



New species of the New Caledonian endemic genus *Agnotecous* (Orthoptera, Grylloidea, Eneopterinae, Lebinthini)

TONY ROBILLARD, ROMAIN NATTIER & LAURE DESUTTER-GRANDCOLAS

Muséum national d'Histoire naturelle, Département Systématique et Evolution, UMR 7205 CNRS – OSEB, CP 50 (Entomologie),
75231 Paris Cedex 05, France. E-mail: robillar@mnhn.fr

Abstract

To analyze the pattern of endemism of Eneopterinae crickets (Orthoptera, Grylloidea, Eneopteridae) in New Caledonia, available data sets have been completed by intensive field work and by the study of museum collections. Five new species of *Agnotecous* Saussure, 1878 (*A. humboldti* Robillard, **n. sp.**, *A. nekando* Robillard, **n. sp.**, *A. minoris* Robillard, **n. sp.**, *A. petchekara* Desutter-Grandcolas, **n. sp.**, *A. pinsula* Robillard, **n. sp.**) and one new subspecies (*A. brachypterus pocquensis* Desutter-Grandcolas, n. ssp.) are described here from Grande Terre and Île des Pins. These new data (1) enhance the richness of *Agnotecous* in New Caledonia, with a total of 20 known species for the genus; (2) complete the distributional data about species sympatry; (3) further document the distribution of the genus in the archipelago; and (4) confirm the acoustic properties of *Agnotecous* calling songs.

Key words: Orthoptera, Eneopterinae, Lebinthini, *Agnotecous*, new species, new subspecies, New Caledonia, endemism

Introduction

As a hotspot of biodiversity, New Caledonia is characterized by many endemic taxa which origin is still controversial. The previously well-accepted Gondwanan paradigm and continental characterization of New Caledonia were indeed recently questioned in the light of geological and phylogenetic contradictory arguments (review in Grandcolas *et al.* 2008). This does not question the high endemism experienced by many groups of organisms in New Caledonia, but necessitates reconsidering its causes, which may not be related to the age of the clades only. A first step to analyze patterns of endemism is however to characterize the distributions and diversifications of the taxa under study in a phylogenetic context, at both a regional and local scale (Brooks & McLennan, 2002).

Among insects, crickets (Orthoptera, Grylloidea) have been quite extensively sampled in New Caledonia (Chopard 1915; Gorochov 1986; Otte *et al.* 1987; Desutter-Grandcolas 1997b, c, 2002). Their level of endemism proves extremely high, although it varies greatly among cricket groups (Otte *et al.* 1987; Desutter-Grandcolas 1997a, b). In this line of reasoning, the cricket subfamily Eneopterinae is particularly interesting as it is represented in New Caledonia by both endemic and widespread taxa, all belonging to the Lebinthini tribe (Robillard & Desutter-Grandcolas 2004a, 2008). A revision and morphological phylogeny of the genus *Agnotecous* Saussure, 1878 (Grylloidea, Eneopterinae, Lebinthini), a species-rich genus endemic to New Caledonia main territory (Grande Terre), was recently proposed (Desutter-Grandcolas & Robillard 2006). Three successive colonization of New Caledonia were then tentatively derived from phylogenetic and distributional data, involving *Agnotecous*, *Lebinthus lifouensis* Desutter-Grandcolas, 1997 and *Cardiodactylus novaeguineae* (Haan, 1842) successively (Robillard & Ichikawa 2009). To further test these biogeographical events, the molecular analyses of these clades has been undertaken, based on recent expeditions and loans of museum material; Several new taxa were then found which are addressed in the present study. Five new species of *Agnotecous* and one new subspecies are described here from Grande Terre and Île des Pins.