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A new larval host plant for the Australian jewel beetle *Ethon fissiceps* (Kirby) (Coleoptera: Buprestidae)

With 1 Figure and 1 Table

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Abstract: A new larval host plant, *Dillwynia floribunda* Sm. var. *floribunda* (Fabaceae), is recorded for the Australian jewel beetle, *Ethon fissiceps* (Kirby) (Coleoptera: Buprestidae: Coraebini). The known larval host plants of *E. fissiceps* are compared with those of other described *Ethon* species. Members of the genus *Ethon* are only known to develop in galls in the wood of *Pultenaea* and *Dillwynia* species (Fabaceae), two very closely related genera botanically.

Zusammenfassung: Eine neue Wirtspflanze, *Dillwynia floribunda* Sm. var. *floribunda* (Fabaceae) ist für den australischen Prachtkäfer *Ethon fissiceps* (Kirby) (Buprestida: Coraebini) festgestellt worden. Die bekannten Nährpflanzen der Larven von *E. fissiceps* werden denen der anderen beschriebenen *Ethon*-Arten gegenübergestellt. Von Vertretern der Gattung *Ethon* ist nur bekannt, daß sie sich in den Gallen der Stengel der miteinander eng verwandten *Pultenaea*- und *Dillwynia*-Arten entwickeln.

Introduction

The genus *Ethon* Laporte & Gory (Coleoptera: Buprestidae: Coraebini) contains about 6–8 species restricted to eastern and southern Australia (CARTER 1923, 1929). They are somewhat small, dull-coloured, thick-set beetles which have the characteristic habit of breeding in galls on the stems of certain native Fabaceae (Leguminosae) (FROGGATT 1892, 1907; HAWKESWOOD & PETERSON 1982; HAWKESWOOD 1987, 1988; VOLKOVITSH & HAWKESWOOD 1990; HAWKESWOOD & TURNER 1992). Recently, HAWKESWOOD & TURNER (1992) provided new observations on the biology of *Ethon fissiceps* (Kirby) from the Sydney Basin, New South Wales, and compared the biology and host plants (both larval and adult) with those of other species in the genus. Since that paper was published, one of us (JRT) has made further important collections of the beetle and has recorded another larval host plant. These data are recorded here for the first time.

Observations

On 16 July 1994, the first author surveyed selected areas of native bushland alongside the Putty Road, between 4 and 15 km north of Colo Heights, New South Wales (c. 33° 23′ S, 150° 41′ E). This area was initially selected because of its interesting geology which is composed of shale with some sandstone beds which form a narrow band running almost in a N–S direction following an almost identical route with the Putty Road. This geological formation is known as Bringelly Shale, Minchinbury Sandstone, Ashfield Shale, and is part of the Liverpool Sub-group of the Wianamatta Group. This out-cropping is the northernmost of its type in this area and is surrounded on all sides by either State Forest or National Park. Although large areas of the same formation are located to the south, most of these areas have been cleared for farming or grazing so that very little, if any, of the understorey remains. At this site, at least five species of Fabaceae occur in the understorey when this is present. While examining specimens of one of these, *Dillwynia floribunda* Sm. var. *floribunda,* one

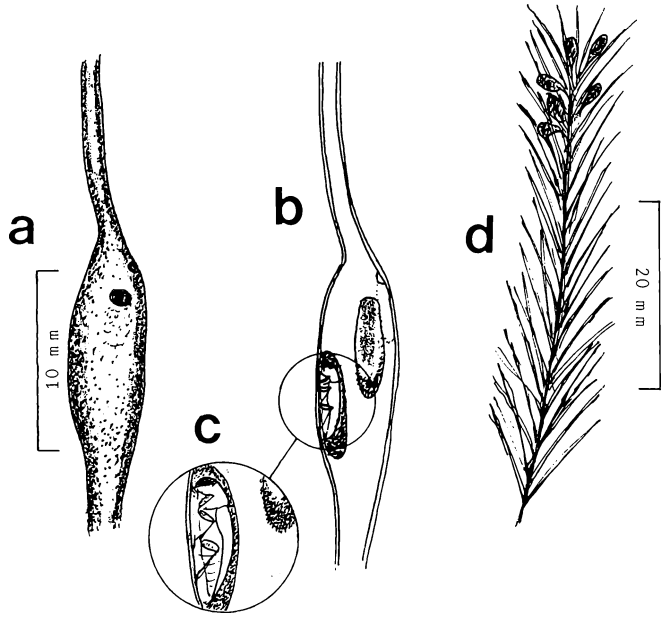

Fig. 1. *Ethon fissiceps* (Kirby) on *Dillwynia floribunda* Sm. (Fabaceae). a: Gall with exit holes on *D. floribunda* stem; b: Dissected gall showing larval/pupal chambers; c: Detail of larval/pupal chamber showing position of *E. fissiceps* adult; d: Branch of *D. floribunda* with flower buds at tip of branch. (Drawing: J. R. TURNER).

plant was found to possess two emergence holes at the base of its stem. A second plant had an elongated gall on a stem which displayed two emergence holes (Fig. 1, a – c). Upon dissection of this gall, a third larval chamber was located and a live specimen of *Ethon fissiceps* (Kirby) was discovered. The larval chambers within the gall measured about 7 mm long, 3.5 mm wide and 3 mm high. A second specimen of *E. fissiceps* was also found at this site, this one occurring in a small gall on a stem of *Dillwynia retorta* (Wendl.) Druce.

Discussion

HAWKESWOOD & TURNER (1992) recorded the first larval host plant for *Ethon fissiceps* (see Table 1, this paper). This host plant, *Dillwynia retorta* (Wendl.) Druce had been recorded previously by FROGGATT (1892) as a larval host for *Ethon corpulentum* Boheman (see Table 1). The new data recorded above verifies our earlier record (HAWKESWOOD & TURNER

Table 1.
Summary of larval host plants and original references for three *Ethon* species (Note: All host plants belong to the family Fabaceae) (Modified from HAWKESWOOD & TURNER 1992).

Species	Host plants	References
Ethon affine Laporte & Gory	*Pultenaea stipularis* Sm.	SAUNDERS (1847); FROGGATT (1892, 1907)
	Pultenaea flexilis Sm.	HAWKESWOOD (1988); VOLKOVITSH & HAWKESWOOD (1990)
Ethon corpulentum Boheman	*Dillwynia retorta* (Wendl.) Druce	FROGGATT (1892)
Ethon fissiceps (Kirby)	*Dillwynia retorta* (Wendl.) Druce	HAWKESWOOD & TURNER (1992)
	Dillwynia floribunda Sm.	TURNER & HAWKESWOOD (this paper)

1992) of *E. fissiceps* developing in galls on the stems of *D. retorta* and confirms our previous suspicions that *E. fissiceps* also develops in the related plant, *D. floribunda* Sm. It is interesting to note that *D. floribunda* has been recorded as the only known adult food plant for *E. fissiceps* (HAWKESWOOD & TURNER 1992), so that it is not surprising that this plant has now been finally proven to be a larval host as well for this buprestid. Hence, *E. fissiceps* displays second degree monophagy (sensu JOLIVET 1992) on *Dillwynia* (Fabaceae) both in the adult and larval stages. Although *D. retorta* has yet to be recorded as an adult food plant for *E. fissiceps,* further observations will probably prove this relationship.

References

CARTER, H. J. (1923). Revision of the genus *Ethon, Cisseis* and their allies (Buprestidae). – Proceedings of the Linnean Society of New South Wales, **48,** 159–176.

– (1929). A check list of the Australian Buprestidae. – Australian Zoologist, **5,** 265–304.

FROGGATT, W. W. (1892). Gall-making buprestids. – Proceedings of the Linnean Society of New South Wales, **7,** 323–326.

– (1907). Australian Insects. – W. Brooks & Co., Sydney, 449 pp.

HAWKESWOOD, T. J. (1987). Beetles of Australia. – Angus & Robertson Publishers, Sydney, 248 pp.

– (1988). A review of larval host records for twelve Australian jewel beetles (Coleoptera: Buprestidae). – Giornale Italiano di Entomologia, **4,** 81–88.

HAWKESWOOD, T. J. & PETERSON, M. (1982). A review of larval host records for Australian jewel beetles (Coleoptera: Buprestidae). – Victorian Naturalist, **99,** 240–251.

HAWKESWOOD, T. J. & TURNER, J. R. (1992). Review of the biology and host-plants of *Ethon fissiceps* (Kirby) and other *Ethon* species (Coleoptera: Buprestidae). – Giornale Italiano di Entomologia, **6,** 169–174.

JOLIVET, P. (1992): Insects and Plants: Parallel Evolution and Adaptations (Second Edition). Flora and Fauna Handbook no. 2. – Sandhill Crane Press, Inc., Florida, USA, 190 pp.

SAUNDERS, W. W. (1847). On the gall formed by *Diphucrania auriflua,* Hope, a species of Buprestidae. – Transactions of the Entomological Society of London, **5,** 27–28 + plate 2.

VOLKOVITSH, M. G. & HAWKESWOOD, T. J. (1990). The larvae of *Agrilus australasiae* Laporte & Gory and *Ethon affine* Laporte & Gory (Insecta: Coleoptera: Buprestidae). – Spixiana, **13,** 43–59.

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