



**Revision of the genera *Paramacroxiphus* C.Willemse 1961 and
Pseudomacroxiphus C.Willemse 1961 (Orthoptera: Tettigoniidae:
Conocephalinae: Agraeciini)
Revision of the Indo-Australian Conocephalinae, part 1**

SIGFRID INGRISCH

Zoological Research Museum Alexander Koenig (ZFMK), Adenauerallee 160, D-53113 Bonn, Germany.

E-mail: Ingrisch.Entomology@macbay.de

Table of contents

Abstract	1
Introduction	2
Material and methods	3
Systematic part	4
<i>Paramacroxiphus</i> C.Willemse, 1961	4
Key to species	6
<i>Paramacroxiphus aberrans</i> C.Willemse 1961	7
<i>Paramacroxiphus armatus</i> sp. n.	10
<i>Paramacroxiphus bifasciatus</i> sp. n.	11
<i>Paramacroxiphus brunneus</i> sp. n.	12
<i>Paramacroxiphus elongatus</i> sp. n.	15
<i>Paramacroxiphus irregularius</i> sp. n.	16
<i>Paramacroxiphus maculatus</i> sp. n.	18
<i>Paramacroxiphus rufus</i> sp. n.	19
<i>Paramacroxiphus securiformis</i> sp. n.	22
<i>Paramacroxiphus tessellatus</i> (Karny, 1912) comb. n.	27
<i>Paramacroxiphus uniformis</i> sp. n.	28
<i>Pseudomacroxiphus</i> C.Willemse 1961	30
<i>Pseudomacroxiphus szentia</i> (C.Willemse 1958) comb. n.	30
Distribution	33
Acknowledgements	33
References	33

Abstract

The genera *Paramacroxiphus* C.Willemse 1961 and *Pseudomacroxiphus* C.Willemse 1961 (Orthoptera: Tettigoniidae: Conocephalinae: Agraeciini) from New Guinea, previously regarded to be monotypic, are revised. Nine *Paramacroxiphus* species are described as new: *P. armatus* sp. n., *P. bifasciatus* sp. n., *P. brunneus* sp. n., *P. elongatus* sp. n., *P. irregularius* sp. n., *P. maculatus* sp. n., *P. rufus* sp. n., *P. securiformis* sp. n., *P. uniformis* sp. n.; *P. tessellatus* (Karny, 1912) becomes a new combination from *Nicsara* Walker, 1869. A key to the nine species of *Paramacroxiphus* is given. *Pseudonicsara szentia* C.Willemse, 1958 is newly combined with *Pseudomacroxiphus*. *Pseudomacroxiphus atrifrons* C.Willemse, 1961 becomes a new synonym of *P. szentia*. *Pseudomacroxiphus* thus remains monotypic. *P. szentia* is dis-

tributed throughout New Guinea, while *Paramacroxiphus* species colonise restricted areas, replacing each other geographically, although two localities are known that host more than one species.

Key words: Indo-Australian region, New Guinea, Orthoptera, Agraeciini, *Paramacroxiphus*, *Pseudomacroxiphus*, revision, new species, diagnostic key, distribution

Introduction

With regard to the knowledge of the tettigoniid fauna, the Indo-Australian region belongs to the least known areas on earth. However, by the investment of former generations, a wealth of unworked specimens sleeps in museum collections worldwide, awaiting identification and publication. My interest in the tettigoniid fauna of the area arose several years ago when preparing a revision of the Oriental Agraeciini (Ingrisch 1998). The huge amount of specimens and species prevented me to extend the revision to the Indo-Australian region. The current plans are to revise the Conocephalinae of the Indo-Australian region stepwise. After revisions of the genera, a comprehensive treatment of the higher taxa will follow, including keys to tribes and genera. Biogeographic and phylogenetic analyses could be the final step.

The Conocephalinae are currently subdivided into five tribes (Eades & Otte, 2008): Agraeciini Karny, 1907 (89 genera), Copiphorini Karny, 1912 (51 genera), Conocephalini Redtenbacher, 1891 (17 genera), Coniungopterini Rentz & Gurney, 1985 (3 genera: 2 in South America, 1 in Australia) and Euconchophorini Gorochov, 1988 (5 genera in Madagascar); 6 genera are not assigned to a tribe. From the area under consideration, 130 valid species in 30 genera are so far described, of which 25 genera belong to Agraeciini, 4 to Copiphorini, and 1 to Conocephalini.

The Agraeciini are thus the group with the greatest variety of forms worldwide and in the area under consideration. The species are predominantly forest dwelling, tropical species. The exact habitats of most species are however unknown. The Agraeciini are characterised by great differentiation of external morphology as well as external and internal genital characters.

A first overview of the Conocephalinae species occurring in the Indo-Australian region comes from Redtenbacher's (1891) monograph. Later, authors as Brongniart (1897a, b), Brunner von Wattenwyl (1898), I. Bolívar (1905), Griffini (1908), Karny (1907, 1909, 1911, 1912d, 1931), C. Willemse (1953a, b, 1961a, b, 1966) mainly added descriptions of new species and some new genera from the area. Latest keys to genera and generic diagnoses go back as far as the Genera Insectorum (Karny 1912a-c), but largely stay with the systematic division of Redtenbacher (1891). Revisions were so far only done for two genera: *Salomona* by C. Willemse (1959) and *Conocephalus* by Pitkin (1980). From neighbouring faunal regions, the Copiphorini of Australia have been revised by Bailey (1979) and the Agraeciini of South-East Asia by Ingrisch (1998).

The current paper is the first of a comprehensive revision of the Conocephalinae of the Indo-Australian region. The region is here understood in a broad sense embracing the area from the Philippines and Sulawesi eastwards to the Solomon islands, but excluding Australia and New Zealand. The outline of this area deviates from other outlines based on the distribution of mammals, first proposed by Wallace (1876), and known as Australian region, Australasian region or Indo-Australian Archipelago. This is done for practical reasons, and as preliminary studies of a huge amount of specimens at hand suggest that not many genera of Agraeciini that live within that area also occur outside of it.

The current paper aims on the complete revisions of the genera *Paramacroxiphus* C. Willemse 1961a and *Pseudomacroxiphus* C. Willemse 1961a. So far known, both genera are New Guinea endemics.

History of the genera

Both genera, *Paramacroxiphus* and *Pseudomacroxiphus*, were described by Willemse (1961a) to accommodate one species each. Both genera remained monotypic up to now (Eades & Otte, 2008). Willemse