

Notes for Identification of *Bactrocera nigrofemoralis* WHITE et TSURUTA (Diptera: Tephritidae)

Kenji TSURUTA and Takashi KAWASHITA*

Research Div., Yokohama Plant Protection Station, Ministries of Agriculture, Forestry
and Fisheries, 5-57 Kita-nakadori, Yokohama, 231-0003 Japan

*Operation Div., Yokohama Plant Protection Station

Abstract: Several individuals of an undescribed species, which had been intercepted on hand-carried mangos from Sri Lanka in plant quarantine inspection at Narita Airport, Chiba pref., Central Japan, in 1998, were identified as *Bactrocera (Bactrocera) nigrofemoralis* WHITE et TSURUTA. Though this interception records seem to be rare incidence, notes for identification are prepared for the future interception, which might be useful for separating two other Asian similar species, *B. nigrotibialis* (PERKINS) and *B. lata* (PERKINS).

Key words: *Bactrocera nigrofemoralis*, fruit fly, Diptera, interception, Indian Subcontinent

Introduction

Nationwide fruit fly faunal surveys in Sri Lanka were conducted in the National Plant Quarantine Project (NPQS Project) supported by Japan International Cooperation Agency (JICA). *Bactrocera (Bactrocera) nigrofemoralis* WHITE et TSURUTA was described quite recently from Pakistan, India, and Sri Lanka (TSURUTA & WHITE, 2001). About 35 species, of which eleven new species were described, were recorded in the surveys. *B. nigrofemoralis* is one of these newly described species. On the course of taxonomic study, records of *B. nigrotibialis* (PERKINS) from the countries in Indian Subcontinent seem to be misidentification of *B. nigrofemoralis*.

According to the faunal surveys in Sri Lanka, *B. nigrofemoralis* is one of the most abundant species distributed widely both horizontally and vertically throughout the Island. Considering the abundance of this species and its wide range of distribution in Sri Lanka, there seem to be some major host plants. However, only tropical almond (*Terminalia catappa*) is recorded as a host plant for this species (TSURUTA *et al.*, 1997), and mango has not been recorded, according to the host plant surveys conducted for a total of 6 years from 1993 to 1999 in the NPQS project.

Dacine fruit flies including *B. dorsalis* (HENDEL) and *B. kandiensis* DREW et HANCOCK were intercepted on the same hand-carried mangos from Sri Lanka in plant Quarantine inspection at Narita Airport, in 1998. Among these intercepted fruit flies, several individuals had been recognized as an undescribed species at that time. This undescribed species was now identified as *B. nigrofemoralis*. Though this interception records on mango seems to be quite an unusual case, the same interception case might happen in the future inspection.

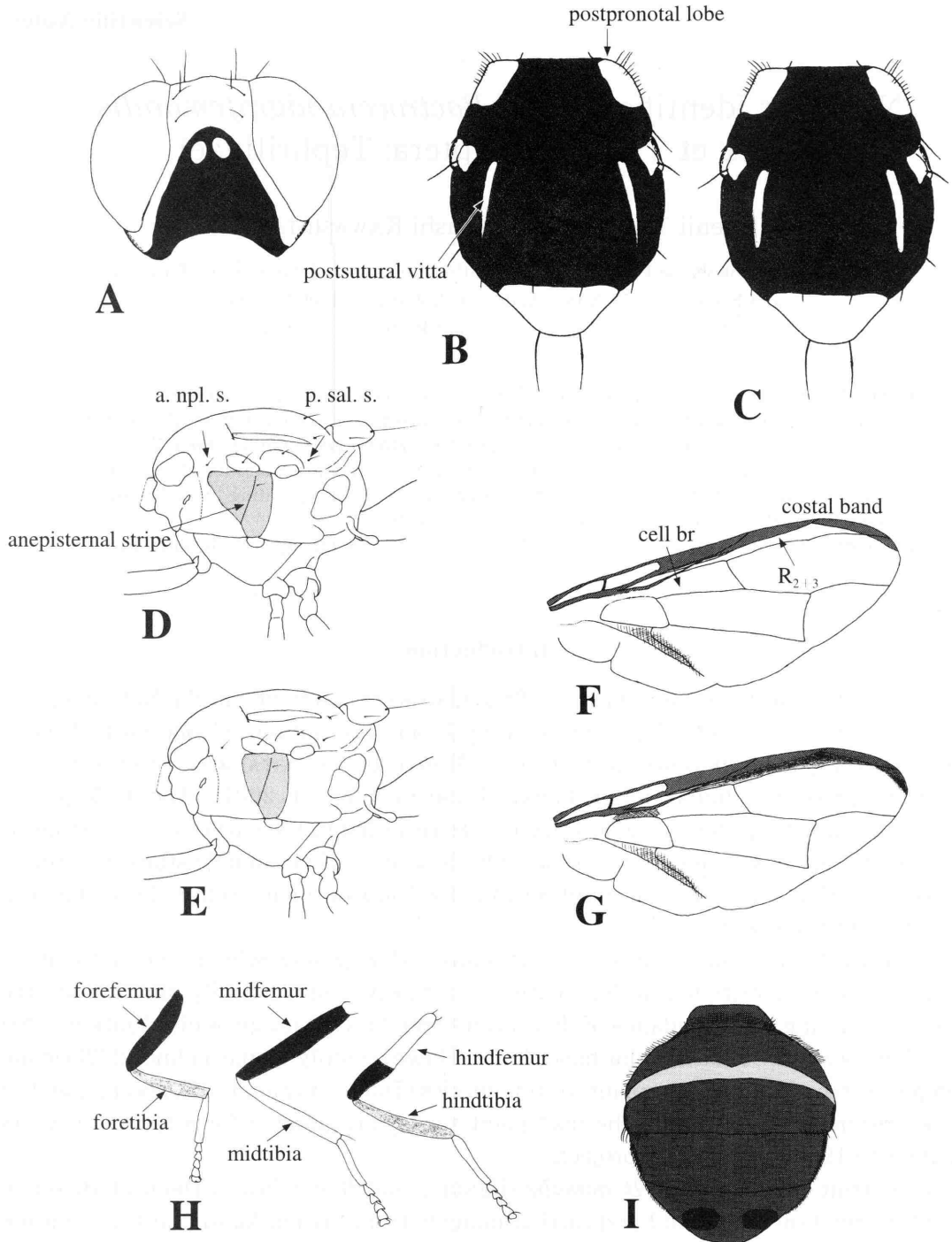


Fig. 1. Diagrammatic illustrations of some diagnostic characters of *B. (B.) nigrofemorale* WHITE et TSURUTA, *B. (B.) nigrotibialis* (PERKINS), and *B. (B.) lata* (PERKINS).

A, *B. (B.) nigrofemorale*, head in frontal view. B, *B. (B.) nigrofemorale*, scutum in dorsal view. C, *B. (B.) nigrotibialis*, scutum in dorsal view. D, *B. (B.) nigrofemorale*, thorax in lateral view. E, *B. (B.) nigrotibialis*, thorax in lateral view. F, *B. (B.) nigrofemorale*; right wing. G, *B. (B.) lata*, right wing. H, *B. (B.) nigrofemorale*, legs. I, *B. (B.) nigrofemorale*, abdomen in dorsal view.

Table 1. Diagnostic characters of *B. nigrofemoralis* and two other similar spp. in Asia

	<i>B. nigrofemoralis</i>	<i>B. nigrotibialis</i>	<i>B. lata</i>
Microtrichia in cell br	Absent	Absent	Present
Wing length (mm)	at most 5.3	at most 5.3	5.9–6.7
Costal band extends below vein R ₂₊₃	no	no	yes
Anepisternal stripe	narrow	broad	broad
Lateral postsutural vittae	very narrow	normal	normal
Distribution	Countries in Indian Subcontinent	Thailand, Indonesia (Sumatra), Malaysia, Brunei	Malaysia

In this notes, minimal sets of morphological characters are cited from the original description (TSURUTA and WHITE, 2001), and each characters are illustrated for convenience of identification.

Before going further we would like to express our cordial thanks to Mr. R. FUKUSHIMA, former plant inspector at Narita Sub-station, Yokohama Plant Protection Station for materials and information.

Materials

The intercepted specimens (2 ♂, 1 ♀, 12.v.1998, R. FUKUSHIMA leg.) in plant Quarantine Inspection at Narita Airport in 1998, together with long series of specimens collected in Sri Lanka are examined. Most specimens collected in Sri Lanka are those collected in the traps bated with cue-lure.

Characters Useful for Identification

Head: Face entirely polished black except for pale yellow eye margins (Fig. 1, A).

Thorax: Scutum black with narrow, pale lateral postsutural vittae not extending beyond suture but extending posteriorly to level of posterior supra-alar seta (Fig. 1, B) (see Fig. 1, C for *B. nigrotibialis*). Yellow anepisternal stripes extending to in-line with anterior notopleural seta (Fig. 1, D) (see Fig. 1, E for *B. nigrotibialis*). Postpronotal lobe entirely pale (Fig. 1, B).

Legs: Fore- and mid-femur black, hindfemur pale basally, black apically (Fig. 1, H). Fore- and mid-tibia fuscous, hindtibia dark (Fig. 1, H)

Wing: Narrowed part of cell br with no covering of microtrichia (Fig. 1, F). Costal band not extending below vein R₂₊₃, and not expanded into spot or abruptly darkened at apex (Fig. 1, F) (see Fig. 1, G for *B. lata* (PERKINS)).

Abdomen: Predominant colour black. Terga 1+2 entirely black, with narrow transverse pale band posteriorly.

Several diagnostic characters of *B. nigrofemoralis*, *B. nigrotibialis* and *B. lata* together with their distribution are listed in Table 1.

References

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和 文 摘 要

Bactrocera nigrofemoralis (ハエ目: ミバエ科)
同定のための資料

鶴田賢治・川下 貴*

横浜植物防疫所 調査研究部

*横浜植物防疫所 業 務 部

1998年、成田空港における携帯品検査においてスリランカから携行されたマンゴウ生果実を検査し、保管調査したところ、*B. dorsalis* (HENDEL) 及び *B. kandiensis* DREW et HANCOCK とともに黒色の小型のミバエが羽化した。当該種は当時はスリランカにおける調査により判明していた未記載種と同定されていたが、本年(2001年)、*B. nigrofemoralis* WHITE et TSURUTA と記載・命名されたことに伴い、同定資料として報告する。従来、インドやスリランカ等のインド亜大陸の諸国から *B. nigrotibialis* (PERKINS) として報告されていた種は本種と考えられ、インド亜大陸に広く分

布すると考えられる。スリランカにおける国立植物検疫所プロジェクトにおける延べ6年間にわたる寄主調査においては本種の寄主植物としてモモタマナ (*Terminalia catappa*) のみが知られ、マンゴウからの記録は全くない。これらの調査結果によればマンゴウからの発見は極めてまれな例と考えられるが、今後、インド亜大陸諸国からのマンゴウ等の生果実については本種が発見される可能性もあり、同定の便のためにアジアに産する他の2近似種 (*B. nigrotibialis* (PERKINS) 及び *B. lata* (PERKINS)) との識別点を示した。