

An homage to Prof. Dr. Gerd Alberti (1943-2016)

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Prof. em. Dr. Dr.h.c. Gerd Alberti was one of the world's most esteemed zoologists and acarologists. Yet, upon first meeting him, you were fascinated by how kindly and politely responsive he was with everybody. He was genuinely interested in the opinions that others could provide, respectful of different points of view and honestly impartial in his scientific presentations. At the same time, he was eager to share with students and colleagues his knowledge, curiosity and enthusiasm concerning the various mysteries that nature was hiding from us.

Gerd was unique in his desire to involve others in his researches, as evident in the remarkable number of colleagues with whom he worked and published. Collaborating with him was always interesting, exciting, fun, and endlessly challenging. His enthusiasm was infectious; no one working with him at the microscope could fail to share his excitement, when some challenging new finding appeared before his eyes. His exceptional background, deep knowledge and competence in zoology, and in particular his profound understanding

of the internal and external anatomy of arachnids, were an endless source of answers as well as new questions. His untimely loss has created a vacuum in the scientific world, as well as in the hearts of his family, friends and professional colleagues.

Gerd began his biology studies in Kiel (Germany) in 1964 where he was awarded his PhD and habilitation (1980), and became fascinated with mites and other arachnids. He then moved to Heidelberg University (1980-1996) where he became senior academic counselor (1992), and finally to Greifswald in 1996 as full professor at Ernst-Moritz-Arndt-University. He was awarded honorary membership in several international scientific societies and academies, including the Polish Acarological Society, the International Society of Arachnology, the National Italian Academy of Entomology, and the International Congresses of Acarology. In 2003 he received the Alexander von Humboldt Foundation Honorary Research Fellowship of the Foundation for Polish Science, and in May 2009, he was awarded an honorary doctorate from the Adam Mickiewicz University of Poznań (Poland).



Throughout his career, he was an active member of the editorial boards of numerous scientific journals, including *Acarina*, *Entomologia*, *Entomological Research*, *International Journal of Acarology*, *Journal of Morphology*, *Redia – Journal of Zoology*, and *Soil Organisms*. Moreover he was member of the International Committee of Acarologia and guest author for the 50th anniversary volume of the *Journal*.

The gamasid mite *Halolaelaps (S.) albertii* Blaszak & Ehrnsberger, 1993 was dedicated to Gerd, as well as the Tardigrada *Pseudechiniscus alberti* Dastysch, 1987 characterized by external fecundation and sexual dimorphism. After his retirement in 2008, Gerd continued to carry on his research with even more zest. His formidable scientific productivity led to publication of around 200 papers and 20 books and book chapters during his lifetime, a body of work considered to be of inestimable value by his colleagues and by the scientific community at large.

Gerd's main research interest was in the ultrastructure and anatomy of Arachnida and in particular the Acari, on which he acquired an unsurpassed knowledge of internal and external organization and organ systems. His studies established new standards for such work and brought new light to nearly every major group of Acari – Opilioacarida, Holothyrida, Ixodida, Mesostigmata, Prostigmata and Oribatida. One of Gerd's

primary research interests was in the functional morphology of structures involved in reproduction in mites and other Arachnida, including sperm ultrastructure and spermatogenesis, oogenesis, and male and female genital systems. Gerd demonstrated conclusively that a functional morphological approach can provide a reliable resource for understanding the evolutionary patterns and phylogenetic relationships among arachnid taxa. Among the Mesostigmata alone, his collaborative studies on the fine structure of sperm, spermatodactyls, and sperm access systems have had direct relevance to the systematics and phylogeny of such constituent superfamilies as Heterozeroconioidea, Arctacaroidae, Parasitoidea, Veigaioidea and Phytoseioidea. Furthermore, on the basis of his various studies, Gerd was able to independently determine several phylogenetic hypotheses. Perhaps the most significant is the diphyletic origin of mites – that each of the superorders Parasitiformes and Acariformes is more closely related to another group of arachnids than to one another. This hypothesis was subsequently corroborated both by molecular and additional systematic studies. Similarly, beyond the Acari, Gerd's studies of other arachnid orders challenged the notion of a sister-group relationship between the orders Solifugae and Pseudoscorpiones.

Those close to Gerd knew that many interesting projects were formed in his mind and waiting to be

realized in his future. While these are lost to us, his scientific heritage is priceless. There is no better example than the two volumes on Acari in Harrison's 'Microscopic Anatomy of Invertebrates' (1999, together with L.B. Coons). In these volumes, he presented an extraordinarily comprehensive, illustrated, clear and thoughtful account of the anatomy and morphology of mites and ticks that today represents the standard reference to these subjects.


In the larger context, Gerd was a zoologist and an enthusiastic observer of every aspect of nature, as shown by his contributions on soil zoology, ecology and mite behavior. He knew that in the incredible book of nature, the pages are interwoven rather than discrete, and he showed us that ultrastructure and anatomy are among the many languages in which it is written.

Gerd shared with some colleagues a concern about declining support of funding for academic and research positions in invertebrate morphology to allow for an increase in support for molecular techniques, an approach generally requiring only limited knowledge of form and ways of life of the organisms being studied. Yet, Gerd's way of reading nature through his morphological/anatomical

work clarified aspects of how mites (and other arachnids) function and live, leading to a better understanding of the whole organism function and life style.

Some people have said that the most valuable thing others can do for us after our death is to smile when they think of us. Well, we surely can warmly smile when we think of Gerd Alberti as we read the amazingly informative papers he left us, and we can smile and remember the many life lessons that this kind and perceptive man gave to us. And we must continue working on acarine ultrastructure and anatomy, especially in these changing times when molecular studies dominate the biological world: that would surely make *him* smile!

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