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Jabal El-Arab: A Mediterranean Island

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The Middle East as one of the centers of diversity in West Asia contains many spots of rich biodiversity both in terms of species and habitat types. Jabal El-Arab is one such center. It lies in the southern corner of Syria on the Syrian-Jordanian border between longitudes 32° 07ËE and 33° 01ËE and latitudes 36° 15ËN and 37° 00ËN, about 300 km from the Mediterranean Sea. The topography of the area varies from level-lands at 600 m a.s.l. to high mountainous peaks at 1800 m. The climate is dry to semi-dry, and the annual precipitation ranges from 250 mm in the north and south-east to 530 mm in the central and elevated parts.

Jabal El-Arab has not received adequate study of its ecology and flora. The only reference to this area is found in the Mouterde's Flora published in 1953, where it is reported that plant gatherers reached this area only recently as it is far from the main roads and has a rough topography. Mouterde's flora of Jabal El-Arab indicates that more than 900 plant species are found in the area.

From 1996 to 2000 an inventory study of the ecology and vegetation of the area indicated that more than 512 plant species were still found. Jabal El-Arab constitutes only 1/45 of the area in Syria, but its flora represent about 1/6 of the Syrian flora and more than a third of plant families.

Three main vegetation types are found in Jabal Al-Arab:

1. Degraded forest-like community of *Pistacia atlantica-Amygdalus korschinskii* in the north of the area (Laja area).
2. Open-forest community of *Quercus calliprinos-Crateagus azarolus* in the central area.
3. Rangelands and woody-formations of the shrubs surrounding the Jabal El-Arab where genetic resources of wheat and barley (wild *Triticum* and *Hordeum*) are found.

Recent surveys reported new records within the flora of Jabal El-Arab. The total number of the new records in the study was 41 species, belonging to 14 families and 33 genera. The two predominant families are Poaceae and Fabaceae with 11 and 10 species, respectively. In comparison with the *Nouvelle flore du Liban* et de la Syrie of Paul Mouterde (1966-1983), 29 species from this study were new to the flora, 16 of these were found in Lebanon, 10 were new records for Jabal El-Arab, and 3 species were first records in Syria.

From a biogeographical viewpoint, the flora of Jabal El-Arab consists of Mediterranean species in the form of either mono-biogeographical region or bi-regional with the Irano-turanian phytogeographical elements. The phytogeographical origins of the Jabal El-Arab's flora explain the designation of Jabal El-Arab as a Mediterranean island by Zohary (1966).

General view of Jabal Al-Arab at Sweida.

One of the heavy grazing pressure indicators *Peganum harmala* in the Laja areaa.

Over view on the forest -like area showns three main floristic elements *Pyrus syriaca, Crataegus azarolus* and *Quercus calliprinos* (Atiel village).

Impact of Human Activities

Extension of the grazing roads of the Bedouin herders has promoted the expansion of the Irano-Turanian elements towards the Mediterranean Basin. A major task is to characterize the kind of disturbance caused by human activity and its role in shaping new routes of dispersal, which facilitate colonization by new "invaders."

The grasses and weedy annuals have a greater rate of spread and are distributed more widely in the other areas within Syria. This feature is undoubtedly linked with the higher organic content of the Jabal El-Arab's soil and the higher annual rainfall within the area. But it should be mentioned here that, in the past three decades, agricultural activities, the spreading of the grazing into the Jabal El-Arab area and, lately, the use of heavy machines have favored the spreading of patches of some species.

Observations from the GEF-UNDP Agrobiodiversity Project

Jabal Al-Arab is located in Sweida region, which is one of the target areas of the GEF-UNDP Dryland Agrobiodiversity Project. In its efforts to promote in situ conservation of local agrobiodiversity, the Project team in collaboration with the international experts from ICARDA and ACSAD, have conducted ecogeographic and botanical surveys and many visits with the farmers in the five villages in Sweida. The preliminary results showed the extension of land reclamation for the plantation of fruit trees, mainly apple trees, and of grazing mainly in the drier parts. These two factors have affected drastically the local biodiversity mainly of wild species such as Triticum

species, wild almond, pears and pistachio for which only a few populations are remaining in the region compared to the documented information 20 years back. The landraces of durum wheat, barley, lentil and chickpea are still used by the farmers but their acreage has dropped significantly. Grapes, which predominated in the past, are largely replaced by the progression of the plantations of two introduced varieties of apple. Figs were also highly affected and only few farmers have kept the local varieties. The botanical surveys showed that many reported species were not found in the project sites and even for the one found, its populations are limited due to the effects of overgrazing. This area is considered as one of the few remaining areas where *Triticum dicoccoides* and *Triticum urartu* are still found.

For further details: Chikhali, M. (2000): Ecology and vegetation of SE Syria (Jabal El-Arab). Berichte des Institutes fuer Landschafts- und Pflanzenoekologie der Universitaet Hohenheim. Beiheft 11. Guenter Heimbach press, Stuttgart, Germany.

Dwarf shrub of *Pistacia atlantica* in Laja area.