Views on the Late Weichselian and the Early Holocene dispersal of insects and other biota in NW Europe

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The history of the last glaciation is fundamental to the present biota in NW Europe. However, our insight into various periods of the Weichselian as well as the dispersal of biota during the Late Pleistocene and the Early Holocene is still fragmentary in many respects. For instance, new radiocarbon dates from Finnish subfossil mammoths indicate much larger ice-free areas in Fennoscandia during the Middle Weichselian 32 000 to 22 500 yr BP than previously assumed. Large areas of the Kola Peninsula and northern coast of Scandinavia (Finnmark) deglaciated already during the Late Glacial interstadial 13 000 to 11 500 yr BP and the Kanin-Kola dispersal route has been very important for the Fennoscandian arctic and subarctic fauna and flora. After the Late Glacial stadial (the Younger Dryas chronozone) the climate ameliorated rapidly about 10 200 yr BP and arctic and subarctic species dissappeared quite suddenly in southern Fennoscandia and new more thermophilous species colonized the areas. Many species previously suggested to be survivors in glacial refugia in Scandinavia obviously had not colonized Scandinavia prior to the Late Weichselian. Yet, fairly recent fossil records of aquatic insects and other invertebrates during 22 000 to 13 000 yr BP on Andøya in the Atlantic coast of NW Norway indicate the survival of the fauna in ice-free refugia during the Weichselian maximum. Alvar biotopes in the islands of Öland, Gotland and Saaremaa (Ösel) as well as certain shore areas of the Baltic Sea, especially those of the Gulf of Bothnia and even some esker biotopes are edaphic and physiognomic «relict» habitats of the Early Holocene biota. DNA markers provide important tools for further studies of the history of previous biota.

Key words: Dispersal of insects, glacial refugia, Weichselian, Holocene alvar.

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