

REDESCRIPTION OF *HYMENIA RECURVALIS* (FABR.) (LEPIDOPTERA : PYRALIIDAE : PYRAUSTINI) WITH MALE GENITALIA FROM COASTAL BELT OF SINDH, PAKISTAN

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Abstract

Hymenia recurvalis (Fabr.) is recorded from Thatta (Coastal belt of Sindh), Pakistan and redescribed in detail with special reference to its head appendages, venation of fore and hind wings and male genitalia.

Introduction

Fabricius (1794) described first time *Hymenia recurvalis* as *Phalana recurvalis* on the basis of head appendages and its morphological characters and placed this species under the family of Asopidae. Stoll (1795) redescribed same species as *Phalaena fascialis* under the family Asopidae. Guen (1854) also redescribed *Hymenia recurvalis* as *spoladia recurvalis* and placed this species first time under the family of Pyralidae. Walker (1859) identified *H. recurvalis* and kept same species under Pyralidae. Moore (1885) redescribed *H. recurvalis* through head and fore and hind wings. Butler (1880) redescribed *Hymenia recurvalis* as *Hymenia fascialis* under the family of Pyralidae. Hampson (1896) listed *Hymenia recurvalis* as *Zinckenia fascialis* recorded from whole oriental region and Palaearctic Asia from Syria to Japan. From Pakistan Chaudhary *et.al.* (1966), Hashmi and Tashfin (1992) gave a check-list and mentioned *Hymenia recurvalis* recorded from northern area of Pakistan and placed it under the family Pyraliidae.

Materials and Methods

The adult male specimens of *Hymenia recurvalis* (Fabr.) were collected with the help of light trap from Thatta, Sindh, Pakistan and were identified with the help of available literature as mentioned in references. For the study of sex genital complex the abdomen was excised at the base and boiled in 10% KOH solution for about 5-minutes and then washed with tap water. The genitalia were removed from the abdomen for detail examination and later individual elements of the genitalia and the associated structures were removed as required and examined. For dissection using ocular grid leitz weitzler dissection microscope and makes drawings on a graph paper, which later were transferred on drawing sheet and finalized with pelican ink. All the diagrams are to the given scale.

Material examined: Two male, Pakistan: Thatta, 19.7.2011, Syed Viqar Ali on light lodged at author collection.

Results

Genus: *Hymenia* Hubner 1818

Hymenia, Hubner. 1818. *Verz.* P.360.

Zinckenia, Zell. 1852 *Lep.Caffr.* in *K.Stensk, Vet.Ak.Handl*, p.55.

Diagnostic features: Palpi upturned, the 2nd joint broadly scaled in front and not reaching vertex of head, the 3rd well developed and acuminate; maxillary palpi long and filiform, frons rounded; antennae of male nearly simple, the base of shaft excised and a tuft of hair from extremity of basal joint; tibiae with the spurs long and nearly equal.

Comparative note: This genus is most closely related with genus *Danaga* in having palpi upturned and the 2nd joint broadly scaled in front and not reaching vertex of head, tibiae with the spurs long and nearly equal but it can easily be separated from the same in having maxillary palpi long and filly-form, frons rounded, antennae of male nearly simple, base of shaft excised and a tuft of hair from extremity of basal joint and by the other characters as noted in the description.

Distribution: This species is distributed in tropical and warmer temperate zones.

***Hymenia recurvalis* (Fabr.)**

(Figs.1-7)

Phalana recurvalis, Fabr., 1794, Ent.Syst.iii,2,p.237.

Spoladia recurvalis, Guen., 1854, Delt.et.pyral.,p.225.

Hymenia recurvalis, Walker., 1859, Cat.lep.Het.B.M.p.396. Moore, 1885, Lep.cyl.iii,p.293.

Ziackenia recurvalis, 1863, Leder, ptyal, wien, ent.monat, vii, p.437.

Hymenia diffascialis, Hubn, 1816, verz, Bek, schm., p.361.

Hymenia fascialis, Butler, 1880, Ann.Mag, Nat.Hist.(5), 5, p.226.

Colouration: Body (fig.1) generally radish brown except pale post orbital region of head, a large median vertical patch and a large sub-apical and three small sub-apical dots on fore wings, a large vertical broad band on hind wings and all dorsal segments.

Head: Eyes (fig.2) moderate, frons rounded, palpi very long more than 2X longer than head, 3rd segment narrowed and longest, slightly longer than 2nd segment, proboscis large and highly coiled.

Fore wings: Fore wings (fig.3) large, narrow, apically sub-acutely produced veins R3 and R4 largely stalked, originate from upper angle of cell and anastomosing with R5, M1 and M2 largely stalked and originate from lower angle of cell, M3 originate from below lower angle of cell, only Cu1 present parallel to M3, only one anal vein (1A) is present.

Hind wings: Hind wings (fig.4) small, broad, apex narrowed, apical margin sinuated, veins Rs and M1 shortly stalked and originate from upper angle of cell, vein M2 originate from lower angle of cell, M3 originates just below lower angle of cell, Cu1 parallel to M3, three anal veins (1A-3A) are present.

Male genitalia: Tegumen (fig.5 & 6) large, elongated, laterally produced into flapper-like process with medio-lateral margin a small spine, saccus broad, saucer-shaped, uncus large narrowed with sub-rounded apex, gnathos absent; paramere typical-type, apically bilobed, inner lobe broad with two humped, outer lobe narrowed, bifurcated, terminating into pointed apex, two truncated processes are present at inner margin; aedeagus (fig.7) large with theca tubular, appendage large convoluted, apically bifurcated.

Wing expansion: The body size is 24-30 mm with wing expansion (fig.1).

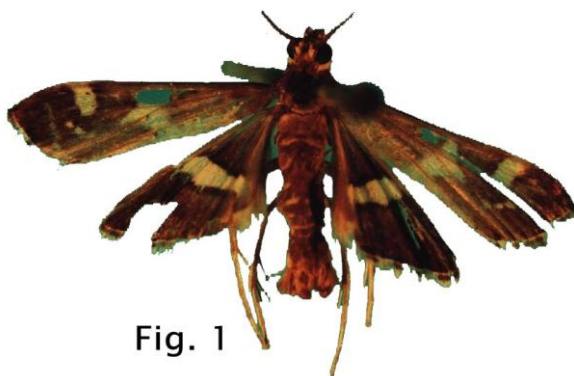


Fig. 1

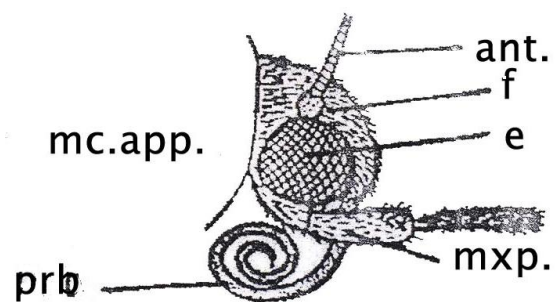


Fig. 2

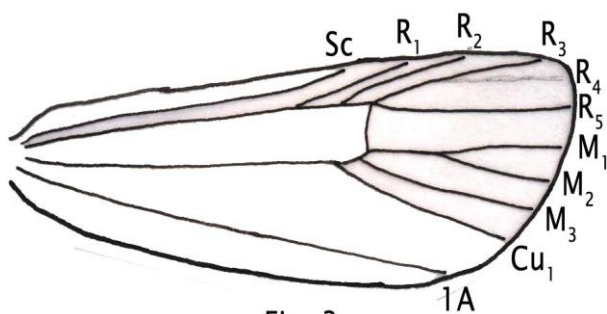


Fig. 3

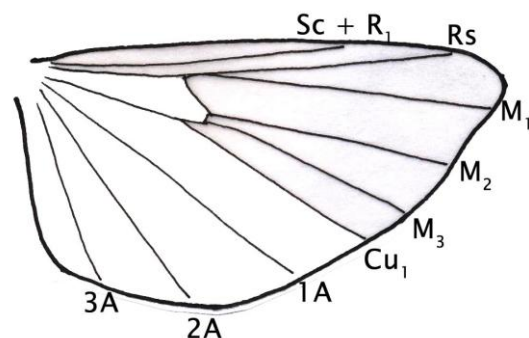


Fig. 4

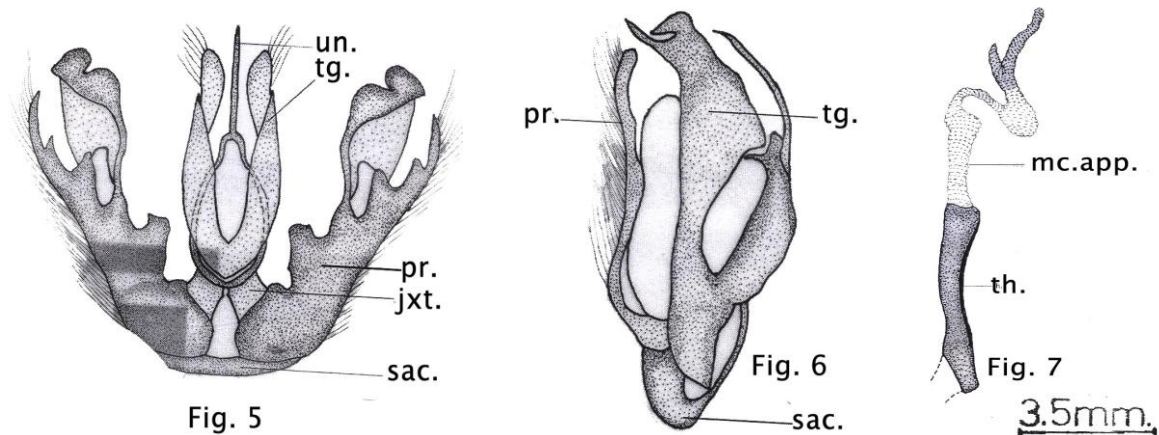


Illustration of figures: Figs.1-7 *Hymenia recurvalis* (Fabr.), 1. Adult, entire dorsal view; 2. head, lateral view; 3. fore wing, dorsal view; 4. hind wing, dorsal view; 5. tegumen, ventral view, 6. tegumen, lateral view, 7. aedeagus, lateral view.

Key to the laterings: ant. (antenna), e. (eye), fr. (frons), gn. (gnathos), jxt. (juxta), mcl.(membranous conjunctival appendage), mx.p. (maxillary palpi), pr.(paramere), sac.(saccus), tg. (tegumen), th. (theca), th.app. (thecal appendage), un.(uncus), 1A - 3A. (anal vein 1, 2 and 3), Cu₁ & Cu₂ (cubital vein 1 and 2), M₁-M₃ (median vein 1 to 3), R₁-R₅ (radius vein 1 to 5), Rs.(radio-suctorial vein), Sc.(sub-costal vein), Sc+R₁(sub-costal and radius vein 1).

Discussions

This species is recorded from union council Khenjar, tehsil Sajawal District Thatta of Sindh in between the range of 21m above sea level. The GPS coordinates are N24.541 and E68.127. In male tegumen large, elongated, laterally produced into flapper-like process with medio-lateral margin a small spine, saccus broad, saucer-shaped, uncus large narrowed with sub-rounded apex, gnathos absent; paramere typical-type, apically bilobed, inner lobe broad with two humped, outer lobe narrowed, bifurcated, terminating into pointed apex, two truncated processes are present at inner margin; aedeagus large with theca tubular, appendage large convoluted, apically bifurcated. The population in Thatta is very high during July and August and very less recorded in December and January. The temperature varies during summer 40°C and in winter 17°C, while average annual temperature is 28°C. Amount of Precipitation is between 50-56mm and sometimes is 100mm. The average relative humidity (mean) is at 1200 UTC 46%.

References

- Butler, A.G. (1880). Descriptions of several African and Australian Lepidoptera in the collection of the British Museum. *Ann. Mag. Nat. Hist.* 19(4): 458-462.
- Chaudhry, G.U., Chaudhry, M.I. and Khan, S.M. (1966). Survey of insect fauna of forest of Pakistan. Final technical report. *Biol. Sci. Res. Div.*1:167pp.
- Fabricius, J.C. (1794). *Entomologia systematica. Ent.Syst.4* and Sappl. Hafniae (1792-98) in Hampson 1894.
- Guen, P. (1854). *British Entomologia*, in Cotes and Swinhoe 1888.
- Hampson, (1896). The fauna of British India including Ceylon and Burma. *Faun. Brit. Ind. 1*: Frances and Taylor: 490.pp.
- Hashmi, A.A. and Tashfeen, A. (1992), Lepidoptera of Pakistan. *Proc. Pakistan. Congr. Zool.* 12:171-206.
- Moore, F.D. (1885). The Lepidoptera of Ceylon. London 2: 77-101.
- Stoll, C.K. (1795). *Systematic Entomology, Sys.Ent.2*, in Hampson 1894.
- Walker, F. (1859). List of the specimens of lepidopterous insects in the collection of the Moth, *Brit. Mus.* 2:279-581.