

Morphology and taxonomy of *Verrallina (Neomacleaya) indica* (Theobald)

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Abstract

The adult female and genitalia of *Verrallina (Neomacleaya) indica* (Theobald) is described in the present manuscript by using coloured photography.

Keywords: setae, scales, species, *Verrallina*

Introduction

Genus *Verrallina* is reported from oriental region. Species of this genus are dark and without any kind of ornamentation. *Verrallina* and *Neomacleaya* originally described by Theobald in 1903. But Edwards (1913) [1] synonymized *Verrallina* and *Neomacleaya* under genus *Aedes* Meigen. Subsequently, Belkin (1962) [2] resurrected *Verrallina* as a distinct subgenus of *Aedes* and considered *Neomacleaya* as a synonym of *Verrallina*. However, Delfinado (1967, 1968) [3, 4] later resurrected *Neomacleaya* from *Aedes* and *Verrallina* and recognized it as a distinct subgenus of *Aedes*. Recently in 1999 [5], Reinert restored *Verrallina* to generic rank and included *Neomacleaya* as a subgenus (Bhattacharyya *et al.*, 2004) [6]. The adult mosquitoes of the present species resembles with adults of other species in having decumbent scales on vertex and erect scales on the head. Some additions have been done in the descriptions by giving coloured photographs.

Materials and methods

Intensive and extensive collection-cum-survey tours were conducted in different districts of Punjab. The adult

representatives of mosquitoes were collected during dusk and dawn hours i.e. between 6:00 A.M. to 10:00 A.M. and 7:00 P.M. to 10:00 P.M. Adult mosquitoes were procured from gardens, cattle sheds, hay stacks, nurseries, human dwellings and forests. The collected specimens were killed with ethyl acetate vapours and ventral thorax region was then glued on the pointed tip of a wedge, made of thick paper, using mounting glue, supported on a paper pin. All the preserved Culicine mosquito species were authentically identified by using standard keys and literature. The last 2-3 segments of abdomen of adult representative were removed with the help of a fine forcep. Protocol of Siverly and Shroyer (1974) [7] was followed with slight modifications for making permanent slides of genitalia.

Photography of adult specimens was done under Stereo Zoom binocular microscope (Radical- RXLR-5) fitted with camera (Procam 1.3 with Tsview software) attached over it. Genitalia (Whole mount) slides were photographed at 10X and phallosome of each species photographed at 40X magnification under Leica trinocular microscope (DM4000 B LED).

Results: (FIGURES: 1-6)

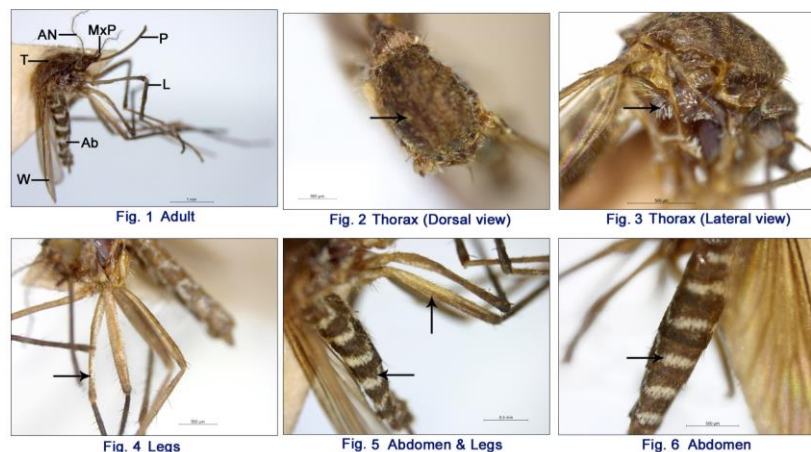


Fig 1-6: *Verrallina (Neomacleaya) indica* (Theobald)

Female:-

Head: Proboscis dark, as long as forefemur; palpi black brown; vertex laden with broad, decumbent, dark brown scales except for few narrow, curved scales on interocular space; antennae pilose, dark brown as long as proboscis; clypeus dark brown.

Thorax: Scutal integument dark brown, covered with curved reddish brown scales; anteprenotal lobe setosed with 2-5 dark setae; dorsocentral, setae present; trilobed scutellum furnished with narrow, curved white scales on each lobe, a few brown scales on midlobe of scutellum; 10-12 dark setae on the both lateral lobes; mesokatepisternum with 3-4 upper and 8-10 lower dark setae; mesepimeron with a patch of white scales; prealar knob without scales but bears 8-10 bristles.

Wings: All veins dark scaled.

Legs: Coxae with dark setae, femora with brown scaled surface; tibiae I-III dark brown with longitudinal pale stripe;

tarsi dark scaled with toothed mid unguis; hind unguis simple.

Abdomen: Tergum-I with dorsomedian white scales with laterobasal patch of white scales; terga II-VII with narrow lateral white scales; tergum-VIII with scattered white scales; sterna laterally laden with patches of brown scales.

Genitalia: (FIGURES: 7-12) Cerci triangular, moderately long bearing acute apex besetted with broad scales scattered over the dorsal surface; postgenital lobe narrow, short with deep median indentation and carrying 5-10 median long setae; insula ill-defined, lower vaginal sclerite sigmoid shaped, heavily pigmented; upper one comparatively less pigmented, well developed; spermathecal eminence large, deep, ovoid from dorsal surface and pigmented; upper vaginal lip and sclerite almost covering the entire upper vaginal wall with pigmented structure; spermathecae three in number.

Male: Not studied.

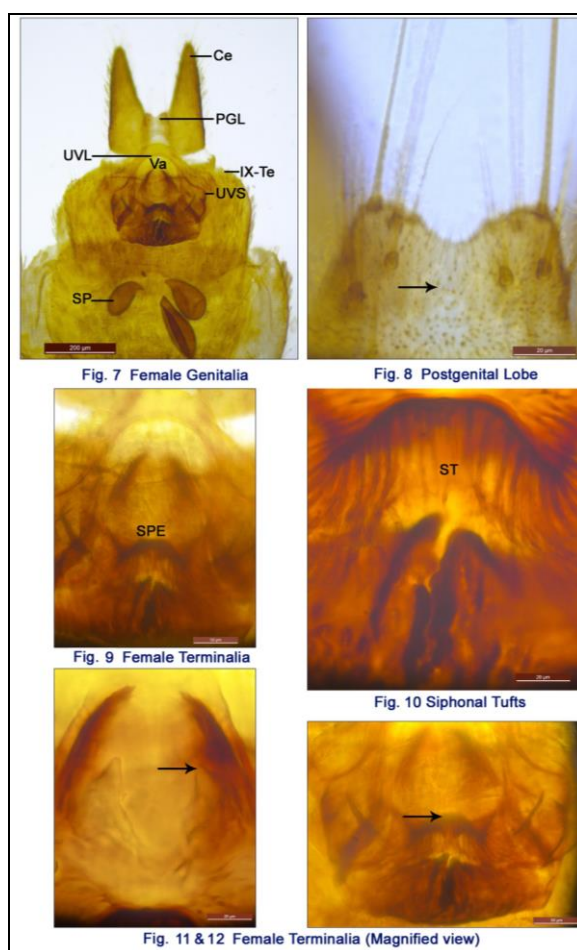


Fig 7&12: Female Genitalia of *Verrallina (Neomacleaya) indica* (Theobald)

Medical Importance

The present species is not known for any medical importance, though it feeds on humans as well as animals.

Remarks

Adults of this species are found throughout India. The prevalence of this species is mainly climate dependent. Adult representatives of this species were reported first in the month of April and then followed by June. By the end of month

October, the population goes on decreasing. The larvae of this species have been reported in open pools and rain filled ditches by Barraud (1934)^[8]. A few adult representatives of this species were collected from Amritsar District of Punjab during the present study.

Abbreviations: Ab: Abdomen, AN: antenna, Ce: cerci, IX-Te: ninth tergum, L: leg, MxP: Maxillary palpi, P: proboscis, PGL: post genital lobe, SP: spermatheca, SPE:

spermatothecae eminence, T: thorax, UVL: upper vaginal lip, UVS: upper vaginal sclerite, Va: vagina, W: wing.

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