
Abstract: Recently collected material of Early Devonian eurypterids (Chelicerata: Eurypterida) from the Rhenish Slate Mountains is described and compared to the reexamined type material of *Drepanopterus struvi* STØRMER, 1974 and *Alkenopterus brevitelson* STØRMER, 1974, both from the Emsian of Alken an der Mosel. *Vinetopterus martini* n. gen., n. sp., from Siegenian strata of the newly detected eurypterid localities Burglähr and Hombach in the Westerwald, is described. *D. struvi* is transferred to *Vinetopterus* n. gen. *Vinetopterus* n. gen. is diagnosed as having short prosomal appendage VI of *Drepanopterus*-type A, and a first order opisthosomal differentiation. A second species from the Siegenian of Burglähr is described as *Alkenopterus burglarhrensis* n. sp. The new family Alkenopteridae, diagnosed by possessing at least two pairs of non-spiniferous legs, V of *Drepanopterus*-type B and VI of *Alkenopterus*-type, is proposed to accommodate *Alkenopterus*. The palaeoecology of Burglähr and Hombach is briefly discussed and the habitat of these eurypterids is interpreted as representing a shallow water environment in a deltaic setting with marine or brackish influence.

Key words: Eurypterida, Stylonuroidea, Drepanopteridae, Alkenopteridae, morphology, taxonomy, palaeoecology, deltaic setting, Early Devonian, Rhenish Slate Mountains, Germany.