

TAXONOMIC AID TO TWO SPECIES OF GENUS *PARNARA* MOORE¹ (1881) (HESPERIIDAE : LEPIDOPTERA) FROM NORTH INDIA

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ABSTRACT

The paper describes two species of *Parnara* (Hesperiidae:Lepidoptera) collected from various north Indian states of India from taxonomic angles alongwith the details of male and female genitalia. It is envisaged that the re-description (covering all the important taxonomic details), of both the pest species attacking Cowpea, French bean and Yam shall prove to be useful in correct identification of these species

Keywords: Taxonomy, genitalia, *Parnara bada*, *P. guttatus*

INTRODUCTION

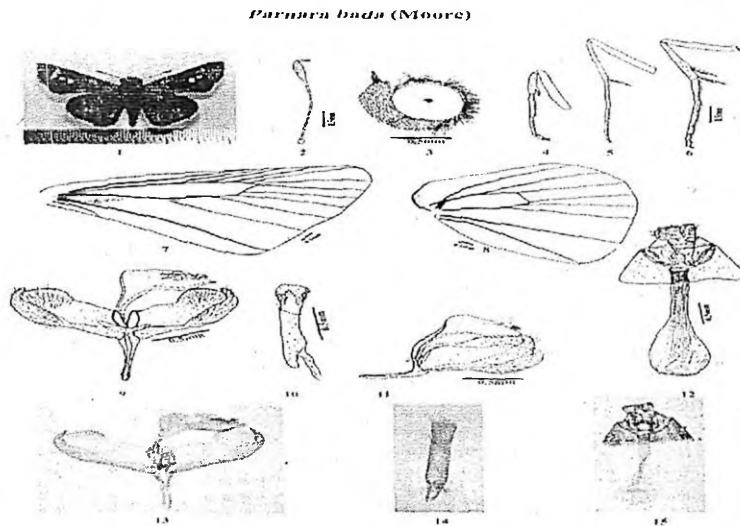
The Hesperiidae are found worldwide, though most diversely in the tropics. The skippers are named after their quick, darting flight habits. More than 3500 species are found all over the world. *Parnara* spp. are leaf eating caterpillar, reported as a minor and at places as a major pest of yams from India (Butani and Jotwani, 1984). These two species are economically important. In this manuscript, *Parnara bada* Moore and *P. guttatus* Bremer & Grey have been treated taxonomically and reoriented towards modern terminology and placed at standards platform.

MATERIAL AND METHODS

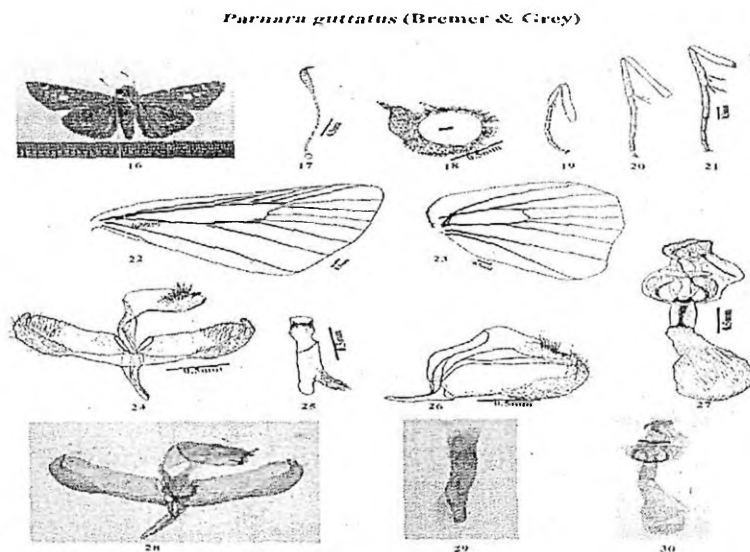
The specimens were collected by aerial sweeping net from North India (Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttarakhand and Uttar Pradesh) during the year 2005-2007. All the collected specimens were compared through preserved specimens in National Pusa Collection (Insect Museum) at Division of Entomology, IARI (Indian Agricultural Research Institute), New Delhi. The collected adults were identified as *Parnara bada* and *P. guttatus* and studied for diagnostic taxonomic

LEGENDS FOR FIGURES

Figures. 1-15, *Parnara bada* Moore -1. adult (habitus), 2. antenna, 3. head (lateral view), 4. fore leg, 5. middle leg, 6. hind leg 7. fore wing, 8. hind wing, 9, 13. male genitalia-ventral view 10, 14. aedeagus, 11. male genitalia-lateral view, 12, 15. female genitalia



Figures 16-30. *Parnara guttatus* (Bremer & Grey) - 16. adult (habitus), 17. antenna, 18. head (lateral view), 19. fore leg, 20. middle leg, 21. hind leg, 22. fore wing, 23. hind wing, 24, 28. male genitalia-ventral view, 25, 29. aedeagus, 26. male genitalia-lateral view, 27, 30. female genitalia



Taxonomic aid to two species of genus *Parnara* Moore (1881) (Hesperiidae : Lepidoptera) from North India

REFERENCES

- Bingham, C.T. 1907. *The fauna of british India including Ceylon and Burma*. Taylor and Francis, Red Lion Court, Fleet street, London, Vol. II, 480pp.
- Bremer and Grey, 1853. *Schemett*, N. China 310pp.
- Butani, D. K. and Jotwani, M. G. 1984. *Insects in vegetables*. Periodical Expert Book Agency. New Delhi. 356pp.
- Common, I.F.B. 1970. Lepidoptera (moths and butterflies). In: *The Insect of Australia*, Melbourne University Press, Melbourne, 866pp.
- Klots, A.B. 1970. Taxonomists glossary of genitalia in insects. *Munksgasard, Copenhagen Lepidoptera*. Tuxen, p.115-139
- Lee, K., Yeol, Ahn, K. S., Park, S. K., Kim, T. S. and Choe, Y.S. 2003. Morphological characteristics and life cycle of rice skipper, *Parnara guttata* Bremer et Grey (Lepidoptera: Hesperiidae). *Korean Journal of Applied Entomology*. 42(4): 323-327
- Moore, F. 1880. *Parnara bada*. *The Lep. Ceylon*, 81 (I): 167
- Seko, T., Miyatake, T. Fujioka, S. and Nakasuji, F. 2006. Genetic and environmental sources of egg size, fecundity and body size in the migrant skipper, *Parnara guttata guttata* (Lepidoptera: Hesperiidae). *Population Ecology*, 48(3): 225-232
- Winter, W.D. 2000. *Basic Techniques for Observing and Studying Moths and Butterflies*. Lepidopterists' Society, New Haven, CT. 433pp.
- LEPINDEX, 2007. Natural History Museum Website–Lepidoptera Database. <http://www.nhm.ac.uk/jdsml/research-curation/research/projects/lepindex/index.dsml>.