



Dr. Rainer Rupprecht
(5 May 1938 – 30 May 2018)

Unfortunately, **Dr. Rainer Rupprecht** passed away before he could receive his award. **Klaus Enting** provided the combined review of **Dr. Rupprecht's** contributions to Plecopterology and his obituary.

Dr. Rainer Rupprecht was born in Breslau (today Wrocław) as the younger of two children of Paul and Annemarie Rupprecht. As a seven-year-old boy, he experienced flight and expulsion. The family fled to the West via Czechoslovakia and found a new home in Sulzthal, a small town in Lower Franconia. Throughout his life, he felt home at this place. In nearby Bad Kissingen, Rainer Rupprecht attended the natural science high school. He showed talent not only in natural sciences but also in technical subjects. After finishing high school in 1958, he started studying mechanical engineering at the Technical University of Munich but discontinued the program. After a brief stay in Münster he started studies at the University of Mainz in 1961 to become a secondary school teacher with biology as his major and physics and chemistry as his minor subjects. He passed the first and second state exams in 1963 and 1965, respectively. Rainer Rupprecht completed his PhD with Professor Helmut Risler at the Zoological-morphological Institute in 1967 and started a career as a teacher. However, he soon switched to the chemical-pharmaceutical industry. During this time, there were also major changes in private life. He

married his wife Inge (nee Seitz) in 1967, their daughters Cornelia and Mechthild were born in 1968 and 1970, respectively. The family experienced difficult times in 2001 when Inge Rupprecht passed away after a serious illness.

With passing of the University Reform Act of 1970, a Department of Biology at the University of Mainz was created. His former supervisor, Professor Risler, asked Rainer Rupprecht to be his scientific assistant. Rainer Rupprecht completed his habilitation and was appointed a University Professor in 1973, after the establishment of the Department of Biology. His teaching subject was systematic zoology. His animal identification courses were legendary and, for many first-year students, a first hurdle to overcome. He also taught limnology and biocommunication to advanced students. He was considered a professor of the old school, perhaps a somewhat eccentric, and certainly a unique individual who allowed strange insects “drum” in a far corner of the institute. Many students struggled with his style, but those who got to know him better, appreciated him as a patient, helpful teacher. He gave his candidates plenty of room for independent work and he was always available to assist if someone needed help. In 2003 at the age of 65, he retired from the university. However, he remained faithful to his field of research, the drumming of Plecoptera. He equipped himself privately with the necessary apparatuses and continued his investigations in his private study.

For Rainer Rupprecht, physical fitness and health were always important. He never smoked, drank alcohol only moderately and kept fit with sports until old age. However, he fell ill shortly before his 80th birthday. He was diagnosed with lung cancer at an advanced stage a few days later. He died on May 30, 2018. Rainer Rupprecht's research interests were diverse. In his limnological work, he dealt with the chemical nature of relatively pristine mountain streams, the problem of acidification and the re-colonization of formerly polluted waters.

His scientific passion, however, was the drumming of stoneflies. It began when Professor Risler read an old paper about the drumming behavior of stoneflies and suggested this subject to Rainer Rupprecht for his thesis work. Although this stonefly behavior was known since Newport (1851), there were only speculations about the meaning and purpose of drumming. As a morphologist with a neurobiological background, Rainer Rupprecht was not satisfied to only evaluate the drumming signals of the stoneflies and to interpret their behavior. He also wanted to know how signal recognition functioned and which structures perceived the stimulus. He also investigated the morphological structures for signal generation.

At that time, such study still faced serious problems of recording an analysis, but Rainer Rupprecht was well prepared for this. He developed the first manageable method for recording and evaluating the drumming signals, borrowing part of the required equipment from the Institute of Nuclear Physics. As he admitted, he initially had difficulties in finding stoneflies at all, and his supervisor had no experience with this group of insects. Dr. Rupprecht eventually collected stoneflies from the high-quality streams of the nearby Taunus Mountains which led to his first publication: *Trommeln als Verständigungsmittel bei Steinfliegen* (Rupprecht, 1965). In his dissertation (1968) he improved knowledge of this behavior and showed, for the first time, that the drumming signals are part of the mating behavior, that virgin females also drum, and that the signals are not perceived acoustically but as vibrations. In further works, he documented the species specificity of the signals (1969), dialect formation (1972), and the existence of cryptic

species in *Capnia bifrons* complex (1997). In the revision of genus *Capnia*, Murányi et al. (2014) honored Rainer Rupprecht for his work and dedicated *Zwicknia rupprechtii* Murányi, Orci & Gamboa, 2014 to him. He was a fixture of the international Plecopterologists community. He participated in almost all conferences of the International Society of Plecopterologists, where he presented the results of his research. Unfortunately, Rainer Rupprecht died shortly before being awarded the Lifetime Achievement Award in Brazil in 2018 which would have made him very proud.

He was very patient in his research work. He often spent many days and nights trying to elicit the drumming signs of his animals. If the results did not seem sufficient to him, he often drove nearly thousand kilometers within a day to catch additional specimens of the needed species and get them home alive. His driving behavior, as a result, was very impatient and a nerve test for every passenger. At home, he put the larvae of his study objects in small bags that hung in refrigerated aquariums to wait for the emergence of virgin specimens. In the years after his retirement, this was in a large refrigerator on his garden terrace.

Despite his 80 years, he was still quite fit and worked on several projects to stonefly drumming. His major goal, the summary of the communication signals of the European stonefly families, was completed only for the Taeniopterygidae. His serious illness was a complete disbelief and did not leave him much time to settle his estate. He left us suddenly and too early. On June 7, 2018, he was buried in the Mainz Main Cemetery next to his wife, Inge. His family, his partner Hedwig, his friends, colleagues and students mourn his loss. His personal collection of Plecoptera will be deposited in the Natural History Museum in Mainz.

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ANNOUNCEMENTS

XII North American Plecoptera Symposium 16-19 May 2019



8th North American Plecoptera Society Meeting

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