

Wolfgang Friedrich Wülker

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Jon Martin

Wolfgang Wülker was born on 25 September 1925 at Frankfurt, Germany, and spent his youth there. His father, Professor Gerhard Wülker, was one of the founders of “Zeitschrift für Parasitenkunde”, but he died when Wolfgang was four years old.

On leaving school Wolfgang was drafted into the army and became a prisoner of war. He then studied biology, chemistry and physics in Marburg, Heidelberg and Frankfurt, graduating in 1951 with the degree of Dr. rer. nat., with a thesis on the embryonic development of fish. In 1952 he began working as a scientific assistant to Prof. H.J. Elster at the Hydrobiological Station Falkau (later the Limnological Institute of the University of Freiburg, Walter Schlienz-Institut). His initial publications were on fish, but after being one of the last students of August Thienemann, papers on chironomids began appearing from 1956. He was at Falkau for about 10 years and added to the collection of the station both specimens from the Black Forest area and specimens collected on his research trips to Spain (1954), Fennoscandia (1956), Sudan (1963), USA and Canada (1964).

He did his Habilitation in Zoology and Limnology on intersexuality in *Chironomus* and the biology of *Sergentia* at the University of Freiburg, in 1960. Then in 1962 he joined the staff of the University, where he remained for the rest of his working life, receiving promotions and event-



Wolfgang Wülker at the occasion of his 85. birthday

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ually becoming a Professor. He taught many courses at the University, including on the ecology of humankind, and supervised over 80 post-graduate students. He officially retired in 1990, but continued to maintain a laboratory at the University for some years. Later he transferred his laboratory to his home and continued authoring or co-authoring papers until he was about 85.

In 1977 and 1978, he was President of the German Society of Parasitology, and served on the editorial boards of several journals, notably *Zeitschrift für Parasiten-*

kunde, where he was also one of the editors from 1979.

In 1965 Wolfgang was still working in the field of mermithid parasitism in Chironomidae, particularly in relation to the effect on sexual development of males and females. These studies on the effects of the mermithids on the midges resulted in a survey in the Sudan, conducted by the World Health Organization, to investigate the possibility of controlling chironomids biologically by means of mermithids, because the large numbers of chironomids in the region caused asthma and other allergic reactions. These studies of sexual development required a



Prof. Wolfgang Wülker and his long-time research assistant Fr. Renate Rössler seek larvae of the phylogenetically basal species *Chironomus holomelas* in a raised bog (Hochmoor) in Jura, Switzerland, May 1981.

Photo courtesy Malcolm G. Butler.

means of identifying the sex of larvae and their development stage. Working with W. Götz, they produced detailed illustrations of the appearance of the imaginal Anlagen in nine defined stages of larval fourth instar development. These observations have been extensively used by other workers for such things, as defining the developmental stage at which hibernation occurred, and in the assessment of environmental pollution and its effect on the genome structure in biomonitoring.

In the course of these studies, he spent 4 months in the laboratory of Prof. J.E. Sublette at Portales, New Mexico in the U.S.A., trying to infect chironomid larvae with mermithid parasites. During this time Wolfgang became more entranced with the possibility of using polytene chromosomes in chironomid taxonomy and phylogeny using the standard maps of chromosomes arm A, E and F, produced by Dr. H.-G. Keyl of the Max-Planck-Institut für Meeresbiologie, and spent some time in other labs in Germany becoming acquainted with methodology and cytotaxonomy in general. Later, with Drs. G. Dévai and M. Miskolczi, he produced the standard chromosome maps for the rather difficult chromosome arms B, C and D. These publications resulted in the description or re-description of many species of the dipteran genus *Chironomus*, and investigation of the ecology and evolutionary relationships of species in Europe, Asia, Africa and North and South America, in collaboration with many collaborators and led Wolfgang to postulate 'basic' banding patterns, which can be found in many continents, and from which the other patterns can be derived.

Wolfgang was involved in collaborations with colleagues in many countries during his long career, some of which lasted for many years and produced many publications. His collaboration with Jim and Mary Sublette, Jon Martin and later Mac Butler, produced 16 papers from 1967 to 2009, with Wolfgang and Jon responsible for cytology and Jim and Mary for the larva, pupa and adults. Collaboration with the Russian workers, notably Iya Kiknadze and her group, resulted in 16 publications from about 1993; that with the Swiss group of Adolf Scholl produced seven; four with György Dévai and colleagues from Hungary; and numerous others with students or colleagues from Germany. However, he did not restrict his interests only to the genus *Chironomus*, but extended the analysis to the banding patterns of the polytene chromosomes to dis-

tinguish species and then describe the morphology, ecology and distribution of these species, from other genera, such as *Sergentia* and *Diamesa*.

Wolfgang was highly respected in the chironomidologist community and was chosen to host the successful 13th International Chironomid Symposium at Freiburg in 1997, where he was pleased to show the participants his favourite lakes in the Schwarzwald area. In 2003 he was invited to present the honorary Thiene-mann lecture at the 15th Symposium in Minnesota, but was unable to attend, due to ill health. However, his lecture on the role of chromosomes in chironomid systematics, ecology and phylogeny, was still able to be presented by video, and provoked considerable discussion.

His health continued to deteriorate to the extent that he was forced to give up



Wolfgang Wülker with some of the participants at the 13th International Symposium on Chironomidae, which he hosted at Freiburg in September 1997. Those included are (from the left) Iya Kiknadze (Novosibirsk), Ninel Petrova (St. Petersburg), Wolfgang Wülker, Renate Rössler (Freiburg) and Jon Martin (Melbourne).
Photo courtesy Malcolm G. Butler.

further research from about 2010, and lived out the remainder of his life quietly in Merzhausen, where he died.

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