



IUFRO JOINT MEETING

7-03-01 Cone and Seed Insects

7-03-06 Integrated Management of Forest Defoliating Insects

7-03-14 Entomological Research in Mediterranean Forest Ecosystems



TÜBİTAK

FIELD TRIP PROGRAM

13 April 2014 – Sunday



08.00	Departure from the hotel	12.00-14.00	Cedar forest visit (cedar needle moth and cedar bark beetle - Coffee Break)
08.45-09.30	Trip to a pine processionary moth site	14.00-16.00	Bus ride to Ulupınar
09.30-10.45	Bus ride to Elmalı-Avlan Lake	16.00-17.45	Lunch (Botanik Restaurant)
10.45-11.15	Avlan Lake visit	18.00-18.45	Trip to Phaselis Ancient City
11.30-12.00	Monumental <i>Juniperus foetidissima</i> (stinking juniper) (şah ardıç) visit	19.00-20.00	Trip to Kemer Folkloric Yuruk Park
		20.00-21.00	Bus ride back to the hotel

PINE PROCESSIONARY MOTH

Pine processionary moth (PPM) that has been known to exist in Turkey for more than 150 years distributed in this country almost along the entire coast line. Until recently, the common PPM species in Turkey had been thought as *T. pityocampa*. However, current studies showed that the common species in Turkey is *T. wilkinsoni* with a smaller *T. pityocampa* range in the European Turkey. A contact zone between the two PPM species, *T. wilkinsoni* and *T. pityocampa* presents in northwestern Turkey.



AVLAN LAKE



The lake is situated within the borders of Elmalı district in Antalya and at the lower slopes of the Bey Mountains. The mean annual precipitation in the area is 478 mm. The most arid and hottest month is August, with mean temperature of 31,5 °C. The annual mean temperature is 10,8 °C. Maquis, *Juniperus*, *Cedrus* and Alpin communities are the vegetation types of the area. *Juniperus*, *Cedrus*, *Atraphaxis billardieri*, *Vicia cracca subsp. Stenophylla*, *Achillea peronini*, *Marrubium bourgei*, *Onobrychis cornuta*, *Agropyron divarcatum* species present in this area. The Cedar Research Forest lies in the north of Lake and a quarry in the south of the Lake. Besides, there is a road in the middle of the Avlan Lake. Drying efforts had started with the aim of increasing the agricultural lands in 1978. Water retention in Avlan Lake was finally succeeded in 1997.

LEBANON CEDAR FOREST



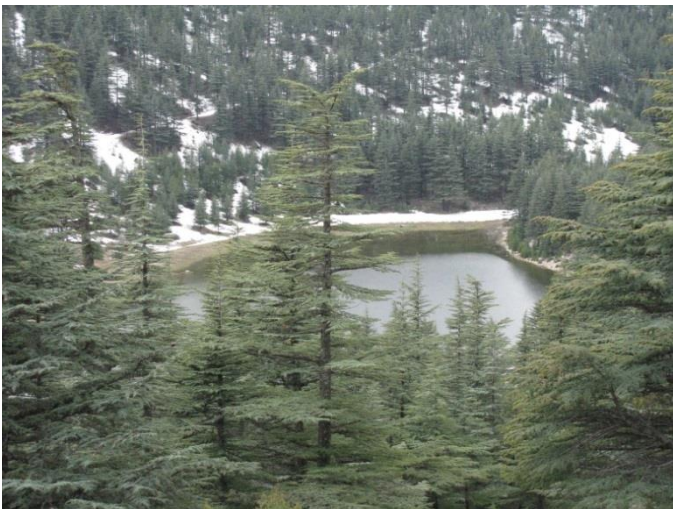
Lebanon Cedar (*Cedrus libani* A. Rich.) has historical, cultural, aesthetic, scientific, and economic significance. It is currently found primarily in the Taurus Mountain range. Historical records indicate extensive and magnificent forests of Lebanon cedar also presented in Syria and Lebanon; however, heavy cutting, burning, and goat grazing during the past 5.000 years have left only small populations in Syria and Lebanon. Although human impacts have continued in Anatolia for thousands of years, almost inaccessible topography of the Taurus Mountains has prevented Lebanon cedar forest from being totally destroyed.

Lebanon cedar in the Taurus Mountains occurs generally between 800 and 2100 meters of elevation, but it can be found at lower (500-600 m) and higher (2400 m) elevations as small groups and individuals. Some scattered populations can be found in other parts of Anatolia such as Sultandağı-Afyon and in the Black Sea region (Çatalan-Erbaa and Akıncıköy-Niksar). Presently there are 109,440 hectares of pure natural Lebanon cedar forests either in normal (71,452 ha) or degraded (37,988 ha) conditions. But together with its mixed and/or extremely degraded stands and bare karstic lands occurred after degradation of Lebanon cedar, range of this species covers an area of 463,521 ha in Turkey.

Lebanon cedar occurs at Supra-Mediterranean, Mountain-Mediterranean and Oro-Mediterranean zones on the Taurus Mountains facing seaside, where per humid, humid, sub-humid and semi-arid climatic conditions prevail. Lebanon cedar vegetation in the Taurus Mountains occurs in two main vegetation types, the *Abieti-Cedrion* forests in the middle and eastern Taurus Mountains, and the *Lonicero-Cedrion* forests in the eastern Taurus Mountains.

THE CEDAR RESEARCH FOREST

Elmalı Cedar Research Forest maintained a 'research forest' status after being registered transferred to the Station of Antalya Research Institute since 12.12.1962. It is situated in the Province of Antalya. It lies between the latitudes $36^{\circ} 33' 26''$ – $36^{\circ} 36' 18''$ N and the longitudes $29^{\circ} 57' 03''$ – $30^{\circ} 04' 13''$ E. The forest covers 2616,9 ha total area, 1586,9 ha of which is productive area, 337,8 ha is destroyed and 692,2 ha is open area. The highest elevation of the area is 1900 m. In between Elmalı plain (Avlan Lake) and Camkuyusu Cedar Research Forest *Juniperus* is widely distributed especially at 1200-1400 m, and *Cedrus* is totally dominant above 1400 m. Heterogeneous stands of *Cedrus* are conspicuous along the altitudinal gradient. The vegetation below 1600 m consists of *Acer hyrcanum*, *Quercus coccifera*, *Fraxinus ornus* ssp. *cilicica*, *Sytrax officinalis*, *Juniperus excelsa*, *Juniperus foetidissima*, *Lonicera etrusca*, *Rosa canina*, *Berberis cretica* entering into *Cedrus libani* forest, whilst above 1600 m *Juniperus foetidissima*, *Achantolimon oliveri* and *Verbascum lasianthum* occur together with *Cedrus*. The Mediterranean climate is dominant in the area.





CEDRUS BARK BEETLE

Orthotomicus tridentatus Eggers, 1921 (Col.: Curculionidae, Scolytinae) is the most important forest pest attacking cedar stands in Turkey. The length of adults is between 2.5 and 3.9 mm. They open galleries in wood. Main galleries are “S” shaped. *O. tridentatus* is a monophagous species for *Cedrus libani* A. Rich. and also endemic for Turkey. It has two generations per year. The first mating period is at the end of April and the second mating period in the second half of August. It hibernates as a young adult.



CEDAR NEEDLE MOTH

The cedar needle moth, *Acleris undulana* Walsingham (Lepidoptera: Tortricidae), is one of the most important pests that is seen in almost whole cedar forests of Turkey. Its damage is in the form of visual impairment caused by the newly hatched larvae mining the needles and losses occurring in the tree growth. In addition, its damage is also important that trees weakened by cedar leaf moth are more susceptible to other insects and diseases. Adults emerge in July and overwinter, ovipositing in the late spring (up to

June) of the following year. The newly hatched larvae mine the needles, while the older ones fed within a nest of needles joined together with silk. Pupae can be observed on the trees from mid-July to mid-August and both larval and pupal development is very rapid. It has one generation per year.



PHASELIS ANCIENT CITY

Phaselis is an ancient Greek and Roman city on the coast of Lycia. Its ruins are located in the north of the modern town Tekirova in Kemer district of Antalya Province. It lies between the Bey Mountains and the forests of Olympos National Park.

The town was set up by the Rhodians in 700 BC. Because of its location on an isthmus separating two harbours, it became the most important harbour city of the western Lycia and an important centre of commerce between Greece, Asia, Egypt, and Phoenicia, although it did not belong to the Lycian League. The city was captured by Persians after they conquered Asia Minor, and was later captured by Alexander the Great.

After the death of Alexander, the city remained in Egyptian hands from 209 BC to 197 BC, under the dynasty of Ptolemaios, and with the conclusion of the Apamea treaty, was handed over to the Kingdom of Rhodes, together with the other cities of Lycia. From 190 BC to 160 BC it remained under Rhodeian hegemony, but after 160 BC it was absorbed into the Lycian confederacy under Roman rule. Phaselis, like Olympos, was under constant threat from pirates in the 1st century BC, and the city was even taken over by the pirate Zekenites for a period until his defeat by the Romans. In 42 BC Brutus had the city linked to Rome.

During the Byzantine period, the city became a bishopric, although in the 3rd century AD, its convenient harbour had fallen under the threat of pirates once again. So it began to lose importance, suffering further losses at the hands of Arab ships, until totally impoverished in the 11th century AD. There was a temple of Athene at Phaselis, where

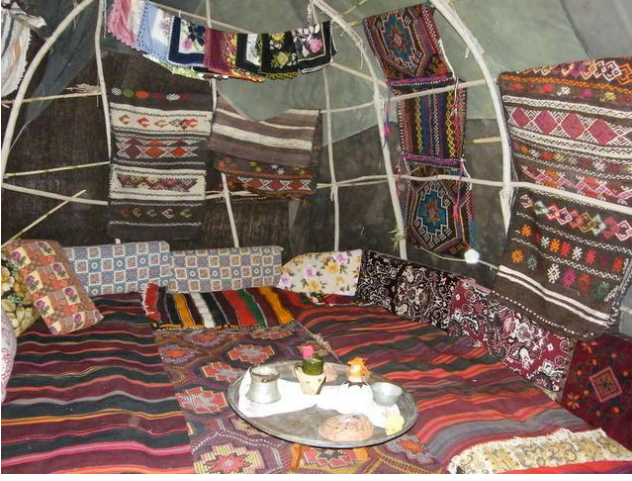
the lance of Achilles was exhibited. It was the birthplace of the poet and orator Theodectes. It was also renowned for its roses, from which the essence was extracted.^[1] When the Seljuqs began to concentrate on Alanya and Antalya as ports, Phaselis ceased to be a port of any note.

Phaselis has three harbours: the 'Northern Harbour', the 'Battle Harbour' and the 'Protected (Sun) Harbour', of which the last is the most important today. A 24-metre-wide ancient street runs through the middle of the city. The 'Hadrian Waterway Gate' is on the southern part of the street. There are ruins of shops and stores on the sides of the street and near these are ruins of public places such as Roman baths, agoras and theatres. These structures are dated to the 2nd century BC. There are water canals between the town centre and the 70 m plateau. There are also numerous sarcophagi.



KEMER FOLKLORIC YURUK PARK

The Yörüks, also Yuruks or Yorouks are a Turkish group of people, some of whom are nomadic, primarily inhabiting the mountains of Anatolia. The Yörüks of Anatolia are often called by historians and ethnologists by the additional appellative 'Yörük Turcoman' or 'Turkmens'. In Turkey's general parlance today, the terms "Türkmen" and "Yörük" indicate the gradual degrees of preserved attachment with the former semi-nomadic lifestyle of the populations concerned, with the "Turkmen" now leading a fully sedentary life, while keeping parts of their heritage through folklore and traditions, in arts like carpet-weaving, with the continued habit of keeping a *yayla* house for the summers, sometimes in relation to the Alevi community etc. and with Yörüks maintaining a yet stronger association with nomadism. These names ultimately hint to their Oghuz Turkish roots. The remaining transhumant or "true" Yörüks of today's Anatolian region traditionally use the camel as means of transportation though these are more and more replaced by trucks.



See you all in Antalya!

Prof. Dr. Mustafa AVCI
Chair of the Local Organizing Committee