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A species radiation among South African flightless spring katydids (Orthoptera: Tettigoniidae: Phaneropterinae: *Brinckiella* Chopard)

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Abstract

A previously unknown radiation among flightless spring katydids (Tettigoniidae: Phaneropterinae: *Brinckiella*) in Western and Northern Cape provinces of South Africa is described. Seven species are described as new (*B. aptera* **n. sp.**, *B. arboricola* **n. sp.**, *B. elegans* **n. sp.**, *B. karooensis* **n. sp.**, *B. mauerbergerorum* **n. sp.**, *B. serricauda* **n. sp.**, and *B. wilsoni* **n. sp.**) and one species (*B. viridis* Chopard) is redescribed.

Key words: South African katydids, Phaneropterinae, *Brinckiella*, species radiation, fynbos, succulent karoo

Introduction

Spanning at least three centuries, the long tradition of faunistic and taxonomic research in South Africa has produced countless, comprehensive treatments of virtually all groups of insects. Yet, the hyperdiverse entomofauna of this country is bound to present entomologists with occasional surprises, and the recent discovery of a number of species of the new order Mantophasmatodea in the Western Cape is a good example of one. This group of hemimetabolous insects which, while common and occasionally abundant in the fynbos vegetation of the Western Cape, had been undercollected and overlooked by the entomological community for over a century, before being re-discovered in 2002 (Picker et al. 2002). In all likelihood this happened because Mantophasmatodea achieve adulthood during winter months, but their adults retain an apterous, nymphal appearance, at first glance resembling immature forms of some other, possibly orthopteroid insects that should appear as imagines in later months. Similar, so far overlooked radiations will be possibly discovered among other groups of insects. This is particularly likely in hemimetabolous lineages that exhibit high seasonality, and mature during southern winter and early spring, when insect activity is low, and the few collectors who conduct sampling at that time of year are likely to encounter a large proportion of juvenile individuals of species that mature in later months.

Here we report the discovery of a species radiation in wingless and brachypterous katydids of the genus *Brinckiella* Chopard, 1955 in the fynbos and karoo vegetation of Western and Northern Cape provinces of South Africa, a group that reaches adulthood at the beginning of the southern spring (September/October), a time when most Tettigoniidae in this region are still in their early nymphal or egg stages. The genus *Brinckiella* was erected to accommodate a single species, *B. viridis* Chopard, described on the basis of the singular female holotype collected during the Brinck-Rudebeck 1950–1951 expedition to southern Africa (Chopard 1955.) Since then specimens of *Brinckiella* have been collected only occasionally, and major entomological collections in Pretoria and Cape Town contain only a handful of specimens collected between 1940 and 1967. Within these collections specimens of *Brinckiella* were invariably placed among unidentified

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