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COMPARISON OF STUDIES CONDUCTED ON EPHEMERAL PLANTS DISTRIBUTED IN THE FERGANA VALLEY WITH PREVIOUS STUDIES

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Abstract:

In the article, the research conducted by M. Arifkhanova, U. Pratov, R. Shonazarov on annual plants and ephemeral plants distributed in the Fergana Valley is studied, analyzed and compared with the research conducted until now. Along with this, the article shows the geographical distribution of ephemeral plant species and their taxonomic changes from 1948 to the present 2022

Keywords: Fergana, Andijan, Namangan, Fergana Valley, Jalalabad, Kyrgyzstan, Sokh, Isfayram, ephemeroid, ephemeral, type, series.

INTRODUCTION.

Ephemeris is derived from the Greek word meaning "every day, one day". Ephemerals are annual herbaceous plants with a very short vegetative period.E.P. Karovin called plants growing in a very short spring period as ephemerals. M.G.Papov said that most ephemerals are autumn-winter spring vegetation plants.Until now, botanists have not known what kind of plants ephemeral and ephemeroid plants are, and by what features they differ from other plants, different opinions were given in finding answers to questions about the group of ephemerals, their place in the plant community, their origin, and their unique properties.In order to find answers to such questions, M.M. Arifkhanova and R. Shonazarov's research on ephemeris in the Fergana Valley is particularly noteworthy.

RESEARCH OBJECT AND METHODS

Herbarium specimens collected in field research and the National Herbarium of Uzbekistan (TASH) in comparing the researches conducted on ephemeral plants distributed in the Fergana Valley with the researches conducted so farand used specimens collected between 1913 and 2022, which are stored in the herbarium base of Moscow State University (MW).
In this work, information about the first edition of the ephemeral species of the family, Uzbek name, life form, altitude region and herbarium specimens collected from the valley (time and collector) is given. Species are named according to the International Plants Names Index (www.ipni.org), the World plants Catalog of Life (www.catalogueoflife.org). [5,6]

DISCUSSION AND RESULTS OBTAINED.

According to the information provided in the book "Rastitelnost Ferganskoy doliny" written by M.M. Arifkhonova based on the research conducted on the vegetation cover of the Fergana Valley in 1948-1965 a list of 496 plant samples of annual therophytes distributed in the territory of Ferghana Valley, Kyrgyzstan, Tajikistan and Uzbekistan, together with types of ephemeral plants. Therophytic and ephemeral species distributed in the region are shown below.

Maylisoi, Ozgan and Jalalabad hills of the Fergana mountain range- Bromus macrostachys, Bromus danthoniae, Phleum paniculatum, Alyssum desertorum, Taeniatherum crinitum, Ziziphora tenuior.

Aloy and the foothills of the Turkestan mountain range- Delphinium rugulosum, Roemeria hybrida, Astragalus commixtus, Astragalus filicaulis, Astragalus campylorrhinchus, Astragalus rytilobus,Hypecoum parviflorum, Bromus tectorum.

The hills of the Western Aloy mountain range, northern Turkestan, Kurama and Chotkal mountain ranges-Holosteum umbellatum, Erophila verna, Malcolmia africana, Diptichocarpus strictus, Lappula echinophora, Erodium cicutarium, Nonea picta, Trigonella geminiflora, Euclidium syriacum, Astragalus campylorrhinchus,Astragalus filicaulis, Astragalus tribuloides, Malcolmia turkestanica, Malcolmia africana, Malcolmia trichocarpa, Arenaria serpillifolia, Roemeria refracta, Papaver pavoninum, Bromus danthoniae, Bromus oxyodon, Bromus japonicus, Bromus tectorum, Ziziphora tenuior.

Within 3 km of the banks of the Syrdarya in the direction of Pop and Chust- Aristida adscensionis, Aphanopleura capillifolia, Arenaria serpillifolia, Astragalus filicaulis, Astragalus harpilobus, Astragalus rytilobus, Bromus japonicus, Bromus tectorum, Ceratocarpus utriculosus, Climacoptera lanata, Delphinium rugulosum, Diarthron vesiculosum, Eremopyrum buonapartis, Eremopoa oxyglumis, Girgensohnia oppositiflora, Halimocnem islasiantha,

Malcolmia africana, Malcolmia scorpioides, Malcolmia trichocarp, Salsola pauciflora, Ziziphora tenuior.

Between Kosonsoi and Namangan of the Chotkal mountain range- Aellenia iliensis, Amberboa bucharica, Astragalus filicaulis, Atriplex flabellum, Ceratocephalus arthoceras, Ceratocarpus utriculosus, Chenopodium album, Climacoptera lanata, Convolvulus arvensis, Cousinia bungeana, Delphinium rugulosum, Diarthron vesiculosum, Eremopyrum buonapartis, Euclidium syriacum, Girgensohnia oppositiflora, Gamanthus ferganensis, Halocharis hispida, Herniaria hispida, Koelpinia linearia, Malcolmia africana, Malcolmia trichocarpa, Lappula spinocarpa, Polygonum aviculare, Salsola sclerantha, Ziziphora tenuior.

The lower regions of Karatog Mountain are less than 2 km from Konibodom-Alyssum desertorum, Artemisia scoparia, Astragalus filicaulis, Eremopyrum buonapartis, Erodium oxyrrhynchum, Girgensohnia oppositiflora, Hypecoum parviflora, Holosteum umbellatum, Horaninovia ulicina, Koelpinia linearis, Malcolmia trichocarpa, Malcolmia turkestanica, Leptaleum filifolium, Papaver pavoninum, Roemeria refracta, Scabiosa olivieri, Schismus arabicus, Senecio subdentata, Taeniatherum crinitum, Vulpia myuros, Ziziphora tenuior.

The southern slopes of the Chotkal mountain range are 5-6 km east of Chorkesar village- Alyssum desertorum, Bromus japonicus, Bromus oxyodon, Bromus tectorum, Cousinia bungei, Diarthron vesiculosum, Koelpinia linearis, Lappula echinocarpa, Malcolmia trichocarpa, Malcolmia turkestanica, Papaver pavoninum, Polygonum polycnemoides, Taeniatherum crinitum, Trigonella grandiflora, Valerianella szovitziana, Ziziphora tenuior.

Between Karkidon and Gava villages of Chotkal mountain range- Aphanopleura capillifolia, Ceratocarpus utriculosus, Delphinium rugulosum.

Chotkal mountain range, 1 km north-west of Kirkidon village - Eremopyrum buonapartis, Filago arvensis, Heteropappus canescens.

3km north-west of Chimyon village of the Northern Aloy mountain range- Alyssum desertorum, Artemisia scoparia, Astragalus campylorhinchus, Bromus danthoniae, Bromus japonicus, Bromus oxyodon, Ceratocaipus utriculosus , D iarthron vesiculosum, Girgensohnia oppositiflora, Koelpinia linearis, Malcolmia trichocarpa, Poa bulbosa, Scabiosa olivieri, Taeniatherum crinitum, Trigonella geminiflora, Ziziphora tenuior.

Between the cities of Khojaabad and Andijan of the Aloy mountain range- Adonis parviflora, Astragalus tribuloides, Ceratocephalus falcatus, Chenopodium botrys , Heliotropium argusioides, Malcolmia africana, Veronica biloba.

Andijan hills in the village of Khojand- Erodium oxyrrhynchum, Alissum desertorum, Tetracme quadricornis, Astragalus commixtus, Garex pachystylis.

Aloy and the foothills of the Turkestan mountain range- Bromus oxyodon, Bromus japonicus, Gentiana olivieri.

The northern slopes of the Chotkal mountain range- Aegilops cylindrica, Bromus oxyodon, Bromus macrostachys.

3 km from the village of Kokonboy towards Kosonsoy and Namangan- Aellenia ilinensis, Climacoptera lanata, Girgensohnia oppostiflora, Salsola sclarea.

12 km south-west from the village of Bulak, Kyziltepa area- Salsola dendroides, Salsola ferganensis, Halymocnemis mollissima.

The foothills and the middle part of the southern slopes of the Chotkal ridge are 1.5 km in the vicinity of Maylisoy and Jiydasoy- Bromus oxyodon, Bromus tectorum, Boissiera bromoides, Eremopyrum orientalis, Malcolmia trichophora, Lappula microcarpa, Glaucium elegans, Papaver pavoninum, Vulpia myurus, Ziziphora tenuior.

The northern part of the Aloy mountain range is 2km northeast of Madi village- Aegilops crassa, Alyssum desertorum, Astragalus campylorrhinchus, Astragalus rytilobus, Bromus danthoniae, Bromus tectorum, Bromus oxyodon, Hypecoum parviflorum, Koelpinia linearis, Malcolmia africana, Malcolmia turkestanica, Meniocus linifolium, Papaver pavoninum, Roemeria refracta, Trigonella grandiflora, Ziziphora tenuior.

The southern slopes of the Fergana mountain range around the Maylisuv and Saribiya rivers are 1200 m above sea level- Alyssum desertorum, Astragalus campylorrhincchus, Astragalus campylotrichus, Boissiera bromoides, Bromus macrostachys, Bromus oxyodon, Bromus tectorum, Koelpinia linearis, Ziziphora tenuior, Turgenia latifolia, Onobrychis pulchella.

The hills of Karatoy and Kichiktaldik of the Aloy mountain range are above 1600 sea level- Aegilops cylindrica, Aegilops triuncialis, Alyssum desertorum, Bromus japonicus, Bromus macrostachys, Bromus oxyodon, Erodium cicutarium, Meniocus linifolius, Taeniatherum crinitum, Thlaspi arvense, Trigonella grandiflora, Trigonella minima, Valerianella turkestanica, Veronica campylopoda, Vulpia myuros, Ziziphora tenuior.

8-9 km west of the village of Oktatyr in the northern part of the Turkistan mountain range in the direction of Sukhumtog mountain- Alyssum desertorum, Ceratocarpus utriculosus, Girgensohnia oppositiflora, Tetracma equadricornis, Ziziphora tenuior.

The southern slope of the Western Turkestan mountain range between Aubek and Toguzbulok- Achillea micrantha, Alyssum desertorum, Camelina silvestris, Diarthron vesiculosum, Koelpinia linearis, Minuartia meyeri, Papaver pavoninum, Scandix pecten-veneris, Ziziphora tenuior.

Between the western Aloy mountain range and the eastern Turkestan range- Bromus oxyodon, Delphinium rugulosum, Diarthron vesiculosum, Eremopoa oxyglumis, Koelpinia linearis, Ziziphora tenuior.

Hills on the north-western and northern slopes of the Southern Fergana mountain range around

Chust and Chinor- Alyssum desertorum, Artemisia scoparia, Bromus danthoniae, Bromus tectorum, Callipeltis cucularia, Chenopodium botrys, Chenopodium album, Delphinium rugulosum, Erodium cicutarium, Filago arvensis, Lactuca undulata, Nonea picta, Ziziphora tenuior, Lappula microcarpa, Malva neglecta.

Chotkal mountain range. 4-5 km from the village of Chorkesar towards the north-eastern slope - Aegilops squarrosa, Aegilops triuncialis, Boissiera squarrosa, Bromus danthoniae, Bromus japonicus, Impatiens parviflora, Impatiens parviflora.

Chotkal mountain range. 3-4 km along Kaindi towards the north-eastern slope - Bromus danthoniae, Bromus japonicus, Impatiens parviflora, Papaver pavoninum, Veronica campyilopoda.

Between Sofigorgan and Gulchi of the Aloy mountain range- Alyssum campestres, Lappula microcarpa, Lepirodyclis holosteoides, Papaver pavoninum, Streptoloma desertorum, Thlaspi arvensis, Veronica biloba, Veronica campylopoda.

Aksuv area of Aloy mountain range- Alyssum desertorum, Astragalum tribuloides, Bromus japonicus, Bromus oxyodon, Diarthron vesiculosum, Koelpinia linearis, Lappula microcarpa, Papaver pavoninum, Ziziphora tenuior.

Oksuv and Shakhimardan surroundings of North Oloy mountain- Bromus oxyodon, Diartbron vesiculosum, Koelpinia linearis, Ziziphora tenuior.[1]

It was written based on the research carried out by R. Shonazarov in 1963-1967"Эфемеретум Западной части Алайского хребта" 471 genera and 1125 plant species belonging to 63 families in the western part of Shokhimardon, Sokh and Isfayram were listed in the thesis work, from which 700 plant species were collected by R.Shonazarov and herbarium specimens were prepared. 202 of them are ephemeral species and 143 are ephemeroid species. Below are some types of plants.

Leptaleum filifolium (Willd.) DC., Bromus tectorum L. Artemisia ferganensis Krasch. ex Poljakov Gagea olgae Regel Malcolmia africana (L.) R.Br. Koelpinia linearis Pall. Tulipa turkestanica Regel Meniocus linifolius (Steph. ex Willd.) DC. Artemisia diffusa Krasch. ex Poljakov Krasch. Centaurea squarrosa Willd. Rochelia disperma (L. f.) Koch (L. f.) Erophila verna (L.) Besser (L.) Nonea caspica (Willd.) G. Don Poa bulbosa L. Artemisia ferganensis Krasch. ex Poljakov Tetracme bucharica (Korsh.) O.E. Schulz Gagea tenera Pascher Gagea gageoides (Zucc.) Vved. Goldbachia laevigata (M. Bieb.) DC. Holosteum glutinosum (M. Bieb.) Fisch. & C.A. Mey. Artemisia scoparia Waldst. & Kitag. Gagea chomutowae (Pascher) Pascher Gagae circumplexa Vved. Alyssum szovitsianum Fisch. & C.A. Mey. Lallemantia royleana (Benth.) Benth. Ziziphora tenuior L. Koelpinia linearis Pall. Scutellaria comosa Juz. Erodium cicutarium (L.) L'Her. Trigonella grandiflora Bunge Girgensohnia diptera Bunge Poa bulbosa L. Roemeria refracta DC. Artemisia sogdiana Bunge Bromus oxyodon Schrenk Tetracme bucharica (Korsh.) O.E. Schulz Bromus tectorum L. Ranunculus linearilobus Bunge
Anemone petiolulosa Juz. Lepidium perfoliatum L. Galium tenuissimum M. Bieb. Astragalus dipelta Bunge Holosteum polygamum K. Koch Meniocus linifolius (Steph. ex Willd.) DC. (Steph. ex Willd.) DC. Papaver pavoninum C.A. Mey. Eremurus regelii Vved. Crambe kotschyana Boiss. Lagochilus paulsenii Briq. Convolvulus lineatus L. Каби бир қанча ўсимлик рўйхатлари келтирилган. [2]

U. Pratov in the book "Маревые Ферганской долины" mentioned annual and ephemeral plant species of Chenopodiacea family distributed in Fergana valley. Some of these ephemeral species are listed below. Astragalus commixtus Bunge, Astragalus rytilobus, Astragalus sp., Atriplex hastata L., Atriplex tatarica L., Bassia hyssopifolia (Pall.) Kuntze, Bromus tectorum L., Ceratocarpus utriculosus Bluket ex Krylov, Chenopodium glaucum L., Delphinium barbatum Bunge,
Delphinium rugulosum Boiss., Diarthron vesiculosum (Fisch. & C.A. Mey.) C.A. Mey., Eremopyrum orientale (L.) Jaub. & Spach, Eremopoa oxyglumis, Erodium oxyrrhynchum M. Bieb., Eremppyrum buonapartis, Girgensohnia oppositiflora (Pall.), Nonea caspica (Willd.) G. Don, Matricaria recutita, Malcolmia africana, Malcolmia trichocarpa, Malcolmia turkestanica, Petrosimonia sibirica (Pall.) Bunge, Phleum phleoides (L.) Karst., Papaver pavoninum C.A. Mey., Scabiosa micrantha Desf., Roemeria refracta DC., Salsola leptoclada Gand., Schismus arabicus Nees, Spirorrhynchus sabulosus Kar. & Kir. [4]

In the field research conducted by us in 2020-2022, 252 species of ephemeral plants distributed in the Fergana Valley were identified, and 1560 herbarium specimens of these species were identified. We will mention some of these types. Gagea chomutowae (Pascher) Pascher, Koelpina linearis Pall, Ziziphora tenuior L, Meniocus linifolius (stephex willd) D.C, Gagea khassanovii Levichev & F. Karim. Ined, Eroidium cicutarium (L) L.Her, Gagea olgae Regel, Tulipa ferganika Vved, Fumaria Vaillantii Loisel, Ranunculus sewerzowii Regel, Ranunculus regelianus Ovcz, Descurainia sophia (L.) Webb ex Prantl, Arabidopsis pumila (Stephan) N. Busch, Nonea caspica (Willd.) G. Don, Holosteum umbellatum L., Ixiolirion tataricum (Pall.) Schult. & Schult., Capsella bursa-pastoris (L.) Medik., Alyssum turkestanicum var. desertorum (Stapf)
Botsch., Poa bulbosa L., Strigosella africana (L.) Botsch., Ceratocephala testiculata (Crantz) Besser, Ranunculus arvensis L., Veronica hederifolia L., Stellaria media (L.) Vill., Strigosella africana (L.) Botsch., Arabidopsis pumila (Stephan) N. Busch, Hypecoum parviflorum Kar. & Kir., Arnebia decumbens (Vent.) Coss. & M. Král., Lamium amplexicaule L., Minuartia meyeri Bornm., Strigosella hispida (aff.), Lappula microcarpa (Ledeb.) Gürke, Veronica persica Poir., Arenaria rotundifolia M. Bieb., Geranium transversale (Kar. & Kir.) Vved., Erodium cicutarium (L.) L'Her., Nonea caspica (Willd.) G. Don, Adonis parviflora Fisch. ex DC., Astragalus alaicus Freyn, Fritillaria ferganensis Losinsk., Gentiana olivieri Griseb., Viola schachimardanica Khalk, Callipeltis cucularia (L.) DC., Anemone tschernaewii (Czern.) Regel, Primula kaufmanniana Regel, Ziziphora persica

Bunge, Chorispora tenella (Pall.) DC., Astragalus alaicus Freyn, Descurainia sophia (L.) Webb ex Prantl, Nigella integrifolia Regel, Viola suavis M. Bieb., Carex songorica Kar. & Kir., Iris linifoliiformis (Khalk.) Tojibaev & Turginov, Veronica anagalis aquatic, Scorzonera inconspicua Lipsch. ex Pavlov, Achillea arabica Kotschy. [3,5,6,7]

CONCLUSION.

In conclusion, it can be said that the increase in the number of human population increases the impact of anthropogenic factors.As a result, some of the species mentioned in the work of M. Arifkhanova and R. Shonazarov are currently being removed from the plant list due to the shrinking of natural territories.To preserve plant species, we can achieve results only if we can preserve natural areas and protect them from anthropogenic factors.

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