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Chorology of *Aristolochia sempervirens* L. (*Aristolochiaceae*)*

Abstract

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On the basis of herbarium collections and literature data the range of *Aristolochia sempervirens* L. is discussed and a point map of geographic distribution is presented for this evergreen climber in the eastern Mediterranean region.

Additional key words: Chorology, Mediterranean region, *Aristolochia*.

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In the Mediterranean area, both in its European and African part as well as in South-West Asia there occur about 40 species of the genus *Aristolochia* (Greuter et al. 1984). Their greatest concentration is in Anatolia where there are 28 species 9 of which are endemites (Davis, Khan 1982; Davis et al. 1988). In southern Europe 21 species are known of which 11 are reported from Greece while in Portugal, Spain. Italy, Jugoslavia and Albania there are in each of these countries from 5 to 8 species. On the other hand in South-West Asia beyond Anatolia 7 species occur in Syria and in Lebanon (Mouterde 1966), 6 in Palestine (Zohary 1966), and on the Caucasus (Czerepanov 1981), 5 in Iran (Rechinger 1966) and 2 in Iraq (Townsend 1980) and on Cyprus (Meikle 1985). In northwest Africa there are much fewer species numbering only 7, this concerning only Morocco and Algeria. No representative of the genus *Aristolochia* is known from Libya.

Most of these species are herbaceous plants, usually not taller than 20 - 30 (50) cm and only few of them attain a height of 80 - 100 cm, as for example the most widely distributed *A. clematitis* L. Only two species are evergreen climbers, the thin and little stems of which attain a length of more than 1 m. One, *A. baetica* L. is from southern Portugal, southern Spain and northwest Africa (Morocco, Algeria) and

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the others is *A. sempervirens* L. interesting us here. These two species are closely related, the difference being that *A. baetica* has glaucous leaves and glabrous ovary and pedicels, while *A. sempervirens* has green leaves and pubescent ovary and pedicels (Ball 1964).

Until recently a third evergreen species was recognized, which has been described from Algeria as *A. altissima* Desf., which has been also treated as subspecies: *A. sempervirens* L. subsp. *altissima* (Desf.) Greuter (Greuter 1977). It was considered to be a western Mediterranean taxon (Algeria, Sicily), while *A. sempervirens* as an eastern Mediterranean one, and it was in this manner that their ranges have been presented on the map prepared by Nardi (1984). Detailed studies on these two taxa conducted by Davis and Khan (1961, 1982) and then by Nardi and Nardi (1987) have shown that they should be treated as only one species and that the name „*A. altissima*" should enter the synonymy of *A. sempervirens*. This latter opinion has recently met with full approval (eg. Zohary 1966; Meikle 1985).

A. sempervirens is a woody climber with glabrous, green stems attaining a length of 3 - 5 (6) m, supported by other shrubs growing with it or twining anticlockwise over them. Its evergreen, subcoriaceous leaves are triangular-ovate, 6 (- 10) cm long and 4 - 6 cm wide, deeply cordate at base and with acute or obtuse apices, margins entire or minutely erose, on petioles 1 - 1.5 cm long. Flowers are solitary, axillary, 2 - 4.5 cm long, with a zygomorphic perianth and narrow, cylindrical, bent like a pipe, thin (2 mm) tube, swollen at the base and wideing on the tip, yellow inside and brownish-purple outside, hanging on a pedicel 1 - 3 (- 4) cm long. The fruit is an oblong or sphaerical capsule, up to 4 cm long and 2 (- 3) cm wide, splitting incompletely from the base into 6 segments, with numerous, triangular, compressed seeds.

A. sempervirens enters into various types of thickets, particularly into the subhumid maquis, together with species from the genera *Quercus*, *Pistacia*, *Rubus*, *Rosa*, *Lonicera*, *Clematis*, *Smilax* and others. It usually grows on a limestone or calcareous substratum and on shady rocks. It occurs on lower located regions, almost from the sea shore to usually about 400 - 500 m, however, it does occur occasionally higher as for example on Samos Is. where it has been found between 500 and 800 m, and on Crete where it has been found also above 1000 m. Zaffran (1976) reports that he was collecting *A. sempervirens* on that island on Mt. Hagios Pneuma even at 2000 m.

A. sempervirens belongs to those Mediterranean species the range of which are very extended in the southern part of the region and cover primarily the islands (Sicily, Crete, Cyprus). The range is disjunctive in nature extending from Algeria (Oran sector) in the west, through southeastern Sicily, southern Greece (primarily the Peloponnesus and Crete) and from Cyprus to southwestern Syria, Lebanon and northern Palestine in the east. While Ball (1964) and Jalas and Suominen (1976) include southern Italy in the range, this was not confirmed by the monographic study of Nardi (1984) who discussed the genus *Aristolochia* in that country.

Very surprising are two stands much separated from the rest of the range, namely on Samos Is. and in northwest Anatolia, on Kaz Dagi. On the latter stand, the only

one in Anatolia (Herbarium Berlin-Dahlem) *A. sempervirens* has been discovered more than 100 years ago by Sintenis, however, since that time, while the Kaz Dagi region has been visited by numerous botanists the stand has not been seen again, one should doubt therefore that it still exists.

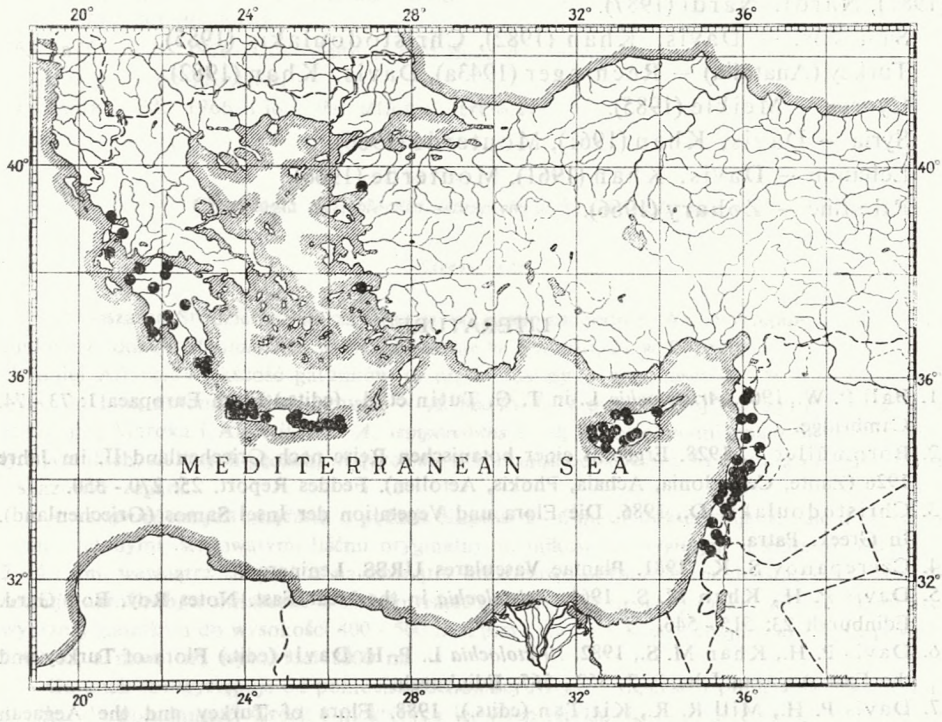

Fig. 1. Distribution of *Aristolochia sempervirens* L. in the eastern Mediterranean

Furthest to the north (excluding the stand from Anatolia) *A. sempervirens* reaches in western Greece to the vicinity of Preveza, more or less to 39° N and furhest to the south in Palestine, where it most likely does not cross 32° N.

A point map of the distribution of *A. sempervirens* in Europe has been published by Jalas and Suominen (1976), however, in view of the quadrat approach adopted in that study, the map is of a very general character. On the other hand Nardi (1984) published a point map of distribution of the species in Sicily with a list of stands.

The point map of distribution (Fig. 1) presented here for the eastern Mediterranean, that is without Algeria and Sicily, has been prepared on the basis of herbarium materials stored in the following Herbaria: ATH,B, BM, E,K,W and from own collection made in Greece (KOR), as well as basing on floristic literature. Below I present sources of these informations, separately for each country or island.

Algeria – Maire (1961), Quezel, Santa (1962).

Sicily – Nardi (1984).

Greece – Halácsy (1904, 1912), Bornmüller (1928), Davis, Khan (1961), Greuter (1977), Schoutten (1977), Nardi, Nardi (1987),

Ithaki Is. W Halácsy (1904).

Kithira Is. – Greuter, Rechinger (1967).

Crete – Rechinger (1943b), Davis, Khan (1961), Zaffran (1976), Strasser (1981), Nardi, Nardi (1987).

Samos Is. – Davis, Khan (1982), Christodoulakis (1985).

Turkey (Anatolia) – Rechinger (1943a), Davis, Khan (1982).

Cyprus – Meikle (1985).

Syria – Davis, Khan (1961), Mouterde (1966).

Lebanon – Davis, Khan (1961), Mouterde (1966).

Palestine – Zohary (1966).

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Chorologia *Aristolochia sempervirens* L. (*Aristolochiaceae*)

Streszczenie

W obszarze Śródziemnomorza oraz w północno-zachodniej Azji występuje około 40 gatunków z rodzaju *Aristolochia*, w tym 23 rośnie w Anatolii, 21 w Europie, a 7 w północno-zachodniej Afryce. Większość gatunków to niskie rośliny o wysokości 20 - 50 cm, wyjątkowo tylko do 1 m, natomiast dwa gatunki — *A. baetica* L. z południowej Portugalii, południowej Hiszpanii, Maroka i Algierii oraz *A. sempervirens* L. są zimozielonymi pnączami o zdrewniałych, cienkich, zielonych pędach, wijących się w kierunku odwrotnym do kierunku poruszania się wskazówek zegara.

A. sempervirens jest pnączem o pędach długości 3 - 6 m, charakteryzującym się dość sztywnymi, zielonymi, sercowatymi liśćmi oryginalnymi, fajkowato wygiętymi kwiatami o długości 2 - 4,5 cm, wewnątrz żółtymi, a na zewnątrz brązowawo-purpurowymi. Rośnie on w różnego rodzaju zaroślach, a zwłaszcza w zbiorowiskach nieco wilgotniejszej makii, niemal od samych wybrzeży morskich do wysokości 400 - 500 m n.p.m., choć na Krecie znajdowany był i powyżej 1000 m, a nawet na wysokości 2000 m.

Gatunek ten występuje od północno-zachodniej Afryki (Algieria) i południowo-wschodniej Sycylii, do południowej Grecji i niektórych jej wysp (Itaka, Kithira, Kreta), Cypru oraz zachodniej Syrii, Libanu i północnej Palestyny. Ponadto dwa znacznie izolowane stanowiska znane są z północno-zachodniej Anatolii (Kaz Dagi) oraz z wyspy Samos.

Na podstawie materiałów zielnikowych, w tym i własnych zbiorów z Grecji oraz danych z literatury, autor opracował punktową mapę (Fig. 1) rozmieszczenia *A. sempervirens* we wschodnim Śródziemnomorzu (bez Algierii i Sycylii).