

KAZIMIERZ BROWICZ

Distribution of woody *Rosaceae* in W. Asia VIII

Crataegus microphylla C. Koch

Verh. Ver. Beförd. Gartenb. Preuss. nov. ser., 1: 288 (1853); C. Koch, *Mespilus et Crataegus* 68 (1854); Schneider, Ill. Handb. Laubholz., 1: 785 (1906); Handel-Mazzetti, Ann. k.k. nat. Hofmus. Wien, 23: 167 (1909); Pojarkova, Fl. URSS 9: 458 (1939); Bornmüller, Feddes Repert. (Beihft.) 89, 1: 232 (1940); Pojarkova in Wulff Fl. Taurica 2, 2: 30 (1960); Wagenitz, Willdenowia 3, 2: 254 (1963); Zohary, Bull. Resch. Counc. Israel, Sect. D. Botany, Suppl. to vol. 11D: 23, 28 (1963); Franco, Fl. Europ. 2: 75 (1968); Riedl in Rechinger Fl. Iranica 66: 63 (1969).

Syn.: *C. lagenaria* Fisch. et Mey. ex Hohenack. Enum. pl. Talysch 131 (1836) nomen nudum; Ledebour, Fl. Ross. 2: 90 (1843); Buhse, Boissier, Aufzähl. 86 (1860); Boissier, Fl. Or. 2: 665 (1872); Lipsky, Acta Hort. Petrop. 13, 2: 225 (1894); Bornmüller, Bull. Herb. Boiss. 2 sér. 6, 8: 607 (1906); Diapulis, Feddes Repert. 34: 61 (1933); Krause, Ankaranin Floru 80 (1934); Grossheim, Fl. Kavk. 4: 291 (1934); Grossheim, Fl. Kavk. 5: 44 (1952).

C. monogyna Jacq. var. *lagenaria* (Fisch. et Mey) Wenzig, Linnaea 38: 80 (1874).

C. monogyna Jacq. var. *dolichocarpa* Sommier et Levier, Acta Horti Petrop. 16: 134 (1900).

C. orthosepala Hausskn. et Bornm. ex Schneider, Ill. Handb. Laubholz. 1: 786 (1906); Bornmüller, Bull. Herb. Boiss. 2 sér. 6, 8: 607 (1906); Diapulis, Feddes Repert. 34: 61 (1934).

C. lagenaria Fisch. et Mey. var. *orthosepala* (Hausskn. et Bornm.) Bornm., Bull. Herb. Boiss. 2 sér. 6, 8: 607 (1906).

C. microphylla C. Koch. var. *dolichocarpa* (Somm. et Lev.) Hand. — Mzt., Ann. k.k. nat. Hofmus. Wien 23: 167 (1909); Bornmüller, Feddes Repert. (Beihft.) 89, 1: 232 (1940); Riedl, in Rechinger Fl. Iranica 66: 64 (1969).

C. orthosepala Hausskn. et Bornm. var. *glabra* Diapulis, Feddes Repert. 34: 62 (1933).

This is the only species from the genus *Crataegus*, the range of which coincides almost exactly with the Euxino-Hercynian province; it lacks however in the Strandsha mountains (Bulgaria and European Turkey). Pojarkova (1960) considers *C. microphylla* to be a forest, tertiary relict and within section *Oxyacantha* Zabel ex Schneid. she includes it together with the European species *C. calycina* Peterm. in the separate series *Microphyllae* A. Pojark. This series is characterized by flowers with single styles, positioned singly on long pedicels and collected in sessile, sparse cymes (Pojarkova, 1939). The species was first mentioned under the no longer valid name „*C. lagenaria*” from the vicinity

of Lenkoran (Talysh). Two varieties were recognized: var. *microphylla* and var. *dolichocarpa* (Somm. et Lev.) Hand.-Mtz. differing only slightly in the shape of the fruits. Judging from the available herbarium materials these two varieties occur throughout the whole range of the species and therefore should be considered only as forms.

C. microphylla grows in the Crimea, on the Caucasus (western ante-Caucasus and trans-Caucasus, Talysh), in northern Iran and in northern Turkey (fig. 1). Riedl (1969) mentions it also from two stands in Kurdistan in Iraq as well as from western Iran, however the specimens cited do not correspond in their characters to *C. microphylla*; e.g. two of these, Rechinger 10580 and Bent, Wright 512-103 belong no doubt to *C. aronia* (L.) Bosc.

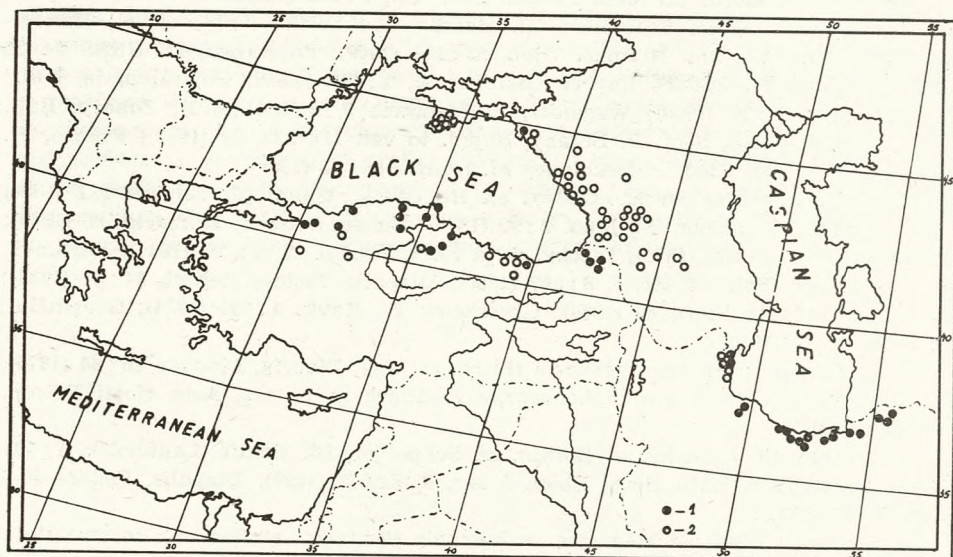


Fig. 1. Distribution of *Crataegus microphylla*: 1. herbarium specimens, 2. literature

1. Crimea. A point map of the distribution of stands of *C. microphylla* in the Crimea has been published by K o s y c h (1967). According to the data collected by her this hawthorn grows here between 300 and 1250 m elevation, primarily in the western part of the peninsula. It does not form larger thickets but occurs singly in the understory of hornbeam-oak forests, in sparse pine forests and on the edges of beech forests.

2. Caucasus. A point map of distribution of this species in the Caucasus has been published by G r o s s h e i m (1952). The data about the vertical distribution in this region are very general. As is claimed by P r i l i p k o (1965) and G r o s s h e i m (*l.c.*) *C. microphylla* occurs in oak and oak-hornbeam forests and in thickets, from the very lowlands up to the central montane stratum. In the mixed forests of Talysh, reaching

up to 500 - 600 m elevation, and formed primarily from *Quercus castaneaefolia* and *Parrotia persica* it forms a substratum together with such species as *Mespilus germanica*, *Crataegus kyrtostyla* and *C. pentagyna*, *Cydonia oblonga*, *Prunus divaricata* and *Ruscus hyrcanus* (Grossheim, 1948).

3. Iran. *C. microphylla* grows in the northern part of the country as a narrow belt along the coast of the Caspian Sea, in the provinces Ghilan, Mazanderan and Gorgan. Riedl (1969) mentions also one stand (according to Czernjakovska) from the Khorasan province — Kuh-e Bezg. Judging from the data collected from herbarium labels the species



Phot. I. Kuberacka

Fig. 2. A herbarium specimen of *Crataegus microphylla* from Turkey (Royal Botanic Garden, Edinburgh)

occurs in Iran at an elevation of from 100 to 1600 m in mixed deciduous forests (*Ulmus-Carpinus*, *Fagus-Acer*). It probably grows also at higher elevations since Zohary (1963) mentions that *C. microphylla* participates in forests of *Quercus macranthera* which in Iran extend between 1800 and 2500 m elevation.

4. Turkey. From Turkey *C. microphylla* was first reported by Schneider (1906) and then by Bornmüller (1906) and Handel-Mazzetti (1909). These stands were observed in Paphlagonia and Pontus. In later years no more reports or herbarium collections from this region have been made and in fact only recently, particularly thanks to collections made by P. H. Davis and his collaborators it became possible to start describing the range of the species. It turned out that the range of *C. microphylla* covers the northern part of Turkey, bordering on the Black sea, almost from the very Marmara sea in the west (central Bithynia) to the frontier with the USSR in the east (fig. 2). However the stands are few and scattered. The lowest ones are in the shoreline lowlands already at 20 - 50 m elevation, while the highest ones are in the mountains at 1450 m. In the lowlands *C. microphylla* was found in the flood-forests of *Fraxinus oxycarpa* and in the communities of *Quercus ilex*, while in the higher elevations it grows on borders of oriental beech (*Fagus orientalis*) forests, in mixed oak-hornbeam-pine, fir or fir-beech forests as well in thickets of shrubs. The most southerly stands are probably in the region of Ankara (Krause, 1934) and Eskisehir (Diapulis, 1933).

Localities in W. Asia

Turkey. Herbarium specimens: 5 km W of Sapanca, 150 m. Hills in open scrub, 22. 4. 1966 c.fl., Davis 42035 (E.); Prov. Adapazari: Ozmanköy to Adapazari, 50 m, *Fraxinus oxycarpa* forest in flood plain, 6. 8. 1962 c.fr., Davis, Coode 39069 (E.); Prov. Bolu, a Bolu a 27 km septentr.-occid. versus 13. 9. 1957 c.fr., Rechanger 15296 (W.); Zonguldak yayla Mechii Irtifa, 800 m, Killi Kum, 18. 7. 1951 c.fr., Nizamett-Altinisi 10 (E.); Kastamonu: pass between Küre and Inebolu; 950 m, *Abies-Fagus* forest, 31. 7. 1962 c.fr., Davis 38584 (E.); Paphlagonia. Wilajet Kastambuli. Kure Nahas: in silva Enzisler-Kajari, 25. 7. 1892 c.fr., Sintenis 5029 a, b (G.L.E.S.WU.); Prov. Kastamonu. Ecevit between Seydiler and Küre, 1100 - 1200 m, *Quercus-Carpinus-Pinus* woods; 30. 7. 1962 c.fr., Davis 28528 (E.); Sabandscha, 1835, Wiedemann (L.E.); Prov. Sinop: Sinop 50 m. Promontory, with *Quercus ilex*, 25. 7. 1962 c.fr., Davis, Coode, Yaltirik 38100 (E.); Prov. Sinop: Gerze-Boyabat in *Abietum*, 7. 9. 1954 c.fr., Davis Polunin 25008 (E.K.); Near Samsun, 9. 1963 c.fr., Tobey 18/9 (E.); Samsun: above Hacı İsmail Köy. Scrub condition, 6. 5. 1967 c.fl., Tobey 1734 (E.); Kavak (Samsun), 600 m, 7. 5. 1966 c.fl., A. Baytop 9076 (E.); Pontus Galaticus: in subalpinis montis Sana-dagh, supra pagum Göndes, 1400 m, 22. 7. 1890 c.fr., Bornmüller 1765 (G. W.); Trabzon: Macka, 370 m, 25. 8. 1962, Eryilmaz Yilmaz 3535 (E.); Trapez.: Fol. 28. 6. 1917 c.fr., Schischkin (TBIL.); Prov. Artvin: Mürgül, 300 m, amongst shrubs, 17. 4. 1960 c.fl., Stainton 8198 (E.); Prov. Artvin: Artvin. Hill above

town, 1000 m, 1. 7. 1960 c.fr., Stainton, Henderson 5948 (E.); Prov. Çoruh (Artvin): Ardanuç — Kordevan dāg (Artvin — Ardahan), 1450 m. Meadow at edge of forest, 27. 6. 1957 c.juv.fr., Davis, Hedge 30146 (E.K.); Prov. Çoruh: Yalnızaçam Dāglari between Ardanuç and Kütül, 1400 m, 18. 8. 1957 c.fr., Davis, Hedge 32454 (E.K.).

Literature: Eski Schehir, 1901, Warburg 170 (Diapulis, 1934); Bolu Da., etwa 900 m mit *Vaccinium arctostaphylos* amd Rand des kolchischen Buchenwaldes no. 139 (Wagenitz, 1963); Near Ankara (Krause, 1934); Samsun, an steinigen Hängen bei den Ausgrabungen no. 115 (Handel-Mazzetti, 1909); Prov. Pontus: Amasia. In rupestribus dumosis montis Logman, 600 ad 800 m, 7. 5. et 5. 8. 1890 c.fr., no. 2375 (Bornmüller, 1940); Pontus Galaticus, montis Sana-dagh, 15. 7. 1890 Bornmüller 1764 (Diapulis, 1934; Bornmüller, 1940); Ordu, gegen Bozuk kale; Elewy Deressi innerhalb Görele; Im Hadji Bekir Deressi bei Trapezunt; Fol Köi, an steinigen Waldränden no. 408 (Handel-Mazzetti, 1909); Wald Suk Su bei Trapezunt, 1926, Krause 1614; Gumüsane, Höhe östlich der Stadt, 1931, Görz 393 (Diapulis, 1934).

Iran. Herbarium specimens: Prov. Asterabad: Bender Ges in silva prope pagum Ges, 3. 4. 1901 c.fl., Sintenis 1484 (WU.); Gorgan: Ramian, 6. 1948 c.fr., Sharif 405 (W.); Gorgan, in valle infra Ziarat, 1200 m, Gauba 490 (W.); Gorgan, 5. 1948 c.fl., Sharif 416 (W.); Gorgan: Loveh 37°24' N, 55°45' E, in silvis frondosis, 400 m, 19. 4. 1967 c.fl., Rechinger 33109 (W.); Mazanderan: Ladjim, Rig-Česhme, 7. 9. 1965, Sahel 12864 E (W.); Ladjim, Aghamashad, 24. 4. 1965 c.fl., Tregubov 123 (W.); Lagim, 20 km east of Zirab, *Carpinus-Ulmus* forest, 670, 9. 5. 1961 c.fr., Zohary, Orshan A670/7 (HUJ.); Elburs, env. of. Lagim, *Carpinus-Ulmus* forest, 690 m, 9. 5. 1961, Zohary ABO2/2 (HUJ.); Prov. Mazanderan. In ditone Nur, 1000 m, Gauba 491 (W.); Caspian Region 37°N, 49°40' E, alt. low. mixed deciduous forest, strongly depleted, 12. 4. 1963 c.fl., Jacobs 6184 (W.); Now Chahr, 8. 4. 1956 c.fl. and 9. 3. 1956 c.fl., Sabeti 388, 390 (W.); Inter Sari 36°34' N, 53°04' E et Behshahr 36° 43' N, 53°34' E, in saxosis frondosis, 18. 4. 1967 c.fl., Rechinger 33097 (W.); Mazanderan: 24 km S of Amol, N slope of Elburz Mts., *Fagus-Acer* forest, 500 m, 27. 7. 1964 c.fr., Grant 126 (W.); Mazanderan: Tchalus, 13. 5. 1956 c.fr., Sabeti 389 (W.); Mazanderan: Distr. Kudjur. Inter Sanus et Kindj, ca. 1300 - 1600 m, 9 - 11. 8. 1948 c.fr., K. H. et F. Rechinger 6595 (W.); Distr. Kudjur. Inter Kindj et Dasht-e Nasir, 800 - 1300 m, 9 - 11. 8. 1948 c.fr., K. H. et F. Rechinger 6655b (W.); Mazanderan: Haraz valley, Karehsang, 36°18' N, 52°20' E, 100 m, 3. 5. 1959, Wendelbo 515 (W.); Prov. Gilan. Inter Resht et Rudbar in valle fluvii Sefirud, 1937 c.fl., Krieshe in Rechinger 2350 (W.); Prov. Guilan: Yehlah, 1936 c.fr., Lindsay 738 (W.); Talysch, Assabam (in silvis) 16. 6. 1965 and 18. 6. 1965 c.fr., Esfandieri 6455 E, 6461 E (W.); In den Urwald bei Patschinar, 27. 4. 1882 c. fl., Pichler (WU.).

Literature: Khorassan: Kuh-e Bezg, Czernjakovska; Bandar-i Gaz, Bornmüller 1327 (Riedl, 1969); Prope Siaret, 1858, Bunge (Diapulis, 1934; Riedl, 1969); Imam-zade-Haschim, 26. 5. 1893 (Lipsky, 1894; Riedl, 1969); In silvis ditionis oppidi Rescht, prope Kudum, 1. 5. 1902, no. 6951 (Bornmüller, 1906); Prope Astara, Buhse (Riedl, 1969); Mazanderan, Elburz Mts., Golban Forest, 1200 m, 1. 9. 1967, Walton 286 (E.).

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Streszczenie

Autor na podstawie zbiorów zielnikowych i danych z literatury omawia rozmieszczenie *Crataegus microphylla*. Jest to jedyny gatunek z rodzaju *Crataegus*, którego zasięg pokrywa się niemal idealnie z obszarem euksyńsko-hercyńskiej prowincji florystycznej; brak go jednak w górach Strandży (Bułgaria, europejska Turcja). Występuje na Krymie, Kaukazie, w północnym Iranie i w północnej Turcji. Podawany jest także z północnego Iraku i zachodniego Iranu (Riedl, 1969), lecz dane te są zupełnie błędne. Punktową mapę rozmieszczenia jego stanowisk na Krymie opracowała Kosych (1967), a na Kaukazie Grossheim (1952).

C. microphylla rozprzestrzeniony jest w Iranie między 100 i 1600 m n.p.m. wzdłuż wybrzeży Morza Kaspijskiego, a w Turcji między 20 i 1450 m n.p.m. wzdłuż Morza Czarnego. Rośnie w lasach mieszanych, zwłaszcza dębowych i dębowo-grabowych oraz w zaroślach.

КАЗИМЕЖ БРОВИЧ

Crataegus microphylla C. Koch

Резюме

Автор, основываясь на материалах гербарных коллекций и на литературных данных, обсуждает распространение *Crataegus microphylla*. Это единственный вид рода *Crataegus*, ареал которого почти идеально вписывается в границы

евксинско-герцинской флористической провинции; он отсутствует, однако, в горах Странджи (Болгария, европейская часть Турции). Встречается в Крыму, на Кавказе, в северном Иране и в северной Турции. Указывается также для северного Ирака и западного Ирана (Riedl, 1969), но эти данные явно ошибочны. Точечные карты местонахождений вида в Крыму обработала Косых (1967), а на Кавказе — Гроссгейм (1952).

C. microphylla встречается в Иране вдоль побережья Каспийского моря на высотах 100 - 1600 м над ур. м., а в Турции вдоль побережья Чёрного моря на высотах 20 - 1450 м. Растёт в смешанных лесах, в особенности, дубовых и дубово-грабовых, а также в кустарниках.





Cryptomeria japonica
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