



A new genus and species of Palaeontinidae (Insecta: Hemiptera: Cicadomorpha) from the Lower Cretaceous of southern England

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Abstract

Valdicossus chesteri, a new genus and species belonging to Palaeontinidae (Insecta, Hemiptera), is described based on a well-preserved hindwing from the Early Cretaceous Wealden Supergroup of southern England. The specimen is the first well-preserved hindwing of Palaeontinidae from the UK. It differs from other genera as follows: veins M_1 , M_2 and M_{3+4} arise from stem M near wing base; vein M_{3+4} unbranched; fusion between veins RP and M_1 basal of the level of wing indentation; and vein A_1 absent.

Key words: Homoptera; fossil; morphology; Weald; England

Introduction

The first palaeontinid (Insecta: Hemiptera) was described from the Middle Jurassic of England (Butler, 1873; Tillyard 1921). It was poorly-preserved in the Stonesfield Slate and was misidentified as a lepidopteran (Butler, 1873; Handlirsch, 1906–1908). After more than a century, a second British palaeontinid was reported from the Early Cretaceous Wealden Supergroup of southern England which is probably attributable to the genus *Ilerdocossus* Gómez-Pallerola, 1984 (Jarzembowski, 1984). In the meantime, Wootton (1961) recognized *Cyllonium* Westwood, 1854 from the earliest Cretaceous Purbeck Group, another putative lepidopteran, as a palaeontinid. We report a new genus and species on the basis of a well-preserved hindwing from the Wealden of southern England which is the first hindwing-based taxon of Palaeontinidae from the UK.

Material and methods

The unique hindwing is an impression with brown-coloured veins and pigmentation preserved in a sideritic nodule and found associated with fossil Orthoptera (crickets), Blattodea (cockroaches), Hemiptera (leafhoppers), Coleoptera (beetles) and Trichoptera (caddisflies) as well as non-insects (fish and vermiform traces). The matrix is light grey in colour but liable to tarnish in air so that the material has been stored in vacuo. The specimen is from the Lower Cretaceous of East Sussex, southern England. The find's locality is the little-known site of Cooden Beach where only two fossil insects (orthopterans) have been formally described, one of which, *Probaissehcana cretacea* Gorochoy, Jarzembowski & Coram, 2006, is from the same ironstone band. The Cooden entomofauna resembles other Weald Clay localities in that the insects are predominantly disarticulated remains considered to have been transposed by rivers into a low-lying, muddy wetland with