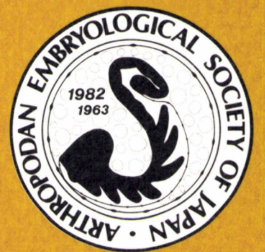


Recent Advances in
INSECT EMBRYOLOGY
in Japan

Edited by
H. ANDO
and
K. MIYA



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**Arthropodan Embryological Society
of Japan**

c/o Sugadaira Montane Research Center,
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Preface

Even though our knowledge of insect embryogenesis has become much increased in these decades, there still remains the groups of insect embryogenesis of which is completely unknown, as in cases of the Protura and Zoraptera, and at the same time, descriptive works on many other insect orders are still insufficient and fragmentary. It is beyond doubt that further development of insect embryology may only be assured after accumulation of the detailed and correct information on normal embryogenesis, however, the number of the descriptive works on insect embryogenesis appearing yearly are not many and tended to decrease. This work is therefore intended to give observations on normal embryogenesis of several Japanese insects, which have hitherto been less studied.

In Japan, the earliest work on the embryogenesis of insects was done by Dr. Kametaro Toyama (1902), who gave thorough observations on the normal development of silkworm, *Bombyx mori*. After the World War II, population of insect embryologists gradually increased, and now it is generally believed that the majority of the workers who participate the study of normal embryogenesis of insects could be found in this country. In 1963 "the Study Group of the Students of Arthropodan Embryology in Japan" was established by us and a few colleagues, and since that time this organization has endeavored the study of insect embryogenesis and descriptive works were particularly encouraged. In 1982 this organization was reformed and became "the Arthropodan Embryological Society of Japan", but main purpose of this Society is the same as that in 1963. It is by this reason that this book is published from this Society, commemorating the 20th Anniversary of the establishment of the Study Group of the Students of Arthropodan Embryology in Japan. We hope that publication of this book may stimulate many biologists and also expect that coming more detailed, extensive works on descriptive studies on insect embryogenesis.

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Finally, we wish to acknowledge the continued advice and encouragement we have received many years from the late Dr. Hidemiti Oka, Professor Emeritus of Tokyo Kyoiku University, to whom this book is dedicated.

February, 1985
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