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New middle Eocene formicid species from Germany and the evolution of weaver ants

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Two new species of weaver ant are described from the Eocene of Germany. Males and gynes of *Oecophylla longiceps* Dlussky sp. nov. are found in the middle Eocene (about 47 Ma) of Grube Messel, Germany. Males, gynes and two workers of *O. eckfeldiana* Dlussky sp. nov. are recorded from the middle Eocene (about 43 Ma) of Eckfeld maar, Germany. The two new species are among the oldest records of the extant genus *Oecophylla*. First adaptations for moving in the forest canopy are present in the workers of *O. eckfeldiana*. Even more specialized adaptations for arboreal life are found in the workers of *O. brischkei* from Baltic amber. The coexistence of two species in Baltic amber and in the Bembridge marls suggests that in these cases different ecological niches were realised by sympatric species. Comparisons of the queens from different fossil and extant species indicate morphological trends, partly connected with increasing fertility. Most likely *Oecophylla* originated in the early Paleogene in the Palaearctic realm, radiating strongly during the climatic changes of the Eocene–Oligocene transition.

Key words: Insecta, Hymenoptera, Formicidae, *Oecophylla*, Eocene, Paleogene, Messel, Eckfeld

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