Turbellarian Biology
Turbellarian Biology

Proceedings of the Sixth International Symposium on the Biology of the Turbellaria, held at Hirosaki, Japan, 7–12 August 1990

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Preface

Turbellarian platyhelminths (or, as they are known now among cladistic systematists, free-living Plathelminthes) comprise a widely distributed assemblage of lower worms found in marine, freshwater, and even occasionally in terrestrial habitats. The phylum Platyhelminthes may be more widely known for its parasitic members since the major parasitic groups of the tapeworms, flukes, and their relatives are more speciose and have greater impact on everyday human life; but the turbellarians are more diverse and, as inhabitants of virtually any aquatic habitat, are more widespread as well. Many of the lower turbellarians are rather simple in morphology and have served as models for ancestors of the Bilateria, i.e., the bulk of the animal phyla. Others are quite complex organisms, especially in the morphology of their reproductive systems which are highly specialized. The majority is free-living in aquatic habitats but a number of interesting parasitic and commensal species are found scattered among the higher turbellarian taxa.

But turbellarians are more than just taxonomic curiosities. They have served as illustrative models in research on a variety of basic life processes. For example, their high capacity for regeneration has made them the subject of a large literature in developmental biology, the occurrence of mixoploidy and other karyological oddities among turbellarians has been important in understanding evolution of the genome, and the fine structure and biochemistry of the nervous system in turbellarians is revealing important principles of the organization of so-called primitive neural systems.

Turbellarians have been the focus of a series of international symposia, the first held in 1970 when members of the American Society of Zoologists organized a symposium honoring the memory of the preeminent American student of the group, Libbie Hyman. The sixth in this series of symposia was held in Hirosaki, Japan, in August 1990; and papers presented there are compiled in this volume. Japan was a fitting site for this gathering; it has long been an important center of research on turbellarians, particularly on triclad turbellarians, with study of their regeneration, biogeography, genetics, ecology, ultrastructure, etc. by many internationally recognized scientists.

Professor Dr Wataru Teshirogi, Dean of the Faculty of Science at Hirosaki University, graciously organized the symposium, and his accomplishments in this task were truly awe-inspiring. Assisted by a local organizing committee with Dr Sachiko Ishida and members from other Japanese universities (see p. vi), he brought to fruition a highly orderly and Outstandingly enjoyable symposium involving approximately 150 correspondents from 19 countries.

The festivities and interesting scientific developments at the symposium were dampened somewhat by announcement that one of the best-recognized specialists on turbellarians, Dr Eveline Du Bois-Reymond Marcus, died in 1990. In recognition of her many accomplishments and contributions to the study of turbellarians, the organizing committee of the symposium dedicates this volume to her memory. Dr Diva Diniz Corrêa has kindly provided a biography of Dr Marcus and a list of her publications; these appear on the following pages.

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This volume is dedicated to the memory of Eveline du Bois-Reymond Marcus
(6 October 1901–31 January 1990)
Dr Eveline du Bois-Reymond Marcus

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Eveline du Bois-Reymond Marcus was born in Berlin, Germany, October 6th, 1901, as the youngest daughter of Rene and Frieda du Bois-Reymond; she died in São Paulo, Brazil, January 31st, 1990.

She grew up in an environment of people interested in science. Her father was a teacher of physiology at Berlin University, and her grandfather, Emile du Bois-Reymond, also a teacher of physiology in the same University, was famous as a scientist. When she was only nine years old, she started to watch small animals in her father’s microscope; and she continued so, watching small animals, almost her whole life, until her health began to decline.

From 1918 to 1919 she attended courses in laboratory techniques, and from 1920 to 1923 she worked as a technician in the universities of Bonn, Göttingen, and Berlin. From 1923 to 1924 she started attending zoology courses at the University of Berlin, thinking about a career as a researcher in zoology. She did not finish her studies, however, because there she met a teacher of zoology, Ernst Marcus; they were married March 11, 1924, and started a life together that lasted 44 years, thoroughly dedicated to zoology. From their marriage to the day of his death, June 30, 1968, it became impossible to talk about their scientific lives separately.

In 1924 she started a close collaboration with her husband, first in Berlin (1924–1936) and later in São Paulo (1936–1968); this included study of several invertebrate groups, such as Protozoa, Ctenophora, Turbellaria, Nemertinea, Oligochaeta, Archiannelida, Tardigrada, Onychophora, Bryozoa, Pantopoda, and Gastropoda. They dedicated a great many hours to zoology. It was sometimes said that he was the ‘writer’ and she was the ‘technician’, but in fact all subjects were always discussed by both. All their published papers were the result of this close work together, but, to justify his full-time position as a professor, only his name appeared as author at first, as she never accepted a remunerated job. While all their first papers list only E. Marcus as author, her collaboration was always mentioned in the first lines of the publications; in addition, many new species were named for her, as ‘evelinae’. Eventually, her name started to appear, sometimes with his, as ‘Marcus, E. & E.’, sometimes as only ‘Marcus, E. du Bois-Reymond’.

In 1936 they left Berlin to live in São Paulo, Brazil, as Ernst Marcus had been invited to teach in the Faculdade de Filosofia, Ciências e Letras of the Universidade de São Paulo. In 1940 they became Brazilian citizens and commemorated the fact by purchasing a gold medal with the symbol of the Brazilian Republic.

Looking back to their list of publications, we recognize that some groups received a special preference and were exhaustively explored by them. Among these was the large group of the turbellarians.

During the Second World War (1939–1945), they could not travel to the sea coast due to their German origin. They then dedicated their time to the study of freshwater animals. In 1945 Ernst Marcus presented to the University of São Paulo a large thesis about microturbellarians and received for that the position of Full Professor of Zoology.

Soon after the end of the war, they started to
travel to the coast of São Paulo State where they found an immense and unexplored number of turbellarian species and of other marine groups. In number of written pages, number of drawings, number of new species, or number of keys in their publications about turbellarians, their productivity was so large as to be nearly impossible to grasp. Also in other animal groups, particularly the Bryozoa, Tardigrada, and Gastropoda, the number of papers they published is extraordinarily large. The full list of their publications, dating from 1924 to 1970, includes about 220 titles. From 1970 to 1985, Eveline Marcus, then alone, published about 30 papers dealing mostly with opisthbranch mollusces from warm waters of the Western Atlantic Ocean.

In 1973 she received the title of Honorary Member of the Brazilian Malacological Society and in 1979 was elected Honorary Member of the London Malacological Society. In 1976 the University of São Paulo, Brazil, awarded her the title of Doctor Honoris Causa owing to her significant contribution to the development of zoological research in Brazil; the University of Marsaille, France, awarded her the title of Doctor Honoris Causa in 1988. In 1976 she became co-editor of the publication Studies on the Neotropical Fauna.

Considering these accomplishments, zoologists world over accept the Marcus name (Ernst Marcus and Eveline du Bois-Reymond Marcus) as among the first line of the most important zoologists of our century. We, her friends and colleagues, all agree that she was a remarkable woman.

Publications by Dr Eveline du Bois-Reymond Marcus


