



Formosan Entomologist

Journal Homepage: entsocjournal.yabee.com.tw

Insects of the Scolytidae and Platypodidae on *Brownea capitella* and *Prunus mume* in Taiwan 【Research report】

臺灣寶冠木(*Brownea capitella*)及梅樹(*Prunus mume*)上發現的蠹蟲種類【研究報告】

Shou-Horng Huang Roger Beaver Hsien-Tzung Shih* Ching-Huan Cheng
黃守宏 Roger Beaver 石憲宗* 鄭清煥

*通訊作者E-mail: htshih@wufeng.tari.gov.tw

Received: 2002/11/27 Accepted: 2003/06/05 Available online: 2003/06/01

Abstract

Seven species were collected from the wilted trunks of *Brownea capitella* Jacq. and *Prunus mume* Sieb. & Zucc. in Taiwan. Among them, *Crossotarsus externedentatus* (Fairmaire) and *Platypus contaminatus* (Blandford) belong to the Platypodidae; and *Ambrosiodmus lewisi* (Blandford), *Euwallacea fornicatus* (Eichhoff), *E. interjectus* (Blandford), and *Sphaerotrypes pila* Blandford belong to the Scolytidae. The curculionoid species *Phaenomerus foveipennis* (Morimoto) is a kleptoparasite collected from the wilted trunk of *Brownea capitella*. Information on the distribution, host plants, biology, and economic importance of each species is provided in this paper.

摘要

本研究記錄在臺灣的寶冠木(*Brownea capitella* Jacq.)與梅樹(*Prunus mume* Sieb. & Zucc.)樹幹上採集到的2科6種蠹蟲種類以及1科1種象鼻蟲，分別為長小蠹蟲科(Platypodidae)之黑尾長小蠹(*Crossotarsus externedentatus* (Fairmaire))與污穢長小蠹(*Platypus contaminatus* (Blandford))；小蠹蟲科(Scolytidae)之瘤粒材小蠹(*Ambrosiodmus lewisi* (Blandford))、小圓胸小蠹(*Euwallacea fornicatus* (Eichhoff))、坡面材小蠹(*E. interjectus* (Blandford))及茶球小蠹(*Sphaerotrypes pila* Blandford)。此外，粗腿象鼻蟲(*Phaenomerus foveipennis* (Morimoto))採自萎凋的寶冠木，為捕食蠹蟲類的象鼻蟲。本文提供每一種昆蟲的分佈、寄主、生物學及經濟重要性等資料，以茲參考。

Key words: Taiwan, Scolytidae, Platypodidae, Curculionidae

關鍵詞: 臺灣、長小蠹蟲科、小蠹蟲科、象鼻蟲科

Full Text: [PDF\(2 MB\)](#)

下載其它卷期全文 Browse all articles in archive: <http://entsocjournal.yabee.com.tw>

臺灣寶冠木(*Brownea capitella*)及梅樹(*Prunus mume*)上發現的蠹蟲種類

黃守宏 行政院農委會農業試驗所嘉義分所植物保護系 600 嘉義市民權路 2 號

Roger Beaver 161/2 Mu 5, Soi Wat Pranon, T. Donkaew, A. Maerim, Chiangmai 50180, Thailand

石憲宗* 行政院農委會農業試驗所應用動物組 413 臺中縣霧峰鄉中正路 189 號

鄭清煥 行政院農委會農業試驗所嘉義分所植物保護系 600 嘉義市民權路 2 號

摘要

本研究記錄在臺灣的寶冠木(*Brownea capitella* Jacq.)與梅樹(*Prunus mume* Sieb. & Zucc.)樹幹上採集到的 2 科 6 種蠹蟲種類以及 1 科 1 種象鼻蟲，分別為長小蠹蟲科(Platypodidae)之黑尾長小蠹(*Crossotarsus externedentatus* (Fairmaire))與污穢長小蠹(*Platypus contaminatus* (Blandford)); 小蠹蟲科(Scolytidae)之瘤粒材小蠹(*Ambrosiodmus lewisi* (Blandford))、小圓胸小蠹(*Euwallacea fornicatus* (Eichhoff))、坡面材小蠹(*E. interjectus* (Blandford))及茶球小蠹(*Sphaerotrypes pila* Blandford)。此外，粗腿象鼻蟲(*Phaenomerus foveipennis* (Morimoto))採自萎凋的寶冠木，為捕食蠹蟲類的象鼻蟲。本文提供每一種昆蟲的分佈、寄主、生物學及經濟重要性等資料，以茲參考。

關鍵詞：臺灣、長小蠹蟲科、小蠹蟲科、象鼻蟲科

前言

臺灣的木材工業崛起於 1950 年代，總值曾佔出口高峰之 10%，為臺灣賺取不少外匯。但至 1970 年代以後，因過度伐木、水土保持意識高漲、物價及工資上揚等因素，因此進口木材成為解決本國木材原料需求的趨勢，也使得國外木材害蟲侵入臺灣的風險大增。為害木材之害蟲種類主要為蠹蟲類，包含小蠹蟲科(Scolytidae)與長小蠹蟲科(Platypodidae)

科，雖然這些害蟲多屬於次生性害蟲(secondary pest)，以為害樹勢衰弱或枯死之樹幹為主，但因此類害蟲的為害狀一旦被發現，已是聚集很多個體所致，因此許多國家將部份風險性高的蠹蟲種類列為檢疫上的重要害蟲，其中最著名的例子即為歐洲入侵美國之 *Scolytus multistriatus*，為引發美國榆樹立枯病的媒介昆蟲(Chu and Chao, 1995)。

本文所有昆蟲是於 2001 年在南投信義鄉的梅樹(*Prunus mume* Jacq.) (薔薇科，

*論文聯繫人
e-mail:htshih@wufeng.tari.gov.tw

Rosaceae)與嘉義分所的寶冠木(*Brownea capitella* Sieb. & Zucc.) (豆科, Leguminosae)等植物上的萎凋樹幹中,發現蠹蟲種類鑽孔為害的情況,但無法確知寶冠木與梅樹植株萎凋或枯死是否由植物病原或昆蟲所引起,或是由此些因子與其他生物或非生物因子所聯合引起的為害。

亞洲有關梅樹的蠹蟲種類,在中國大陸記錄為梅小蠹(*Scolytus aratus* Blandford)、多毛小蠹(*S. seulensis* Murayama)與皺小蠹(*S. rugulosus* (Ratzeburg)) (Yin *et al.*, 1984; Chu *et al.*, 1997)。在韓國則為果木梢小蠹(*Cryphalus malus* Nijima) (Choo *et al.*, 1983);至於原產於熱帶美洲的寶冠木,在亞洲地區則尚未有記錄。但是在臺灣,至今尚未有記錄於寶冠木及梅樹上為害的蠹蟲類昆蟲,其他重要經濟果樹上之記錄亦相當缺乏。基於此一目的,本文將六種蠹蟲類昆蟲及其一種天敵之標本檢查、分布、寄主、生物學與經濟重要性予以整理,並輔以圖片,作為我國害蟲防治與植物防疫、檢疫之基本參考資訊。

材料與方法

標本之採集

發現蠹蟲為害之植株時,除了直接劈開被害植株,採集棲息於蛀孔坑道中之蟲體外,另外於較粗壯之被害樹幹上,噴灑 48.34%丁基加保扶(carbosulfan)乳劑 1000 倍,下方鋪陳報紙,以收集掉落之蠹蟲種類標本。

標本之鑑定

蠹蟲類標本是由本文第三作者作初步鑑定,再由本文第二作者鑑定與確認。象鼻蟲種類則由 Charles W. O'Brien 博士協助鑑定。

本文所有種類之診斷特徵已詳列於

Murayama (1925, 1934a, b, 1936, 1953, 1954, 1955), Browne (1961, 1968), Nobuchi (1967), Beaver (2000)等文獻中。

標本存放處

所有檢查之標本保存於行政院農委會農業試驗所應用動物組。

結 果

本研究發現自萎凋或枯死的梅樹樹幹中採獲 2 種長小蠹科昆蟲,分別為黑尾長小蠹(*Crossotarsus externedentatus* (Fairmaire))、污穢長小蠹(*Platypus contaminatus* (Blandford)),以及 1 種小蠹蟲科昆蟲 - 茶球小蠹(*Sphaerotrypes pila* Blandford);在萎凋或枯死的寶冠木樹幹中採獲 1 種長小蠹科昆蟲 - 黑尾長小蠹, 3 種小蠹蟲科昆蟲,分別為瘤粒材小蠹(*Ambrosiodmus lewisi* (Blandford))、小圓胸小蠹(*Euwallacea fornicatus* (Eichhoff))與坡面材小蠹(*Euwallacea interjectus* (Blandford))。茲將兩种植物之蠹蟲種類分述如下。

長小蠹蟲科 Platypodidae

黑尾長小蠹 *Crossotarsus externedentatus* (Fairmaire, 1849) (圖一 - A)

Platypus externedentatus Fairmaire, 1849, Rev. Mag. Zool. Pure Appl. Ser. 2, 2 (Preprint, p. 78).

Crossotarsus saundersi Chapuis, 1865, Monogr. Platypides: 80. (Schedl, 1972, Monogr. Platypodidae: 111. Synonymy.)

Crossotarsus externedentatus (Fairmaire). Chapuis, 1865, Monogr. Platypides: 81.

標本檢查：TAIWAN: 2♂, Nantou County, 12-V-2001. W. H. Chen and H. T. Shih, Host: *Prunus mume*; 1♂, 2♀, Chiai City, 13~20-VI-2001. S. H. Huang, Host: *Brownea capitella*.

分佈：南非；東非；馬達加斯加島；日本；東洋區（含臺灣）；太平洋區(Murayama, 1925; Nobuchi, 1980)。

寄主：梅樹及寶冠木（新記錄）。其他已知寄主記錄為木瓜(*Carica papaya*) (番木瓜科, Caricaceae)；樟樹(*Cinnamomum camphora*) (樟科, Lauraceae)；銀合歡(*Leucaena glauca*) (豆科, Leguminosae) 與日本柳杉(*Cryptomeria japonica*) (杉科, Taxodiaceae) (Murayama, 1925)。此外，由文獻記錄顯示本種昆蟲屬於多食性昆蟲，亦可為害多種裸子植物與被子植物(Schedl, 1965; Roberts, 1977; Wood and Bright, 1992)。

經濟重要性：此種有時會侵害活的植株，被侵害的植株，通常是處於不適宜之環境或暫時失去活性的狀態下。此種昆蟲通常會與小蠹蟲一起為害剛倒下的木材，於木材上蛀孔及引發蛀孔周圍真菌之感染，降低木材之價值性(Browne, 1968; Roberts, 1977; Bigger, 1988; Beaver, 2000)。

污穢長小蠹 *Platypus contaminatus* (Blandford, 1894) (圖一 - B)

Crossotarsus contaminatus Blandford, 1894, Trans. Entomol. Soc. Lond. 1894: 131.

Platypus contaminatus (Blandford). Schedl, 1972, Monogr. Platypodidae: 200.

標本檢查：TAIWAN: 2♂, 1♀, Nantou County, 12-V-2001. W. H. Chen and H. T. Shih, Host: *Prunus mume*.

分佈：印度；中國(福建)；日本；臺灣 (Nobuchi, 1973)。

寄主：梅樹(新記錄)。在日本之已知寄主記錄為 *Aesculus turbinata* (七葉樹科, Hippocastanaceae)；*Pterocarya rhoifolia* (胡桃科, Juglandaceae)；鹿皮斑木薑子(*Actinodaphne lancifolia*)、鐵釘樹(*Lindera erythrocarpa*) 及紅楠(*Neolitsea thunbergii*) (樟科, Lauraceae)；*Fraxinus commemoralis*, *F. lanuginosa* 及 *F. sieboldiana* (木犀科, Oleaceae) (Murayama, 1934a, 1936; Nobuchi, 1973)。

生物學：未曾有報告描述，推測與 *Platypus* 屬的其它種類相似(Browne, 1961; Schedl, 1965)。

經濟重要性：無。

小蠹蟲科 Scolytidae

瘤粒材小蠹 *Ambrosiodmus lewisi* (Blandford, 1894) (圖一 - C)

Xyleborus lewisi Blandford, 1894, Trans. Entomol. Soc. Lond. 1894: 104.

Xyleborus tegalensis Eggers, 1923, Zool. Meded. 7: 181. (Schedl, 1962, Entomol. Blätt. Biol. Syst. Käfer, 58: 208. Synonymy.)

Xyleborus lewekianus Eggers, 1923, Zool. Meded. 7: 181. (Wood, 1989, Gt. Basin Nat. 49: 170. Synonymy.)

Ambrosiodmus lewisi (Blandford). Wood, 1989, Gt. Basin Nat. 49: 170.

標本檢查：TAIWAN: 1♂, 1♀, Chiai City, 13~20-VI-2001. S. H. Huang, Host: *Brownea capitella*.

分佈：東方區(自印度向西至菲律賓)；舊北區(日本及韓國)(Murayama, 1934b; Nobuchi, 1967; Yin and Huang, 1988)。

寄主：寶冠木(新記錄)。此蟲為多食性種類，可侵害針葉及闊葉植物(Murayama, 1954, 1955; Browne, 1961; Wood and Bright, 1992)；Murayama (1934b)曾記錄在臺灣有 11 科 19 種的寄主植物，分別是五加科(Araliaceae)一種、柿樹科(Ebenaceae)二種、殼斗科(Fagaceae)四種、樟科(Lauraceae)五種、豆科(Leguminosae)、桑科(Moraceae)、薔薇科(Rosaceae)、茜草科(Rubiaceae)、芸香科(Rutaceae)、安息香科(Styracaceae)及茶科(Ternstroemiaceae)各一種。

生物學：Browne (1961)記錄本種昆蟲可為害寄主嫩枝以外的維管束部位。

經濟重要性：無。

小圓胸小蠹 *Euwallacea fornicatus* (Eichhoff, 1868) (圖一 - D)

Xyleborus fornicatus Eichhoff, 1868, Berlin. Entomol. Zeitschr. 12: 151.

Xyleborus fornicator Eggers, 1923, Zool. Meded. 7: 184. (Schedl, 1959, Trans. R. Entomol. Soc. Lond. 111: 498. Synonymy.)

Xyleborus whitfordiodendrus Schedl, 1942, Kolonforstl. Mitt. 5: 189. (Wood, 1989, Gt. Basin Nat. 49: 173. Synonymy.)

Xyleborus perbrevis Schedl, 1951a,

Tijdschr. Entomol. 93: 59. (Wood, 1989, Gt. Basin Nat. 49: 173. Synonymy.)

Xyleborus schultzei Schedl, 1951a, Tijdschr. Entomol. 93: 68. (Wood, 1989, Gt. Basin Nat. 49: 173. Synonymy.)

Xyleborus tapatapaensis Schedl, 1951b, Occ. Pap. B. P. Bishop Mus. 20(10): 152. (Wood, 1989, Gt. Basin Nat. 49: 173. Synonymy.)

Euwallacea fornicatus (Eichhoff). Wood, 1989, Gt. Basin Nat. 49: 173.

標本檢查：TAIWAN: 1♂, 3♀, Chiai City, 13~20-VI-2001. S. H. Huang, Host: *Brownea capitella*.

分佈：東方區及太平洋小島。在臺灣的採集記錄是由 Schedl (1952)與 Nobuchi (1967)報告所記載。

寄主：寶冠木(新記錄)。Schedl (1952)記錄在臺灣的寄主為臺灣山茶(*Camellia thea*) (茶科, Theaceae)，Browne (1961)及 Wood and Bright (1992)等報告中則有列出其他眾多不同科及種類之寄主植物。

生物學：Kalshoven (1958)及 Browne (1961)研究指出此種的坑道系統、族群大小、發育時期、成蟲性比及相關種類等之生物學研究。在熱帶地區，此種終年繁殖(Browne, 1968)。Sivapalan (1975, 1977)報告描繪其族群方面的研究報告，Wickremasinghe *et al.* (1976)及 Kumar *et al.* (1995)研究此種與各種寄主植物及真菌間之關係。

經濟重要性：在印度南部及斯里蘭卡(Sri Lanka)，此種為茶樹(*Camellia sinensis*)

之重要害蟲(Beeson, 1961; Browne, 1968), 即使此蟲經常在被砍伐、死亡、萎凋的莖幹及枝條上繁殖, 但有時仍會侵害活的植株(Kalshoven, 1958; Browne, 1968), 在新墾殖的林地中, 此種為潛在性的害蟲。

坡面材小蠹 *Euwallacea interjectus* (Blandford, 1894) (圖一 - E)

Xyleborus interjectus Blandford, 1894, Trans. Entomol. Soc. Lond. 1894: 576.

Xyleborus pseudovalidus Eggers, 1925, Sborn. Entomol. Odd. Nár. Mus. Praze, 3: 159. (Schedl, 1958, Tijdschr. Entomol. 101: 155. Synonymy.)

Euwallacea interjectus (Blandford). Saha and Maiti, 1984, Rec. Zool. Survey India, 81(3/4): 2.

標本檢查: TAIWAN: 1♂, 2♀, Chiai City, 13-20-VI-2001. S. H. Huang, Host: *Brownea capitella*.

分佈: 遍及東方區, 從印度到菲律賓(包含臺灣); 舊北區的中國及日本(Murayama, 1934b; Nobuchi, 1967)。

寄主: 寶冠木(新記錄)。由既有之研究記錄顯示本種屬多食性種類(Beeson, 1930; Murayama, 1934b; Browne, 1961; Ohno, 1990; Wood and Bright, 1992)。

生物學: Beeson (1961)及 Browne (1961)報告曾描述此蟲之坑道系統。Beeson (1961)報告至成蟲入侵至植株後, 由建立坑道系統開始到下一代羽化, 需歷時兩年以上。

經濟重要性: Browne (1961)指出本種為倒木常見的普遍發生種, 屬於較大型的蠹蟲種

類, 其蛀孔坑道很少鑽入木材內部。

茶球小蠹 *Sphaerotrypes pila* Blandford, 1894 (圖一 - F)

Sphaerotrypes pila Blandford, 1894, Trans. Entomol. Soc. Lond. 1894: 62.

Sphaerotrypes imitans Eggers, 1926, Entomol. Blätt. 22: 134. (Murayama, 1963, Stud. Scolytid-fauna Far East, V. Hylesininae, p. 69. Synonymy.)

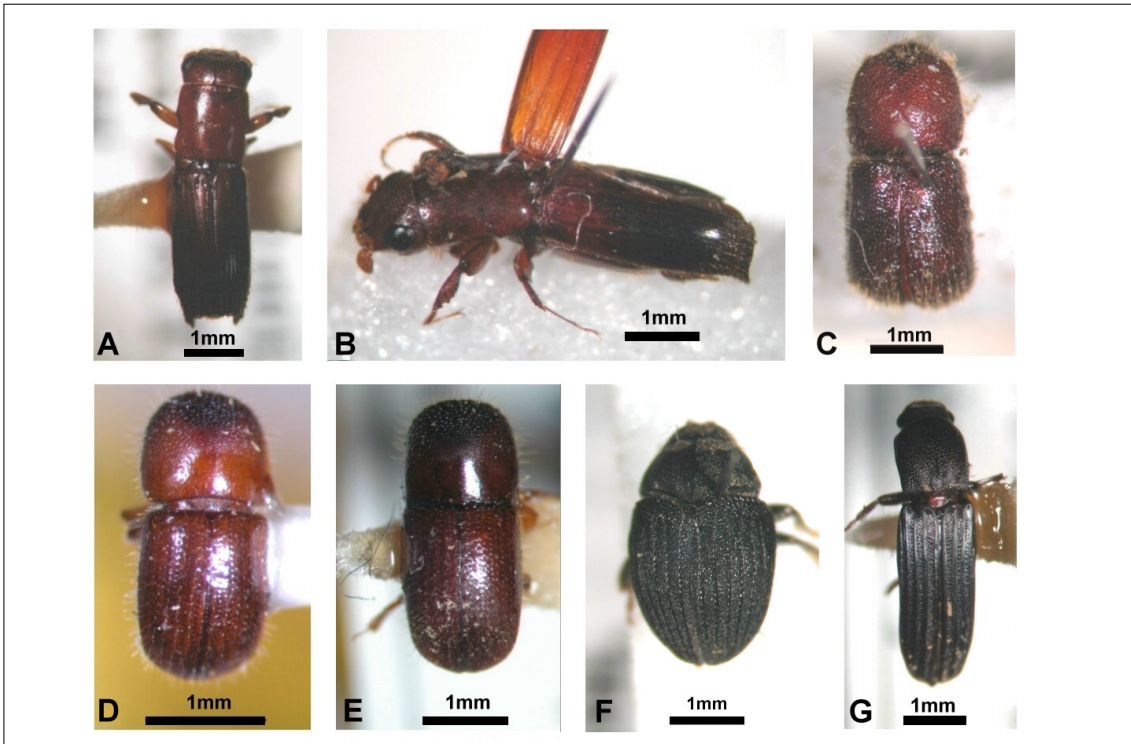
標本檢查: TAIWAN: 2♂, 3♀, Nantou County, 12. V. 2001. W. H. Chen and H. T. Shih, Host: *Prunus mume*.

分佈: 中國; 韓國; 日本; 臺灣(Wood and Bright, 1992; Yin and Huang, 1988)。

寄主: 梅樹(新記錄)。其他已知寄主記錄為山茶屬(*Camellia*)植物(茶科, Theaceae) (Blandford, 1894); 櫟屬(*Quercus*)的植物(殼斗科, Fagaceae) (Murayama, 1963; Yin and Huang, 1988; Yin *et al.*, 1984); 蚊母樹(*Distylium racemosum*) (金縷梅科, Hamamelidaceae) (Murayama, 1953)。

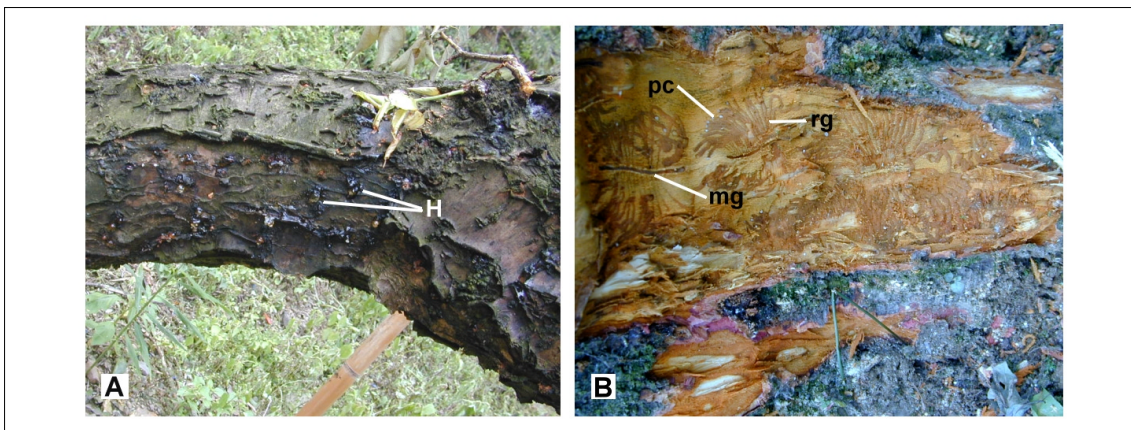
生物學: 本種為取食韌皮部(phloeophagous)的種類, 即在植株之韌皮部建造其坑道系統, 且只有一條縱向母坑道(maternal gallery), 沿此坑道內之凹穴產卵。幼蟲蛀食的坑道(larval gallery)向各方向輻射出, 蛹室位於韌皮部邊緣, 成蟲經由各自獨立的出口鑽出樹皮(Choo *et al.*, 1988) (圖二)。

經濟重要性: 無。



圖一 採自寶冠木與梅樹的七種鞘翅目昆蟲 (A-B, 長小蠹蟲科; C-F, 小蠹蟲科; G, 象鼻蟲科)。A, 黑尾長小蠹; B, 污穢長小蠹; C, 瘤粒材小蠹; D, 小圓胸小蠹; E, 坡面材小蠹; F, 茶球小蠹; G, 粗腿象鼻蟲。

Fig. 1. Seven beetles of *Brownea capitella* and *Prunus mume* in Taiwan (A-B, Platypodidae; C-F, Scolytidae; G, Curculionidae.) A, *Crossotarsus externedentatus* (Fairmaire); B, *Platypus contaminatus* (Blandford); C, *Ambrosiodmus lewisi* (Blandford); D, *Euwallacea fornicatus* (Eichhoff); E, *Euwallacea interjectus* (Blandford); F, *Sphaerotrypes pila* Blandford; G, *Phaenomerus foveipennis* (Morimoto).



圖二 為害梅樹的茶球小蠹蟲。A, 樹幹外的成蟲蛀孔(H); B, 成蟲於寄主韌皮部蛀食的母坑道(mg)及幼蟲蛀食形成的放射狀坑道(rg)及位於坑道末端的蛹室(pc)。

Fig. 2. Damage by *Sphaerotrypes pila* Blandford to *Prunus mume*. A, Bore holes (H) on the trunk surface by adults; B, Maternal gallery (mg) of adults in the phloem tissues of trunk, and radiant galleries (rg) by larvae. Pupal cells (pc) can be seen in the terminals of galleries.

討 論

隨著國際貿易的逐漸擴展、頻繁，各國也加強制定、採取各種防檢疫措施，但疫病蟲害的蔓延拓展，遠超過人們能力所及，唯有加強蒐集、研究及資訊交流，才能防患於未然。本研究雖然僅記錄國內少數個案果樹上發生之蠹蟲種類，對於國內重要經濟果樹上的種類尚未全面徹底調查，但未來仍將持續加強追蹤、蒐集其他蠹蟲種類及資訊，除供作蟲害防治，另一方面也可相對提供防檢疫上之參考。

而於寶冠木植株上採集蠹蟲種類時，發現一種活動於蛀孔中的象鼻蟲，標本經採集、鑑定後，確定為象鼻蟲總科(Curculionoidea)的粗腿象鼻蟲(*Phaenomerus foveipennis* (Morimoto)) (圖一 - G)，此種象鼻蟲為kleptoparasite (偷竊寄生者)，會侵入蠹蟲種類所挖掘之坑道內，殺死並取食其族群個體，再佔領其棲所，供其族群繁衍(personal communication)。而Thompson (1966)報告更指出同屬的其他象鼻蟲種類與其他蠹蟲種類間，有著許多複雜的生態關係存在，為蠹蟲研究上，另一有趣的生態現象。

致 謝

本文象鼻蟲之鑑定，承蒙 Florida A & M University, Center of Biological Control, Charles W. O'Brien 協助，在此一併致謝。

引用文獻

- Beaver, R. A.** 2000. Ambrosia beetles (Coleoptera: Platypodidae) of the South Pacific. *Can. Entomol.* 132: 755-763.
- Beeson, C. F. C.** 1930. The biology of the genus *Xyleborus*, with more new species. *Indian For. Records Entomol. Ser.* 14: 209-272.
- Beeson, C. F. C.** 1961. The ecology and control of the forest insects of India and the neighbouring countries. Government of India, New Delhi. 767 pp.
- Bigger, M.** 1988. The insect pests of forest plantation trees in the Solomon Islands. Overseas Development Natural Resources Institute, Chatham, UK. 190 pp.
- Blandford, W. F. H.** 1894. The rhynchophorous Coleoptera of Japan. Part III. Scolytidae. *Trans. Entomol. Soc. London* 1894: 53-141.
- Browne, F. G.** 1961. The biology of Malayan Scolytidae and Platypodidae. *Malayan For. Records* 22: 1-255.
- Browne, F. G.** 1968. Pests and diseases of forest plantation trees. Clarendon Press, Oxford, UK. 1330 pp.
- Chapuis, F.** 1865. Monographie des Platypides. H. Dessain, Liège. Belgium. 344 pp.
- Choo, H. Y., K. S. Woo, and A. Nobuchi.** 1983. A list of the bark and ambrosia beetles injurious to fruit and flowering trees from Korea (Coleoptera: Scolytidae). *Korean J. Plant Prot.* 22: 171-173.
- Choo, H. Y., K. S. Woo, and A. Nobuchi.** 1988. Classification of Korean bark and ambrosia beetles by their

- galleries. Korean J. Appl. Entomol. 27: 131-137 (in Korean).
- Chu C. M., A. J. Cheu, J. S. Luh, and H. C. Chu.** 1997. Observation on the morphology and biology of *Scolytus seulensis* Murayama. Decid. Fruits 1997: 30-31 (in Chinese).
- Chu Y. I., and J. T. Chao.** 1995. Scolitids and Platypodids in imported timbers. Taiwan Forest Research Institute, Taipei (in Chinese).
- Eggers, H.** 1923. Neue indomalayische Borkenkäfer (Ipidae). Zool. Mededelingen 7: 129-220.
- Eggers, H.** 1925. Ipidae aus Birma. Sbornik Entomol. Oddelini Národního Musea v Praze 3: 151-160.
- Eggers, H.** 1926. Japanische Borkenkäfer, I. Entomol. Blätter 22: 133-138, 145-148.
- Eichhoff, W.** 1868. Neue Amerikanische Borkenkäfer-Gattungen und Arten. Berliner Entomol. Zeitschrift 12: 145-152.
- Fairmaire, L.** 1849. Essai sur les Coléoptères de la Polynésie. Separately paged preprint of: Revue et Magasin de Zoologie Pure et Appliquée, sér. 2, 2: 50-64.
- Kalshoven, L. G. E.** 1958. Studies on the biology of Indonesian Scolytoidea. I. *Xyleborus fornicatus* as a primary and secondary shot-hole borer in Java and Sumatra. Entomol. Berichten 18: 147-160, 185-193.
- Kumar, N. S., P. Hewavitharanage, and N. K. B. Adikaram.** 1995. Attacks on tea by *Xyleborus fornicatus*: inhibition of the symbiote, *Monacrosporium ambrosium* by caffeine. Phytochemistry 40: 1113-1116.
- Murayama, J. J.** 1925. On the Platypodidae of Formosa. J. Coll. Agric. Hokkaido Imperial Univ. 15: 197-228.
- Murayama, J. J.** 1934a. Supplementary notes on the Platypodidae of Formosa IV. J. Coll. Agric. Hokkaido Imperial Univ. 35: 133-149.
- Murayama, J. J.** 1934b. On the Ipidae from Formosa with special references to their food plants. J. Soc. Trop. Agric. Taihoku Imperial Univ. 6: 505-512.
- Murayama, J. J.** 1936. Notes sur les scolytides (Coléoptères) de Honshu et Kiushu, Japon. Tenthredo 1: 121-149.
- Murayama, J. J.** 1953. The insect fauna of Mt. Ishizuchi and Omogo valley, Iyo, Japan. The Scolytidae and Platypodidae (Coleoptera). Trans. Shikoku Entomol. Soc. 3: 144-165.
- Murayama, J. J.** 1954. Scolytid-fauna of the northern half of Honshu with a distribution table of all the scolytid species described from Japan. Bull. Fac. Agric. Yamaguti Univ. 5: 149-212.
- Murayama, J. J.** 1955. Supplementary notes on the scolytid fauna of Japan. Bull. Fac. Agric. Yamaguti Univ. 6: 81-106.
- Murayama, J. J.** 1963. Studies in the

- scolytid-fauna of the norther half of the Far East. V. Hylesininae. Shukosha Press, Fukuoka, Japan. 72 pp.
- Nobuchi, A.** 1967. Formosan Scolytoidea (Coleoptera). Bull. Govt. For. Exp. Sta. 207: 11-30.
- Nobuchi, A.** 1973. The Platypodidae of Japan (Coleoptera). Bull. Govt. For. Exp. Sta. 256: 1-22.
- Nobuchi, A.** 1980. Studies on Scolytidae, XIX. Formosan Platypodidae and Scolytidae collected by Dr. Yau-I Chu (Coleoptera). Entomol. Rev. 34: 93-97.
- Ohno, S.** 1990. The Scolytidae and Platypodidae (Coleoptera) from Borneo found in logs at Nagoya port. 1. Res. Bull. Plant Prot. Serv. Jpn. 26: 83-94.
- Roberts, H.** 1977. The Platypodidae (Coleoptera) of Fiji (with descriptions of two new species). J. Nat. Hist. 11: 555-578.
- Saha, N., and P. K. Maiti.** 1984. On a collection of scolytid beetles (Scolytidae: Coleoptera) from Sikkim, India. Rec. Zool. Surv. India 81(3-4): 1-8.
- Schedl, K. E.** 1942. Forschungsberichte zur Scolytoiden-Fauna der Malayischen Halbinsel. Kolonialforstliche Mitteilungen 5: 169-218.
- Schedl, K. E.** 1951a. Fauna Indomalayensis. I. Tijdschrift voor Entomol. 93: 41-98.
- Schedl, K. E.** 1951b. Fauna Samoanus (Scolytoidea). I. Occasional Papers of the Bernice P. Bishop Museum, 20: 131-156.
- Schedl, K. E.** 1952. Fauna Philippinensis VIII. 123 Contribution to the morphology and taxonomy of the Scolytoidea. Phil. J. Sci. 80: 363-371.
- Schedl, K. E.** 1958. Zur Synonymie der Borckenkäfer, II. Tijdschrift voor Entomol. 101: 141-155.
- Schedl, K. E.** 1959. A checklist of the Scolytidae and Platypodidae (Coleoptera) of Ceylon with descriptions of new species and biological notes. Trans. Royal Entomol. Soc. London 111: 469-534.
- Schedl, K. E.** 1962. Zur Synonymie der Borckenkäfer, VI. Entomol. Blätter 58: 201-211.
- Schedl, K. E.** 1965. Scolytidae und Platypodidae Afrikas. Band III. Familie Platypodidae. Rev. Entomol. Moçambique 5: 595-1352.
- Schedl, K. E.** 1972. Monographie der Familie Platypodidae Coleoptera. W. Junk, Den Haag. 322 pp.
- Sivapalan, P.** 1975. The dispersion of brood galleries of *Xyleborus fornicatus* Eichh. (Coleoptera, Scolytidae) in tea plants. Bull. Entomol. Res. 65: 501-506.
- Sivapalan, P.** 1977. Population dynamics of *Xyleborus fornicatus* Eichhoff (Coleoptera: Scolytidae) in relation to yield trends in tea. Bull. Entomol. Res. 67: 329-335.

- Thompson, R. T.** 1996. The species of *Phaenomerus* Schonherr (Coleoptera: Curculionidae: Zygopinae) of the Australian region. *Invert. Taxon.* 10: 937-993.
- Wickremasinghe, R. L., B. P. M. Perera, and K. P. W. C. Perera.** 1976. Alpha-spinasterol, temperature and moisture content as determining factors in the infestation of *Camellia sinensis* by *Xyleborus fornicatus*. *Biochem. Syst. Ecol.* 4: 103-110.
- Wood, S. L.** 1989. Nomenclatural changes and new species of Scolytidae (Coleoptera), part IV. *Gt. Basin Nat.* 49: 167-185.
- Wood, S. L., and D. E. Bright.** 1992. A catalog of Scolytidae and Platypodidae (Coleoptera), Part 2: Taxonomic index. *Gt. Basin Nat. Memo.* 13: 1-1553.
- Yin, H. F., and F. S. Huang.** 1988. Coleoptera: Scolytidae. *In:* F. S. Huang, ed. *Insects of Mt. Namjagbarawa region of Xizang.* Science Press, Beijing. pp. 369-376 (in Chinese).
- Yin, H. F., F. S. Huang, and Z. L. Li.** 1984. Coleoptera: Scolytidae. *Economic Insect Fauna of China, Fasc. 29.* Science Press, Beijing. 205 pp (in Chinese).

收件日期：2002年11月27日

接受日期：2003年6月5日

Insects of the Scolytidae and Platypodidae on *Brownea capitella* and *Prunue mume* in Taiwan

Shou-Horng Huang Department of Plant Protection, Chiai Agricultural Experimental Station, Chiai 600, Taiwan, R.O.C.

Roger Beaver 161/2 Mu 5, Soi Wat Pranon, T. Donkaew, A. Maerim, Chiangmai 50180, Thailand

Hsien-Tzung Shih* Department of Applied Zoology, Taiwan Agricultural Research Institute, 189 Chung-Cheng Rd., Wufeng, Taichung 413, Taiwan, R.O.C.

Ching-Huan Cheng Department of Plant Protection, Chiai Agricultural Experimental Station, Chiai 600, Taiwan, R.O.C.

ABSTRACT

Seven species were collected from the wilted trunks of *Brownea capitella* Jacq. and *Prunue mume* Sieb. & Zucc. in Taiwan. Among them, *Crossotarsus externedentatus* (Fairmaire) and *Platypus contaminatus* (Blandford) belong to the Platypodidae; and *Ambrosiodmus lewisi* (Blandford), *Euwallacea fornicatus* (Eichhoff), *E. interjectus* (Blandford), and *Sphaerotrypes pila* Blandford belong to the Scolytidae. The curculionoid species *Phaenomerus foveipennis* (Morimoto) is a kleptoparasite collected from the wilted trunk of *Brownea capitella*. Information on the distribution, host plants, biology, and economic importance of each species is provided in this paper.

Key words: Taiwan, Scolytidae, Platypodidae, Curculionoidae