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Notes on the biology and host plants of the Australian leaf beetle *Calomela pallida* (Baly, 1856)(Coleoptera: Chrysomelidae), with a colour description of the live adult

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Abstract: The colour pattern of live adult *Calomela pallida* (Baly, 1856)(Coleoptera: Chrysomelidae) is described. The green and aquamarine coloration fades to various shades of orange-brown and brown upon death. New host plants of *Acacia leiocalyx* (Domin) Pedley and *A. sophorae* Labill. (R.Br.) (Mimosaceae) from Queensland and *A. implexa* Benth. (Mimosaceae) from New South Wales are presented.

Introduction

Calomela pallida (Baly, 1856)(Coleoptera: Chrysomelidae) is a widespread beetle in eastern Australia, being recorded from Cape York Peninsula to southern Victoria (Selman, 1979). However, very little if anything has been recorded on its biology and adult and larval host plants. Selman (1979) and Hawkeswood (1994) provided no host plant records for the species. During 1983-2007 the first author made a number of observations on the biology and host plants of this beetle which are described below. In addition, the second author has made some recent observations on the species and taken photographs of the live adults (Figs. 1 and 2, this paper). During the course of collecting it was realised that earlier authors (viz. Baly, 1856; Selman, 1979) who described or redescribed this insect were unaware of its colour pattern in life as they were obviously working with only dead material and consequently provided incorrect descriptions. The actual colour pattern is green and pale aquamarine blue (Figs. 1 and 2, this paper). In death, the colour pattern becomes various shades of dark orange and brown. The name *pallida,* which is Latin for pale, presumably refers to this pale brown colour. The beetle was first described in the genus *Australica* by J.S. Baly in 1856 who was sent dead material from Australia and as such never had the opportunity of examining live adults. Blackburn (1889) moved the species to the genus *Calomela* but did not mention anything about live coloration.

Colour description of adult (see Figs. 1 & 2)

Head and pronotum leaf green. Elytra leaf green, with striae darker green. Apices of elytra often pale bright aquamarine blue in colour, the amount of colour is variable. Coxa, trochanter, femur and tibia of legs 1 and 2 leaf green; coxa, trochanter, femur and tibia of leg 3 orange to pale orange-brown, usually with pale green infusion. Tarsi of legs 1-3 orange to pale orange-brown. Antennal segments 1-4 orange to pale orange-brown, segments 5-11 black.

Collecting localities and host plants

(a). Griffith University campus, Brisbane, Queensland - Adults encountered during summer during 1983-1987 on young plants of *Acacia leiocalyx* (Domin) Pedley (Mimosaceae). Adults only present as singletons or mating pairs. Plant community is a dry sclerophyll woodland. Obs: T.J. Hawkeswood.

(b). Browns Plains, Queensland - Adults on leaves of *Acacia leiocalyx* (Domin) Pedley (Mimosaceae) during January 1982. Adults only present as singletons or mating pairs. Plant community is a dry sclerophyll woodland. Obs: T.J. Hawkeswood.

Fig. 1. Adult of *Calomela pallida* (Baly, 1856) from Mt. Tinbeerwah, Queensland, showing live coloration. Note the aquamarine coloration at the tips of the elytra. The beetles fade to various shades of pale brown upon death. (Photograph: N. Monaghan).

(c). Kellyville (Wrights Road), Sydney, New South Wales - Adults present as singletons and mating pairs during February - March 2002 on leaves of *Acacia implexa* Benth. Plant community is a dry sclerophyll woodland. Obs: T.J. Hawkeswood.

(d). Castle Hill (Tuckwell Road), Sydney, New South Wales - Adults on leaves of *Acacia implexa* Benth. (Mimosaceae) during March 2007. Plant community is an artificial native and introduced tree community (woodland/forest) with a few native plants in a residential garden on 5 acres. Obs: T.J. Hawkeswood.

(e). Jabiru Park, Lake Macdonald, between Cooroy and Noosa, Queensland. Adults on *Acacia sophorae* (Labill). R.Br. (Fig. 2). Obs: N. Monaghan.

Discussion

The adults of many Chrysomelidae are well known to lose their natural coloration upon death although usually in taxonomic revisions, the dead colours are described and bear no resemblance to real life. This is as a result of reviewers who, for various reasons, have not seen the beetles alive in their natural habitats. Recently the first author has presented a paper dealing with the live coloration of adults of the Australian hispine *Aproida balyi*

(Hawkeswood, 2007) and there must be many other species of Australian Chrysomelidae which have distinctive live coloration which fades upon death. In most cases, it it likely that their original descriptions are also inaccurate and therefore need to be amended.

All of the adult host plants for *C. pallida* listed here are new since no other author appears to have listed any biological data for the species (Hawkeswood, 1994). The genus *Calomela* appears to be host specific to *Acacia* (Hawkeswood, 1994) although there are other records from different plant groups (Selman, 1979) which are most likely non-hosts (Hawkeswood, 1994).

Fig. 2. Another view of *Calomela pallida* adult on foliage of *Acacia sophorae* at Jabiru Park, MacDonald Lake, between Noosa and Cooroy, Queensland. (Photo: N. Monaghan).

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