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Distribution of Colchicum speciosum Steven in Trabzon Province, Türkiye

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***ABSTRACT: Colchicum speciosum Steven** belongs to the Colchicaceae family and is native to the Eastern Black Sea Region of Anatolia. The genus Colchicum is used in the pharmaceutical industry due to the colchicine alkaloids contained in both its corms and seeds. This study was carried out to determine the distribution areas of **Colchicum speciosum**, an important medicinal aromatic plant, in Türkiye. To reach this purpose, field studies were carried out, collecting samples of the plant during suitable vegetation periods between 2015 and 2021 in Trabzon province. The present study was done using a full-field screening method. All field information about the taxon was recorded in the GIS database, and the distribution map of the taxon including Trabzon province was created. It was determined that **Colchicum speciosum** has a wide distribution in the study area, from 349 to 2560 m asl. In the study area, the specimens was determined at 192 different points and 12 different habitat types. These habitat types are mainly: pasture-meadow areas, both deciduous and conifer forest clearings, agricultural areas, hazelnut plantations, deciduous forests, coniferous forests dominated by Picea orientalis, roadsides, stony areas, scrubs, beech forests, seasonal stream edges, and swamp-reed areas. Additionally, it has been observed that the flowering time of the plant is between September and October.*

***Keywords:** Medicinal plant, aromatic plants, **Colchicum speciosum**, Trabzon.*

Colchicum speciosum Steven'ın Trabzon İlindeki Yayılışı

***ÖZ: Colchicum speciosum Steven**, Colchicaceae familyasına ait bir tür olup anavatanı Anadolu'nun Doğu Karadeniz Bölgesi'dir. Colchicum cinsi, soğanları ve tohumlarında bulunan kolşisin alkaloidleri nedeniyle ilaç endüstrisinde kullanılmaktadır. Bu çalışma, önemli bir tıbbi aromatik bitki olan **Colchicum speciosum**'un Trabzon ilindeki yayılış alanlarını belirlemek için yapılmıştır. Bu amaçla, 2015-2021 yılları arasında Trabzon ilinde uygun vejetasyon periyotlarında bitki örnekleri toplanarak arazi çalışmaları yürütülmüştür. Çalışmada, tam alan tarama yöntemi kullanılmıştır. Taksonla ilgili tüm arazi bilgileri GBS veri tabanında kaydedilmiştir ve Taksonun Trabzon ilindeki yayılış haritası oluşturulmuştur. Yapılan çalışmada, taksonun 349 m-2560 m arasında geniş bir yayılış gösterdiği belirlenmiştir. Ayrıca, takson 192 farklı noktada ve 12 farklı habitat tipinde tespit edilmiştir. Bu habitat tipleri başlıca; çayır-mera, yapraklı ve ibreli orman açıklıkları, tarım alanları, fındık plantasyonları, yapraklı ormanlar, mevsimsel dere kenarları ve bataklık-sazlık alanlardır. Bu çalışmada, taksonun çiçeklenme zamanının Eylül ve Ekim aylarında olduğu görülmüştür.*

***Anahtar kelimeler:** Tıbbi bitki, aromatik bitki, **Colchicum speciosum**, Trabzon.*

INTRODUCTION

Colchicum is a genus of perennial flowering plants, consisting of approximately 160 species in the world (Bayrak *et al.*, 2019). *C. speciosum* is a blooming herbaceous plant that naturally occurs in elevated areas of northern Türkiye, the Caucasus, and northern Iran. It has been referred to as "Vargit, Acı Çiğdem, Güz Çiğdemi" by local people in Trabzon (Karakaya *et al.*, 2022). *Colchicum speciosum* Steven belongs to the Colchicaceae family and is native to the Eastern Black Sea Region. *C. speciosum*, one of the crucial economic plants in Turkey, is the only Colchicum species exported (Baytop, 1999; Akbulut and Özkan, 2009). Furthermore, it has remarkable ornamental potential (Dinçer *et al.*, 2016; Aghayeva and Qarakhani, 2017) and is used this way abroad, while its usage is not prevalent in local urban centers (Var *et al.*, 2016). In addition, this species is an important medicinal-aromatic plant (Babaie Naeij *et al.*, 2023; Sener *et al.*, 2023; Yeşilyurt *et al.*, 2017) and has traditional usage in the villages of the study area (Akbulut and Özkan, 2014). Colchicum is used in the pharmaceutical industry due to the colchicine alkaloids contained in its corms and seeds (Kocoglu *et al.*, 2018; Düşen and Sümbül, 2007; Küçüker, 1995). These alkaloids have been conservatively used for the treatment of gout, Behcet disease, and familial Mediterranean fever (Baltacı *et al.*, 2022; Akbulut, 2009). Corm's colchicine content was higher in *C. speciosum* than the other species in all seasons (Morteza *et al.*, 2013). While there have been numerous studies on the flora and vegetation of Trabzon, Türkiye, a comprehensive study of *C. speciosum*'s distribution areas across the entire Trabzon province has not yet been done. This study aimed to determine the distribution of *C. speciosum* throughout the city of Trabzon. Therefore, it would be beneficial to determine the geographical regions where *C. speciosum*, a significant species valued for its medicinal and aromatic properties as well as its aesthetic appeal, is found. The data could help with the evaluation of this taxon in conservation-use balance.

MATERIAL AND METHOD

Field studies were carried out in Trabzon province in NE Anatolia. Plant samples were collected in vegetation periods between the years 2015 and 2021. In the present study, a full-field screening method was used. The following parameters were noted: altitude, phenology, distribution area and cover-abundance degree (%), habitat type, location, and Sub-District Directorate of Forestry. All determined locations of the populations were recorded in the GIS database. The coordinates were obtained from the point of the plant taxon found in the field or from the midpoint of the population, if there was a population. A digital database was generated by transforming field data about taxa into data layers in the GIS (Geographical Information Systems) database. Thus, the opportunity to query and map using the digital database is provided. The study was carried out based on Sub-District Directorates of Forestry affiliated with the Forestry Management Directorates.

RESULTS AND DISCUSSION

Within the research area, *C. speciosum* was observed at 192 locations and in 12 different habitat types. Table 1 provides the percentage of cover-abundance, geographical information, phenology, altitude, and the forest sub-district directorate where the samples were situated.

Table 1. Field data of *Colchicum speciosum* in the GIS database.

Point number	X	Y	Altitude	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
1	619187	4491377	1877	21.05.19	1000	10	leafing	pasture-meadow	Haldızen	Çaykara
2	542756	4501452	1446	19.09.18	1000	4	flowering	pasture-meadow	Güzelyayla	Hamsiköy
3	530713	4525001	1494	12.04.19	500	1	leafing	forest clearings	Çalköy	Çayırbağı
4	527780	4512135	1909	22.09.20	50	1	flowering	pasture-meadow	Labazol district	Çayırbağı
5	533432	4528898	1785	15.10.19	1000	1	flowering	pasture-meadow	Eskioba	Çayırbağı
6	537241	4501555	1728	09.07.19	1000	2	leafing	pasture-meadow	Hamsiköy	Hamsiköy
7	539056	4521051	1821	05.10.18	1000	1	flowering	pasture-meadow	Işıklar-Islopel	Yıldızlı
8	543530	4525299	1574	12.04.19	1000	5	leafing	pasture-meadow	Yaylacık plateau road	Yıldızlı
9	616413	4504268	2154	25.09.19	1000	1	flowering	pasture-meadow	Puşhur plateau road	Hayrat
10	525452	4520383	966	20.09.18	1000	1	flowering	pasture-meadow	Çayıriçi village	Kalınçam
11	526013	4521236	972	20.09.18	1000	2	flowering	hazelnut plantations	Çayıriçi village	Kalınçam
12	568874	4495385	1874	09.10.19	1000	2	flowering	Stony areas	Boğalı village	Karadere
13	526827	4521300	1471	16.09.20	1000	10	flowering	forest clearings	Karşular	Kalınçam
14	581608	4510459	1140	01.06.21	100	2	leafing	pasture-meadow	Yüceyurt district	Karadere
15	527256	4521662	1427	16.09.20	500	30	flowering	beech forests	Karşular	Çayırbağı
16	532211	4524877	1136	13.04.17	200	2	leafing	pasture-meadow	Çalköy	Çayırbağı
17	540462	4506882	1727	24.06.20	1000	10	leafing	pasture-meadow	Başarköy-Çamlıbel	Hamsiköy
18	555373	4506877	1243	11.03.19	1000	3	leafing	forest clearings	Hasan Ağa pasture	Meryemana Arş.Orm.
19	555239	4505496	998	11.03.19	100	3	leafing	deciduous forests	Altındere valley	Meryemana Arş.Orm.
20	518837	4509915	1610	20.09.18	1000	5	flowering	pasture-meadow	Erikbeli	Kalınçam
21	616371	4492205	1547	21.05.19	500	2	leafing	forest clearings	Haldızen road	Çaykara
22	535240	4519455	1841	25.09.18	1000	1	flowering	pasture-meadow	Yerlice village	Çatak
23	516539	4521059	1364	20.09.18	1000	1	flowering	pasture-meadow	Şıhkıran	Şalpazarı
24	536311	4519585	1804	22.09.20	1000	5	flowering	pasture-meadow	Haçkalıbaba plateau	Düzköy
25	614526	4492106	1380	21.05.19	1000	10	leafing	stony areas	Haldızen road	Çaykara
26	527275	4525198	1456	30.04.19	1000	3	leafing	pasture-meadow	Kadıralak plateau	Tonya
27	542373	4507417	1236	25.05.21	100	2	leafing	forest clearings	Başarköy	Hamsiköy
28	580645	4495312	1325	14.05.19	200	2	leafing	stony areas	Yağmurdere	Karadere
29	567979	4500638	1462	15.06.21	100	2	flowering	pasture-meadow	Santa	Arsin
30	536096	4513484	1700	18.10.18	1000	10	flowering	pasture-meadow	Haya	Çatak
31	554395	4530456	666	15.03.19	500	3	leafing	hazelnut plantations	Mağmat	Trabzon
32	555082	4505448	1021	11.03.19	1000	1	leafing	coniferous forests	Altındere valley	Meryemana Arş.Orm.

Table 1. Continued.

Point number	X	Y	Altitude	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
33	540083	4507191	1820	18.10.18	1000	10	flowering	pasture-meadow	Çamlıbel	Hamsiköy
34	543823	4507414	913	19.09.18	500	3	flowering	pasture-meadow	Bağışlı village	Hamsiköy
35	538150	4520086	1881	05.10.18	1000	4	flowering	forest clearings	Kayabaşı-Haçka road	Çatak
36	526668	4530758	1208	30.04.19	1000	10	leafing	pasture-meadow	Zere plateau	Tonya
37	537521	4506044	1919	18.06.20	1000	10	leafing	pasture-meadow	Başar plateau	Hamsiköy
38	517609	4510168	1707	20.09.18	1000	3	flowering	pasture-meadow	Sazalan plateau	Kalınçam
39	608440	4497560	1200	10.03.16	1000	20	leafing	agricultural areas	Uzungöl	Çaykara
40	607879	4501009	973	13.02.19	1000	5	leafing	deciduous forests n	Kamelaj district	Çaykara
41	525249	4520293	1217	01.10.15	1000	5	flowering	pasture-meadow	Çayırbağı-Zeliha district	Kalınçam
42	555082	4505477	1024	11.03.19	300	10	leafing	seasonal stream edges	Altındere valley	Meryemana Arş.Orm.
43	540064	4506821	1715	24.06.20	500	1	leafing	pasture-meadow	Hamsiköy	Hamsiköy
44	619071	4500755	2153	25.09.19	1000	7	flowering	pasture-meadow	Halnut-Dağönü	Hayrat
45	539845	4506128	1654	24.06.20	500	5	leafing	pasture-meadow	Başar plateau	Hamsiköy
46	526786	4523836	1292	16.09.20	1000	20	flowering	deciduous forests	Karşular Bayra district	Tonya
47	540181	4506425	1608	24.06.20	1000	5	leafing	forest clearings	Başar plateau	Hamsiköy
48	586550	4495511	1832	09.10.18	200	1	flowering	roadsides	Boğalı village	Karadere
49	530772	4524530	1414	12.04.19	1000	2	leafing	pasture-meadow	Çalköy	Çayırbağı
50	511373	4529283	1387	01.10.19	50	1	flowering	pasture-meadow	Enişdibi-Sis mountain road	Şalpazarı
51	616680	4503129	1947	25.07.19	1000	2	flowering	pasture-meadow	Halnut-Dağönü	Hayrat
52	540423	4506246	1622	24.06.20	500	5	leafing	forest clearings	Başar plateau	Hamsiköy
53	513072	4512247	2103	24.10.19	200	1	flowering	deciduous forests	Pazarlık plateau	Ağasar
54	534336	4512371	1609	18.10.18	1000	3	flowering	pasture-meadow	Üçgedik village-Boğaç	Çatak
55	622225	4491549	2292	21.05.19	1000	2	leafing	stony areas	Küçükyayla	Çaykara
56	614503	4506236	1758	25.09.19	200	1	flowering	forest clearings	Halnut	Hayrat
57	619231	4491597	1878	21.05.19	1000	3	leafing	pasture-meadow	Haldızen-Aşağı district	Çaykara
58	541982	4506075	998	19.09.18	1000	2	flowering	pasture-meadow	Hamsiköy	Hamsiköy
59	536745	4517453	1635	25.09.18	1000	5	flowering	pasture-meadow	Yerlice village	Çatak
60	541414	4503295	1237	19.09.18	1000	3	flowering	pasture-meadow	Güzelyayla	Hamsiköy
61	545072	4503931	1625	31.10.19	500	1	flowering	pasture-meadow	Kiraz plateau	Hamsiköy
62	620331	4491679	1952	13.09.18	1000	3	flowering	pasture-meadow	Demirkapı-Küçükyayla roadside	Çaykara

Table 1. Continued.

Point number	X	Y	Altitude	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
63	522740	4533298	987	11.05.21	100	1	leafing	pasture-meadow	Kayacan district	Çayırbağı
64	555171	4505696	965	11.03.19	200	1	leafing	coniferous forests	Altındere valley	Meryemana Arş.Orm.
65	523645	4533625	768	22.09.20	100	1	flowering	hazelnut plantations	Kösecik district	Tonya
66	538304	4503688	1458	30.05.19	1000	30	leafing	pasture-meadow	Güzelyayla	Hamsiköy
67	618968	4491879	1809	21.05.19	1000	10	leafing	forest clearings	Haldızen-Aşağı district	Çaykara
68	555134	4503211	1731	25.09.20	100	3	flowering	pasture-meadow	Karaağaç plateau	Altındere Vadisi Mp.
69	617072	4502809	1904	25.09.19	1000	1	flowering	pasture-meadow	Halnut-Dağönü	Hayrat
70	527427	4519565	1041	12.04.19	200	5	flowering	deciduous forests	Zeliha district	Çayırbağı
71	539894	4506756	1704	18.10.18	1000	2	flowering	pasture-meadow	Başar-İstoma district	Hamsiköy
72	543859	4501944	1839	19.09.18	1000	5	flowering	pasture-meadow	Kovazana plateau	Hamsiköy
73	622202	4491556	2193	21.10.15	1000	2	flowering	pasture-meadow	Haldızen-Küçükyayla	Çaykara
74	542479	4501949	1380	19.09.18	1000	2	flowering	pasture-meadow	Hamsiköy	Hamsiköy
75	617251	4506724	2224	25.09.19	1000	1	flowering	pasture-meadow	Cuniş Plateau	Hayrat
76	527951	4524693	1461	16.09.20	1000	20	flowering	forest clearings	Karşular	Tonya
77	535046	4523321	982	25.09.18	500	2	flowering	beech forests	Üst district	Düzköy
78	541100	4504142	1119	19.09.18	100	1	flowering	stony areas	Bağışlı village	Hamsiköy
79	620017	4491570	2004	21.05.19	1000	10	leafing	seasonal stream edges	Küçükyayla	Çaykara
80	532820	4510928	1735	18.10.18	1000	2	flowering	stony areas	Boğaç	Çatak
81	535947	4523398	1112	25.09.18	200	2	flowering	forest clearings	Ağaçbaşı	Düzköy
82	622001	4491656	2269	13.09.18	1000	10	flowering	pasture-meadow	Küçükyayla	Çaykara
83	526508	4524532	1174	16.09.20	1000	10	flowering	roadsides	Karşular	Tonya
84	582382	4513015	349	01.06.21	100	1	leafing	hazelnut plantations	Erenler district	Karadere
85	556692	4502889	1578	03.10.18	1000	3	flowering	forest clearings	Altındere valley	Altındere Vadisi Mp.

Table 1. Continued.

Point number	X	Y	Altitude	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
86	526405	4523549	1312	16.09.20	200	5	flowering	beech forests	Karşular - Bayra district	Tonya
87	621986	4491583	2263	21.05.19	1000	20	leafing	stony areas	Küçükyayla	Çaykara
88	523423	4512844	1470	22.09.20	1000	3	flowering	deciduous forests	Kumaanda plateau	Kalınçam
89	532635	4529436	1890	15.10.19	1000	1	flowering	pasture-meadow	Karadağ plateau	Akçaabat
90	606519	4502895	742	13.02.19	1000	2	leafing	pasture-meadow	Taşkıran district.	Çaykara
91	537027	4523676	1245	01.10.15	1000	5	flowering	forest clearings	İstiriş district	Düzköy
92	543655	4501935	1732	19.09.18	1000	2	flowering	pasture-meadow	Hırsefa plateau	Hamsiköy
93	535957	4523354	1116	12.04.19	1000	30	leafing	deciduous forests	Düzköy	Düzköy
94	531905	4528204	1703	24.09.20	50	5	flowering	deciduous forests	Çal	Çayırbağı
95	585519	4509075	1150	01.06.21	100	2	seed+leafing	pasture-meadow	Yeşilyurt village	Karadere
96	514368	4517227	1484	29.05.19	500	5	leafing	forest clearings	Gökçeköy	Ağasar
97	552610	4511598	569	11.03.19	1000	3	leafing	roadsides	Altındere valley	Maçka
98	617476	4489618	2560	13.09.18	1000	3	flowering	pasture-meadow	Haldızen	Çaykara
99	554726	4504971	1124	23.02.18	1000	30	flowering	coniferous forests	Meryemana	Meryemana Arş.Orm.
100	532279	4517279	1887	18.10.18	1000	5	flowering	pasture-meadow	Honefter	Çatak
101	529876	4526990	1520	24.09.20	1000	20	flowering	deciduous forests	Kadıralak plateau	Tonya
102	584184	4492789	1636	14.05.19	1000	2	leafing	pasture-meadow	Bahçecik village	Karadere
103	531460	4517327	1966	18.10.18	1000	10	flowering	pasture-meadow	Honefter district	Çatak
104	535818	4517603	1665	25.09.18	1000	5	flowering	pasture-meadow	Yerlice village	Çatak
105	607433	4499271	888	13.09.18	1000	7	flowering	pasture-meadow	Uzungöl	Çaykara
106	533736	4499057	1821	28.05.19	1000	5	leafing	stony areas	Arpalı	Köprübaşı
107	525453	4527952	947	09.04.19	1000	5	leafing	hazelnut plantations	Yenimahalle	Tonya
108	528285	4517612	1445	01.10.15	1000	20	flowering	pasture-meadow	Kırıklı plateau	Düzköy
109	531476	4517638	1945	01.10.15	1000	5	flowering	pasture-meadow	Beypınarı plateau	Çatak
110	524122	4526855	811	09.04.19	1000	1	flowering	roadsides	Merkez	Tonya
111	556057	4517678	958	15.03.19	1000	3	leafing	pasture-meadow	Atasu village	Esiroglu
112	536284	4502525	1659	09.07.19	1000	1	leafing	forest clearings	Hamsiköy	Hamsiköy

Table 1. Continued.

Point number	X	Y	Altitdte	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
113	553420	4517691	950	15.03.19	100	1	leafing	bush areas	Kapuköy	Maçka
114	591381	4499169	2039	08.06.21	100	1	leafing	swamp-reed areas	Arpalı village surroinding	Köprübaşı
115	536474	4519728	1804	05.10.18	1000	1	flowering	pasture-meadow	Kayabaşı-Haçka	Düzköy
116	511292	4528203	1625	01.10.19	1000	1	flowering	pasture-meadow	Sisdağı	Şalpazarı
117	590368	4500402	2124	28.05.19	1000	10	leafing	pasture-meadow	Sulak plateau	Köprübaşı
118	608470	4497347	1192	18.09.19	1000	15	flowering	pasture-meadow	Çaykara	Çaykara
119	514446	4516506	1611	29.05.19	1000	30	leafing	pasture-meadow	Gökçeköy-Alaca plateau	Ağasar
120	523226	4514338	1247	22.09.20	1000	15	flowering	forest clearings	Bektaşlı district	Kalınçam
121	609384	4497431	1099	15.05.21	100	8	leafing	forest clearings	Uzungöl	Çaykara
122	592309	4514596	1327	28.05.19	1000	2	leafing	pasture-meadow	Köprübaşı	Köprübaşı
123	609051	4497414	1139	10.03.16	1000	30	leafing	roadsides	Uzungöl	Çaykara
124	522827	4514608	1136	22.09.20	500	5	flowering	forest clearings	Bektaşlı district	Kalınçam
125	619489	4493593	1965	21.05.19	1000	10	leafing	pasture-meadow	Arpaözü village	Çaykara
126	526207	4527661	1338	09.04.19	1000	3	leafing	pasture-meadow	Zere plateau	Tonya
127	608517	4498590	1041	18.09.19	1000	5	flowering	pasture-meadow	Filak district	Çaykara
128	525018	4527917	807	09.04.19	100	10	flowering	agricultural areas	Ağaçlı district	Tonya
129	619344	4493540	1980	21.05.19	1000	15	leafing	pasture-meadow	Arpaözü (İpsil)	Çaykara
130	541095	4517179	1437	25.09.18	1000	2	flowering	forest clearings	Maçka-Sındıran	Çatak
131	526487	4527470	1387	01.09.15	100	5	flowering	forest clearings	Yenimahalle Düzleme district	Tonya
132	531112	4517168	1958	22.09.20	500	10	flowering	pasture-meadow	Honefter plateau	Çatak
133	543073	4516509	1080	25.09.18	500	2	flowering	forest clearings	Maçka-Sındıran	Çatak
134	543239	4516514	992	25.09.18	1000	2	flowering	pasture-meadow	Maçka-Sındıran	Çatak
135	621595	4509554	1947	25.09.19	1000	2	flowering	pasture-meadow	Göksel village	Hayrat
136	525642	4511416	1770	22.09.20	500	2	flowering	bush areas	Akkese plateau	Kalınçam
137	582267	4509403	1286	01.06.21	100	1	leafing	deciduous forests	Karadere	Karadere
138	523692	4516925	1018	20.09.18	1000	1	flowering	pasture-meadow	Tonya-Kalınçam	Kalınçam
139	539088	4509358	2003	18.10.18	1000	10	flowering	pasture-meadow	Babarza plateau	İpekyolu

Table 1. Continued.

Point number	X	Y	Altitude	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
140	623077	4509291	2040	25.10.19	1000	3	flowering	pasture-meadow	Göksel village	Hayrat
141	608562	4498550	1028	13.02.19	1000	10	leafing	pasture-meadow	Filak-Yenimah.	Çaykara
142	527327	4527189	1415	01.09.15	0	15	flowering	pasture-meadow	Kadıralak plateau	Tonya
143	608600	4498303	1035	18.09.19	1000	10	flowering	pasture-meadow	Filak district	Çaykara
144	523767	4516388	1064	22.09.20	100	3	flowering	pasture-meadow	Dere district	Kalınçam
145	587948	4496765	2247	09.10.18	1000	1	flowering	pasture-meadow	Aşot plateau	Karadere
146	604108	4508343	367	13.02.19	200	2	leafing	bush areas	Holdere village	Çaykara
147	536522	4522503	1452	25.09.18	500	5	flowering	forest clearings	Ağaçbaşı plateau	Düzköy
148	538974	4517889	1527	25.09.18	50	1	flowering	forest clearings	Yerlice	Çatak
149	538722	4517954	1538	25.09.18	1000	3	flowering	pasture-meadow	Yerlice village	Çatak
150	538860	4517955	1532	25.09.18	100	3	flowering	forest clearings	Yerlice village	Çatak
151	587476	4496776	2124	09.10.18	1000	1	flowering	pasture-meadow	Aşot plateau	Karadere
152	520880	4518021	1755	11.10.18	1000	2	flowering	forest clearings	Karakısrak plateau	Ağasar
153	618852	4490139	1946	18.09.19	1000	10	flowering	pasture-meadow	Demirkapı-yukarı district	Çaykara
154	520886	4518202	1812	11.10.18	1000	1	flowering	pasture-meadow	Karakısrak plateau	Kalınçam
155	527992	4517425	1444	01.10.15	1000	5	flowering	pasture-meadow	Zeliha -Kırıklı plateau	Çayırbağı
156	608165	4497194	1293	18.09.19	1000	5	flowering	pasture-meadow	Çaykara	Çaykara
157	607459	4500311	822	13.02.19	1000	5	leafing	pasture-meadow	Uzungöl	Çaykara
158	536508	4517415	1641	25.09.18	200	1	flowering	seasonal stream edges	Yerlice village	Çatak
159	535314	4518714	1817	25.09.18	1000	3	flowering	pasture-meadow	Yerlice village	Çatak
160	608821	4497475	1118	13.02.19	1000	5	leafing	agricultural areas	Uzungöl	Çaykara
161	618626	4490189	2087	15.05.21	100	3	leafing	pasture-meadow	Demirkapı village	Çaykara
162	520721	4518975	1843	11.10.18	1000	1	flowering	pasture-meadow	Karakısrak plateau	Şalpazarı
163	617159	4492275	1565	21.05.19	100	20	leafing	stony areas	Haldızen	Çaykara
164	532222	4531605	1739	24.09.20	1000	20	flowering	pasture-meadow	Karadağ plateau	Vakfıkebir
165	518368	4519117	1327	20.09.18	1000	1	flowering	pasture-meadow	Sinlice village	Şalpazarı
166	555213	4505435	1004	11.03.19	100	5	leafing	coniferous forests	Altındere valley	Meryemana Arş.Orm.
167	543081	4507515	1103	25.05.21	100	5	leafing	forest clearings	Başar village	Hamsiköy
168	525749	4525393	1070	16.09.20	200	5	flowering	forest clearings	Karşular	Tonya
169	552608	4508076	1424	03.10.18	1000	10	flowering	forest clearings	Samandıra	Maçka
170	535065	4523154	979	12.04.19	1000	2	flowering	forest clearings	Merkez	Düzköy
171	577261	4496860	1066	14.05.19	200	5	flowering	forest clearings	Akocak village	Araklı

Table 1. Continued.

Point number	X	Y	Altitude	Observation date	Area (m^2)	Abundance degree (%)	Phenology	Habitat	Location	Forest Sub-District Directorate
172	534158	4514164	1565	18.10.18	1000	5	flowering	pasture-meadow	Üçgedik village	Çatak
173	578291	4497983	921	14.05.19	500	7	leafing	roadsides	Yağmurdere	Araklı
174	590487	4499545	2194	08.06.21	100	1	leafing	pasture-meadow	Taşlı plateau-Arpalı	Köprübaşı
175	519395	4514150	1635	20.0918	1000	1	flowering	forest clearings	Göllüalan	Ağasar
176	513935	4522660	1571	01.10.19	500	3	flowering	pasture-meadow	Merkez	Şalpazarı
177	583863	4492388	2050	09.10.18	1000	1	flowering	pasture-meadow	Ofdinkaya plateau	Karadere
178	536993	4504946	2004	18.06.20	2000	5	leafing	pasture-meadow	Bekçiler	Hamsiköy
179	516636	4523199	986	09.04.19	200	3	leafing	hazelnut plantations	Sütpınar village	Şalpazarı
180	588371	4497042	2312	09.10.18	1000	1	flowering	stony areas	Arpalı plateau	Karadere
181	592244	4499525	2088	28.05.19	1000	5	leafing	pasture-meadow	Kutlusu plateau	Köprübaşı
182	527845	4526545	1417	20.09.18	1000	1	flowering	pasture-meadow	Kadıralak plateau	Tonya
183	521545	4523237	1440	24.09.20	100	5	flowering	deciduous forests	Kadıralak plateau	Tonya
184	555850	4504792	1099	11.03.19	1000	3	leafing	coniferous forests	Altındere valley	Altınderevadisi Mp.
185	524246	4526449	794	09.04.19	1000	10	flowering	pasture-meadow	Mekez	Tonya
186	525195	4512039	1633	22.09.20	500	5	flowering	pasture-meadow	Akkese plateau	Kalınçam
187	544073	4505031	1290	31.10.19	1000	2	flowering	pasture-meadow	Kiraz village	Hamsiköy
188	514462	4514089	1875	24.10.19	1000	2	flowering	pasture-meadow	Güdün district	Ağasar
189	545227	4502898	1681	31.10.19	1000	2	flowering	forest clearings	Hordokop plateau	Hamsiköy
190	535591	4534035	1420	05.10.2018	1000	10	flowering	forest clearings	Karadağ nursery	Akçaabat
191	619289	4489051	2231	13.09.2018	1000	3	flowering	pasture-meadow	Büyükyayla	Çaykara
192	617251	4506724	2224	25.09.2019	1000	2	flowering	pasture-meadow	Cuniş plateau	Hayrat

The determined habitats of *Colchicum speciosum* were: pasture-meadow areas, forest clearings, agricultural areas, hazelnut plantations, deciduous forests, coniferous forests dominated by *Picea orientalis*, roadsides, stony areas, scrub, beech forests, seasonal stream edges, and swamp-reed areas (Figure 1). Furthermore, Turgut and Yılmaz (2020) underlined that *C. speciosum* is a plant that thrives in wetland environments. Also, it has been observed that the flowering time of the plant is between September and October. The flowering time is similar to other studies about the taxon (Morteza *et al.*, 2013; Dinçer *et al.*, 2016; Var *et al.*, 2016). It was determined that the taxon was in the leafy phase in February, March, April, May, June, and July. The cover-abundance degree (%), location information, and forest sub-district directorate where it was located are also given in Table 1. *C. speciosum* was found to have a broad range of distribution in the research area, spanning from 349 to 2560 m. a.s.l. (Table 1). However, it was determined that its distribution is more extensive at altitudes ranging from 1000-2000 m (Figure 2). In various investigations on the taxon, materials were collected from same elevations (Gumustas *et al.*, 2016; Akbulut and Özkan, 2009; Akbulut, 2009). Dinçer *et al.* (2016) also reported that the species was found in high mountain meadows at 2300 m in the Anzer plateau.

Based on the field data, a distribution map of the taxon was created (Figure 3).

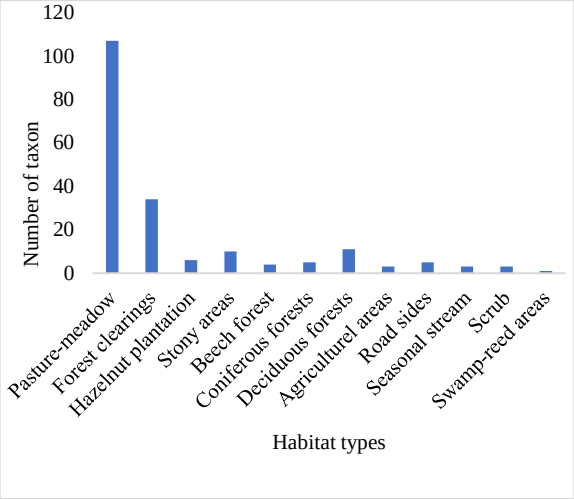

Figure 1. Determined habitat types of *C. speciosum*.

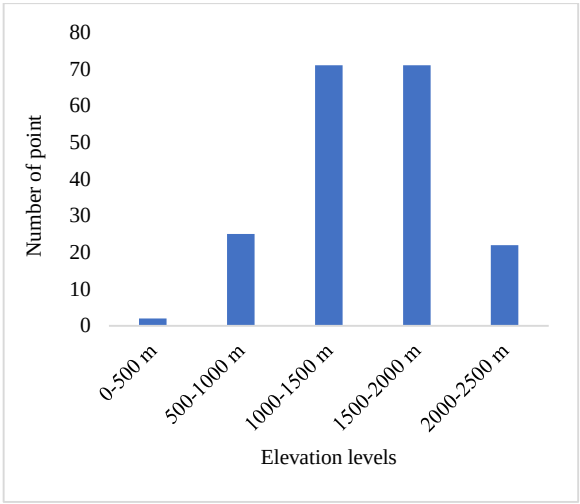

Figure 2. Elevation levels of *C. speciosum*.

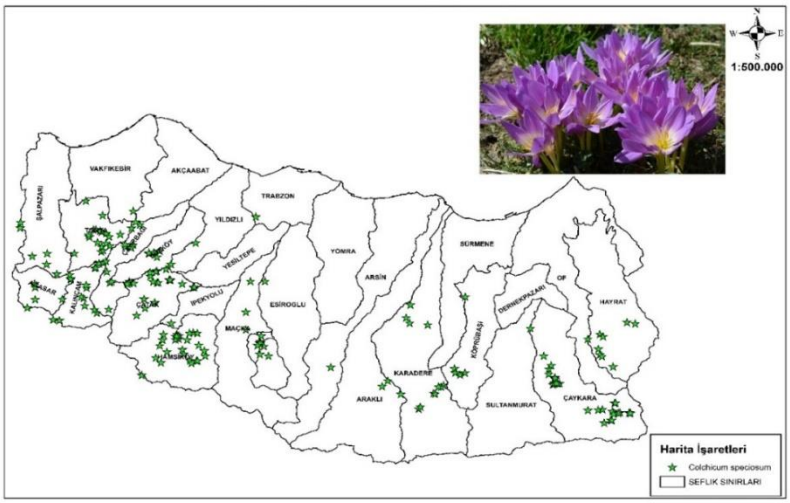

Figure 3. The distribution map of the *Colchicum speciosum* in the study area.

This study found that *C. speciosum* densely grows in Trabzon province. This is one of the most common and widely used types of Colchicum in Türkiye (Akbulut, 2009; Tanker and Coşkun, 2000). The large presence of the taxon, a significant medicinal aromatic plant, in Trabzon province is crucial for identifying potential sources of plant material for future investigations. Furthermore, this study will enhance the assessment of this taxon, which possesses economic worth and potential, both as a medicinal aromatic plant and as an ornamental plant, while maintaining a protection and use equilibrium.

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