In honor of Wilfried Westheide on the occasion of his 75th birthday

Günter Purschke

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In November 2012, Wilfried Westheide will celebrate his 75th birthday, and this issue of *Zoomorphology* is dedicated to him in recognition of his outstanding contributions to invertebrate morphology, evolution and phylogeny. During his scientific career, which became visible to the scientific community after publication of his first paper in 1965 (Westheide 1965), he has published numerous original peer-reviewed papers, and ever since his retirement in early 2003, he has continued this scientific work. In addition to his own research, he has edited, written or participated in many textbooks and review volumes, which currently require most of his working time. Among these publications, probably one of the best known examples is the two-volume work “Westheide W & Rieger RM: Spezielle Zoologie. Springer Spektrum”; the first edition of Volume 1 was published in 1996, and in the meantime, both volumes have seen their second edition in 2006 and 2010, respectively. Our knowledge about the functional, evolutionary-theory-based morphology of multicellular animals grows rapidly, and subsequently, new phylogenetic hypotheses are being developed. Now, these are more often based on molecular and even phylogenomic data. Surely providing a synthesis of these new results, we are looking forward to the third and revised edition of this successful textbook. Since the first publication of the “Spezielle Zoologie,” it has become the standard textbook for our graduate students in the field of comparative, functional and evolutionary morphology, and in the meantime, it has been translated to other languages as well. Moreover, from 2005 to 2011, Wilfried Westheide was editor in chief of the *Journal of Zoological Systematics and Evolutionary*

Research and successfully developed this journal. Wilfried Westheide’s genuine scientific contributions in systematic zoology and morphology have been influenced by his academic teacher, Professor Peter Ax, who inspired him to study the interstitial fauna of marine sands and thus became a specialist in interstitial polychaetes (e.g., Westheide 1967), and his interest in these tiny and beautiful creatures never stopped (Westheide 2008). Here, one focus of his scientific investigations became the so-called meiofauna paradox, the seemingly worldwide distribution of many species despite their limited dispersal properties, that is, usually having the capability of producing only a small and very limited number of eggs and no free-swimming larvae (Westheide 1984). He was among the first to discover that many of these so-called cosmopolitan species are in fact sibling species to be distinguished by subtle morphological and sometimes only by genetic markers; surprisingly, some cosmopolitan species apparently exist (summarized in Westheide 2005). Although published already in 1987 (Westheide and Rieger 1987), the contribution on the “amphiatlantic *Microphthalmus listensis*-species-group” is still an excellent example for this kind of comparative approach in morphological phylogenetic work. Besides such more basic research, he developed evolutionary hypotheses on the pathways along which interstitial animals evolved, recognized “progenesis as a principle in meiofauna evolution” (Westheide 1987), and developed new ideas “on the direction of evolution within Polychaeta” (Westheide 1997). With the latter contribution based on functional morphological hypotheses and reasoning, he ran into debate with cladistic analyses, which, however, became the leading phylogenetic hypothesis on annelid evolution for more than a decade (Rouse and Fauchald 1997; Westheide et al. 1999; Bartolomaeus et al. 2005). Interestingly, molecular studies never established the latter

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G. Purschke (✉)
University of Osnabrück, 49069 Osnabrück, Germany
e-mail: purschke@biologie.uni-osnabrueck.de

hypothesis; recent phylogenomic studies in fact confirm at least part of his ideas published about 15 years ago (Struck et al. 2011) and are a plea for comparative morphology. Besides this, he developed a general interest in phylogeny and relationships of invertebrates on the large scale. He discussed many of his ideas with his friend Reinhard Rieger who accompanied him for several years. Shocked by his sudden and unexpected death in 2006, Prof. Westheide was one of the main persons establishing the Reinhard Rieger Award, which, since 2008, is donated annually for outstanding contributions from the entire spectrum of functional and evolutionary morphology in the animal kingdom. It is sponsored by the two publishers of the main leading journals in morphology, the Journal of Morphology (John Wiley & Sons) and Zoomorphology (Springer), and also by the Institute of Zoology at the University of Innsbruck.

On behalf of the editors, I wish Wilfried Westheide many happy returns of the day; we hope that he can be active for many more years, and we are looking forward to his future contributions in morphology and phylogeny.

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