



PROFESSOR O. W. TIEGS

OBITUARY

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With the death of Oscar Werner Tiegs, on 5 November 1956, the world has lost a zoologist of the highest rank. Fellows of the Academy and University colleagues throughout Australia will experience a sense of personal loss in his passing while zoologists everywhere will regret the departure of one whose reputation was international.

Oscar Werner Tiegs was born at Brisbane on 12 March 1897. In 1911, he won a scholarship and entered the Brisbane Grammar School. In 1913, he was awarded an extension scholarship and in 1915 an open scholarship to the University. Dr. K. B. Fraser who was in the same class at school, recalls that Tiegs was a boy of gentle, friendly and retiring character, magnanimous, and popular with his fellows. He took no active part in sport, but was interested in those who did so. He was a member of the Brisbane Grammar School cadet team, which was the champion team of Australia in 1914. He excelled in the sciences.

Tiegs entered the University of Queensland in 1916 and graduated B.Sc. with first class honours in Biology in 1919. He acted as a demonstrator in Biology in 1918, and in 1919 participated in the Hookworm Campaign. He was appointed Walter and Eliza Hall Fellow in Economic Biology in 1920 and worked on various subjects, but with particular emphasis on the fundamental biology of certain blowflies. An important work on the classification of the Trematode superfamily Gyrodactyloidea was also published during this period. He joined the staff of the Zoology Department of the University of Adelaide in 1922 and obtained his D.Sc. from that University in 1925. In the same year, he was appointed to a lectureship in the Zoology Department of the University of Melbourne. Three years later, he was awarded the David Syme Research Prize, one of Australia's foremost scientific awards. He continued his investigations abroad as a Rockefeller Fellow, spending most of his time in Cambridge and Utrecht. After his return to Melbourne, he was appointed Associate Professor of Zoology, a post which he held until 1948 when he was called to the chair. He was elected a Fellow of the Royal Society in 1944 and was a Foundation Fellow of the Australian Academy of Science. In 1926 he married Ethel M. Hamilton, who shared with him his love of science, the arts and music.

Three central themes of enquiry dominated his long, active and productive research career; the histology of neuro-muscular mechanisms, the origin of insects and the histology of flight muscles of insects. The first culminated in a detailed and particularly valuable review of the subject. However, there is little doubt that his heart was really set on problems relating to arthropod embryology and the histogenesis of flight muscles in insects. His study of the embryology of myriapods and insects, recorded in a magnificent series of memoirs, culminated in the development of his well known view on the ancestry of insects. He examined all possible origins of insects and effectively

disposed of all views, with the exception of the myriapod-Campodea theory which derives insects from the myriapods and through them ultimately from some Peripatus-like ancestor. This was a classical analysis; the direct evidence from fossils is negligible and the affinities have to be deduced from information gleaned from the comparative structure and development of surviving groups. Tiegs' own researches on development of Arthropods contributed largely to the convincing picture he was able to portray. A few days before his death, he completed a masterly review of the whole problem of arthropod evolution.

The great variety of insect wing mechanisms in the various groups and, in particular, the phenomenal speed of the Dipteran wing have always been a challenge to zoologists to provide a comprehensive picture of the relationships. In particular, the performance of the Dipterous wings obviously involves something outside the scope of muscle ordinarily studied by physiologists. Tiegs described the morphogenesis of wing muscles in a wide variety of insects and showed, *inter alia*, that there had been evolved in Diptera a completely novel type of muscle in which high frequency unfused contraction replaced low frequency tetanic shortening. Almost as a by-product of the above, he was able to show that in striated muscle the striations are in a spiral and that the passage of slow contractile waves moves along the helicoid.

As a teacher he was clear, accurate and concise. In his work he was neat and had great artistic ability. As an investigator his great experience commanded profound respect and attention. His clear insight and objective approach to problems made his opinion much valued and he will be remembered as a man who constantly translated his own high ideals of scientific aspiration into action. A loyalty to science and devotion to bench work were ingrained characteristics and made him more at home in the laboratory than at the committee meeting or the social function.

By nature he was quiet and retiring but though reticent there was no coldness in social relations. Behind the front of reserve were many very human qualities, including a keen sense of humour, great integrity, a charming modesty and great sincerity. Those who came into closer touch with him soon mingled their respect with affection and to many of us he was a wise and warm friend.