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## Distribution of Woody *Rosaceae* in W. Asia VI

### *Pyracantha coccinea* Roem.

The genus *Pyracantha* has been delimited in 1847 by Roemer. Presently 8 species are included in it and several varieties, however their systematic position is not sufficiently clear. Some of these species are sometimes treated only as varieties, while some of the varieties are sometimes considered as species. Thus the genus still awaits a critical study. Following is a list of the species with information about their geographic distribution.

1. *Pyracantha crenulata* (Roxb.) Roem. — with three varieties: var. *crenulata* — Himalayas, from the valley of river Sutlej to Buthan.  
var. *rogersiana* A. B. Jacks. — south-western China  
var. *emarginata* J. E. Vidal — North Vietnam
2. *P. fortunēana* (Maxim.) Li — China (Shensi, Kansu, Szechwan, Hupeh, Yunnan, Kweichow, Kwangsi).
3. *P. atalantioides* (Hance) Stapf — SE to W China.
4. *P. angustifolia* (Franch.) Schneid. — SW China (Yunnan, Likiang).
5. *P. densiflora* Yü — China (Kwangsi).
6. *P. inermis* J. E. Vidal — China (Yunnan) and Laos.
7. *P. koidzumi* (Hayata) Rehd. — E. Formosa.
8. *P. coccinea* Roem. — Southern Europe and West Asia.

As can be seen from the above listing almost all the species, except the last one occur in East Asia and their greatest concentration is in south-western China. In the Yunnan province five of the species can be found.

The range of the genus *Pyracantha* is disjuncted and consists of three major regions. The greatest disjunction is to be found between the most eastern stands of *P. coccinea* in north Iran and the extreme west stands of *P. crenulata* in the Himalayas. In straight line the disjunction there is about 2500 km. A second disjunction, judging on the basis of the data in the literature, is to be found between Buthan and Yunnan. Finally the third one covers eastern China and separates the province Kweichow and Kwangsi from Formosa.

The species under consideration here, *P. coccinea*, has been originally described by Linnaeus as *Mespilus pyracantha* and was later included





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Fig. 1. Prostrate shrubs of *P. coccinea* along a seasonal stream on the edge of an oak scrub. Bulgaria, Strandsha Mts.

in the genus *Crataegus* and *Cotoneaster*. Under the name *Cotoneaster pyracantha* (L.) Spach it is reported even in current publications. Its history however is much older, since it is mentioned by Theophrastus in his „*Historia Plantarum*” (Lib. 3, I., 9, 3; III 3, 1; 3, 3; 4, 2; 4, 4; Lib. 4., IV, 2; Lib. 6., 8, 3). The range of *P. coccinea* as has been mentioned above covers southern Europe and West Asia, however the course of the limits of distribution, both in the first and in the second part of the range has not been studied in detail. The absence of such studies has been caused, particularly as regards the range in Europe, by the lack of agreement about the indiginity of the species occurrence in some regions. Ball (1968) reports that in southern Europe the species extends as far west as north eastern Spain, however many authors believe that the natural range of *P. coccinea* ends in Italy (Schneider, 1906; Hegi, 1922; Rehder, 1940; Jovanović, 1956; Em 1967). Hermann (1936) restricts the range even further, and considers western Dalmatia in Yugoslavia to be the western limit of the range. Hegi (*l. c.*) believes that in France *P. coccinea* has been planted only, and also Coste (1903) and Fournier (1962) are not fully certain about it being native in that country. Thus it is hardly surprising that Grossheim (1952) and Chassagne (1957) consider it to be an east-Mediterranean species.

The northern limit of the range of *P. coccinea* in the Balkans run through southeastern Bulgaria, Strandsha Mts. (fig. 1, 2), northern Greece, south and eastern Yugoslavia. In the latter country, in Macedonia, the extremal northern stands are to be found in the vicinity of Skopje (Em, 1967). Here *P. coccinea* grows at an elevation of up to 700 m. Further





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Fig. 2. Grazed form of *P. coccinea*. Bulgaria, Strandsha Mts.

west (Hayek, 1927) it is also known from Montenegro, Bosnia and Herzegovina as well as from Dalmatia and Croatia (Domac, 1950). In north-eastern Bulgaria, an isolated stand has also been reported by Stojanoff and Stefanoff (1948) from the village Aboba in the Novi Pazar country.

The southern limit is even less known. It is known only that *P. coccinea* occurs in the European part of Turkey on the Gallipoli peninsula and in Greece, on Samothrak Island (Ade, Rechingier, 1938), on Thasos Is. (Stojanoff, Kitanooff, 1950), in Thessaly near Litochoron at the feet of Mt. Olympus (Halácsy, 1901) and in Epirus near Kalentini (Halácsy, 1908).

Local maps of the species distribution have been published for Bulgaria by Stefanoff (1943) and for the Yougoslav Macedonia by Em (1967).

The range of *P. coccinea* is much better known in the Crimea, on the Caucasus and on the Black Sea in USSR. A listing of the stands in the Crimea has been reported by Vasilev (1960), and a point map of its distribution has recently been published by Kosykh (1967). According to these authors the species is restricted to only western Crimea — between Sevastopol and Alushta. It grows here in meadows and at forest edges, more rarely in the undergrowth of sparse pine or oak-hornbeam forests. Sometimes it is a component of shibliak communities.

A point map of *P. coccinea* distribution on the Caucasus and on the shores of the Black Sea has been published by Grossheim (1952). From this map it can be seen distinctly that most of the stands are scattered along the Great Caucasus range, and that on the Black Sea it grows



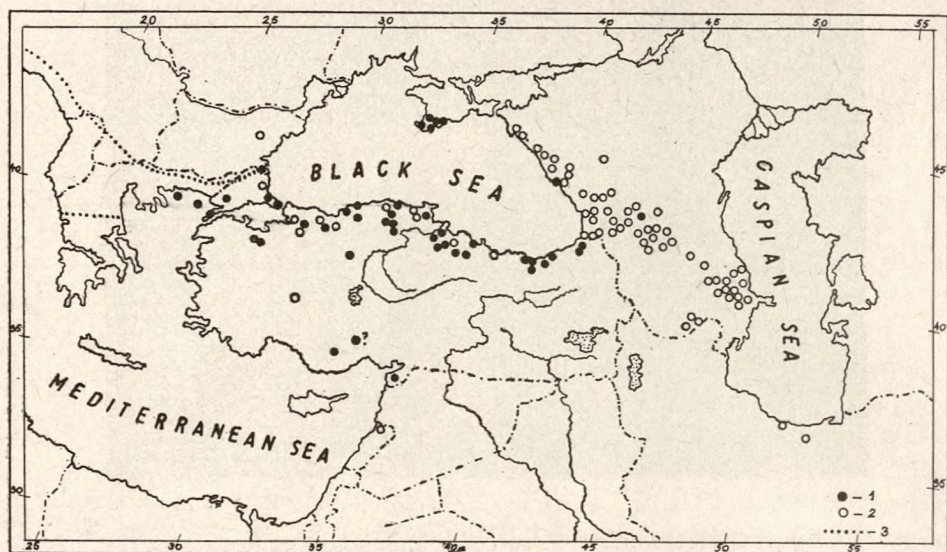


Fig. 3. Distribution of *P. coccinea*: 1. herbarium specimens, 2. literature, 3. presumed limit of *P. coccinea* occurrent in Europe

as far north as Novorossiysk. As regards the vertical distribution the shrub can be found from an elevation of only a few meters above the sea level (in the *Pinus pithyusa* reserve at Pitzunda which I have seen in 1968) to about 1650 m (Vorono v, 1924 - 25).

So far no detailed study of distribution of *P. coccinea* in West Asia has been reported. It grows there in three countries, in Turkey, in Lebanon and in Iran (fig. 3).

**1. Turkey.** The range of *P. coccinea* in Turkey consists of two parts. The first one which is the richest one, extends over the shoreline regions of northern Anatolia in an unbroken belt from the Istranca Dağları mountains in European Turkey to the borders of the USSR. Generally speaking the species does not cross the 42° parallel, and the only stand known to exist south of this line is to be found in the vicinity of Ankara (K a s a p l i g i l, 1958). It appears that throughout this region *P. coccinea* is a common species and grows usually up to an elevation 600 - 700 m. The highest stand has been reported by C z e c z o t t (1939) from Paphlagonia between Kürë and Edjevid, at 1350 m.

In Anatolia *P. coccinea* occurs primarily on dry and insolated places, on sandy dunes, rocky limestone slopes, in steppe, in valleys of small rivers and streams, on edges of pine or oak forests or in an oak scrub (*Quercus* ssp., *Carpinus orientalis*, *Paliurus spina-christi*) and in macchia.

More details about the plant communities in which this shrub participates can be found in the paper by C z e c z o t t (1939). According to her, on the hills near Bosphorus *P. coccinea* occurs in macchia together



with such species of trees and shrubs as: *Erica arborea*, *E. verticillata*, *Arbutus unedo*, *Quercus infectoria* subsp. *glabra*, *Q. coccifera*, *Phillyrea media*, *Juniperus oxycedrus*, *Pistacia terebinthus*, *Crataegus monogyna*, *Ligustrum vulgare*, *Rubus* spp., *Cistus villosus*, *Hypericum calycinum*, *Dorycnium latifolium* and *Ruscus aculeatus*.

A very different type of the community has been described by Czeczott (l. c.) on the highest stand of *P. coccinea* mentioned above, where on the northern slope of the mountain Kush-Tepe the species grows in the understorey of a mixed forest (*Fageto-Abietetum*). Among the tree flora of these forests there occur *Abies nordmanniana* var. *leioclada*, *Taxus baccata*, *Carpinus betulus*, *Fagus orientalis*, *Quercus bornmülleriana*, *Acer campestre*, *A. platanoides*, *A. pseudoplatanus*, *Fraxinus excelsior* and *Sorbus torminalis* and in the shrub layer there are *Corylus avellana*, *Rubus discolor*, *Ligustrum vulgare*, *Daphne pontica*, *Evonymus latifolia*, *Viburnum opulus*, *Crataegus monogyna*, *Sorbus graeca*, *Rosa canina* and others. However in this type of communities *P. coccinea* participates presumably only exceptionally.

The second, much poorer in stands and smaller part of the species range is to be found in southern Turkey, where *P. coccinea* has been found in the Cilician Taurus and in the Amanus Mts. The stand in the Taurus has not been mentioned in the literature yet. It was discovered in 1934 by E. K. Balls (in sched.) at an elevation of between 1150 and 1650 m. The most elevated stand found in 1899 Bornmüller, in the alpine region of the Sultan Dağları Mts. — 1700 m (Bornmüller, 1909). Besides also Tchihatcheff (1860) reports it also from Cilicia, from the Bulgardagh Mts., but here only from cultivation in the gardens of village Gulek, at an elevation of 1400 m. The stand in the Amanus has been known for many years. It is mentioned by Boissier (1888), Post (1896) and Thiebaut (1940). According to Delbès (in sched.) it occurs at an elevation of about 1100 m. It is very noteworthy therefore that there are no stands of *P. coccinea* in the lower, sea shore localities in contrast to the situation in the northern part of the country.

From Turkey two varieties of *P. coccinea* have been described. The first one Turrill (1924) reports from the Gallipoli peninsula under the name var. *aurantiaca*. It is characterized by orange instead of red fruits. On the basis of herbarium specimens it is difficult to comment on the value of this taxon. In the dry state fruit colour is usually to a greater or lesser extent changed and besides it is not always possible to tell whether they have attained a pigmentation typical for the variety. It may be that var. *aurantiaca* corresponds to the horticultural variety obtained in France in 1874 under the name 'Lalandei', which besides good growth differs also from the typical form in having orange-red fruits.

The second variety was described recently by Kasapligil (1958) under the name var. *kuntayi*. He has discovered it in the vicinity of Anka-



ra, in the Beynam Forest, at an elevation of 1200 m., on a northern exposition. It grows there together with *Sorbus aria*, *Lonicera etrusca*, *Viburnum lantana* and *Cotoneaster nummularia*. The most important characters of var. *kuntayi* are according to Kasa pligil deciduous leaves and gray indumentum on shoots and both leaf surfaces. He also points out that this pubescence is permanent in character and not periodic (e. g. restricted to early developmental stages) and that the typical *P. coccinea* from the sea shore regions is evergreen.

It appears that one has to be critical of the variety described by Kasa pligil. So far all the taxa of *Pyracantha* that are known are evergreen, and one could suspect that in the case of this variety we are dealing with a specimen or specimens that have been frost bitten during the winter. This condition is well known from cultivation, also in Poland, in the countries where temperature during severe winters falls below  $-20$  or  $-25^{\circ}\text{C}$ . Shrubs of *Pyracantha* that are not snow covered are then exposed to the desiccating action of the sun and loose leaves. Sometimes all the leaves are frost bitten, become brown and fall off in the spring and sometimes the process is slower, following slight frost damage, and then the process of leaves turning brown is gradual, over the spring and summer, so that some of the leaves fall and others remain on the bush besides new leaves that have developed from buds that were not damaged. It is possible that also in Beynam Forest, in the stand much removed from the shore of the Black Sea and at a high elevation *P. coccinea* is also damaged during the winter by colds.

As regards the pubescence of shoots and leaves, it occurs in *P. coccinea* on many individuals and in various form, as can be judged from herbarium specimens. It may be visible only on young shoots and leaves or it can be persistent for the whole vegetative period. This is also true for inflorescence axes and for pedicels. This character has been noticed by Pénzes (1959) who has described from the mountains Strandsha in Bulgaria a new variety of *P. coccinea*, namely var. *stojanoffi* with pubescent pedicels and dorsal leaf surfaces. Judging on the basis of the herbarium materials that I have access to I believe that the character of pubescence is a very variable feature and is not geographically localized in any way, and therefore it cannot be considered as sufficient to describe a variety. At best it can serve to describe a form. In any case further studies are needed conducted on fresh material on sites of natural occurrence of *P. coccinea* in order to determine the systematic value of the three varieties referred to above.

**2. Lebanon.** Mouterde was the first to discover *P. coccinea* in Lebanon, in 1932 near Fnaidé in a sterile condition and then in 1946 between Fnaidé and Marj Hin at an elevation of 1300 m with both flowers and fruits (Mouterde, 1947 and 1969 *in litt.*). The region of Fnaidé is



strongly deforested and the local population cares little for plant protection, and therefore Mouterde believes (*in litt.*) that this stand may no longer exist today. It is about 200 km from the stand in the Amanus mountains and presumably it demarcates the southern limit of the species range in West Asia. Kotschy (1861, page 250) reports *P. coccinea* also from a stand even further south, in the vicinity of the village Kubab (southern Palestine) however this information appears doubtful. It was never confirmed in later years nor was it documented by herbarium materials. On the other hand Kotschy was too good a botanist to mistake this species with some other. Thus the question is still open.

**3. Iran.** The information about the occurrence of *P. coccinea* in Iran is rather scanty and so far it is known only that it grows here in the Elburz Mts. where two stands have been reported (Parsa, 1948). This first one is mentioned by Bornmüller (1915) on the basis of collection made by Brunns in Käs-r-i-Kadjar east of Teheran. The second stand is located in the tectonic foreland of the Elburz, near Aliabad (Bornmüller, Gauba, 1942). Unfortunately accurate informations about these stands are lacking and it is not known in what conditions *P. coccinea* grows there nor at what elevation.

#### LOCALITIES IN W. ASIA

**Turkey.** Herbarium specimens: Aqueduct — Belgrad, 6. 1877 c. fl., Herb. Post. 364 (K.); Beyriek Dere Belgrad Forest, Istanbul, 100', 4. 6. 1935 c. fl., Balls 2378 (K. S.); Prov. Istanbul, Belgrad forest near Burunsuz, 26. 8. 1960 c. fl., Yaltirik (E.); Prov. Tekirdag; Malkara to Keşan, 200 m; scrub (*Quercus* ssp., *Pyracantha*, *Paliurus*) 12. 8. 1962 c. fr., Davis, Coode 39279 (E.); Gallipoli, Suan Dere about 300', 9. 1923 c. fr., Kett 79 (K.); Gallipoli — Jam Baz. Between Sogaule Dere and Jam Baz, 8-11. 5. 1923 c. fl., Ingoldby 184 (K.); Bocke; Brussa, 13. 5. 1930 c. fl., Wall 18 (S.); In Olympo Bithynico, c. fl. et. fr., ? (K.); About 25 Km S. of Akyazi, *Quercetum cerridis*, 230 m, 17. 7. 1963 c. fr., Plitman 54120 (H.U.J.); Betw. Abant and Bolu. *Abies-Pinus* forest, 2. 9. 1959 c. fr., M. et D. Zohary 2778 (H.U.J.); Prov. Zonguldak: 4-5 km E. of Zonguldak, 50 m; maquis, 16. 7. 1962, Davis, Coode, Yaltirik 37574 (E. K.); Prov. Zonguldak; Balikisik (near Yenice), 150 m. Rocky limestone slopes, in scrub, 22. 7. 1962 c. fr., Davis, Coode, Yaltirik 37998 (E.); Safranbolu, 1835 c. fl., Wiedemann (LE.); Zw. Safranbolu und Aradag, 1835, c. fl., Wiedemann (LE.); Zw. Hamamli und Safranbolu, 8. 6. 1835 c. fl., Wiedemann (LE.); Prov. Zonguldak, distr. Bartın. Bartın — Amasra. Sea level, 25. 8. 1960 c. fr., Khan, Prance, Ratcliffe 784 A (E. K.); Prov. Kastamonu. Above Inebolu, 350 m, maquis, 31. 7. 1962 c. fr., Davis 38515 (E.); Kastamonu, in steppe, 6. 6. 1954 c. fl., Davis 21587 (E. K.); Kastamonu, on hills with *Juniperus oxycedrus*, 8. 9. 1954 c. fr., Davis, Polunin 25066 (K.); Prov. Kastamonu: distr. Kastamonu. Road Kastamonu-Ilgaz, 900 m, 13. 8. 1960 c. fr., Khan, Prance, Ratcliffe 656 (E. K.); Algaz Dagħ nördl. Tosia, 17. 4. 1932 c. fr., Kotte (K.); Paphlagonia, wilajet Kastambuli, Tossia: Derinoss, 24. 5. 1892 c. fl., Sintenis 3985 (G. K. LE. W.); Ankara: Beynam orman, ca. 1200 m, 22. 6. 1945 c. fl., Kasapligil 253 (K.); Prov. Sinop: Genze — Boyabat, 1200 m, on side of range with *Pinus silvestris*, 7. 9. 1954 c. fr., Davis, Polunin 25022 (E. K.); Samsun: Kirazlik, sand dunes with mixed



growth, 1966 c. fl., Tobey 1692 (E.); Kierenlik village, betw. Vezirköprü and Çakıralan, ca. 50 km N. of Amasya, forest remnants 690 m, 10. 7. 1963 c. fr., Zohary, Orshan 107423 (H.U.J.); A few kms. S. of Amasia. Remnants of *Quercus cerris-Carpinus orientalis* forest, 400 - 600 m, 23. 8. 1959 c. fr., M. et D. Zohary 2029 (H.U.J.); Akdagh, c. fr., Manissadjian 800 (K. L. E. S.); Tokat — Artova, in oak scrub, 4. 9. 1954 c. fr., Davis, Polunin 24852 (E. K.); Prov. Ordu: Uniye, 300 m, scrub, 5. 9. 1954 c. fr., Davis, Polunin 24944 (E. K.); Tokat: Kischzuchdagh, 7. 1835 c. fl., Wiedemann (L.E.); Prov. Trabzon: Maçka, 500 m, roadside banks, 27. 4. 1960 c. fl., Stainton 8240 (E.); Between Trebizond and Erakli, 28. 5. 1933 c. fl. et fr., Balls 314 (K.); Trabzon: Höhen am Ostufer des Piksil su, 150 m, 16. 5. 1931 c. fl., Görz, 236 (L.E.); Trabzon. Hang südl. d. Stadt, 24. 5. 1931 c. fl., Görz 673 (B.M. L.E.); Trapezunt, in declivib. prope Dschevrislik, 30. 7. 1889, c. fr., Sintenis 1690 (G. K. S. W.); In regione Pontica, 28. 8. 1889 c. fr., Kousnetzoff (L.E.); Distr. Rize, im Flussgeröll westl. d. Stadt, 50 m, 9. 7. 1931 c. fr., Görz 762 (B.M. G. L.E.); Inter Trapezuntem et Baibout ad sepes prope Köprübachu, 5. 1853 c. fr., Huet du Pavillon (G. K.); Prov. Çoruh (Artvin): Borçka — Artvin, in Çoruh gorge, 500 m, N. slopes, 16. 8. 1957 c. fr., Davis, Hedge 32422 (E. K.); Prov. Batum, distr. Artvin: Dsanaul, ca. 500 m, 5. 7. 1912 c. fr., Holmberg 2209 (S.); Prov. Batumi, distr. Artvin supra Beschaul, 9. 3. 1908, Andronaki (T.B.I.); Burujik, Cilician Taurus, 3500', 9. 6. 1934 c. fl., Balls 1318 (B.M. E. K.); Limestone slopes in open woodland Burujik, Asir Gediçi, Cilician Taurus, 5000', 7. 6. 1934 c. fl., Balls, 1300 (E. K.); Mt. Amanus: N. de Deguirmen Déré à Kiz Kundja. Calcaires et gabbros 1100 m, 11. 1935 c. fr., Delbès 267 (H.U.J.); Umgebung von Constantinopel. Belgrader Wald bei Dschendere, 7. 6. 1896 c. fl., Nemetz (W.U.); Environs de Constantinople, Messarburun, 23. 5. 1897 c. fl., Nemetz (W.U.); Près Constantinople, 1830 c. fl., Herb. Montbrét. (W.); Constantinople, c. fl., Fontenay (G.); Aydos (Istanbul) 31. 5. 1950 c. fl., Baytop, Berk (G.); Olymp Bithin., 1839, Aucher-Eloy (W.); Prope urbem Trapezuntum ad vicum Stephanos, ca. 200 m, 7. 7. 1907, Handel-Mazzetti (W.U.); In dumetis prope Trebizonde, 8. 8. 1862 c. fr., Bourgeau (W.); Environs de Rhizè, 9. 1866 c. fl., Balansa (G.); Taurus 1836 c. fr., Kotschy (W.); Jardins du village Gulek-Boghas à l'ouest du defile des Portes Ciliciennes, 23. 2. 1855 c. fr., Balansa (G.).

Literature: North-east coast and the Istrancadağları; The Ergene basin; The Gandosdagi (Webb, 1966); Byzanthi in silva belgradensi, 23. 10. 1927 c. fr., Bernhard (Bornmüller, 1940); Belgrader Wald bei Dschendere (Rechinger, 1938); Massalak, 4. 6. 1908 (Evenari, Oppenheimer, 1938); Circa Byzantium: supra pagum Rumeli-Kavak, in macchia, 26. 1. 1925 (Czeczott, 1939); Circa Byzantium: supra pagum Sari-Yar, in macchia juxta viam, 2. 3. 1925 (Czeczott, 1939); In Olympi castanetis inferioribus sparse, 1500' (Grisebach, 1843 - 45; Tchihatcheff, 1860; Boissier, 1872); Izmit, 18. 7. 1945 (Kasapligil, 1958); Bithynia: Prope Brussa ad radices montis Olympi copiose, 19. 10. 1886 (Bornmüller, 1940); Bithynia: in planitie Ak-Ova. ad radices montium Cham-Dagh et Kurmaly-Dagh, in sepibus vivis vialibus (Czeczott, 1939); Düzce, Kotte, 14. 7. 1935 (Kasapligil, 1958); Bolu, 13. 7. 1935, Kuntay (Kasapligil, 1958); Zonguldak, 21. 9. 1940 (Kasapligil, 1958); Inebolu, 7. 1939, Birand (Kasapligil, 1958); Bartın, 22. 2. 1945, Yasar (Kasapligil, 1958); Ayancik, 13. 8. 1945 (Kasapligil, 1958); nordlich Bolu, etwa 800 m. Gebüsch am Rande eines Pinus nigra — Bestandes (Wagenitz, 1963); Paphlagonia: inter Küre et Edjevid, in declivitate boreali montis Kush-Tepe, in silva mixta, ca. 1350 m (Czeczott, 1939); Prope vicum Djazoglu (inter Sinopen et Tashköprü) in fruticetis ad rivulum Chamkeui-Su (in parte superiore vallis Kuru-Chai), ca. 820 m (Czeczott, 1939); Amasia: Ad basin spenentr. montis Ak-dagh, prope Ladik, 600 - 700 m, 23. 8. 1889 c. fr. (Bornmüller, 1940); in collibus apricis prope Amasia in m. Logman, 500 - 600 m, 11. 5. 1889 c. fl. (Bornmüller, 1940); Kastamonu, 7. 1939, Birand (Kasapligil, 1958); Im oberen Kalkanema Dere und besonders häufig um Fol Köi; Elewy Deressi; Ordu; Tschokdam



(Handel-Mazzetti, 1909); Cilicia: Bulgardagh: hortis pagi Gulek, 1400 m (Tchihatcheff, 1860); In dumosis montis Sultan-dagh in regionem alpinam usque, Tekedagh, 1700 m, 25. 6. 1899 (Bornmüller, 1909); Amanus (Boissier, 1888; Post, 1896; Thiebaut, 1940).

**Liban.** Literature: Liban Nord, près de Fnaidé, 15. 8. 1932 (Mouterde, 1947); entre Fnaidé et Marj Hin, vers 1300 m, 18. 6. 1946 (Mouterde, 1969, in litt.).

**Iran.** Literature: Teheran, bei Käs-r-i-Kadjar (Bornmüller, 1915); Prov. Gorgan (Masanderan), bei Aliabad in der Vorbergen des Elbrus, 17. 4. 1937 (Bornmüller; Gauba, 1942).

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KAZIMIERZ BROWICZ

*Pyracantha coccinea* Roem.

## Streszczenie

Do rodzaju *Pyracantha* Roem. zalicza się obecnie osiem gatunków, z których aż siedem występuje we wschodniej Azji — od Pakistanu po Taiwan. W południowej Europie oraz w Zachodniej Azji rośnie tylko jeden gatunek — *P. coccinea*. Jej zasięg nie jest jeszcze dokładnie poznany i to nie tylko na obszarze Azji, ale również w Europie. Wiąże się to z trudnościami oddzielenia stanowisk naturalnych od sztucznych. W związku z tym szereg autorów twierdzi, że zachodnia granica zasięgu w Europie przebiega przez Włochy, względnie przez Jugosławię (Dalmacja), a we



Francji i w Hiszpanii *P. coccinea* jest prawdopodobnie wprowadzona do uprawy i zdziczała. Mapy zasięgu tego gatunku dla Bułgarii opublikował Stefanoff (1943), dla jugosłowiańskiej Macedonii Em (1967), dla Krymu Kosych (1967), a dla Kaukazu i półwyspu Morza Czarnego w ZSRR Grossheim (1952).

Na podstawie bogatych zbiorów zielnikowych oraz danych z literatury autor opracował mapę punktowego rozmieszczenia stanowisk *P. coccinea* w Azji Zachodniej. Rośnie ona w całej Północnej Anatolii wzdłuż wybrzeży Morza Czarnego, a tylko nieznacznie wchodzi w głąb lądu (okolice Ankary). Oprócz tego odizolowane stanowiska znane są w południowej Turcji (góry Taurus i Amanus), w górach północnego Libanu oraz w masywie Elbursu w północnym Iranie. Jeśli chodzi o rozmieszczenie pionowe to *P. coccinea* występuje niemal od samych brzegów morza, aż po około 1700 m n.p.m.

Na obszarze Turcji zostały odkryte dwie odmiany *P. coccinea*: var. *aurantiaca* Turr. (półwysp Gallipoli) i var. *kuntayi* Kasapligil (koło Ankary). Pierwsza z nich ma się charakteryzować pomarańczowymi owocami, a druga opadającymi na zimę liśćmi, które podobnie jak i pędy są szaro owłosione. Autor krytycznie odnosi się do wartości tych odmian i przypuszcza, że opadanie liści u var. *kuntayi* związane jest z przymarzaniem i dlatego nie może stanowić cechy diagnostycznej.

КАЗИМЕЖ БРОВИЧ

### *Pyracantha coccinea* Roem.

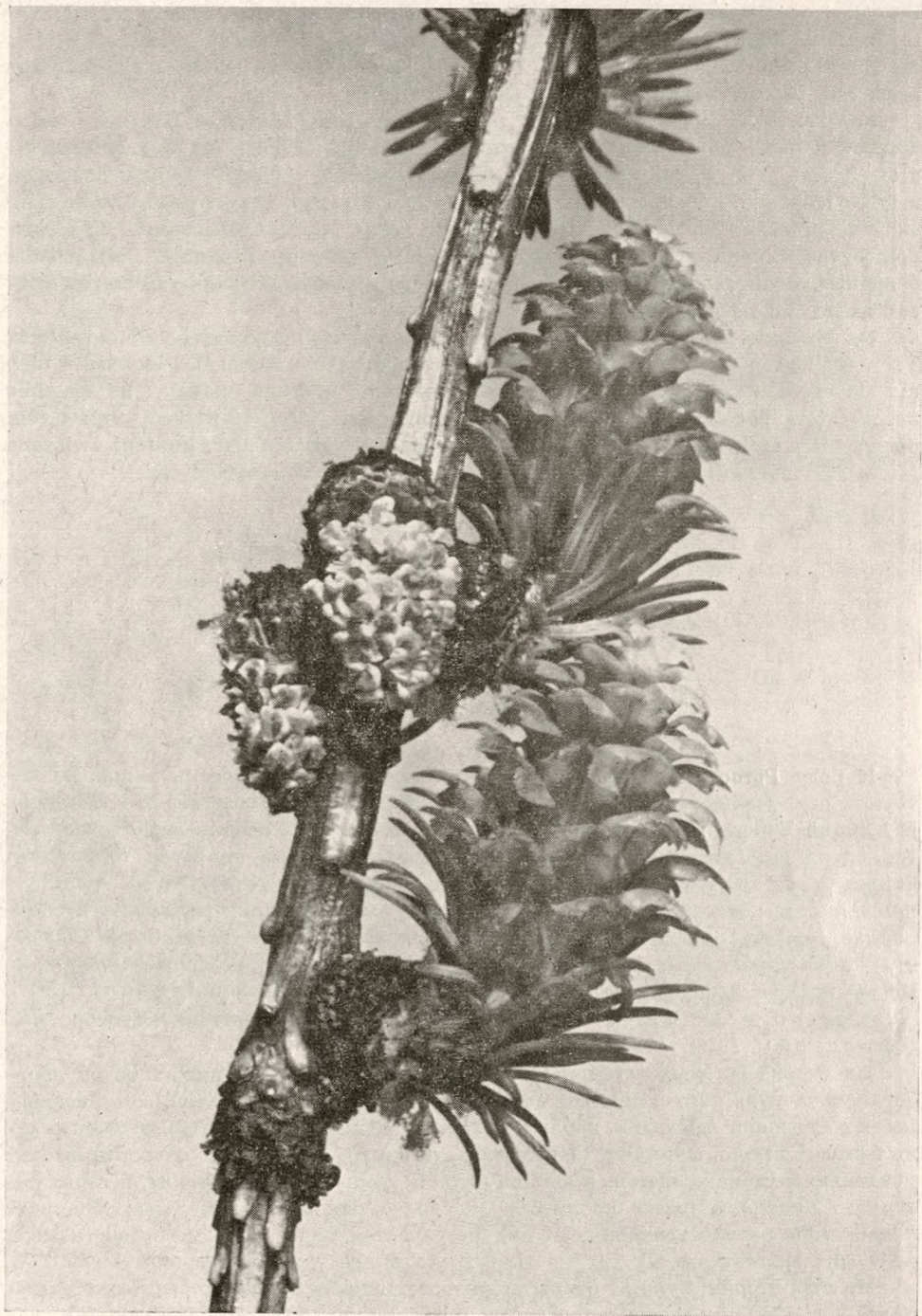
#### Резюме

К роду *Pyracantha* Roem. в настоящее время относят восемь видов, из которых семь представлено в Восточной Азии — от Пакистана до Тайваня. В Южной Европе и в Западной Азии произрастает только один вид *P. coccinea*. Его ареал ещё недостаточно выяснен не только в Азии, но и на территории Европы. Это связано с трудностями при разделении естественных местонахождений и искусственных. В связи с этим ряд авторов утверждает, что западная граница ареала вида проходит через Италию или Югославию (Далмация), а во Франции и Испании *P. coccinea* была интродуцирована и одичала. Карты ареалов были обработаны для ряда районов: Болгария (Stefanoff, 1943), Македония (Em, 1967), Крым (Косых, 1967), Кавказ и Черноморское побережье (Гроссгейм, 1952).

На основе богатых гербарных сборов и литературных данных автор обработал точечную карту местонахождений вида в Западной Азии. Он произрастает в Северной Анатолии, вдоль побережья Чёрного моря и лишь незначительно заходит вглубь материка (окрестности Анкары). Кроме того, известны изолированные местонахождения в южной Турции (горы Тавр и Аманос), в горах северного Ливана, а также на хребте Эльбурс (Северный Иран). Если речь идёт о высотном распространении, то вид встречается почти от самого берега моря до 1700 м над ур. м.

На территории Турции открыты две разновидности *P. coccinea*: var. *aurantiaca* Turr. (Галлипольский полуостров) и var. *kuntayi* Kasapligil (около Анкары). Первая из них характеризуется оранжевыми плодами, вторая — опадающими на зиму листьями (как и побеги серопушенными). Автор критически относится к этим разновидностям. Он предполагает, что опадение листьев у var. *kuntayi* связано с их примерзанием и поэтому не является диагностическим признаком.





Fot. K. Jakusz

*Larix decidua* Mill. — kwiaty żeńskie i męskie