



Studies in Australian Tettigoniidae: Australian Pseudophylline katydids (Tettigoniidae; Pseudophyllinae; Phyllomimini)

DCF RENTZ¹, YOU NING SU² & NORIHIRO UESHIMA³

¹19 Butler Dr, Kuranda, Queensland, Australia 4881. E-mail: orthop1@tpg.com.au

²90 Mugga Way, Red Hill, ACT, Australia 2603. E-mail: ozguppy@hotmail.com.au

³1435-1 Kubo-cho Matsusaka, Mie 515-004, Japan. E-mail: nori-ue@ma.mctv.ne.jp

Abstract

The genus *Acauloplacella* Karny is recorded from Australia. Four new species are described, all in the subgenus *Acauloplacella*. The Australian representatives are related to those in New Guinea. All species occur in rainforest, especially along the margins. They are known from the east coast from disjunct populations from Iron Range south to near Townsville, Qld. They are nocturnal plant feeders with males uttering a stuttering call after dark.

Key words: Tettigoniidae; Pseudophyllinae; Phyllomimini; *Acauloplacella*; taxonomy; biology

Introduction

In preparation of a guidebook to Australian Tettigoniidae, it was necessary to provide the “single *Acauloplacella* Karny species” with a name. Study of the small series of specimens in collections soon revealed multiple species were present. All four species are in the one genus, *Acauloplacella*, a member of the tribe Phyllomimini. The Phyllomimini (Leaf –mimicking Katydid) comprise genera from the Old World tropics. New Guinea, for example, harbours several species. The Australian species live in the rainforest of tropical Queensland. Members of the Phyllomimini have a characteristic appearance (Fig. 1–3). At rest the boat-like tegmina are held flattened against the surface of leaves on which they sit. During the day, when they are inactive, they are usually found on the under-surface of larger leaves in the rainforest. Once they are disturbed, they assume a normal katydid stance and hop or fly from danger and promptly move to the under surface of the new site.

Distinguishing characters of the tribe Phyllomimini include the mesopleura with a small tubercle on the episternum and a broad metasternum with a transverse ridge across the anterior margin. The humeral margin of the tegmen is flexed forward and covers a portion of the pronotum (Figs. 1, 3). Most species have short, robust legs with reduced armature. The head is conical and the fastigium of the vertex is produced. The male genitalia are variously modified with the supra-anal plate, cerci and subgenital plate species-distinctive. Females have distinctive supra-anal and subgenital plates and a strongly falcate ovipositor distinctive in its armature.

The most important taxonomic characters in *Acauloplacella* are those of size, colour (including patterns on the tegmina), shape of the fastigium of the vertex, the tuberculation and arrangement of tubercles on the pronotum and adjacent portions of the head, the presence or absence of pronotal and occipital carina. The genitalia have many distinctive features, both in male and female. These have not been studied in detail before. Male characters of interest include the tenth tergite, supra-anal plate, cercus, ridges and tubercles in the intercercal region, subgenital plate. The stridulatory file and the structure of the mirror on the *right* tegmen also have valuable taxonomic characters. The titillators are also species distinctive but are very delicate and weakly sclerotised. Females have a distinctive tenth tergite and supra-anal plate. The subgenital plate is small