

**TROISIÈME COLLOQUE INTERNATIONAL "L'ARBRE"**

***THIRD INTERNATIONAL CONGRESS "THE TREE"***

<p><b>RÉSUMÉS</b> <b><i>ABSTRACTS</i></b></p>
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## ONTOGENIC CONCEPTION OF THE STRUCTURE AND FUNCTIONING OF TREE

### *CONCEPTION ONTOGÉNIQUE DE LA STRUCTURE ET DU FONCTIONNEMENT DE L'ARBRE*

Smirnova O.V., Chistyakova A.A., Zaugolnova I.B.,  
Evstigneev O.L. & Popadiouk R.V.\*

The conception of the discrete ontogenesis of plants, by the first, was made by T.A. Rabotnov (1950). Detailed ontogenetic researches of tree plants had begun since 70th. At present, the most tree's species ontogenesis have been described in the East-European forests. Development of all plants has the universal periods that we divided into the structural-functional stages. The last ones were named "ontogenetic stages". The ontogenetic stages mark biological age of plants. Individuals of diverse species show quite similar enlistment of ontogenetic stages. Each stage corresponds with specific growth and morphological characteristics. The basic characteristics are as follows: (1) growth rate of a stem, (2) an intensity of branching, (3) a growth/decay ratio, (4) a shifting of a leaf area and total biomass of a tree, (5) height and diameter of a stem, (6) crown size and its form, (7) location of the functional zones (fruiting, assimilation) in the crown. The plants of identical ontogenetic stage, within species populations, have strong differences if it is different vital level. Each vital level is characterised by specific size and temporal limits. The vitality of plants may change many times during ontogenesis. Traces of previous changes accumulate in morphological signs. Plants that have the lower vital level also have the longer ontogenetic stages. Besides vital variance there is variance of the growth forms. For woody plants they are as follows: the single trunk tree or shrub, the multistem shrub-type tree or true-type shrub, elfin. All these forms may be found either in tree or shrub populations. The structural-functional analysis of the adult tree invents the peculiarity of life-history of individual. The similarity of qualitative signs contrasts with high variance of quantitative limits. Generally, ontogenetic analysis is good tools for reconstruction and prediction of tree's growth when morphological plasticity of woody plants occurs in coenotic and environmental conditions.