

Diversity index of nocturnal Macrolepidoptera applied to vegetation zones in Norway

Alf Bakke, Leif Aarvik & Kai Berggren

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Total number of species and individuals of nocturnal moths of the superfamilies Hepialoidea, Cossoidea, Lasiocampoidea, Bombycoidea, Drepanoidea, Geometroidea and Noctuoidea (Macrolepidoptera) from light trap catches from 19 sites in 5 vegetation zones and of the family Noctuidae from 4 additional sites, in Norway, were fitted to log-series frequency distribution. In three sites the catches continued for three successive years. The α -index for Macrolepidoptera and for Noctuidae in the boreonemoral zone exceeds the average known from Britain and northern part of the European continent. The α -index for the family Noctuidae, dropped from about 30 in the boreonemoral zone in South Norway to about 5 in the north boreal zone. In two west coast sites in the boreonemoral zone, with oceanic climate, the α -index was 12 and 14. We suggest that calculation of α -diversity in the north boreal zones should include catches from at least two successive years because some of the dominating species fly only every second year.

Key words: Biodiversity, Lepidoptera, Light traps, α -diversity index, Norway.

Alf Bakke, Norwegian Forest Research Institute, Høgskoleveien 12, N-1432 Ås, Norway.

Leif Aarvik, Zoological Museum, University of Oslo, P.O.Box 1172 Blindern, N-0318 Oslo, Norway.

Kai Berggren, Bråvann terrasse 21, N-4622, Kristiansand, Norway.