

New Subspecies of *Appias phoebe* and *Parantica dannatti*  
from Mindanao, the Philippines  
(Lepidoptera: Pieridae and Danaidae)

Akira YAMAMOTO

1-18-2 Nogata, Nakano-ku, Tokyo 165

and

Shin TAKEI

344-200 Hodokubo, Hino-shi, Tokyo 191

In the present paper, we are going to describe two new geographical races of butterflies from Mindanao, the Philippines, collected by our exploration of Mt. Malindang made in August of 1979. One of them belongs to *Appias phoebe* of Pieridae, and the other to *Parantica dannatti* of Danaidae.

*Appias phoebe* has hitherto been known from the three islands, Luzon, Mindoro and Negros, and is differentiated into three geographical races, *phoebe* FELDER, *zamorra* FELDER and *montana* ROTHSCHILD, respectively. A form of this species is found for the first time from Mindanao.

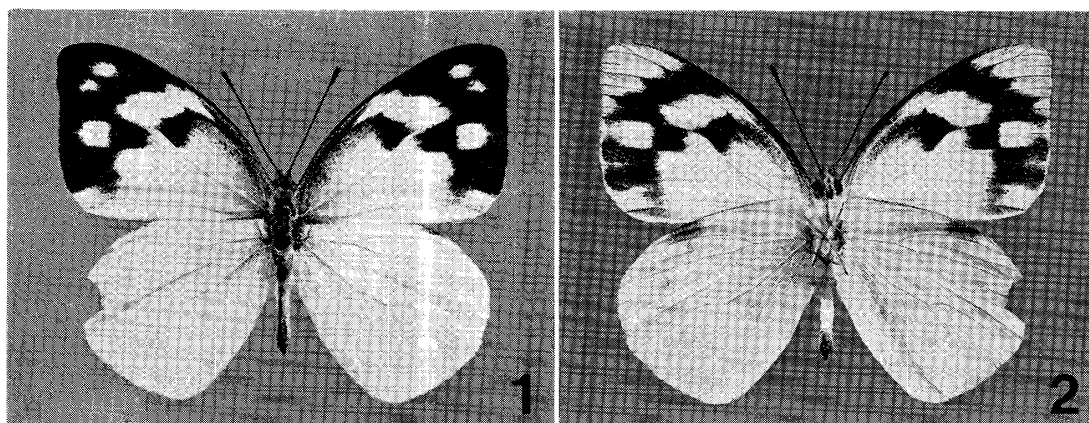
On the other hand, *Parantica dannatti* has been known so far only from the high mountains of Mindanao. Two geographical races have been recognized in the two subspecies: *dannatti* TALBOT (from Mt. Apo, southern Mindanao) and *diuataensis* TAKEI et YAMAMOTO (from Mt. Hilonghilong, northeastern Mindanao). The present new subspecies inhabits Mt. Malindang in the northwestern part of the island. It is of much interest that three geographical races differing in markings and/or color pattern occur on three different mountains geographically isolated.

*Appias phoebe mindana* subsp. nov.

(Figs. 1-2)

♂. *Upperside*: Ground color creamy white, dusted with gray scales at the base of both wings. Forewing with black costa; black distal area broader at apex, projecting inward in space 3 and reaching vein 1, though the outer half of this area is white in space 1; three submarginal spots in spaces 3, 5 and 6 white and conspicuous, the spot in space 3 being the largest and that in space 5 the smallest; upper portion of cell from base to apex black and diffused with gray scales, the gray and black costal shade reaching large discocellular black spot which is slightly connected with the broad projection of black distal area in space 3. Hindwing with sulphur-yellow border at tornus and a few black scales at the exterior of vein 7 and space 7.

*Underside*: Ground color of forewing creamy white; apex plae brownish white with yellow scales at margin; blackish brown band crossing postdiscally and spreading downwards to tornus, but in space 3 this band projects inward and is interrupted by a large white spot, this blackish brown projection being connected with a large



Figs. 1-2. *Aprias phoebe mindana* subsp. nov., holotype ♂. — 1. Upperside. — 2. Underside.

discocellular blackish brown spot through vein 4, outer half of this band in space 1 white; in upper portion of cell, blackish brown scales diffuse from a large discocellular spot to near the base. Hindwing ground color yellow with trace of blackish brown in the inner half and postdiscal area, this trace of dark color sometimes disappearing, anterior patch in space 7 blackish brown and extending over vein 7.

*Forewing length*: 29–31 mm.

*Type-locality*: Mt. Malindang (1,700 m alt.), northwestern Mindanao.

*Holotype*: ♂, Mt. Malindang, northwestern Mindanao, 10. viii. 1979, A. YAMAMOTO leg.

*Paratypes*: 2 ♂, same data as holotype; 5 ♂, same locality, 10. viii. 1979, S. TAKEI leg.

This new subspecies has resemblance to subsp. *montana* ROTHSCHILD, 1896, but the former can be easily separable from the latter by the following points on the male: 1) On the upperside of forewing, the large discocellular black spot is connected with the basal black radius and diffused gray scales, while only the discocellular black spot in the cell exists in *montana*. 2) The underside of hindwing does not have any dot upon the second discocellular veinlet, while in *montana* there is a black dot upon this veinlet.

*Parantica dannatti malindangensis* subsp. nov.

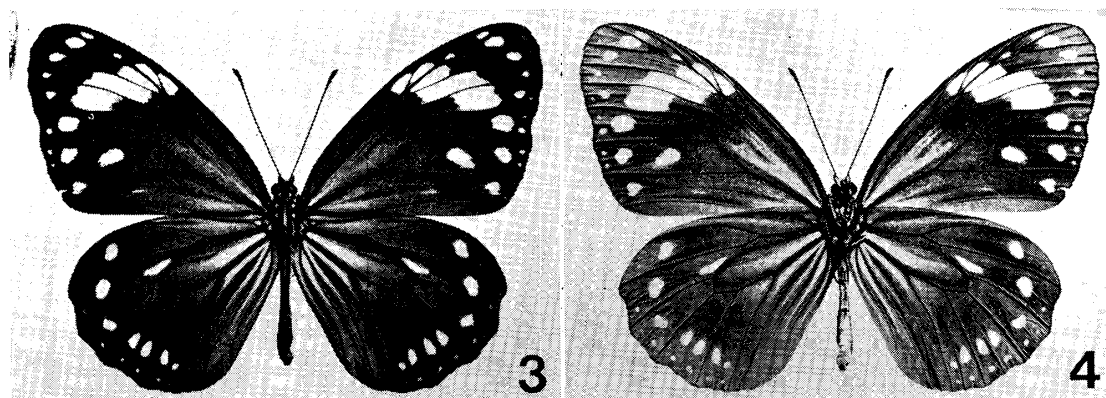
(Figs. 3-4)

♂. *Upperside*: Ground color dark chestnut brown with blackish brown distal area and greenish yellow hyaline markings. Forewing with subapical band, a series of submarginal spots in spaces 1 to 8, well marked cell stripe, submedian stripe, and two discal patches in space 2. Hindwing with developed discal patches and a series of submarginal spots in spaces 2 to 6.

*Underside*: Ground color brown; outer half of both wings dusted with yellowish scales.

*Forewing length*: 39–43 mm.

♀. *Upperside*: Ground and hyaline markings as those in the male in color. Forewing with subapical band, submarginal spots in spaces 1 to 8, and a discal patch in the middle of space 2; marginal dors obvious in spaces 2 and 3. Hindwing with



Figs. 3-4. *Parantica dannatti malindangensis* subsp. nov., holotype ♀. — 3. Upperside. — 4. Underside.

discal patches all obsolete except for a patch at the base of space 5; submarginal spots as those in the male; marginal dust clearly visible in spaces 2 to 5. Color of the underside as in the male.

*Forewing length*: 46 mm.

*Type-locality*: Mt. Malindang (1,500–1,700 m alt.), northwestern Mindanao.

*Holotype*: ♀, Mt. Malindang, northwestern Mindanao, 11. viii. 1979, S. TAKEI leg.

*Paratypes*: 3 ♂, same data as holotype; 2 ♂, same locality, 15. viii. 1979, A. YAMAMOTO and S. TAKEI leg.

The female of this new race is clearly different from that of subsp. *dannatti* TALBOT, 1936, in the markings of both wings, while the male is similar to that of the latter. It differs from subsp. *dannatti* in the following respects: 1) On upperside of female forewing, cell stripe, submedian stripe and discal patch at base of space 2 absent altogether, while they are obsolete in *dannatti*. 2) Discal patch in the middle of space 2 on upperside of female forewing smaller than that of *dannatti*. 3) Upperside of female hindwing with discal patches obsolete except for the patch at the base of space 5, while they are conspicuous in *dannatti*. 4) Blackish brown distal areas on the upperside of both wings in male somewhat darker and broader than those in *dannatti*.

Well developed chestnut color in the female of this new race is so noticeable that it is easily recognized even when on the wing.

The holotype of *Appias phoebe mindana* subsp. nov., and the holotype and a male paratype of *Parantica dannatti malindangensis* subsp. nov. will be deposited in the Biological Laboratory, College of General Education, Kyushu University.

#### Acknowledgment

We wish to express our special thanks to Professor Takashi SHIRÔZU of Kyushu University for his advice and criticism extended to us during the course of this study. Deep gratitude is also due to Dr. Yoshihiko KUROSAWA, Dr. Shun-Ichi UÉNO and Mr. Mamoru OWADA of the National Science Museum (Nat. Hist.), Tokyo, for their kind help in preparing the manuscript of this paper. Further, hearty thanks are expressed to Mr. Hiroshi SUZUKI who co-operated in our investigations of the Philippines.