Editorial for the Ross H. Crozier Memorial Volume

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In memoriam – Ross H. Crozier (1943 - 2009)
The late Professor Ross H. Crozier studied ants for more than 40 years. Although his biological interests and research addressed many other organisms, he was especially fond of ants and always expressed his great appreciation and interest in their general biology, genetics, and evolution. Most of the editors of this memorial volume knew and worked with him closely in recent years. He was intellectually inspiring and extraordinarily knowledgeable especially in his main research areas of evolutionary genetics and myrmecology. At the same time, he was a very kind, very well liked gentleman, and a great role model for everybody who was fortunate to spend time in his lab.

We, editors, invited myrmecologists – colleagues, and former students of Ross H. Crozier – to contribute to this special volume. Since Ross knew ant researchers all over the world it was a very difficult decision whom to ask to submit potential manuscripts. We sincerely hope no one will feel left out and that this volume and its papers, which comprise four reviews and twelve original articles, will be received as intended, to honour one of the greatest myrmecologists of the last 40 years: Ross H. Crozier

Ross H. Crozier held a Chair of Evolutionary Genetics at James Cook University. Appropriately, there are two papers in this special issue addressing questions of molecular evolution and genetics in ants. Eisuke HASEGAWA & al. (2011) study and analyse the complete mitochondrial genome of the thelytokous ant Pristomyrmex punctatus. It is one of the first ant mitochondrial genomes that have been fully sequenced and investigated. Another paper on mitochondrial genomes by Alice P. JOHNSON & al. (2011) presents an outlook on maternal inheritance in a eusocial hymenopteran species.

Molecular phylogenetics and taxonomy
Ant phylogenetics was one of the topics Ross was very passionate about indeed. Hence, we are glad to have a review by Philip S. WARD (2011) who assesses the power of molecular and “traditional” methods in order to achieve reliable phylogenies for taxa within the Formicidae. Perttu SEPPÄ & al. (2011) investigate morphological, genetic and chemical means and approaches to distinguish ant species using two Formica species as an example. Two authors use alpha taxonomy to honour Ross. Robert W. TAYLOR (2011) describes two new species of heteroponerine ants naming one of these after Ross H. Crozier: Heteroponera crozieri. Steven O. SHATTUCK (2011) describes a new dolichoderine ant species and honours both Ross and his wife Ching by naming it after them: Turneria rosschinga.

Molecular evolution and genetics
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Behavioural and molecular ecology
Mating, reproduction, and kin structure are important topics in ant behavioural ecology in which Ross had a great interest. Kazuki TSUJI & Shigeto DOBATA (2011) review the reproductive biology and colony structure of the thelytokous ant Pristomyrmex punctatus. Alfred BUSCHINGER (2011) reports on observations of a queen polymorphism in the Australian myrmicine ant Monomorium cf. rubriceps. Ellen A. SCHLÜNS & al. (2011) discover a genetic component in polyethism in the Austral-Asian weaver ant Oecophylla smaragdina. Division of labour and potential infra-
colonial conflict are affected by mating system and number of queens per colony. Hence, nestmate relatedness is studied by Matthias Sanetra (2011) in the bulldog ant Myrmecia pyriformis. Furthermore, Wee Tek Tay & al. (2011) investigate colony structure in the Australian ant Rhytidoponera sp. 12. Tom M. Van der Have & al. (2011) present research on mating systems in two European species of Lasius discussing potential hybridization and introgression between the species. Bert Hölldobler & al. (2011) study number of queens and aggressive conflict among colonies in two American honeypot ants of the genus Myrmecocystus.

We hope that this special volume will inspire current ant researchers as well as future myrmecologists as much as each of us has been personally inspired by Ross H. Crozier and his work.

References


PAMILO, P. 2011: Contributions by Ross Crozier on genetics and phylogeny of ants and other organisms. – Myrmecological News 15: V-XXII.


