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Longterm Zoological Research in Strict Forest Reserves in Central Germany

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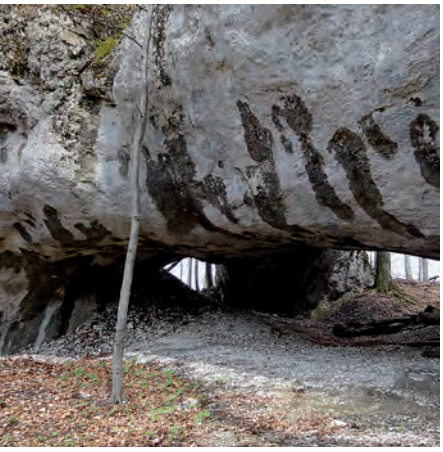
Since 1970, strict forest reserves have been established all over Germany to gain a spectrum of total reserves, which allow the development of “primeval forests of tomorrow” and are available for research and as reference areas for silviculture. The first Hessian reserves were established in 1988; today there exist 31 which cover 1200ha. 22 have adjacent managed sites for comparison. The reserves represent over all altitude zones and geological landscapes the spectrum of forest types in Hesse: mainly beechforests, but also oak, pine and spruce forests. The forestal and botanical research is conducted by the ”Northwest-German Forestry Research Station, Göttingen”, the zoological investigations by Senckenberg. Research is conducted in cooperation with and financially supported by “Landesbetrieb Hessen-Forst”. A broad set of traps is used: pitfall traps, eclectors at living or dead (standing or lying) trunks, stubs and dead branches, window traps and blue, yellow and white pan traps. The traps are in use continuously over two years. Additionally, hand sampling, light trapping, and bait trapping for Macrolepidoptera and population density mapping for birds is conducted. All material is sorted to order. Seven standard groups are studied: Lumbricidae, Araneae, Heteroptera, Coleoptera, Aculeata, Macrolepidoptera, Aves. Additionally, other animal groups – as many as possible – are studied by honorary collaborators (ATBI-approach). For each reserve a monograph is published with extensive reports on the standard groups and species lists for all determined species.The fauna in a Central European beech forest, which had been managed lately, is with 5000–6000 species 2–3 times more speciouse than expected. Especially open structures provide habitats for many species. Specialists of old trees and deadwood are underrepresented. Biodiversity assessments have to be conducted on species level and with detailed analyses of the species‘ ecological requirements. Numerous new findings in the fields of ecology and faunistics were acquired.

Keywords: Strict Forest Reserves, managed sites, biodiversity, ATBI, Germany



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