated based on the IUCN risk categories [18].

The distribution of the treat categories of 120 endemics and rare taxa is as follows: 2 taxa CR (*Centaurea haussknechtii* Boiss and *Satureja amani* P. H. Davis) 10 taxa EN (*Ferula amanicola* Hub.-Mor. et Peşmen, *Cirsium cassium* Davis et Paris, *Onopordum bracteatum* Boiss et Heldr var. *arachnoideum* S. Erik ET H. Sümbül., *Arenaria scariosa* Boiss., *Cephalaria amana* Rech, *Teucrium paederotoides* Boiss. Et Hausskn, *Allium karamanoglui* Koyuncu et Kollmann, *Asparagus cooidei* P.H. Davis, *Kitaibelia balansae* Boiss., *Poa speluncarum* Edmondson), 6 taxa DD (*Astragalus cephalotes* Banks et Sol var. *brevicalyx* Eig, *Colutea istria* Miller. Gard, *Stachys petrokosmos* Rech. Fil., *Rosa sicula* Tratt, *Scrophularia hyssopifolia* Boiss et Hausskn, *Scrophularia scopolii* [Hoppe ex] Pers var. *nusairiensis* (Post) Lall), 35 taxa VU and 67 taxa LR. As regards richness of plant and the presence of threatened species, it is necessary to protect richness of plants for this area by improving protection strategies at least time for this purpose, we suggest Huzurlu Plateau to be accepted as a natural sit area or National Park instead of a tourism area (Figure 3).

The distribution of a taxa according to a phytogeographic region is as follows: Mediterranean (56), IRano-Turanian (30), Euro-Siberian (6) (Figure 4).

DISCUSSION

The present paper is the first study of identifying the flora of the Huzurlu Plateau in Gaziantep province located in the south-east Anatolia region of Turkey.

Totally, 120 endemics found in Amanos Mountains were recorded in this research area studied, meaning that the area is an important plant area. The presence of Euro-Siberian region elements among the collected plants can be explained by the fact that the research area lies on the pathway of transport and shelter for plants of the Glacial Period.

Appendix

Plants

Family: Acanthaceae

1. *Acanthus dioscoridis* L. var. *perringii* (Siehe) E. Hossain*

C6, Gaziantep, Islahiye, Huzurlu plateau, Plateau Center, 1400-1500 m, 18.05.2006, Zeynalov 1600

**Endemic IUCN
or Rare Categories**

Endemic **VU**

Family: Aceraceae

2. *Acer pseudoplatanus* L.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Bileydik valley margins, 1300-1400 m. 28.05.2006, Zeynalov 1661

Rare **VU**

Family: Amaryllidaceae

3. *Leucojum aestivum* L.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Bileydik Valley, Havşu hill foots, 1300-1400 m, 13.05.2003, Zeynalov 1066

Rare **VU**

Family: Apiaceae

4. *Ferula amanicola* Hub.-Mor. Et Peşmen,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar bald south foot, open place, 1450-1500m, 1450-1500m, Zeynalov 1417 Endemic **EN**
5. *Scaligera capillifolia* Post.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center 1400-1500 m, 13.05.2005, Zeynalov 1481 Endemic **LR (nt)**

Family: Araceae

6. *Arum dioscoridis* Sm. var. *luschanii* R. Mill,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau road, margins, between rocks, 1500-1550 m, 20.04.2004, Zeynalov 1349 Endemic **LR (cd)**

Family: Asteraceae

7. *Achillea nobilis* subsp. *kurdica* Hub. Mor.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, 1500-1600 m, 23.09.2006, Zeynalov 1698 Endemic **LR (cd)**
8. *Achillea nobilis* subsp. *sipylea* (O. Schwol) Bössler*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, 1500-1600 m, 23.09.2006, Zeynalov 1699 Endemic **LR (nt)**
9. *Anthemis pauciloba* Boiss. var. *pauciloba* Boiss.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız valley road sides, 1350-1400m, 17.05.2003, Zeynalov 1072 Endemic **LR (lc)**
10. *Anthemis tricornis* Eig.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, 1400-1450 m, 17.05.2003, Zeynalov 1074 Endemic **LR (nt)**
11. *Anthemis wiedemanniana* Fish. et Mey.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place, 1450-1550 m, 13.05.2005, Zeynalov 1426 Endemic **LR (lc)**
12. *Centaurea haussknechtii* Boiss,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 11.06.2005, Zeynalov 1505 Endemic **CR**
13. *Centaurea lycopifolia* Boiss et Kotschy,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Road Side, Endemic **LR (nt)**

800-900 m, 27.05.2006, Zeynalov 1614

14. *Centaurea sclerolepis* Boiss,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Forest Side Open place, 1400-1500, 17.05.2003, Zeynalov 1080 Endemic **VU**
15. *Cirsium cassium* Davis et Paris*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca foots, Forest opens, 1500-1600 m, 27.05.2006, Zeynalov 1617 Endemic **EN**
16. *Cirsium leucopsis* DC.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring place, 1500-1600 m, 23.09.2006, Zeynalov 1702 Endemic **LR**
17. *Leucocyclus formosus* Boiss subsp. *amanicus* (Rech. Fil) Hub.-Mor. Et Grierson*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Road Side, 1400-1500 m, 12.06.2005, Zeynalov 1530 Endemic **LR (nt)**
18. *Onopordum bracteatum* Boiss et Heldr var. *arachnoideum* S. Erik ET H. Sümbül.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Havşu Hill Foots, 1400-1500 m, 28.05.2006, Zeynalov 1680 Endemic **EN**
19. *Tanacetum coccineum* (Willd.) Grierson subsp. *chamaemelifolium* (Somm. Et Lev.) Grierson*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foots, Open rocky place, 1600-1700 m, 12.06.2005, Zeynalov 1545 Rare **VU**

Family: Betulaceae

20. *Alnus glutinosa* (L.) Gaertner subsp. *antitaurica* Yalt.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız place, Valley Side, 1300-1350m, 16.09.2003, Zeynalov 1326 Endemic **LR (nt)**

Family: Boraginaceae

21. *Nonea stenosolen* Boiss et Bal*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foots, Forest Below, rocky place, 1500-1600 m, 27.05.2006, Zeynalov 1635 Endemic **LR (lc)**
22. *Onosma bracteosum* Hausskn et Bornm*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foots, Open placelar, 1500-1600 m, 27.05.2006, Zeynalov 1637 Endemic **LR (lc)**
23. *Onosma inexpectatum* Teppner.* Endemic **LR (nt)**

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Road Side
Open place, 900-1000 m, 27.05.2006, Zeynalov 1638

Family: Brassicaceae

24. *Alyssum murale* Woldst et Kit var. *haradjiani* (Rech.) Dudley*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place, Three Hill place, rocky place, 1450-1550 m, 30.04.2006, Zeynalov 1559 Rare **VU**
25. *Alyssum peltarioides* Boiss. subsp. *virgatiforme* (Nyar) Budley*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill -Hafşu place, Open placeda, 1450-1550 m, 22.06.2003, Zeynalov 1204 Endemic **LR (lc)**
26. *Conringia grandiflora* Boiss. et Heldr.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, field Side, 1400-1500 m, 30.04.2006, Zeynalov 1572 Endemic **LR (cd)**
27. *Isatis tinctoria* L. subsp. *tinctoria* L.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Road Side, Open place, 800-900 m, 13.05.2005, Zeynalov 1459 Endemic **LR (lc)**
28. *Isatis candolleana* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız valley road sides, slope (Open place), 1350-1400m, 07.06.2003, Zeynalov 1164 Rare **VU**
29. *Thlaspi cilicicum* (Boiss.) Hayek.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Hanife Hill, South slope, 1550-1600m, 12.07.2003, Zeynalov 1300 Endemic **LR (cd)**

Family: Campanulaceae

30. *Campanula axillaris* Boiss et. Bah.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, field Side, 1400-1500 m, 17.05.2003, Zeynalov 1079 Endemic **LR (lc)**

Family: Caprifoliaceae

31. *Lonicera caucasica* Pallas subsp. *orientalis* (Lam.) Chamb. et Long*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık-Kansız valley place, Slope-Open placeda, 1350-1400 m, 07.06.2003, Zeynalov 1168 Endemic **LR (lc)**

Family: Caryophyllaceae

32. *Arenaria acerosa* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare, Open place, 1900-2000 m, 27.05.2006, Zeynalov 1606 Endemic **LR (lc)**
33. *Arenaria scariosa* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare, Open place, 1900-2000 m, 27.05.2006, Zeynalov 1607 Endemic **EN**
34. *Cerastium kotschyi* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Road Side, 1400-1500 m, 30.04.2006, Zeynalov 1570 Rare **VU**
35. *Dianthus polycladus* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, Forest inside, 1450-1500m, 27.09.2003, Zeynalov 1332 Rare **VU**
36. *Minuartia dianthifolia* (Boiss.) Hand.-Mazz. subsp. *cataonica* Mcneill*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foothills, Forest Below, 1500-1600 m, 12.06.2005, Zeynalov 1533 Endemic **LR (nt)**

Family: Convolvulaceae

37. *Convolvulus galaticus* Rostan ex Choisy,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, field Side, 1400-1500 m, 13.05.2005, Zeynalov 1439 Endemic **LR (lc)**

Family: Crassulaceae

38. *Rosularia globulariifolia* (Fenzl) Berger*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Hanifemezarı Hill, rocky place, 1600-1700 m, 12.06.2005, Zeynalov 1538 Endemic **LR (lc)**

Family: Dipsacaceae

39. *Cephalaria amana* Rech*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring place, Hilllik place, Open place, 1500-1600 m, 18.05.2003, Zeynalov 1135 Endemic **EN**

Family: Euphorbiaceae

40. *Euphorbia anacampseros* Boiss. var. *tmolea* M. S. Khan* Endemic **VU**

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place,
Open place, 1600-1700 m, 13.05.2005, Zeynalov 1447

Family: Fabaceae

41. *Astragalus aintabicus* Boiss.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız place, Slope- Open place, 1400-1450 m, 07.06.2003, Zeynalov 1142 Endemic **LR (cd)**
42. *Astragalus barbeyanus* Post,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare Hill, South slopes, 1750-1800 m, 07.06.2003, Zeynalov 1143 Rare **VU**
43. *Astragalus campylosema* Boiss. subsp. *campylosema* Boiss*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız place, Road Side, 1350-1400m, 07.06.2003, Zeynalov 1144 Endemic **LR (lc)**
44. *Astragalus cephalotes* Banks et Sol var. *brevicalyx* Eig.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 17.05.2003, Zeynalov 1075 Endemic **DD**
45. *Astragalus commagenicus* (Hand.-Mazz.) Sırj.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare Hill, South slope, 1750-1800 m, 07.06.2003, Zeynalov 1145 Endemic **LR (lc)**
46. *Astragalus densifolius* Lamb.
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız place, Slope- Open place, 1400-1450m, 25.10.2002, Zeynalov 1059 Rare **VU**
47. *Astragalus melanocephalos* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız valley road sides, Open place, 1350-1400m, 22.06.2003, Zeynalov 1206 Rare **VU**
48. *Astragalus pennatus* Bunge subsp. *pennatus* Bunge*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Forest Side, 1400-1500 m, 12.06.2005, Zeynalov 1514 Endemic **LR (nt)**
49. *Astragalus plumosus* Willd. var. *plumosus* Willd.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare Hill, South slope, 1750-1800 m, 07.06.2003, Zeynalov 1146 Rare **VU**
50. *Astragalus schizopterus* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring Rare **VU**

place, Havşu Hill foots 1500-1600 m, 28.05.2006, Zeynalov 1664

51. *Astragalus setulosus* Boiss et Bal.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 27.05.2006, Zeynalov 1609 Rare VU

52. *Colutea istria* Miller. Gard*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık valley place, Forest inside, 1300-1400 m, 30.04.2006, Zeynalov 1571 Rare DD

53. *Genista lydia* Boiss var. *antiochia* (Boiss) P. Gibss*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, Open place, 1450-1550, 17.05.2003, Zeynalov 1093 Rare VU

54. *Lathyrus laxiflorus* (Desf.) O. Kuntze. subsp. *angustifolius* (Post et Dinsm.) Davis.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız valley road sides, Road Side, Slope-Ormam inside, 1400-1500m, 17.05.2003, Zeynalov 1102 Rare VU

55. *Lathyrus libanii* Fritsch.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık-Kansız place, Forest inside, 1350-1400m., 17.05.2003, Zeynalov 1103 Endemic VU

56. *Trifolium davisii* Hossain.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız place, Forest inside, 1350-1400m., 17.05.2003, Zeynalov 1130 Endemic VU

Family: Fagaceae

57. *Quercus macranthera* Fisch. et Mey. ex Hohen. subsp. *sypsiensis* (C. Koch) Menitsky*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Hanifemazarı Hill, çıkış roadna bakan slopelar, 1450-1550 m, 12.07.2003, Zeynalov 1295 Endemic LR (lc)

58. *Quercus petraea* (Mattuschka) Liebl. subsp. *pinnatiloba* (C. Koch) Menitsky*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar-Burunsuz place, Slope, 1800-1850 m, 12.07.2003, Zeynalov 1296 Endemic LR (lc)

Family: Guttiferae

59. *Hypericum aviculariifolium* Jaub. Et Spach subsp. *uniflorum* (Boiss. Et Heldr) Robson*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Biledik valley, Havşu Endemic LR (cd)

Hill foots, Forest Side, Open place, 1300-1400 m, 28.05.2006,
Zeynalov 1674

60. *Hypericum polyphyllum* Boiss. Bal. subsp. *lycium* Robson et Hub.-Mor.*
Endemic LR (cd)
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foots, Forest
Below, rocky place, 1550-1650 m, 27.05.2006, Zeynalov 1627

Family: Iridaceae

61. *Gladiolus antekiensis* A.P Hamilton*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız place, Slope, Rare VU
1350-1400m, 07.06.2003, Zeynalov 1163

Family: Lamiaceae

62. *Lamium eriocephalum* Benthams subsp. *eriocephalum* Benthams*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, Endemic LR (cd)
Open place, 1450-1550 m, 12.06.2005, Zeynalov 1529
63. *Lamium garganicum* L. subsp. *nepetifolium* (Boiss) R. Mill.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Forest inside, 1400- Endemic LR (lc)
1500m., 22.06.2002, Zeynalov 1016
64. *Marribium globosum* Montbret et Aucher ex. Benthams. subsp.
globosum Montbret et Aucher ex. Benthams.*
Endemic LR (lc)
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Road
Side, 1500-1550m, 13. 09.2001, Zeynalov 1007
65. *Nepeta caesarea* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Field Endemic LR (nt)
Side, 1400-1500 m, 13.05.2005, Zeynalov 1469
66. *Origanum amanum* Post.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, Endemic LR (cd)
1450-1550 m, 17.05.2003, Zeynalov 1114
67. *Phlomis armeniaca* Willd.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Forest inside, 1400- Endemic LR (lc)
1500m., 22.06.2002, Zeynalov 1017
68. *Phlomis longifolia* Boiss. et Bl. var. *bailanica* (Vierh.) Hub.-
Mor.*
Endemic LR (cd)
C6, Gaziantep, Islahiye, Huzurlu Plateau, Tandır Village, Road
Side, 600-650 m, 17.05.2003, Zeynalov 1118

69. *Salvia aramiensis* Rech. Fil.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare foots, Rare **VU**
Slope-Open place, 1500-1550m, 23.06.2003, Zeynalov 1250
70. *Salvia aucheri* Benth. var. *aucheri* Benth.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, Endemic **VU**
Forest inside, 1400-1500m, 22.06.2002, Zeynalov 1018
71. *Salvia euphratica* Montbret et Aucher ex. Benth. var. *euphratica* Montbret et Aucher ex. Benth.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Road Side, Endemic **LR (cd)**
1450-1500m, 07.06.2003, Zeynalov 1180
72. *Salvia pilifera* Montbret et Aucher ex Benth.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Forest inside, 1400- Endemic **LR (lc)**
1500m., 22.06.2002, Zeynalov 1019
73. *Satureja amani* P. H. Davis*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place, Endemic **CR**
rocky place, 1450-1550 m, 12.06.2005, Zeynalov 1540
74. *Scutellaria salviifolia* Benth.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare South Endemic **LR (lc)**
yamacı, 1500-1550m, 07.06.2003, Zeynalov 1182
75. *Stachys cretica* L. subsp. *mersianea* (Boiss.) Rech. Fil.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık place, Road Endemic **LR (lc)**
Side, 1400-1500m, 22. 06.2002, Zeynalov 1022
76. *Stachys petrokosmos* Rech. Fil.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring Endemic **DD**
place, 1500-1600 m, 12.06.2005, Zeynalov 1544
77. *Teucrium paederotoides* Boiss. Et Haussk.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foots, Forest Endemic **EN**
Side Rocky place, 1600-1700 m, 12.06.2005, Zeynalov 1546

Family: Liliaceae

78. *Allium karamanoglu* Koyuncu et Kollmann*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Tandır Village- Endemic **EN**
Plateau arası, Road Side, 1600-1650m, 20.04.2004, Zeynalov
1346
79. *Asparagus cooidei* P.H. Davis*
Endemic **EN**

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, Havşu Hill, Slope, 1500-1550m, 07.06.2003, Zeynalov 1141

80. *Bellevalia modesta* Wendelbo*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Forest Side, 1400-1500 m, 13.05.2005, Zeynalov 1431 Endemic **LR (cd)**

81. *Fritillaria alfredae* Post subsp. *glaucoviridis* (Turrill) Rix*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring Place, Open place, 1500-1600 mi 13.05.2005, Zeynalov 1449 Endemic **VU**

82. *Fritillaria hermonis* Fenzl. subsp. *amana* Rix*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız valley road sides, Road Side-slope, 1350-1400m, 17.05.2003, Zeynalov 1090 Rare **VU**

83. *Hyacinthus orientalis* L. subsp. *chionophilus* Wendelbo,

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place, rocky place, 1450-1550 m, 05.03.2005, Zeynalov 1407 Endemic **LR (nt)**

84. *Muscari aucheri* (Boiss.) Baker*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Hamo Hill, Forest road, 1500-1600 m, 13.05.2005, Zeynalov 1468 Endemic **LR (lc)**

85. *Tulipa armena* Boiss var. *lycica* (Baker) Marais*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 13.05.2005, Zeynalov 1494 Endemic **LR (lc)**

Family: Malvaceae

86. *Alcea apterocarpa* (Fenzl) Boiss,

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Slope-Open place, 1650-1700m, 12.07.2003, Zeynalov 1266 Endemic **LR (lc)**

87. *Kitaibelia bplacesae* Boiss.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Hamo Hill Road Side-slope, 1600-1650m, 13. 09.2002, Zeynalov 1056 Rare **EN**

Family: Oleaceae

88. *Fraxinus ornus* L. subsp. *cilicica* (Lingelsh.) Yalt.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık-Kansız valley place, Yaprak dökken Forestda, 1450-1500 m, 07.06.2003, Zeynalov 1162 Endemic **LR (lc)**

Family: Orchidaceae

89. *Cephalacethera kotschyana* Renz et Taub.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare South
foots, Konifer Forest Below, 1600-1650m, 23.06.2003,
Zeynalov 1244 Endemic **LR (lc)**
90. *Dactylorhiza osmanica* (KL.) Soo var. *osmanica* (KL.) Soo*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place,
rocky place, 1450-1550 m, 28.05.2006, Zeynalov 1669 Endemic **LR (lc)**

Family: Papaveraceae

91. *Corydalis oppositifolia* DC. subsp. *oppositifolia**
C6, Gaziantep, Islahiye, Huzurlu Plateau, Hamo Hill, Forest
Side, 1650-1750 m, 30.04.2006, Zeynalov 1574 Endemic **LR (lc)**
92. *Corydalis rutifolia* (Sibth. Et SM.) DC. subsp. *kurdica* Cullen et
Davis*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place,
Open rocky place, 1450-1550 m, 30.04.2006, Zeynalov 1575 Endemic **LR (lc)**

Family: Plumbaginaceae

93. *Acantholimon libanoticum* Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Yağlıpınar Bare,
Tragakantik step, 1950-2000 m, 27.09.2002, Zeynalov 1057 Rare **VU**
94. *Acantholimon venustum* Boiss. var. *assyriacum* (Boiss.) Boiss.*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring
place, Havşu Hill foots, Open place, 1500-1600 m, 23.09.2006,
Zeynalov 1697 Endemic **LR (nt)**

Family: Poaceae

95. *Crithopsis delieana* (Schultes) Rashev,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center,, Road
Side, 22.06.2003, Zeynalov 1212 Rare **VU**
96. *Poa speluncarum* Edmondson*
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Forest
Side Open place, 1400-1500 m, 14.06.2004, Zeynalov 1390 Endemic **EN**
97. *Triticum dicoccoides* (Koern.) Koern. in Litt. ex Schweinf.,
C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, field
Side, 1400-1500 m, 22.06.2003, Zeynalov 1239 Rare **VU**

Family: Primulaceae

98. *Cyclamen hederifolium* Aiton*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran Spring place, Havşu Hill foots, Forest Side, 1500-1600 m, 20.04.2004, Zeynalov 1352 Rare **VU**

Family: Ranunculaceae**99. *Delphinium fissum* Waldst et Kit. subsp. *anatolicum* Chowdhuri et Davis***

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 30.06.2002, Zeynalov 1028 Endemic **LR (lc)**

100. *Helleborus vesicarius* Aucher.,

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Road Side, Forest inside, 100-1100m., 30.06.2002, Zeynalov 1035 Endemic **LR (nt)**

Family: Rhamnaceae**101. *Rhamnus petiolaris* Boiss.,**

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız valley-Bileydik valley Keşiftiği Place, South slopelar, 1300-11350 m, 07.06.2003, Zeynalov 1177 Endemic **LR (lc)**

Family: Rosaceae**102. *Cerasus mahaleb* (L.) Miller var. *alpina* Browicz.***

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık-Kansız valley place, Valley Side, 1350-1400 m, 07.06.2003, Zeynalov 1714 Endemic **VU**

103. *Potentilla buccoana* Clem.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, 3 Hill place, rocky place, 1600-1650m, 22.06.2003, Zeynalov 1226 Endemic **VU**

104. *Potentilla calycina* Boiss et Bal.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 27.05.2006, Zeynalov 1646 Endemic **LR (lc)**

105. *Prunus cocomilia* T.en var. *cocomilia* Ten*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kansız Valley, Valley Side, Open place, 1300-1350 m, 23.06.2003, Zeynalov 1246 Rare **VU**

106. *Rosa sicula* Tratt*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Hanife Hill-South slope, Rocky, 1550-1600 m, 24.06.2003, Zeynalov 1260 Rare **DD**

Family: Rutaceae**107. *Haplophyllum myrtifolium* Boiss.***

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 27.05.2006, Zeynalov 1624 Endemic **LR (lc)**

Family: Scrophulariaceae**108. *Linaria genistifolia* (L.) Miller subsp. *praealta* (Boiss) Davis,**

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Road Side, 1400-1500 m, 13.05.2005, Zeynalov 1465 Endemic **LR (nt)**

109. *Scrophularia hyssopifolia* Boiss et Hausskn*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place, rocky place, 1450- 1550 m, 30.06.2002, Zeynalov 1048 Endemic **DD**

110. *Scrophularia scopolii* [Hoppe ex] Pers var. *nusairiensis* (Post) Lall.,

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kalaycıbatıran spring place, Back Hill Forest Side, rocky place, 1550-1650 m, 28.05.2006, Zeynalov 1690 Rare **DD**

111. *Verbascum freynii* (Sint) Mark.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Open place, 1400-1500 m, 17.09.2001, Zeynalov 1012 Endemic **VU**

112. *Verbascum gaillardotii* Boiss.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill Place, Open rocky place, 1450-1550 m, 13.05.2005, Zeynalov 1498 Rare **VU**

113. *Verbascum prusianum* Boiss*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center Open place, 1550-1650 m, 13.05.2005, Zeynalov 1499 Endemic **LR (cd)**

114. *Verbascum songaricum* Schrenk ex Fisch. et Mey subsp. *subdecurrens* Hub- Mor.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Three Hill place, slope field inside-Open place, 1550-1600 m, 20.04.2004, Zeynalov 1366 Endemic **LR (lc)**

115. *Veronica bplacesae* Stroh.*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kabaklık-Kansız place, Road Side, 1350-1400m, 17.05.2003, Zeynalov 1133 Endemic **LR (lc)**

116. *Veronica dichrus* Schoott et Kotschy*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Plateau Center, Field Endemic **LR (nt)**

Side, 1450-1500m, 30.06.2002, Zeynalov 1054

117. *Veronica polifolia* Benth*

C6, Gaziantep, Islahiye, Huzurlu Plateau, Kokarca Foothills, Forest Side, Open rocky place, 1550-1650 m, 13.05.2005, Zeynalov 1501 Rare VU

Concerning the distribution of taxa, Fabaceae is the largest family; following by Fabaceae, Lamiaceae, Asteraceae, Scrophulariaceae and Liliaceae, respectively. Even though, with the number of the taxa, the largest family in the investigated area was determined to be the Fabaceae, it recedes to fourth according to the variety of genera. Lamiaceae is represented in the research area.

On the other hand, 101 of 120 plants are new records for Gaziantep province. Because of lack of knowledge about the investigated area, it is very necessary to be conducted scientific studies on the determined area. According to the ICUN categories, *Ferula amanicola* Hub.-Mor and *Kitaibelia balansae* Boiss which are EN, were introduced and protected in the Botanic Garden of Gaziantep University.

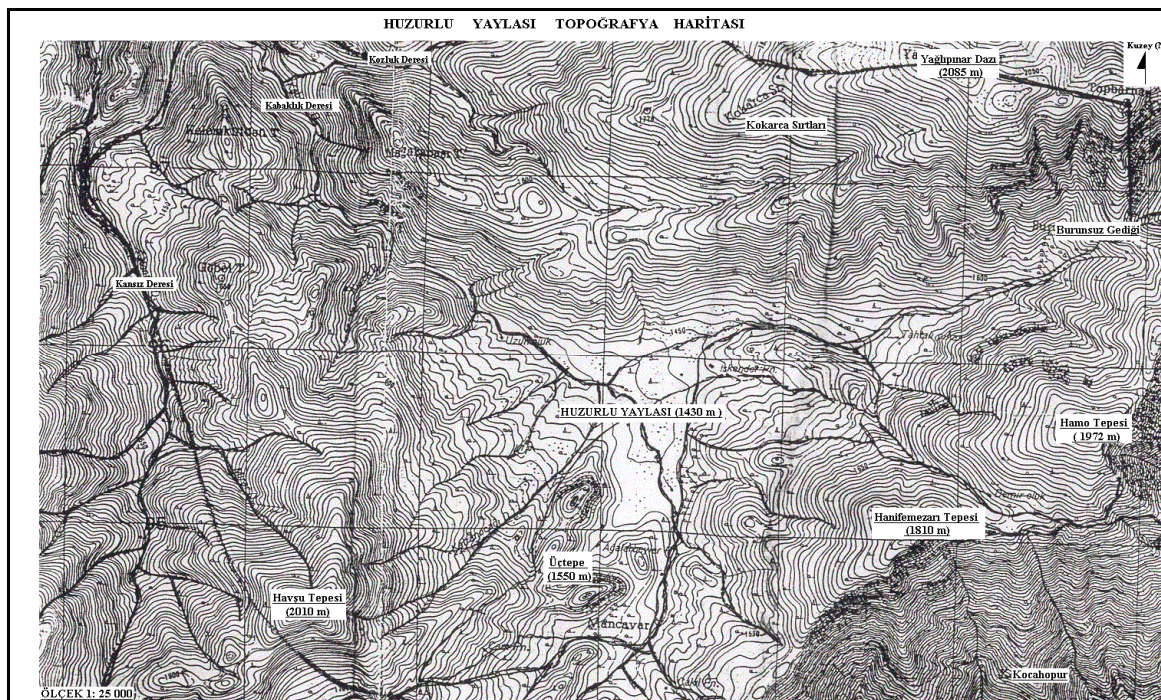


Figure 1: The Topographic Map for the Research Area

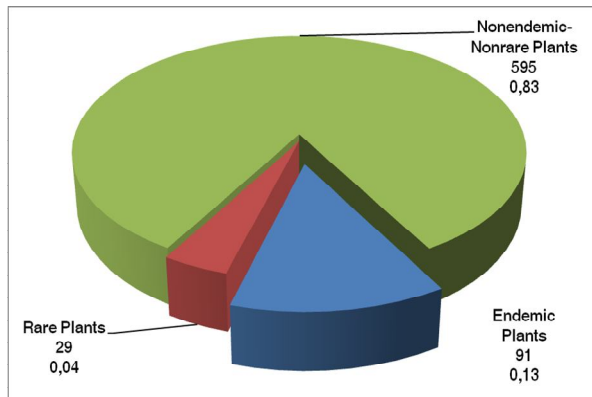


Figure 2: The percentage distribution of endemics and rare plants

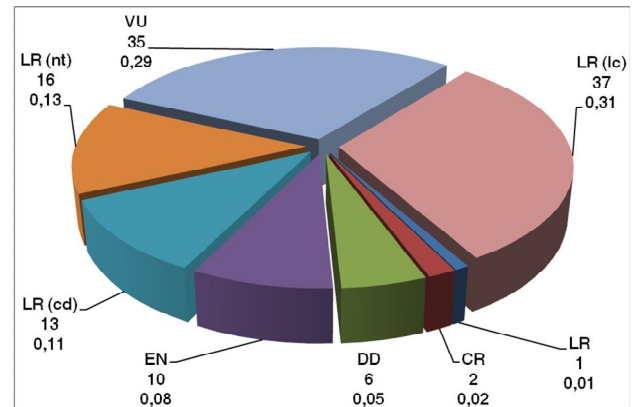


Figure 3: The Distirbution of endemics and rare plants according to IUCN categoris (Ekim, 2000)

Huzurlu Plateau has the rich plantation especially the rich endemics, for this reason it is necessary to protect its richness of the vegetation by its transforming to a National Park. When the authors [2, 19, 20] taken into consideration, knowledge of plants identified earlier has been listed together with those identified in the present study.

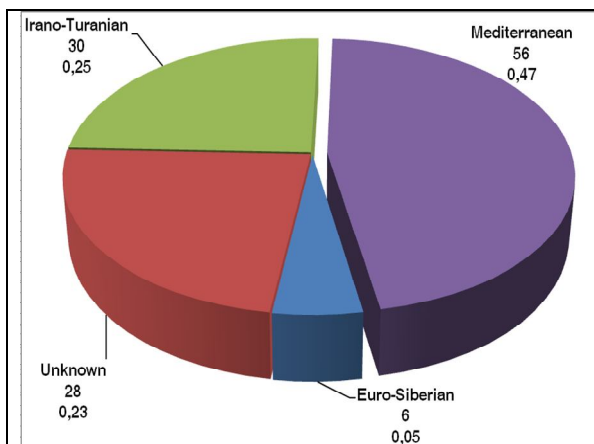


Figure 4: The distirbution of collected plants accordint to phytogeographic regions

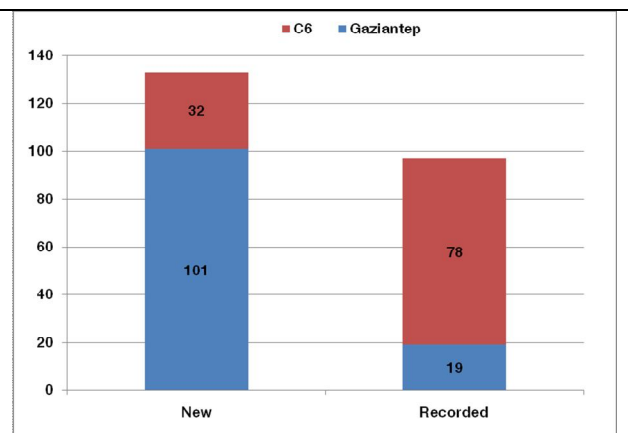


Figure 5: New Records

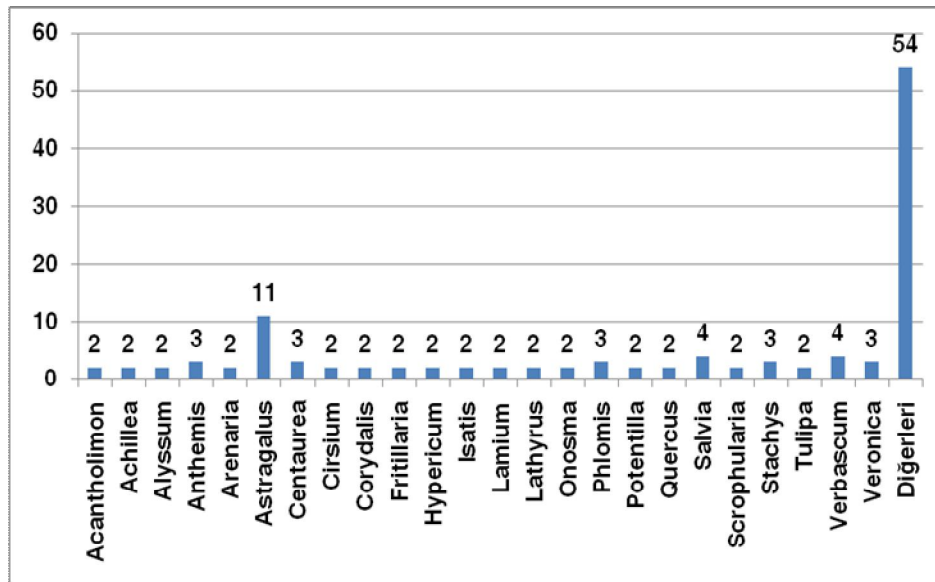


Figure 6: The distribution of Taxa according to genera

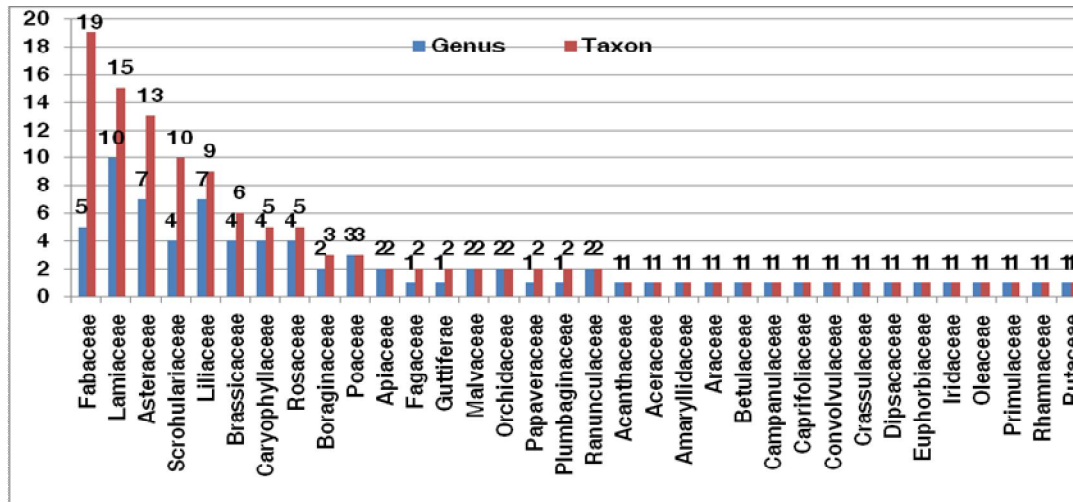


Figure 7: The number of taxa and genera belong to family

CONCLUSION

It could be suggested that the present study have contributed to Turkey and especially World flora.

ACKNOWLEDGEMENT

The author is very grateful to Fatih YAYLA and Mustafa PEHLIVAN for their valuable contribution.

REFERENCES

- Atalay, I. 1983. Introduction to Vegetation Geography of the Turkey, Ege University Faculty of Literature, No: 19, Ticaret Printing T.A.Ş., Izmir, Turkey.

2. Davis, P. H. 1965-1982. *Flora of Turkey and The East Aegean Islands*, Vol.1-11 Edinburgh Univ. Pres. Edinburgh.
3. Erik, S. and B. Tarıkahya, 2004. On Flora of the Turkey, *Kepikec*, 17: 139-163.
4. Eken, G., Aydemir, B. Kurt, G. Yalçın, E. Başak, and E.O. Can 2000. Biological Diversity of the Turkey, *Yeşil Atlas*, Number 3. Turkey.
5. Akman, Y., Düzenli A. and Güney K. (2005) *Biogeography*, Palme Publishing, Ankara.
6. Yıldız, B., 2001. Floristical Characteristics of Berit Mountain (Kahramanmaraş), *Turkish Journal of Botany*, **25** (2001):.63 –102.
7. Kaynak, G. 1989. Contribution to the Flora of Karacadağ (Urfa and Diyarbakır provinces), *Doğa Turk J. Botany*, 13(3): 375-397.
8. Duman, H. 1990. Engizek Mountain (Kahramanmaraş) Vegetation, Gazi University., PhD thesis, Ankara.
9. Duman, H. and Z. Aytaç, 1994. Flora and Vegetation of Ahir, Berit, Binboğa and Öksüz (Kahramanmaraş-Kayseri) Alp Step, TÜBİTAK project, TBAG-940, Ankara, Turkey.
10. Ekici, M. 1994. The flora of Koruyaz Mountain (Göksun-Kahramanmaraş), Gazi University, Msc. thesis, Ankara.
11. Varol, Ö. and A. Tatlı 2003. Floristical Characteristics of Çimen Mountain (Kahramanmaraş) , *Çev-Kor Journal.*, 12(46): 17-28.ü
12. Düzenli, A. and H. Çakan 2001. Flora of Mount Musa (Hatay-Turkey), *Turk. J. of Bot.*, 25: 285-309.
13. Türkmen, N. and A. Düzenli 1998. The Flora of Dört Yol and Erzin Districts of Hatay Province in Turkey, *Turk. J. of Bot.*, 22: 121-141.
14. Tel, A. Z. (2001). *Nemrut Mountain (Adıyaman) Vegetation*, Yüzüncü Yıl University, PhD thesis, Van, Turkey.
15. Nezaket, A. and Z. Aytaç 2001. Flora of Ceylanpınar State Farm (Şanlıurfa – Turkey), *Fl. Medit.* **11**: 333-361, ISSN 1120- 4052.
16. Zeynalov, Y. 2011a. Flowers of the Turkey II. Gaziantep Metropolitan Municipality. Gaziantep, Turkey
17. Arabacı, T. 2001. Morphological researches on *Poaceae Family Species* grown naturally in Malatya vicinity. Inonu University, Msc Thesis, Malatya, Turkey.
18. Ekim, T. 2000. Red Book of Turkey Plants (*Swordfern & Seedy Plants*). Ankara, Turkey.
19. Zeynalov, Y. (2011b). The Plants in the Family of *Orchidaceae L.* Determined to Be Growing in Gaziantep Flora, 42-46. Materials II International Conference on “Urgent Problems of Biochemical Theories”. November 25-27. Azerbaijan.
20. Zeynalov, Y. and H. Yelken 2008. Flowers of the Turkey I. Gaziantep Metropolitan Municipality. Gaziantep, Turkey.