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diatoms and similar taxa are documented along with species profiles and micrographs. In this way, almost half of all benthic taxa recorded in central Europe were covered. Existing monographs were removed, to some extent, by means of new descriptions. Where necessary, problems related to genus affiliation were explained, but without uncritically following every new proposal in the literature. As an additional aid for identification, an overview of the available records of the species in German freshwater habitat types is provided.