

A NEW RED LIME
(*Tilia rubra* D.C. subsp. *caucasica* (Rupr.))
DISPERSAL AREA

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During the research connected with the vegetation geography in the west region of the Lake District in August 1988, at 1200 m on the north slope of Asar Tepe, northeast of Bucak (Burdur) we found Red lime (*Tilia rubra* D.C. subsp. *caucasica* (Rupr.)). According to present literature this new location of the *Tilia rubra* subsp. *caucasica* has only been detected by us for the first time¹.

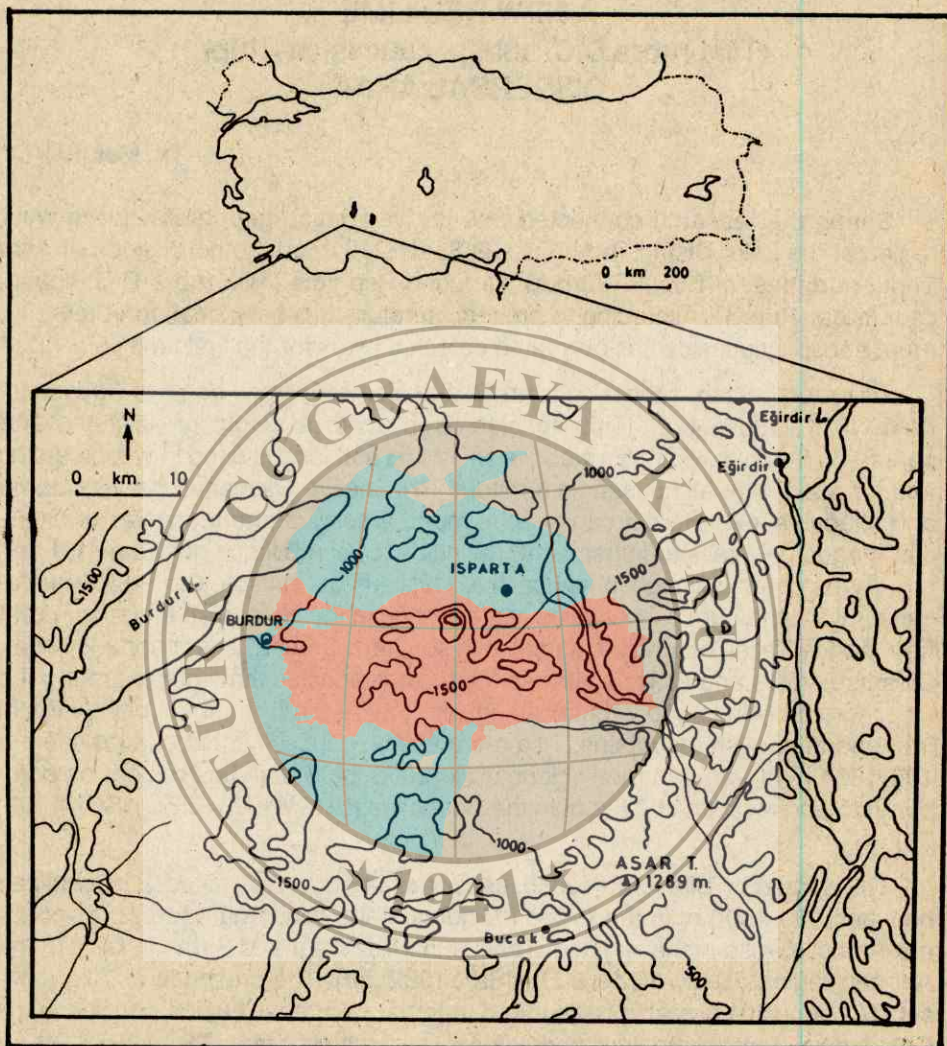
Tilia rubra subsp. *caucasica* is an Euxine element whose origin is Caucasus (YALTIRIK, 1966: 422). This species rises up to a height of 35-40 m and spreads 1.5-2 m in width. Its wood is shiny and soft and is used in wood carving and for making small household furniture. In its native Caucasus it favors damp and shady valleys. Here it can also be found among different species of *Quercus*, *Fagus orientalis* together with *Fraxinus excelsior*, *Ulmus glabra* and *U. minor*, *Pyrus communis* subsp. *caucasica*, *Mespilus germanica*, *Crataegus pentagyna*. *Tilia rubra* subsp. *caucasica* can be found in the Hyrcanian forests of north Iran, on the Talish mountains and also in southern Crimea. *Acer cappadocicum*, *Diospyros lotus* and *Albizia julibrissin* are some species that spread among the alder forests (*Alnus subcordata*) along with the *Tilia rubra* subsp. *caucasica* in Iran and the Talish mountains. *Tilia rubra* subsp. *caucasica* that can be seen at 100-1600 m in Iran can rarely climb up to 2000-2400 m in this region; as compared to an elevation of 2200 m in the Caucasus (BROWICZ - ZIELINSKI, 1982: 56).

The spread of *Tilia rubra* subsp. *caucasica* in Turkey is limited; it is localized between 300-1500 m in the mixed (deciduous and coniferous) forests of northern Anatolia. Also in the isolated areas of the Kaz Dağı and Samsun Dağı in the Aegean region (BROWICZ - ZIELINSKI, 1982: 56). The presence of *Tilia rubra* subsp. *caucasica* has also been found together with other Euxine species in the Çubuk district of Ankara, in Karagöl during a recent research (ERİK, 1976:61).

During the survey last year we found the presence of *Tilia rubra* subsp. *caucasica* of Asar Tepe, a 1289 m hill in the west region of the Lakes District (Map 1). The northern and southern slopes of Asar Tepe are covered with dry forest. The dominant element of these forests is *Pinus brutia*. Dispersed among the southern slopes of *Pinus brutia* forests are *Quercus trojana*, *Celtis glabrata*, *Jasminum fruticans*, *Rosa canina*, *Daphne sericea*, *Quercus coccifera*, *Juniperus oxy-*

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Map 1

cedrus and *Crataegus monogyna*. The *Pinus brutia* forests that cover the northern slopes as well disappear completely at the level of 1200 m. The undergrowth of this forests consist some macchia elements such as *Quercus coccifera*, *Styrax officinalis*, *Juniperus oxycedrus*, *Cistus laurifolius* and species like *Crataegus monogyna*, *Daphne sericea*, *Fontanesia phillyreoides*. The comparatively humid characteristic of the vegetation earns is in complete contrast to this region. Above the 1200 m level a wall of calcareous rock rises steeply.

The calcareous surface correspond to the steepness of the cuesta that Asar Tepe constitutes in this area. Under the steepness of the cuesta is a slightly

layer of clay forming the top layer of the glacia where *Tilia rubra* subsp. *caucasica* existed due to the local conditions provided by the geomorphologic structure.

It is a fact that even though limestone has a very low rate of porosity, absorbs water easily because of its cracks and diaclose systems. On the other hand, the porosity rate of clay is quite high. But the spaces between clay particles is very small. When they come in contact with water clay particles swell and become nonporous. Water that sips through the diaclose systems of calcareous layers are trapped in the clay layer. The top part of the glacia area on the northern slope is more shady because of the sharp slant of the steepness of the cuesta. As a result a more humid environment is established on the glacia area as compared to its surroundings for environment conditions.

Tilia rubra subsp. *caucasica* has been found in this local environment conditions. It stretches 1-2 km in clusters of 15-20 trees along the cuesta steepness and ends where the cuesta steepness ends. Other species found in the area are *Pinus nigra*, *Cedrus libani*, *Ables cilicica*, *Acer hyrcanum*, *Fraxinus ornus* subsp. *cilicica*, *Quercus cerris* X *Q. ithaburensis* subsp. *macrolepis*, *Ostrya carpinifolia*, *Juniperus foetidissima*, *Quercus cerris*, *Cistus laurifolius*, *Cornus mas*, *Cotoneaster* sp. and *Celtis glabrata*.

The fact that *Tilia rubra* subsp. *caucasica* has been found at Asar Tepe is very important because it is the furthest southern end of its known spread in Turkey. It is possible that this species which is an Euxine element had a spread all the way to Mediterreane region at one time. That is why it can be said that *Tilia* is a relict protected by the local conditions stated in this paper.

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