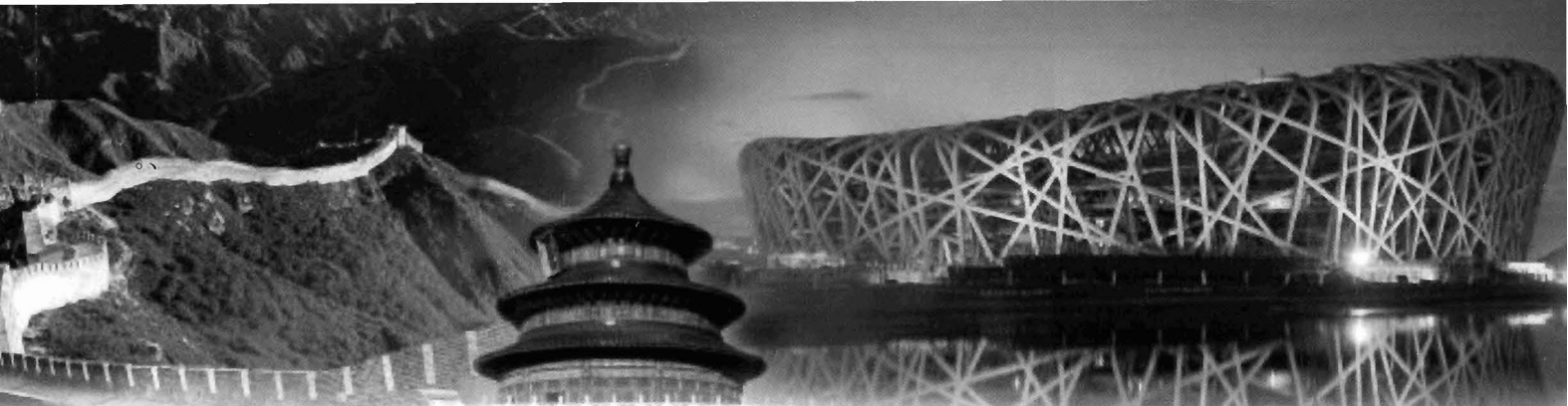




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COMMUNITY STRUCTURE IN THE ROVNO AMBER FOREST (LATE EOCENE) AS REVEALED BY THE STUDY OF THE ARTHROPOD SYNINCLUSIA

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Distribution of families of the order Diptera is found dependent on the weight fraction of amber; most clear is a decreasing participation of the midges (Chironomidae) in larger pieces of amber, and the opposite trend displayed by the dipterons of *Sciara* zone after Larsson (1978), viz., Tipuloidea, Sciaridae, Mycetophilidae s.l., Cecidomyiidae, Psychodidae, and Phoridae. The same pattern is found in ants and *Germaraphis* aphids (Perkovsky, 2009, 2010). It was shown for instance that the specialized dendrobiont ants like *Ctenobethylus goepperti* (Mayr) took higher share of the ant assemblage in smaller amber pieces than in the larger ones, and the lower one in the larger fraction, while the more generalistic (mainly herpetobiotic) *Lasius schiefferdeckeri* (Mayr) and *Germaraphis*, the dominant amber aphids, show an opposite tendency.

As a generalization, we can infer that small amber pieces occurred widely over the amber tree, in contrast to the larger pieces which were more confined to the tree trunk. That is why the smaller pieces represented probably a better trap for the air planktic insects and the arthropods often visiting tree crown. Alternatively, larger pieces would better reflect composition of communities of the tree trunk and *Sciara* zone.

Arthropodan syninclusia in the Upper Eocene Rovno amber are examined using χ^2 criterion as well to reveal correlation of the component groups (some taxa of Diptera, ants, aphids, and mites) supposedly indicative of the biocoenotic ties in the ancient amber forest. Three tightly correlated groups are identified representing a putative air plankton guild (Chironomidae + Ceratopogonidae) and two tree trunk guilds one of which (Dolichopodidae + *Germaraphis* + *Lasius*) being possibly connected to more open or/and more hygrophilous habitats than another one (*Sciara* zone Diptera + "*Acarus*" *rhombeus*+*Formica*). Unexpectedly, the dominant *Ctenobethylus* ants are found free of evident tight ties with any of above components: they might represent a different guild in the ancient forest.