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ABSTRACT BOOK

*CONFERENCE FOR YOUNG SCIENTISTS,
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ON MOLECULAR BIOLOGY AND GENETICS,
dedicated to the golden jubilee of the double helix of the DNA
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**ON RELATIONSHIP BETWEEN THE PRODUCTIVITY
AND CYTOLOGICAL EVENTS IN *ARNEBIA*
EUCHROMA (ROYLE.) JONST AND *RAUWOLFIA*
SERPENTINA BENTH. TISSUE CULTURES**

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Main characteristics of the plant cell culture-producers involve accumulation levels of dry biomass and secondary metabolites. Of particular interest is the relationship between these parameters' fluctuations with those of intrapassage cytological events. The dynamics of the cytological events in hormone-independent strains of *A. euchroma*, AE-3 (shikonin raw material) and *R. serpentina*, K-27 (indoline alkaloids raw material), were compared with the dynamics of productivity by paired linear regression method. Proliferation in both cultures studied was found to result from the mitoses and amitoses. In *R. serpentina* strain K-27 the dynamics of tracheid elements and amitoses number showed positive correlation with the dynamics of dry biomass accumulation, with former ones being negatively correlated with the indoline alkaloid accumulation rate. These results are consistent with the tracheid elements' cell-progenitors formation observed by us. Positive correlation between the mitotic proliferation and secondary metabolite rate in both strains involved was also found to occur thus to allow assuming the synchronizing effect of both secondary metabolites.