

Colonization dynamics of benthic algal assemblages in a lowland stream

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Colonization dynamics of algal taxa were studied on artificial substrates during 83 days in a lowland stream (Tócó-stream). Although the biofilm was dominated by diatoms (min. 74%), among other benthic taxa, filamentous green algae were present in the highest relative abundance (up to 5%) right after several hours from the start of the experiment. Their relative abundance continuously decreased from the 4th day. The relative abundances of planktic algae were relatively high in the biofilm (23%), caused likely by the low water depths. The individual number of planktic algae taxa increased first (till the 8th day), but thereafter decreased. The algae density increased continuously because of the increasing relative abundance of diatoms. Shannon diversity moderately decreased in the first hours, but afterwards increased in the first week, and later on it decreased till the end of the third week and remained stable till the end of the study. The lowest diversity was detected at the end of the study. The composition of benthic algal assemblages including also diatoms changed remarkably during the study. High relative abundances of R-strategist taxa (*Fragilaria capucina*, *Meridion circulare* and *Planothidium lanceolatum*) was typical in the first hours and days, but thereafter an increasing relative abundances of motile and C-strategist taxa (*Gomphonema* sp. or *Suriella brebissonii*) was detected. The considerable increase of the relative abundance of the pioneer *Achnanthydium minutissimum* from the 21st day onwards suggested, that a second colonization process started. The results point out that the special character of small lowland watercourses characterized by shallowness, highly variable water temperature and velocity, and semistatic character strongly influence the characteristics of colonisation and succession processes of benthic assemblages.