

SEASONAL VARIATION OF THE ARTHROPODS OBSERVED ON JUNIPERUS
PHOENICEA IN AN INSULAR MEDITERRANEAN ECOSYSTEM (CYCLADES IS.
GREECE).

by

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Abstract

The present communication contains observations on the fauna associated with Juniperus phoenicea in an insular mediterranean ecosystem in Greece. Dominant groups are the spiders, the ants, Heteroptera, Homoptera, Psocoptera, Coleoptera and larvae of Lepidoptera. The relative density of all the groups in three vertical zones and their seasonal variation are discussed.

The phoenician juniper, Juniperus phoenicea, covers a significant part of the Cyclades Is. in Greece and is one of the main components of their macchia vegetation. As part of the research program: "Structure and energy flow in Aegean insular ecosystems", the fauna associated with this species was studied since no reference exists on it.

For the qualitative and quantitative study of the fauna of J. phoenicea, thirteen samplings were carried out between October 1982 and October 1983. Each month, thirty samples were taken from thirty different and randomly chosen trees. Ten samples were taken at a height between 0-70 cm, ten from 70-140 cm and ten from 140-210 cm. Sampling was carried out using a bag with a diameter of 50 cm which covered one or more branches and the animals that were on the branches were beaten and collected inside the bag.

All animals were identified to order level. More detailed identification will be carried out later.

The results show that the most dominant groups are the spiders, the ants, Heteroptera, Homoptera, Psocoptera, Coleoptera and larvae of Lepidoptera.

Looking at the relative density of all the groups in the three height zones, it is observed that most groups are evenly distributed in the three zones. Exceptions are Collembola, Diplopoda and the ants that are present more in the lowest zone, coccid Homoptera that are present mainly in the middle and lowest zones, the molluscs and beetles that are present mainly in the middle and highest zones and the lepidopteran larvae that are present mainly in the highest zone. Significant differences must exist in the other groups as well at the family or species level but these will appear after a more detailed identification.

The seasonal variation of the dominant groups show significant differences.

The spiders have two closely related peaks in June and August. The majority of animals during these two months are juveniles. Homoptera have one peak in May while Heteroptera have one peak in October. Again here, the peaks are due to the large number of juveniles.

Psocoptera have two peaks, one in December and one in April. In general, they appear only between November and May, that is during the humid season.

The same exists for Collembola that appear from December until February.

Coleoptera have one peak during spring, in May, as the ants that have a peak in April. Smaller peaks appear in the autumn and in the case of the ants, in the summer, in August, where the species that appears at that time is thermophilous and does not appear any other season.

Finally, the larvae of Lepidoptera have a brief but impressive appearance between January and May with a highest peak during February.

Looking at the seasonal variation of the total number of arthropods on J. phoenicea it is observed that the numbers do not change dramatically. However, one peak can be observed during April.