

# THE STUDY OF BIOFORMS AND GEOELEMENTS FROM THE ROMANIAN FLORA

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The wild flora of Romania, as to "The R.P.R.Flora" brought out the Romanian Academy, counts up 3495 species and 852 hybrids which are added to. Al. Beldie (1977, 1979) presents in his illustrated determinator "Flora României" 3063 species with 504 subspecies and V. Ciocîrlan (1988, 1990) in „Flora ilustrată a României" enumerates 3136 wild species with 840 subspecies. The differences among these books result from the distinct interpretation of the taxons' value (species-subspecies) and of the synonymy of some species.

In our study dealing with the bioforms and geoelements from the Romanian flora we made use of "The R.P.R. Flora" and the book written by V.Sanda and collaborators (1983). The study analyses almost the same number of cormophytes as compared to the ones in "The R.PR.Flora" (namely 3393 species with 490 subspecies) and points out the bioform and floral element of each species. There fore, there are analysed 3393 species and 58 subspecies which belong to other bioforms or geoelements than the typical species, thus 3451 taxons all in all.

## The study of bioforms

The following abbreviations are used in this study: H=hemicryptophyt, T=terophyt (Th=annual terophyt, TH=biannual terophyt), G=geophyt, Ph=phanerophyt (MPh=megaphanerophyt, mPh=mezophanerophyt, nPh=nanophanerophyt), Ch=chamaephyt, Hh=helohydatophyt.

Out of the 3451 analysed taxons 1653 (47, 9%) belong to hemicryptophytes (1547 H, 49 H-G, 39 H-Ch, 12 H-Hh, 3 H-TH and 3 H-nPH) and 903 (26, 2%) belong to terophytes (654 Th, 111 TH, 60 TH-H, 52 Th-TH, 22Th-H, 2 Th-Hh and 2 Th-G). The geophytes with 330 species (309 G, 14 G-H, 5 G-Hh and 2G-Ch), respective 9,6%, are on the third place as share and the phanerophytes with 253 species (100 nPh, 91 mPh and 62 Mph) (7,2%) are on the fourth place. The chamaephytes sum up 162 species (134 Ch, 16 Ch-nPh, 11 Ch-H and 1 ch-G) (4,7%), the helohydatophytes 150 species (138 Hh, 7 Hh-H and 5 Hh-G) (4,3%) (fig. 1).

I have found that the proportion between the number of terophytes and hemicryptophytes+chamaephytes indicatess the aridity degree, altitude and the human influence on landscape. Accordinally, I called this proportion the aridity, altitudinal or anthropisation value ( $K_a = T / (H+Ch)$ ). Getting the proportion more and more to zero, the analysed area is less arid. The coefficient  $K_a = 0.50$  all over Romania points out a medium degree of distruction and aridity of landscape, respectively of ecosystems.

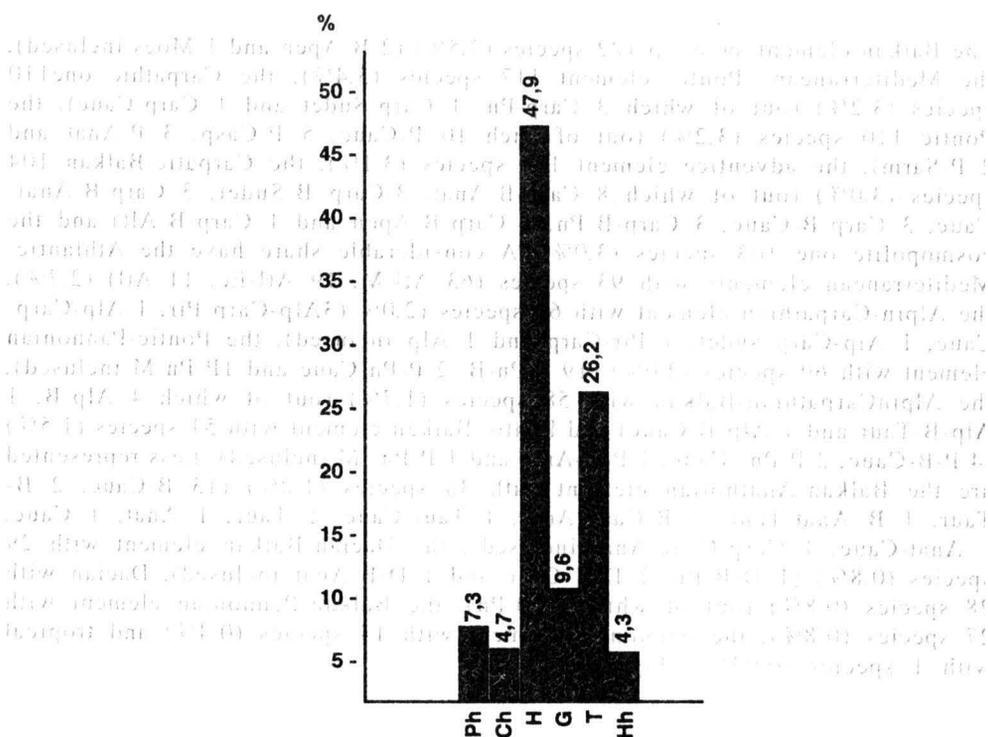


Fig.1 The spectrum of bioforms

### The study of geolements

To make this study short I used the following abbreviations: Cosm=cosmopolit, Cp=circumpolar (Arct=arctic, Bor=boreal), Eua=eurasiatic (C=continental), E= european, Ec= central-european, Atl= atlantic, M= mediterranean, sM=submediterranean, P=pontic, Pn=pannonic, B=balkanic, D=dacic, Carp= carpathic, Alp=alpin, Sarm=sarmatic, Cauc=caucasian, Anat=anatholian, Casp=caspic, Apen=apenin, Moes=moesiatic, Sudet=sudetic, Alt=altaic, Pir=pirinic, Taur=tauric, Trop=tropical, End=endemic, Adv=adventic.

Out of the 3451 researched taxons most of them belong to the Eurasiatic element, respectively 951 (457 Eua, 222 Eua-C, 217 Eua-M, 37 Eua-Arct-alp, 18 Eua- Bor) (27.6%). The european element sums up 408 species (266 E, 63 E-M and the E-sM, 44 E-alp, 16 E-C, 7 E-Arct-bor and 2 E-Atl) (11.8%) and the Central-european one 293 species (144 Ec, 129 Ec-M Ec-sM, 9 Ec-alp, 4 Ec-Sarm, 4 Ec-B, 1 Ec-Cauc, 1 Ec-P and 1Ec-MP) (8.5%). The Mediterranean and Submediterranean elements follow next with 279 species (8.1%), the circumpolar element with 269 species (199 Cp-Bor and 70 Cp-Arct- alp) (7.8%).