# Diversity and Gradients of Floodplain Forests in the Euxine Turkey

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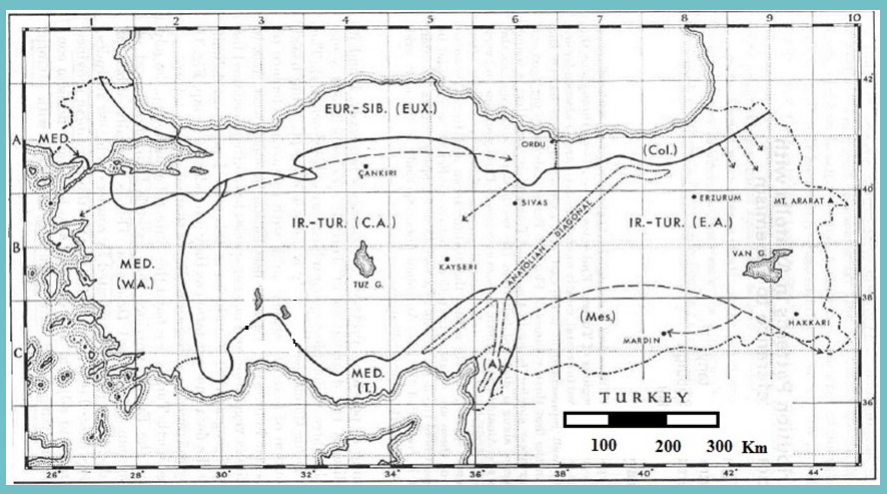


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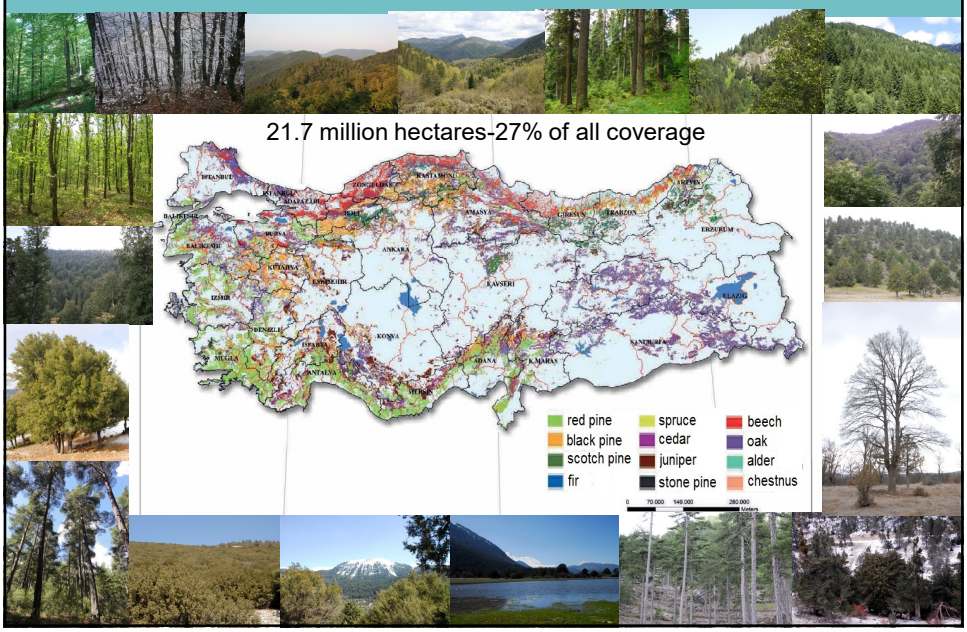
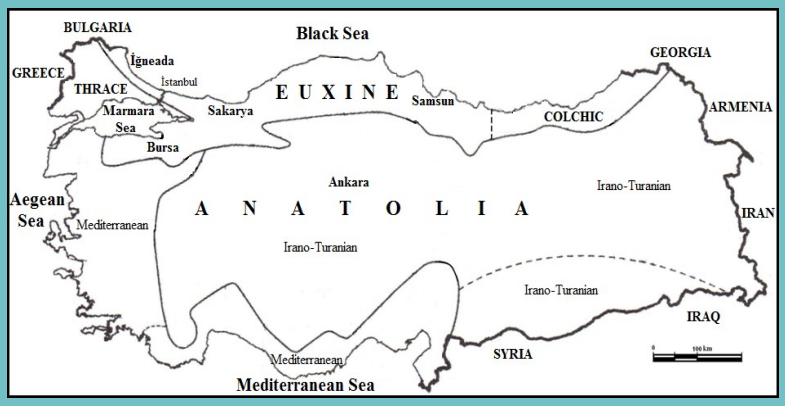
# FORESTS in TURKEY



The map showing the phytogeographical regions of Turkey and indicating the provinces of floodplain forests in the Euxine Region which were studied from the phytosociological point of view

(İğneada, Sakarya, Bursa and Samsun provinces)

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## Main Tree species of floodplain forests in the Euxine Turkey

*Fraxinus angustifolia,*
*Alnus glutinosa,*
*Quercus robur,*
*Carpinus betulus,*
*Ulmus laevis,*
*Ulmus minor,*
*Acer campestre,*
*Acer trautwetteri* and
*Juglans regia* .

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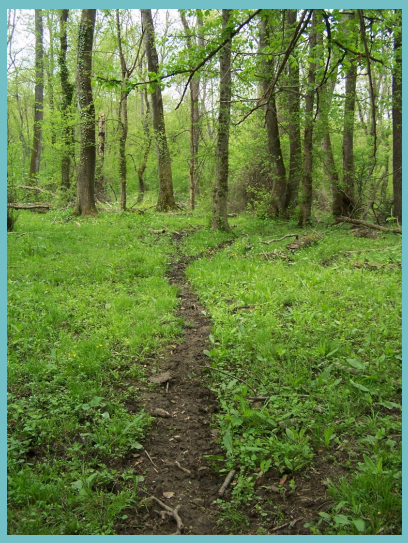

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## MATHERIAL AND METHOD

- Vegetation sampling with Braun-Blanquet Approach
- Floodplain Forest Vegetation Database management in TURBOVEG
- Hierarchical classification in PC-ORD (Beta-Flexible, Jaccard index)
- Determination of diagnostic species in JUICE
- Ordination in CANACO (Detrented Canonical Analysis)
- Box-Wisherkers diagram in STATISTICA

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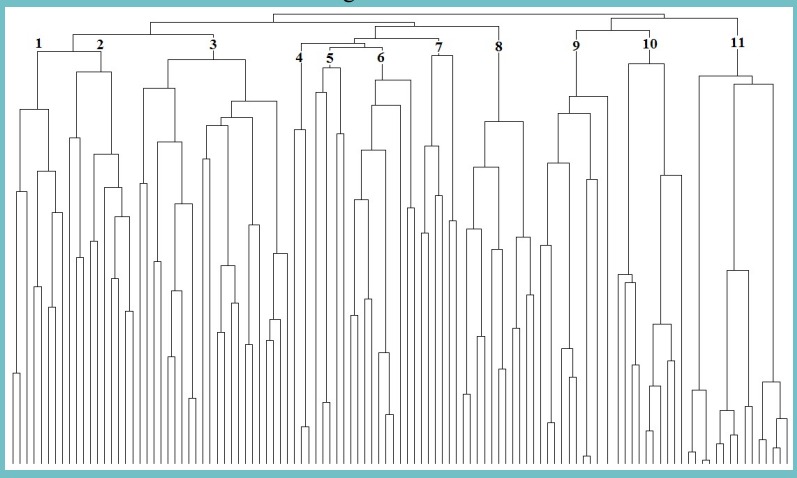
## RESULTS

Hierarchical dendrogram of the relevés from floodplain forests in the Euxine Turkey. Numbers correspond to the clusters representing the different floodplain forest communities in the Euxine region.

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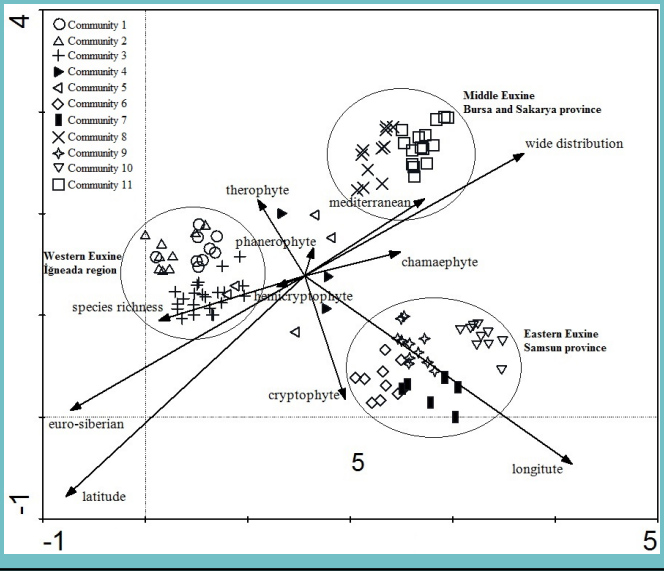
DCA ordination of the relevés from floodplain forests in the Euxine Turkey. Each symbol represents the different floodplain forest communities (clusters in Figure 2). Geographical factors (latitude and longitude), phytogeographic region, growth form and species richness parameters were passively projected on the ordination plane.

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**Syntaxonomical Scheme of Floodplain Forests in Euxine Turkey**

Class: *Salici purpureae – Populetea nigrae*
Order: *Populetalia alba*
Alliance: *Alno – Quercion*
Subassociation: *Fraxino angustifoliae – Ulmetum laevis allerietosum petiolatae*
Subassociation: *Fraxino angustifoliae – Ulmetum laevis junglandetosum regiae*
Subassociation: *Leucojo aestivi – Fraxinetum angustifoliae alnetosum glutinosae*
Subassociation*: Smilaco excelsae – Fraxinetum angustifoliae prunellotosum vulgaris*
Association*: Trachomito veneti – Fraxinetum angustifoliae*
Association: *Euphorbio strictae – Fraxinetum angustifoliae*
Alliance: *Periploco graecae – Fraxinion angustifoliae*
Association: *Aro euxini – Fraxinetum angustifoliae*
Association: *Pterocaryo fraxinifoliae – Alnetum barbatae*
Association: *Platanthero chloranthae – Fraxinetum oxycarpae*
Association: *Sambuco ebuli – Alnetum barbatae*
Class: *Querco – Fagetea*
Order: *Rhododendro pontici – Fagetalia orientalis*
Alliance: *Carpino betuli – Fagion orientalis*
Association: *Geranio robertiani – Carpinetum betuli*

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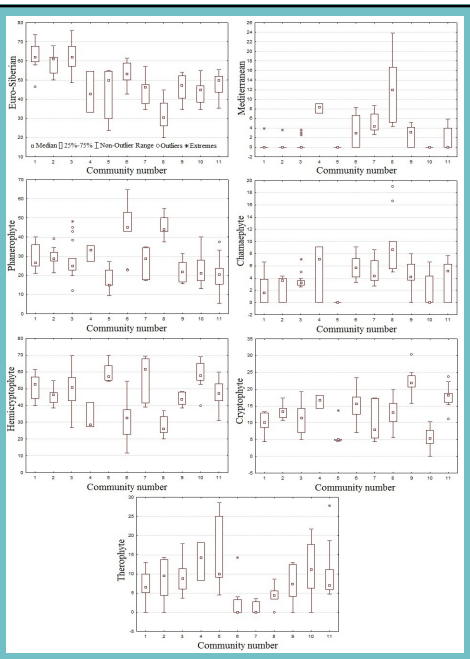


Diagrams of geo - elements and growth forms for each community

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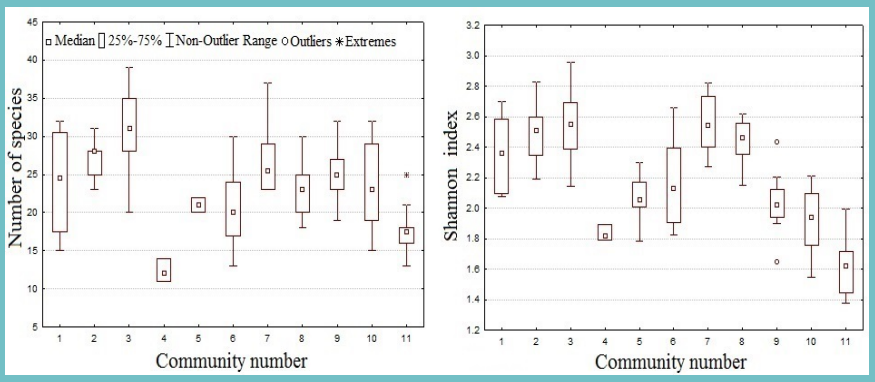


Diagrams of species richness (number of species) and species diversity (Shannon diversity index) for each floodplain forest community

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**CONCLUSION**

Geographical differentiation was widely acknowledged for zonal forest communities.

Our result showed that such a differentiation was also valid for the azonal floodplain forest communities in the Euxine region of Turkey.

According to the floristic similarity, these forests were grouped as Western (İğneada region), Middle (Sakarya and Bursa provinces) and Eastern (Samsun province) Euxine floodplain forests

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Floodplain forests are biologicaly rich and also ecologically sensitive ecosystems

They can easily be affected by external pressures which change their ecological, biological and structural characteristics.

Floodplain forests in Turkey have been negatively affected by human induced activities as is the case for the whole World.

Because of that, understanding their ecological and biological richness is important not only for their sustainable management but also to restore and rehabilitate the lost or degraded fields.

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In our study, totally eleven forest communities were described from the floodplain forests in Turkey till today and all of them are in the Euxine region.

However, Turkey is a rich country in terms of floodplain forests which may include large ecological, environmental and biological differences.

So, the number of phytosociological studies focusing on floodplain forests should be increased.

Otherwise, the number of such studies constantly remains less than the works carried out in the zonal vegetation and their biological and ecological richness may not be explored due to the ongoing anthropogenic pressures in those habitats.

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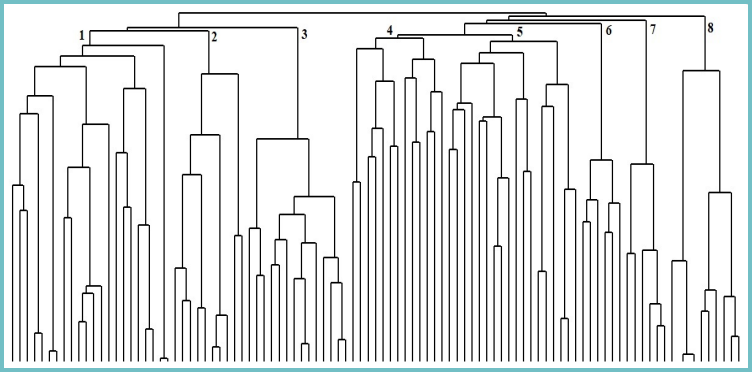
STSM title: New methodological approaches to elaborate forest vegetation
STSM start and end date: 03/03/2019 to 17/03/2019
Host Institute: Jovan Hadži Institute of Biology, Research Center of the Slovenian Academy of Sciences and Arts




1. *Carex otrubae – Liquidambar orientalis forests*
2. *Adiantum capillus-veneris - Liquidambar orientalis forests*
3. *Alnus orientalis - Liquidambar orientalis forests*
4. *Pinus brutia – Platanus orientalis forests*
5. *Mentha longifolia - Platanus orientalis forests*
6. *Alnus orientalis - Platanus orientalis forests*
7. *Vitex agnus-castus - Nerium oleander scrublands*
8. *Juncus littoralis - Tamarix parviflora scrublands*

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Thank you
for your attention