

PRELIMINARY RESEARCH RESULTS OF ALLELOPATHIC INTERACTION
OF SOME ORCHIDS *IN VITRO*

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Ontogenetic phases in the pseudo-cleistogamous orchid species *Cynorkis seychellarum* were studied *in vitro* in plants growing alone and in specimens growing together with other orchid species. The analysis of morphological changes of the orchid protocorms and seedlings shows the multidirectional character of the interaction between *C. seychellarum* and other studied species. The mutually positive nature of interaction is established between seedlings of *Cynorkis* and seedlings of *Eulophya streptopetala*. Seedlings of *E. streptopetala* showed almost quadruple increase in diameter of pseudobulbs and double increase in diameter of roots during a long joint cultivation in comparison with a control group which was solitarily cultivated. Juvenile plants of *Cynorkis* also showed a double increase of root biomass in comparison with a monoculture (control). A positive interaction, however to a lesser extent, is also found in the *Cynorkis* – *Paphiopedilum coccineum* pair. An unilaterally positive nature of influence is established for *Cynorkis seychellarum* – *Paphiopedilum delenatii* (domination) and *Cynorkis* (domination) – *Cattleya sp.* pairs. Weak mutual antagonistic influence was shown in the *Cynorkis seychellarum* – *Doritis pulcherrima* pair. Obvious antagonistic influence to each other reveals the *Cynorkis* – *Orchis militaris* pair. In this orchid pair, their massive blackening and death was observed during joint cultivation of their protocorms. Various morphological anomalies are found in the surviving individuals. The received results in the orchids studied can only be unambiguously explained by the concept of allelopathic interaction. The multi-vector character of these interactions is caused first of all by species-specific features of the orchids and can be presented schematically as a "row of allelopathic potentiales": *Eulophya streptopetala* ← *Paphiopedilum coccineum* ← *Paphiopedilum delenatii* ← *Cynorkis* → *Doritis pulcherrima* → *Orchis militaris*. The vector of the allelopathic interactions depends also on the degree of the organism development. Only the juvenile plants show dominance during a joint cultivation of protocorms and juvenile plants in the *Cynorkis* – *Orchis militaris* pair.

Keywords: Orchidaceae, *Cynorkis seychellarum*, allelopathy, vector allelopathic potential.

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