

THE FOOD PLANTS OF *JALMENUS DAEMELI* SEMPER (LYCAENIDAE) WITH NOTES ON OTHER BUTTERFLIES AND ACACIA FOOD PLANTS

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ABSTRACT. The literature providing larval food plant data for *Jalmenus daemeli* Semper (Lycaenidae) is summarized. A new larval host plant, *Acacia leucoclada* Tindale subsp. *argentifolia* Tindale (Mimosaceae) is recorded from the Warwick district, south-eastern Queensland. One previously overlooked host, *A. pendula* A. Cunn. ex G. Don, is included here from the published literature. The name *Acacia cunninghamii* Hook. is no longer valid as the food plant for four butterflies, *Jalmenus evagoras* (Donovan), *J. daemeli* Semper, *J. ictinus* Hewitson and *Hypochrysops delicia delicia* Hewitson, since the revised classification of *Acacia* in Queensland does not allow accurate determinations for the food plants referred to under the name *cunninghamii*. Comments are made on a new host recorded for *J. evagoras*. The known larval hosts for *J. daemeli* are 12 and for *J. evagoras* 15.

Jalmenus daemeli Semper (Damel's blue) occurs from Cairns to Brisbane in scattered localities along the coast and also in certain inland localities such as Eidsvold, Gayndah, Toowoomba, Stanthorpe and Millmerran (Common & Waterhouse, 1972, 1981). Atkins (1976) recorded *J. daemeli* from various localities in central Queensland, while De Baar (1977) recorded it from an area between Bunya Mountains and Archookoora State Forest in southeastern Queensland. The species is noteworthy in usually having large, isolated populations. Little has been published on its biology. Following the convention of an earlier paper on the larval food plants of *Jalmenus evagoras* (Donovan) (Hawkeswood, 1981), the known larval hosts of *J. daemeli* are listed and discussed below.

Larval Host Plants

The first records of *Acacia* (Mimosaceae) being listed as larval food plants appears to be those of Lucas (1889) and Illidge (1898). They noted that *J. daemeli* (*Ialmenus illidgei* Lucas, in the case of Lucas, 1889) fed on wattles in the Brisbane area, southeastern Queensland. Gurney (1911) also stated the species fed on wattles. However, none of these authors provided specific determinations for these plants. Illidge (1921) recorded myall (*Acacia pendula* A. Cunn. ex G. Don) as a larval food plant from the Jandowae district, southeastern Queensland. This record was overlooked by Common and Waterhouse (1972, 1981). Illidge (1921) noted that the butterfly was abundant in all stages on young myall trees and were attended by ants. Manski (1960) recorded *Acacia cunninghamii* Hook. as a food plant from Marybor-

ough, Scarborough and Redcliffe (the latter two localities are now outer suburbs of Brisbane). Waterhouse (1932:190) recorded brigalow (*Acacia harpophylla* F. Muell. ex Benth.) as a host, while Common (1964: 92) recorded *A. harpophylla* and "other wattles" and *Heterodendrum* (Sapindaceae). Macqueen (1965) recorded *J. daemeli* as occasionally attacking *Heterodendrum diversifolium* F. Muell. (Sapindaceae). He also noted that in the Toowoomba district, southeastern Queensland, *J. daemeli* fed solely on the silver-leaf ironbark, *Eucalyptus melanophloia* F. Muell. (Myrtaceae) and another unidentified species of bloodwood, *Eucalyptus* sp., despite *Acacia* being plentiful in the district. Harslett (1965) recorded *Acacia neriifolia* A. Cunn. ex Benth., *A. decurrens* (Wendl.) Willd. and *A. irrorata* Sieb. ex Spreng. as food plants from Stanthorpe, southeastern Queensland. It should be noted that *A. decurrens* (green wattle) is endemic to New South Wales and Victoria and is naturalized near Toowoomba and Stanthorpe (Pedley, 1978; Stanley & Ross, 1983). Atkins (1975) recorded *Acacia bidwillii* Benth. (erroneously cited as *Acacia bidwelli* Benth.) as a larval host from four localities in central Queensland, viz. Rockhampton, Thompson's Point, Wycarbah and Broadsound Range. He also recorded *A. bancroftii* Maiden and *A. macradenia* Benth. as food plants from the Expedition Range, central Queensland. Lane (1979) noted, "It is of interest that *Acacia bidwillii* has also been observed as a food plant of *J. daemeli* Semper in numerous localities between Rockhampton and Mackay, Queensland," but he did not provide a reference. Presumably his comments are based on observations by Atkins (1975). I have also observed larvae and pupae on the leaves and stems of young *A. bidwillii* plants (about 1 m high) growing on the James Cook University campus, Townsville, north Queensland, during 16–26 November 1981. They were associated with large numbers of an *Iridomyrmex* (Hymenoptera: Formicidae). Adult butterflies visited the open flowers of *A. bidwillii* (Hawkeswood, 1985). Mr. M. De Baar (June 1984, pers. comm.) has recorded large numbers of larvae and pupae of *J. daemeli* on *Acacia leucoclada* Tindale subsp. *argentifolia* Tindale, 25 km south of Warwick, southeastern Queensland during January 1983. This is a previously unrecorded host for this butterfly.

Manski (1960) recorded *A. cunninghamii* Hook. as a larval host for four species of Lycaenidae—*Hypochrysops delicia delicia* Hewitson, *Jalmenus evagoras evagoras* (Donovan), *J. ictinus* Hewitson and *J. daemeli* Semper (noted above). (Waterhouse (1932) originally recorded this *Acacia* for *H. d. delicia*). However, in a recent revision of the Queensland *Acacia* species, Pedley (1978) noted that the name *A. cunninghamii* had been applied loosely to six *Acacia* species, viz. *A. tropica* (Maiden et Blakely) Tindale, *A. cretata* Pedley, *A. longispicata*

Benth. (ssp. *longispicata* and *velutina* Pedley), *A. crassa* Pedley (ssp. *crassa* and *longicoma* Pedley), *A. concurrens* Pedley and *A. leiocalyx* (Domin) Pedley (ssp. *leiocalyx* and *herveyensis* Pedley). (As a result of Pedley's revision, the name *cunninghamii* should not be used for any *Acacia*). Therefore, the records of *A. cunninghamii* as a host could apply to any of the above six species. In respect to *J. daemeli*, *J. evagoras* and *J. ictinus*, the observations by Manski (1960) were made in the Maryborough and Brisbane districts, while those of *H. d. delicia* were restricted to Maryborough. Of the six *Acacia* species noted above, only two, *A. crassa longicoma* and *A. leiocalyx leiocalyx*, are known to occur naturally in the Maryborough district, while *A. concurrens* and *A. leiocalyx leiocalyx* grow in the Brisbane district (from Pedley, 1978). Since *A. leiocalyx* is usually more common in both districts, it is possible that the name *A. cunninghamii*, referred to in Manski (1960), refers to this species. Whether *J. daemeli* and the other butterflies utilize *A. concurrens*, *A. leiocalyx* and *A. crassus*, or a combination of these, must await the results of further field work. In the meantime, the name *A. cunninghamii* listed in Waterhouse (1932), Manski (1960), Common and Waterhouse (1972, 1981) and Hawkeswood (1981) should be disregarded.

For *J. daemeli*, there are 12 known larval host plants, viz. *Acacia bancroftii*, *bidwillii*, *decurrens*, *harpophylla*, *irrorata*, *leucoclada* subsp. *argentifolia*, *macradenia*, *neriifolia*, *pendula*, *Heterodendrum diversifolium*, *Eucalyptus melanophloia* and *Eucalyptus* sp.

In reference to *Jalmenus evagoras*, Dunn (1984) recently recorded a new larval host, *Acacia diffusa* Ker (erroneously cited as *Acacia diffusa* Lindl.). This species is regarded as a synonym of *Acacia genistifolia* Link (Jacobs & Pickard, 1981). With *A. cunninghamii* omitted from my list (i.e., Hawkeswood, 1981) and *A. genistifolia* included, the number of larval hosts remains at 15, all of which are *Acacia* species.

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