

DESCRIPTION OF A NEW SPECIES OF *LEUCOSTOMA* MEIGEN
(DIPTERA: TACHINIDAE) FROM IRAQ

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ABSTRACT

This work includes a detailed description of the *Leucostoma nigricorporis* sp. nov. from Iraq. Locality, host plants and data of collection were given.

INTRODUCTION

Leucostoma meigen is one of a small and an important genus of family Tachinidae. Some species are endoparasites on some Lygeidae, Correidae, and Nabidae (Thompson, 1934). Few works have been done on the species of this genus in different parts of the world such as Dupuis (1953); Emden (1954); Liljestrom (1981) and Tachernig and Rechter (1998).

Leucostoma nigricorporis sp. nov.

Body:-Bright black, length 3.2-5.4mm.

Male:-Head (Fig. 1a) narrower than its height, vertex narrow with pairs of inner vertical bristles moderately strong and slightly curved and its length about 1.5 times of 3rd antennal segment, postvertical bristles weak, slightly shorter than the inner ones. Front black with 10-11 pairs of frontal bristles. Parafrontal black, with bright shining whitish pollinose and with single row of short bristles outside the frontal row. Ocellar triangle black, with pairs of ocellar bristles, which are as long as inner vertical bristles. Ocellar dark brown, compound eye red brown oval in shape, holoptic occupy nearly the whole of the anterolateral region of head, face black, with densely white pollinose and single row (4-5) proclinate bristles, parafacial black, bare, with densely whitish pollinose, lunula black, antennal groove black elongate, moderately sunk, without carina, thinly whitish pollinose, facial ridge black, with 4-5 bristles at its basal part, occipital bristles extending to the lower edge of eyes, gena black, short about one-fourth of eyes height, with numerous genal bristles on its surface and clothed with whitish pollinose, epistoma black, vibrissa strongly developed and crossed. Antenna (fig. 1b) black, first segment short with 3-4 short bristles anteriorly, second segment is cup in shape with cleft on the outer surface and bear long bristle with 6 -7 setae, the third segment is oval in shape does not reach to the oral margin and about two times as long as of second antennal segment, arista bare, thickened on basal one-fifth, about two times as long as of third antennal segment, $\frac{1}{4}$ of its basal part black and remaining part is red brown. Fulcrum (fig. 1c) dark brown, lateral plate triangular in shape, proximal cornua are long and slightly curved, distal cornua is very short and not prominent. Maxillary palp (fig. 1d) clavate in shape, 0.20-0.26 mm in length, its half distal surface with different length of bristles. Labrum-epipharynx (Fig. 1e) nearly oval in shape, 0.28-0.34 mm in length, epipharynx tubular in shape deposited on ventral wall of labrum, labrum-epipharynx, apodeme 0.24-0.30mm length, rod in shape, strongly sclerotized, its apex cup in shape. Mentum (Fig. 1f) 0.22-0.28mm length, a truncated in shape, dark brown, its dorsal surface with two pairs of long bristles and moderate density of different length of seta, mentum groove oval in shape, with black lateral ridge.

A new species of *Leucostoma*

Head in female is similar to that of male except frons wide, 0.30-0.40mm, and with 7-8 frontal bristles, parafrenal with pairs of reclinate fronto-orbital bristles and two pairs of proclinate fronto-orbital bristles.

Thorax:-Mesonotum is bright black, prescutum and scutum with a pair of longitudinal stripe of whitish pollinose, its dorsal surface provided with several various bristles.

Acrostichal bristles 3+3; dorsocentral bristles 2+3; Notopleural bristles 2; humeral bristles 2; posthumeral bristles 1; intra-alar bristles 1+2; post-alar bristles 2; supra-alar bristles 2; scutellar bristles 2+1; pleural region bright shining black, with very thinly whitish pollinose, and various bristles: stigmatal bristles 2; propleural bristles 2; sternopleural bristles 1:1, anal ridge of mesopleural with 4-5 bristles; hypopleural bristles 5-7; depressed part of proepisternum bare, sternopleuron setose, pteropleuron with 5-6 setae, subanal knob black, oval in shape, without setae, Mesothoracic spiracles black, oval in shape. Metathoracic spiracles dark brown, subcircular in shape.

Wing:(Fig. 2a)

Hyaline, veins brown, tegula black, basicosta red brown, stem vein bare, costa with two costal spines, subcostal sclerite bare, vein R1 bare, node of fourth vein r4+5 with two bristles, apical cell R5 closed, veins M1+2 sharply sloping, joined with veins r4+5 before wing tip at distance of stalk equaled as 0.26-0.36mm, veins 1A and 2A short, both do not reach wing margin. Thoracic squama (Fig. 2b) circular in shape, pale yellow, clothed with yellow pollinose and without seta. Lower squama (Fig. 2b) similar to the thoracic squama but smaller in size. Halteres reddish yellow.

Legs:-Dark brown-black with some whitish pollinosity on coxa, femora, and tibia, fore tibia (fig. 2c) with one posterodorsal bristle, mid tibia (fig. 2d) with one anteroventral and posteroventral bristle and two posterodorsal bristles, hind tibia (fig. 2e) with two anterodorsal and posterodorsal bristles, tarsi black, first segment two times as long as the second, the last segment slightly shorter to the fourth segment, claw short, slightly shorter than the last tarsal segment.

Abdomen:- Black, subcylindrical in shape but tapering posteriorly. Tergite 1+2 combined without marginal bristles, third tergite with a pair of strong median marginal bristles, fourth and fifth tergites with row of strong marginal bristles, fifth tergite with transverse row (5-6) median discal bristles, tergite 1+2 with thinly whitish pollinose, and the remaining tergites clothed with densely whitish pollinose, all tergites with moderately dense hairs. The first abdominal sternite (fig. 2f) nearly cup in shape. The second sternite nearly rectangular in shape, the third and fourth sternites are nearly similar in shape, oval, but the last is slightly larger in size, fifth sternite is deeply cleft posteriorly and forming two oval lamellae, all sternites except the first with 8-9 long bristles.

Abdomen in female is similar to that of male but differs from it by that the tergites widened, third and fourth sternites (fig. 2g) ovaly elongated in shape, fifth sternite nearly oval in shape without cleft posteriorly.

Male terminalia:- Tergite 6 (fig. 3a) black, with 7-8 strong bristles. The left arm of sternite 6 (fig. 3b) is long, strongly sclerotized, with a wide flange articulated with anterior end of the left inferior border of syntergosternite 7+8, the right arm is short and does not articulated with right inferior of syntergosternite 7+8.

Syntergosternite 7+8 (fig. 3c) dome in shape, its posterior border may be deeply emarginate dorsally, so that the sclerite is divided into parts, its surface with moderate densely of strong bristles.

Empandrium (Tergite 9)(fig. 3d) dark brown-black, its apical half with a pair of very long bristles and moderate densely setae.

Hypandrium (Sternite 9)(fig. 3e) red to red-brown, its posterior arms strongly bend, the distance among its apical is short 0.1-0.16 mm.

N. A. Mawlood

Paralobes (fig. 3f) dark brown, nearly tubular in shape, without bristles its basal is broad and gradually tapering toward apex, the distance among its terminal apex is 0.08-0.12 mm. Anal cerci (fig. 3g) dark brown, narrowly tubular in shape, united together basally and forming nearly U-shape, and separated near the half of its part, one-fourth of its basal part with moderate density of long bristles.

Phallopodeme (fig. 3g) with an antero-median flange, strongly sclerotized, intermediate plate membrane, cylindrical in shape.

Pregonite (fig. 3h) cylindrical in shape, slightly sclerotized, with single long bristle. Postgonite (fig. 3j) nearly cup in shape, slightly sclerotized, with single long bristle at the apex. Phallus (fig. 3k) black moderately curved, 0.36-0.46 mm in length, basiphallus red, moderately sclerotized, rectangle in shape, epiphallus red, dagger in shape, slightly sclerotized, slightly longer than the basiphallus. 0.08-0.12 mm in length, paraphallus sword in shape, strongly sclerotized, broad in its basal so that gradually tapering toward its distal part, paraphallic process short, about one-third of paraphallus length, it is sharply curved forward of paraphallus, hypophallus elongated ovaly in shape, strongly sclerotized, with a row of denticles on the outer margin, acrophallus short. Ejaculatory sclerite (fig. 3i) small, fan in shape, strongly sclerotized, 0.06-0.10 mm in length.

Leucostoma nigricorporis sp. nov. resembles the *L. simplex* Fallen but differs from it by the following characters:

Parafrontal and parafacial are covered with shining whitish pollinose, third antennal segment oval in shape and two times as long as second segment, frontal stripe with 10-11 pairs of frontal bristles, stalk slightly longer and equaled 0.26-0.36 mm faraway to the tip of the wing, fifth abdominal tergite with discal bristles, epiphallus slightly longer than basiphallus, Paraphallus process sharply curved forward of paraphallus.

Host: Unknown but adults are collected by sweeping net from Alfalfa *Medicago sativa* and Clover *Trifolium alexandrinum*.

Material examined: Diala, Baquba. 1♂ (Holotype), 1♀ (Allotype), and 2♂, 2♀ (Paratype). Coll. 20/5/2002 (Leg. N. A. Mawlood).

Types are preserved in Iraq Natural History Museum.

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A new species of *Leucostoma*

Bull. Iraq nat. Hist. Mus
(2002) 9 (4):19–25

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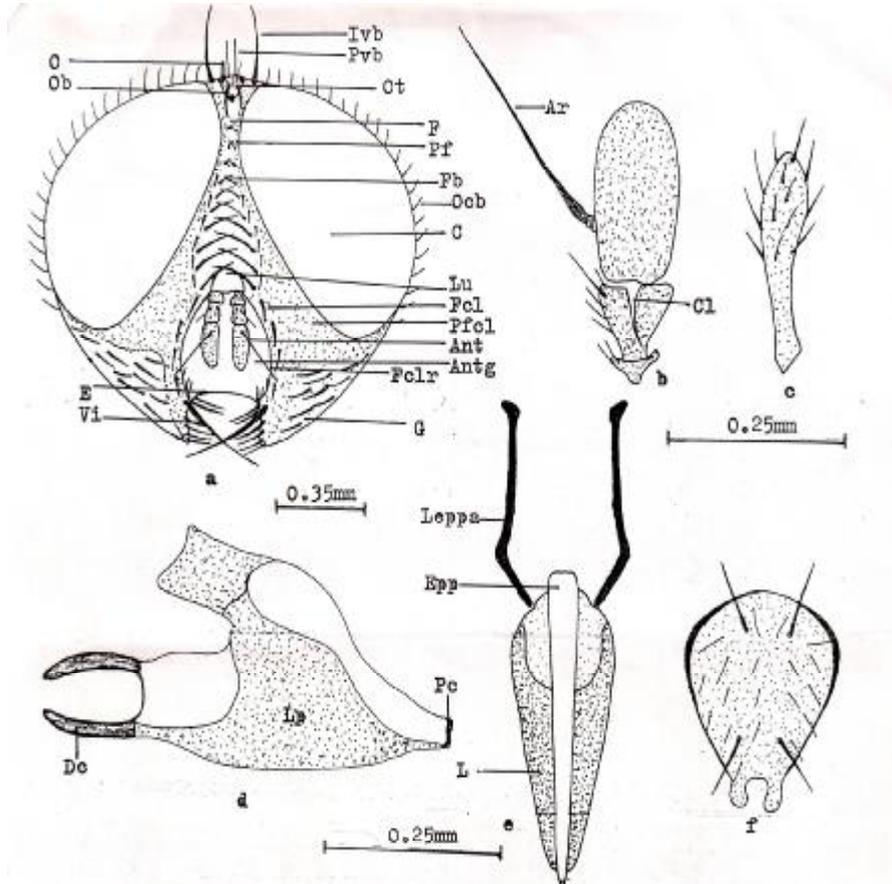


Fig 1. *Leucestema nigricarpus* sp. nov.

a) Head (Male) b. Antenna. c. Maxillary palp d. Pulcorum
e. Labrum - epipharynx f. Mentum .

Ant=Antenna ; Antg=Antennal groove ; Ar=Arista ; C=Compound eye ;
Cl=Cleft ; Dc=Distal cernua ; Epe=Epistoma ; Epp=Epipharynx ;
F=Fore ; Pfb=Prental bristle ; Pcl=Face ; Pclr= Facial ridge ;
G=Gena ; Iyb=Inner vertical bristle ; L=Labrum ; Leppa=Labrum-
epipharynx apedeme ; Lp=Lateral plate ; Lu=Lunula ; O=Ocellus ;
Ob=Ocellar bristle ; Ocb=Occipital bristle ; Ct=Ocellar triangle ;
Pc=Proximal cernua ; Pf=Parafrental ; Pfcf=Parafacial ; Pvb=
Postvertical bristle ; Vi=Vibrissae .

A new species of *Leucostoma*

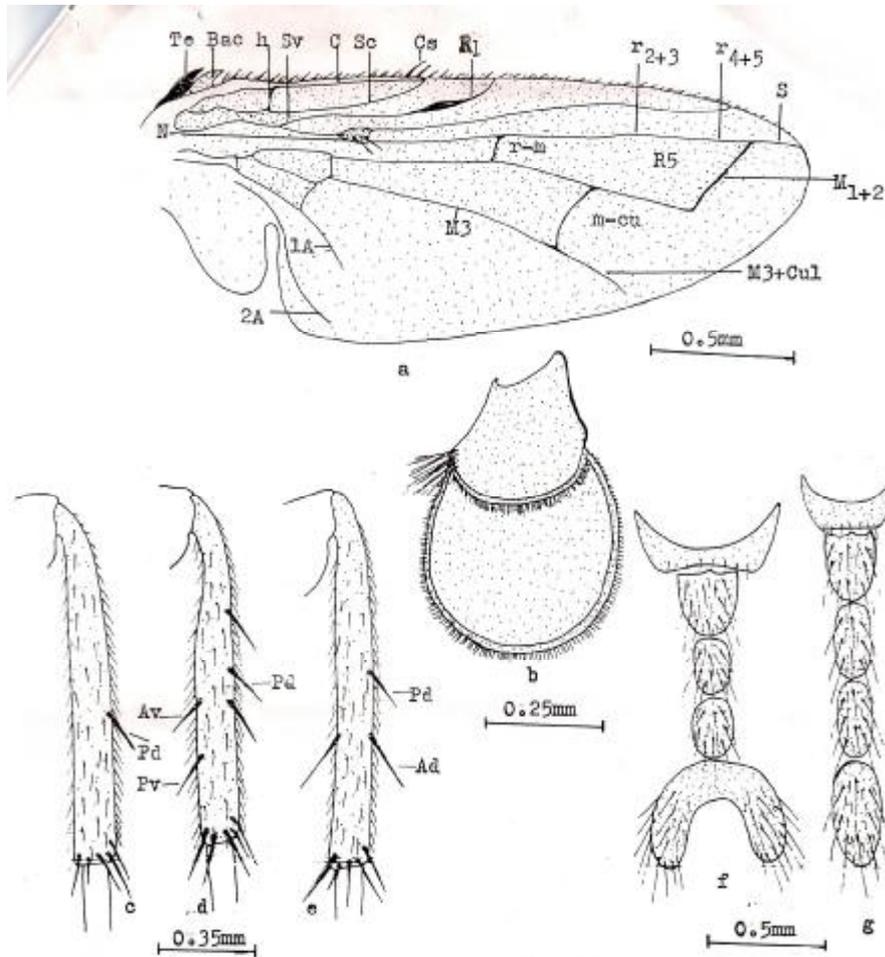


Fig 2. *Leucestema nigricarpus* sp. nov.

a. Wing b. Thoracic and Lower squama c. Pere tibia d. Mid tibia
e. Hind tibia f. Abdominal sternites 1-5 (Male) g. Abdominal
sternites (Female).

Ad=Anterodorsal bristle ; Av=Anteroreventral bristle ; 1A, 2A=Anal
veins ; Bac=Basicosta ; C=Costa ; M3+Cul= Third median + First
cubital vein; N=Node ; Pd=Posterodorsal bristle ; R1, r₂₊₃, r₄₊₅=
Radial veins , R5=Apical cell ; (h, m-cu, r-m, =Cross veins)
S=Stalk ; Sc=Subcosta ; Sv=Stem vein .

