

veksten til larvene. Temperaturen synes derimot å ha stor betydning indirekte ved at den påvirker mikroorganismenes kondisjonerings hastighet av organisk materiale.

2. Hvis proteininnholdet i føden kommer under 5% (askefri tørrvekt) stopper veksten opp og dødeligheten øker sterkt om temperaturen er høy.

3. Fettinnholdet synes bare å ha betydning for siste larvestadium som tar føde til seg. Kommer innholdet under 1% mislykkes klekkingen i høy grad.

4. Total mengde føde bør holdes over 150 g m⁻² (askefri tørrvekt) i laboratorieforsøk, da veksten ellers går ned og dødeligheten øker.

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The macrobenthos of the River Tourujoki and its tributaries (Central Finland). 1. Plecoptera, Ephemeroptera and Trichoptera

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In the qualitative analyses of macrofauna made during the spring and summer of 1975 at 87 lotic localities in the small partly polluted river system of Tourujoki (Central Finland), 14 species of Plecoptera, 21 species of Ephemeroptera, and at least 42 species of Trichoptera were recorded. The species new to the faunal and floral province of northern Tavastia (Tb) numbered 24. Especially interesting faunistically were the finds of *Amphinemura standfussi*, *A. sulcicollis*, and *Protonemura meyeri*, which have been considered to have a clearly northern or northern and eastern distribution in Finland, and the new finds of *Silo pallipes* and *Notibodia ciliaris* which are relatively southern species in Finland. The analyses of the occurrence of the species of these insect groups showed that there exists clear differences in the composition of the fauna in the different parts of the river system. The poorest fauna (only occasional finds of two species) was observed

in the eutrophic and acidotropic parts of the river system, where the pH of the water owing to waste waters from a paper mill sank below a value of 4 during the summer. Relatively few species were found also in slowly flowing mesotrophic small rivers, where the water and bottoms contain plenty of clay particles, while the fauna was richer both in oligotrophic and mesotrophic brooks and even in eutrophicated swiftly flowing river habitats, where the water contained plenty of nutrients (mean content of tot. P 160 mg/m³). Especially the rich occurrence of mayflies in this eutrophicated river type is worth noting, since the group has often been considered to include mainly clean water species. Also many net-spinning and free-living predaceous caddis-larvae were found abundantly in this particular river type, which may be in connection with an unusually rich supply of food particles and organisms.

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Flygaktivitetens dygnsrytmik hos några Trichopter-arter i norra Sverige

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Undersökningen utfördes 1970–73 vid Rickleå fältstation, Umeå och Messaure ekologiska station, Jokkmokk med hjälp av en sugfälla, som automatiskt växlade fångstburk var annan timme.

Fångsterna anses representera arternas dygnsaktivitet.

Dygnsaktiviteten för 19 arter visas med figurer. Alla arter var väl synkroniserade. Aktivitetstoppen hos de olika arterna visar en jämn övergång från *Philopotamus montanus*, som var aktiv kl 06–22 till *Psychomyia pusilla*, som flög kl 22–08.

Ingen time-nisch segregation mellan närbesläktade arter hittades.

Dygnsaktiviteten hos könen var något olika hos några arter; vanligen var hanarna mest aktiva under artens aktivitetstopp eller strax efter.