



Acta zoologica cracoviensia, 58(1): 121-127, Kraków, 1 September, 2015

© Institute of Systematics and Evolution of Animals, Pol. Acad. Sci., Kraków

doi: 10.3409/azc.58_1.121

Zoobank Account: urn:lsid:zoobank.org:pub:AA85D03C-C84B-4BD3-AEF3-5A20CA0AA634

A new genus and species of the tribe Lasiosinini (Diptera: Chloropidae) from the Oriental Region

Panameduthathil Thomas CHERIAN

Received: 27 July 2014. Accepted: 23 July 2015. Available online: 25 August 2015.

CHERIAN P. T. 2015. A new genus and species of the tribe Lasiosinini (Diptera: Chloropidae) from the Oriental Region. *Acta zool. cracov.*, 58(1): 121-127.

Abstract: One new genus, *Parachlorops* under the tribe Lasiosinini is described from India with type species *Parachlorops tibialis*, sp. n.

Key words: Chloropidae, Chloropinae, Lasiosinini, *Parachlorops* gen. nov., *P. tibialis* sp. n., India.

✉ Panameduthathil Thomas CHERIAN, Department of Zoology, University of Kerala, Kariavattom, Trivandrum - 695581, India.
E-mail: cherian_pt07@yahoo.co.in

I. INTRODUCTION

Based more or less on the complete fusion of surstylus with epandrium, ANDERSSON (1977) proposed the *Assuania* genus group and placed six genera namely, *Assuania* BECKER 1903, *Desertochlorops* NARTSHUK 1966, *Lagaroceras* BECKER 1903, *Lasiosina* BECKER 1910, *Metopostigma* BECKER 1903, *Steneophthalmus* BECKER 1903 and *Pseudopachychaeta* STROBL 1902 under the group. Besides, the reduction or absence of male circus is a character these genera share. Later workers like KANMIYA (1983) followed this genus grouping. However, NARTSHUK (1983, 1987) raised the *Assuania* genus group to the tribe Lasiosinini and added *Phyladelphus* BECKER 1910 to the tribe but removed and placed *Pseudopachychaeta* under the tribe Diplotoxini which she erected in 1983. This classification is generally followed today. Of the above seven genera, all except *Assuania* and *Desertochlorops* are distributed in India.

While revising the genera of the tribe Lasiosinini from India and adjacent countries, the author came across a new species belonging to the tribe having a combination of characters not found in other genera of the tribe or other Chloropid genera. A new genus, *Parachlorops* is proposed to place this species under.

II. MATERIAL

The paper is based on the specimens collected by the author 5 kms away from Kolasib town in Mizoram State, north-eastern India. The specimens are mounted on pins and male genitalia are mounted on a slide.

The type specimens are retained at present in the collection of the Department of Zoology, University of Kerala, Trivandrum and shall later be deposited with the National Zoological Collections, Western Ghats Regional Centre, Zoological Survey of India, Kozhikode (Calicut), Kerala, India.

Abbreviations for morphological structures:

Morphological nomenclature followed is after MC ALPINE *et al.* (1981).

anepm – anepimeron
anepst – anepisternum
ant 2 – second antennal segment
ant 3 – third antennal segment
as – apical scutellar bristle
1 dc – first dorsocentral bristle
fr – frontal hair
h – humeral bristle
if – interfrontal bristle
ivt – inner vertical bristle
kepst – katepisternum
npl – notopleural bristle
oc – ocellar bristle
orb – fronto-orbital bristle
ovt – outer vertical bristle
pa – postalar bristle
pvt – postvertical bristle
ss – subapical scutellar bristle

Genus *Parachlorops* gen. n.

D i a g n o s i s. Medium sized flies possessing subsquarish frons, tomentose frontal triangle with sulci, dull densely tomentose and convex scutum and flat scutellum bearing short dense rather spinous hairs borne on small granulate warts, tibial organ and modified distal tarsi in males.

E t y m o l o g y. The genus is named after the genus *Chlorops* with the prefix “*Para*”.

Type species: *Parachlorops tibialis*, sp. n.

D e s c r i p t i o n. Head higher than long; frons parallel-sided, a trifle wider than long, flattened with short scattered dark *fr*; frontal triangle clearly demarcated, fairly densely tomentose with two longitudinal depressions on the triangle on each side and a large midlongitudinal sulcus beyond anterior ocellus; face almost flattened with low facial carina which bifurcates and diverges around middle of face; *ant 2* normal; *ant 3* longer than wide; arista with brownish black pubescence; gena about two-thirds as wide as *ant 3*; parafacialia somewhat distinct in upper half and not developed below; eye rather large with vertical long axis and fine scattered pubescence; palpi clavate; head bristles black, well developed with cruciate *pvt* which is subequal to *ovt*, short *ivt*, proclinate and divergent *oc*, 4 *orb* and

5-6 hair-like *if*; thorax tomentose; scutum very convex, densely grey tomentose with dense short nearly spinous black hairs arising from small granulate warts; pleura tomentose, dull yellow with black maculae on *anepst*, *kepst*, *anepm* and meron; scutellum nearly flattened; thoracic bristles black with weak *h*, well developed 1+2 *npl*, *pa* 1 and 1 *dc*, short *pa* 2 and normally developed *as* and *ss* 1 bristles. Wing of *Chlorops*-type with costal break; costa reaching not beyond ending of R4+5; *r-m* and *m-m* cross-veins widely separated; haltere yellow. Legs with tibial organ; distal tarsi of all legs in males modified. Male genitalia: surstylus long, fused with epandrium as in species of *Lasiosina*; phallic complex more like that of *Desertochlorops* but hypandrial arms not diverging distally; postgonites narrowing apically.

Distribution: Oriental Region.

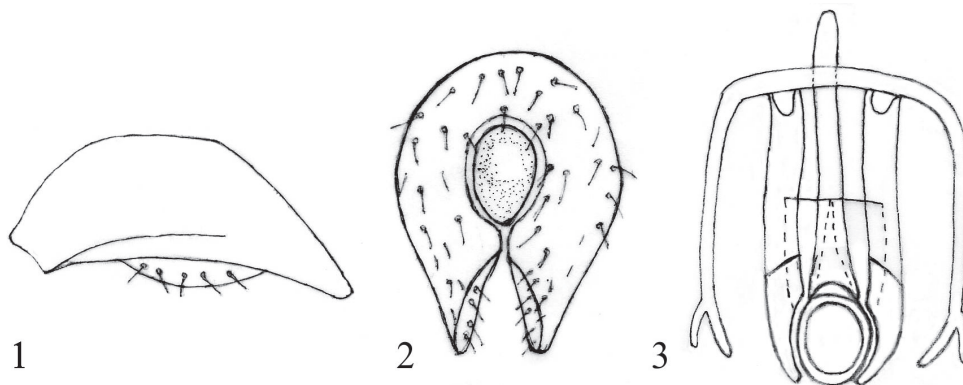
R e m a r k s. The complete fusion of surstylus with epandrium and the absence of male circus brings *Parachlorops* under the tribe Lasiosinini. It differs from all the other six genera of the tribe in possessing very dense, short, almost spinous thoracic hairs borne on small granulate warts. Among the genera of the tribe it shows closer affinities to *Desertochlorops* NARTSHUK in possessing a well developed tibial organ and in the nature of phallic complex and development of gonites. However, in *Desertochlorops* the frontal triangle is narrow, without sulci but is only with fine longitudinal grooves; it reaches the anterior margin of frons and ends with narrowly obtuse apex. The scutum is weakly convex and subshiny, thoracic hairs are not spinous and not borne on warts, male tarsi are not modified, free ends of middle lobe of surstyli are short and *r-m* and *m-m* cross-veins are approximated. But in *Parachlorops* sulci are present on frontal triangle which is wide, dull and tomentose, scutum is very convex and densely tomentose, thoracic hairs are more dense, rather spinous and are borne on small granulate warts and distal tarsi of all legs are modified in males. Among the other genera of the tribe, a though tibial organ is present in *Metopostigma* BECKER as in *Parachlorops* and *Desertochlorops* yet in *Metopostigma* there is a large black spot on frontal triangle, arista is very long, white and thickly pubescent, only one *orb* is well developed, scutum is flattened and thoracic hairs are slender and not borne on warts unlike is *Parachlorops*. In the development of epandrium with large and long surstyli closely united with epandrium, *Parachlorops* exhibits affinities to *Lasiosina* BECKER and some of the related genera of the tribe but in the general features of head and especially thorax this genus differs from all other genera of Lasiosinini.

Though modified fore tarsi have been reported in the males of some species of *Chlorops* MEIGEN, 1803 belonging to the tribe Chloropini, yet in *Parachlorops* distal four tarsal segments of all legs are modified in size, shape, nature of claws and in the presence of a few spinous hairs.

***Parachlorops tibialis* sp. n.**

Figs 1-9

D i a g n o s i s. Medium sized flies possessing subshiny, tomentose frontal triangle with sulci, densely tomentose convex scutum and flattened scutellum bearing dense rather spinous hairs borne on small granulate warts, tibial organ and modified distal tarsi on all legs in males.

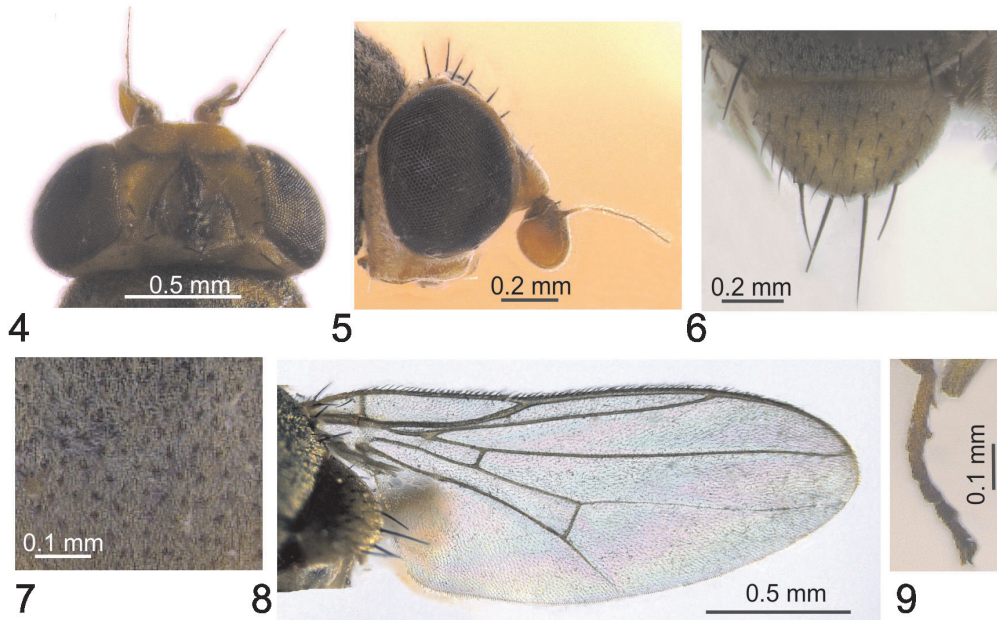


Figs 1-3. *Parachlorops tibialis* sp. n. 1 – Epandrium, lateral view; 2 – Epandrium, posterior view; 3 – Phallic complex, ventral view.

E t y m o l o g y. The species derives its name from the presence of tibial organ on hind tibia unlike in most other genera of the tribe.

M a t e r i a l e x a m i n e d. Holotype: male, India: Mizoram: Kolasib, 8.iii.1979. Coll. P.T. CHERIAN. Paratype: 1 male (?) (abdomen and some legs broken off), collection date same as of holotype.

D e s c r i p t i o n. Male: head (Figs 4-5) higher than long, length, height and width ratio 15 : 19 : 29. Frons projecting beyond anterior margin of eye, widening at vertex, width at point of widening 1.15x its length and 0.55x the width of head, a little depressed and below level of upper eye margin, weakly grey tomentose, predominantly yellow with partly diffused dark tinge in certain areas especially in the paratype, ending with convex anterior margin and with short scattered dark *fr*. Frontal triangle clearly demarcated, subshiny grey tomentose, blackish brown with yellow tinge but a little more darkened in the holotype and about two-thirds as wide as frons at vertex; there is a long shallow but broad sulcus along each lateral margin and a shorter one along each side of ocellar tubercle, the latter reaching two-thirds length of the triangle, area between the sulci raised in the form of a ridge; besides, there is a deep nontomentose, shiny black median sulcus a little beyond ocellar tubercle which becomes very shallow, linear and reaches behind anterior margin of frons. Face nearly as wide as frons anteriorly, concave in upper half at sides and flattened below, yellow and grey tomentose; epistomal margin convex and area above flattened; facial carina a little raised up in upper half, flattens and bifurcates at middle of face, each part joining vibrissal corner. Antennae rather erect but *ant* 3 turned a little outwards; *ant* 2 normal, dull dark brown; *ant* 3, 1.2x as long as wide, dark brown but lower half including lower anterior margin with yellow tinge; arista thickened at base, brownish black, rather long, flagellum with well developed fairly dense concolourous pubescence. Gena, vibrissal corner, parafacialia, palpi and proboscis as given under the genus. Eye large with vertical long axis and fine scattered pubescence. Head bristles black, well developed; *pvt* erect, cruciate, subequal to *ovt*; *ivt* shorter than *ovt*, inclinate; *oc* proclinate, divergent, longer than *ivt*; *orb* 4 of which anterior most very short and the rest well developed and progres-



Figs 4-9. *Parachlorops tibialis* sp. n. 4 – Head dorsal view; 5 – Head lateral view; 6 – Scutellum, dorsal view; 7 – Part of scutum enlarged; 8 – Wing; 9 – Tarsi of fore leg.

sively posterior ones become longer; *if* hair-like, in a row of 5-6 along outer margin of frontal triangle.

Thorax predominantly black with mostly yellow colouration on pleura, scutellum and sides of scutum. Scutum (Fig. 7, part enlarged) about 0.85x as long as wide, narrower than head, very convex, densely grey tomentose, uniformly with dense, short, rather spinous black hairs borne on small granulate warts, depressed longitudinally in the area of dorso-central lines, dull black except for yellow area around humeral callus and narrowly at sides along its length; humeral callus with large brownish black nearly orbicular macula medially; pleura as described under generic characters; scutellum tomentose, 1.14x as wide as long, with rather flattened disc, dark brown on disc with diffused yellow tinge along distal and lateral margins; thoracic bristles as described under the genus; *as* a trifle shorter than scutellum (Fig. 6) *ss* 1 two-thirds as long as *as*; distance between bases of *as* and *ss* 1 subequal.

Wing (Fig. 8) 2.6x as long as wide, hyaline with light brown veins; proportions of costal sectors 2 to 3 and ending of R4+5 and M1+2 in the ratio 40:32:11; *r-m* cross-vein joining the middle of discal cell; *r-m* and *m-m* cross-veins widely separated; anal field well developed. Haltere yellow.

Legs: coxae dull brownish black, grey tomentose; femora blackish brown with yellow tinge at bases and apices of fore and mid femora; fore femur yellowish ventrally; fore tibia dark brown, partly with yellow tinge; mid and hind tibiae concolourous with femora; first tarsus (Fig. 9, tarsi of fore leg) of all legs yellowish; distal four tarsi of all legs deeply black

with modified shapes, sizes, claws and with a few black rather slender hairs; tibial organ elongate oval.

Abdomen. Broad, oval, blackish brown with yellow lateral and posterior margins on nearly all segments. *Male genitalia* (Figs 1-3): Epandrium deeply black; surstyli long, fused with epandrium as in species of *Lasiosina*; phallic complex more like that of *Deser-tochlorops* but hypandrial arms not diverging distally; postgonites narrowing apically.

Length: male 2.52 mm; wing 2.48 mm.

Female unknown.

O b s e r v a t i o n s o n c o l l e c t i o n l o c a l i t y. The specimens were collected during different hours of a day in March, 1979 from a nearly 10 sq.m. area, 5 kms away from Kolasib town in Mizoram State, a few meters away from a main road side, from the shrubs and grasses growing around a small spring from which water was coming out in droplets. A dry spell was prevailing in the State and the study area was a haven for insects of diverse orders. The day's collection comprised a large number of insects of diverse groups. Chloropids alone represented 40 species (the majority new to science) under 14 genera. These included 3 new species, *femorata* CHERIAN, *mizoramensis* CHERIAN and *trilineata* CHERIAN (1984) of the rare genus *Aragara* WALKER till then known by one species and 3 new genera, *Pseudonomba* CHERIAN and *Indophthalmus* CHERIAN (2002), besides the present one. Such a rich assemblage of Chloropidae from so small an area has not been reported from anywhere before or since. CHERIAN (1995) named such small areas of species concentration "hot specks".

A c k n o w l e d g e m e n t s. I am grateful to the SERB, Department of Science and Technology, Government of India for financial support and to Dr. G. PRASAD, Head of the Department of Zoology, University of Kerala for facilities for work.

REFERENCES

- ANDERSSON H. 1977. Taxonomic and Phylogenetic studies on Chloropidae (Diptera) with special reference to Old World genera. *Entomologica Scandinavica Suppelementum*, **8**: 1-200.
- BECKER T. 1903. Ägyptische Dipteren (Fortsetzung und Schluss). *Mitteilungen aus dem Zoologischen Museum Berlin*, **2**: 67-195.
- BECKER T. 1910. Eine Monographische Studie Paläartische Region. *Archivium Zoologicum Budapest*, **1**(10): 1-174.
- CHERIAN P.T. 1984. The genus *Aragara* from India (Diptera: Chloropidae). *Oriental Insects*, **18**: 87-94, 15 figs.
- CHERIAN P.T. 1995. On hot spots, warm spots and hot specks. *Zoo's Print*, **9**(9): 9-11.
- CHERIAN P.T. 2002. Fauna of India and adjacent countries- Diptera, Chloropidae **9**(1): 1-368. (published: Director, Zoological Survey of India, Kolkata).
- KANMIYA K. 1983. A systematic study of the Japanese Chloropidae (Diptera). *Memoirs of the Entomological Society of Washington*, **11**: 1-370.
- MC ALPINE J.F. 1981. Morphology and terminology of adults. (In:) Manual of Nearctic Diptera. *Research Branch Agriculture Canada. Monograph*, **1**(27):9-64.

- MEIGEN J.W. 1803. Versuch einer neuen Gattungs Eintheilung der europäischen zweiflügligen Insecten. *Magazin Insektenkunde*, Braunschweig, **2**: 257-281.
- NARTSHUK E.P. 1966. A new genus and species of Chloropidae (Diptera) from Middle Asia. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, **37**: 258-271.
- NARTSHUK E.P. 1983. A system of Superfamily Chloropidae (Diptera: Cyclorrapha). *Entomologicheskoe obozreni*, **62**(3): 638-648.
- NARTSHUK E.P. 1987. Grass flies (Diptera: Chloropoidea). Their systematics, evolution and biology. *Trudy Zoologicheskogo Instituta Akademii Nauk USSR*, **136**: 1-280. [In Russian].
- STROBL G. 1902. Contribution to the Dipterous fauna of the Balkan peninsula. *Glasnik zemaljskogo Muzeja u Bosni i Hercegovini*, Sarajevo, **14**: 461-517.