

## A New Species of *Sarcophaga* Meigen 1826 ( Diptera : Sarcophagidae ) From Iraq

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### Abstract

This research includes a detailed morphological description of the *Sarcophaga dialensis* sp. nov. in Iraq. Many morphological characters are used in identification especially chaetotaxy and male genitalia. Locality records, data of collection and host plant were mentioned.

### Introduction

*Sarcophaga* Meigen contains about 800 species worldwide (1), some of them are of most medical importance, found and breed on freshly deposited stool, vertebrate corpses, feces, various kinds of organic matters and other decomposing organic matters (2). (3) pointed out that some species are predators on earth worm. (4) mentioned that some species cause occasionally intestinal myiasis in human. According to (5,6) a few species cause wound or traumatic myiasis in human. According to (2) and (1) the genus contains some diagnostic characteristics :-

1- Arista of antenna plumose, the plumosity extending nearly to the basal half. 2 - Notopleuron with four bristles. 3 - Abdomen with markings grey / black forming a checkerboard pattern

***Sarcophaga dialensis* sp. nov.**

**Body : General colour grey – blackish, length 3.1 – 4.5 mm.**

**Male :** Head (fig. 1a) silvery-white pollinose, vertex with pair of inner vertical bristles, outer absent, postvertical bristles weak and about half length of inner vertical bristles; Frons black, slightly narrow, at the narrowest part about one-fourth of the longest of the

compound eyes diameter , and without proclinate orbital bristles , frontal stripe black , with eight frontal cross bristles ; parafrontal black without setae ; face black without setae , parafacial black with 3-5 short setae , gena black , covered with densely black setae , compound eyes oval, red-brown , occupy nearly the whole of anterolateral region of face and with a row of postocular bristles distinctly alternating in length ; ocular triangle black , with one pair of divergent ocellar bristles , and a few number of short setae , ocelli red-brown , facial groove concave , without carina , facial ridge with 4-5 bristles in its basal part ; epistoma black ; vibrissa well developed ; Antenna (fig. 1h) dark-brown , consists of three segments . the first segment is short , second is longer about twice as long as the first , and bear along bristles and numerous short bristles , this segment is cleft on the outer (Dorsal) surface , the third segment is cylindrical in shaped and longer about three time as the second segment , Arista dark-brown , plumose is more than half its length , probocis with fulcrum (fig. 1c) brown in color , its lateral plate triangular in shape , and ventral plate which forms posterior wall of the pharynx , which produced at its upper end into a pair of long curved processes (proximal cornua) and its lower end into a pair of short distal cornua . Maxillary palps (fig. 1d) are nearly clavate in shape , and their distal third-fourth are provided with different length of bristles .Labrum-epipharynx triangular in shape (fig. 1e) , the proximal part of apical of labrum provided with pits into which the pointed the distal ends of two stout rods (apodemes) ,terminal ends of apodemes nearly cup in shaps , the epipharynx is composed of a sheet of chitin in the form of tube open at both ends and also ventrally. Mentum (fig. 1f) brown , atruncated cone in shape and provided with different length of bristles , its lateral sides dark-brown, and the distal end is divided into two forks .Discal sclerite of labium with two strong curved bars which joined together posteriorly by nodulus, bases of this bars bears nine prestomal teeth on each side . Head in female semilar to that of male except frons broad and with proclinate orbital bristles .

**Thorax :** Pronotum is much reduced , mesonotum oval in shape , with anterior end broader than the posterior one , grey in color with three black longitudinal stripes , covered with whit-silvery pollinose , and

provided with numerous bristles ; acrostichal bristle 0+1 ; dorsal central bristles 3+3 ; notopleural bristles 4 ; post humeral bristle 1 ; humeral bristles 3 ; intra-alar bristles 1+2 ; post-alar bristles 2 ; supra-alar bristles 3 ; scutellum bristles 2+1 ; the surface of mesonotum provided with densely short setae , the ventral surface of the thorax covered with white-silvery pollinose , the surface provided with several and various bristles ; propleural bristle 1 ; stigmatal bristle 1 ; sternopleural bristles 2:1 ; anal ridge of mesopleural plate with 5-6 bristles ; hypopleuron is larger than the pteropleuron , subquadrate in shape and with the fan shape tuft of bristles 7-8 ; mesothoracic spiracles oval in shape and dark-brown in color ; subanal knob black , circular in shape and pubescent , metathoracic spiracles brown , and nearly circular in shape .

**Wings (fig. 2a):** Hyaline , tegula black with numerous of thick bristles ; costa is provided on its all length with black and short bristles , basicosta yellow , without bristles , sub-costa vein joins with costa in about the end of proximal third of its length , stem vein bare , radius vein divided into anterior branch R1. its dorsal surface bears 8-9 short bristles extending to halfway of same vein ; the posterior branch (radial sector) divided into two branches , the first branch R 2+3 bare , the dorsal surface of the second branch R 4+5 bears 7-8 short bristles extending to way near the cross vein r - m , the ventral surface of same vein bears 4-5 short bristles occurred only on the node . The vein M 1+2 bends forward with sharp angle , apical cell (R5) is narrowly open 0.11-0.14 mm , the cubitus vein divided into two branches Cu1 and Cu2 , the first is fused with M3 (M3+Cu1) , first anal vein A1 longer than the second , and both do not reach the margin of wing . Subcostal sclerite bare , Tympanic membrane with yellow tuft , Lower squama broad , white , with yellow margin , and with white pollinose , Upper squama similar to that of lower squama but is smaller in size . Halter yellow .

**Legs :** dark-brown , coxa are conical in shape , fore coxa is larger than these of middle and hind one , each are provided with long bristles , the trochanters are small and nearly similar in all legs , fore femur with complete posterodorsal and posteroventral rows of bristles , Middle femur with anteroventral row of bristles extending from middle to apical , Hind femur bears row of bristles posteriorly , Fore tibia (fig. 2b) with two anterodorsal , posteroventral bristles , Mid tibia

(fig. 2c) with two bristles on each of the anterodorsal , and anteroventral and one bristle on each surface of posterodorsal and posteroventral , Hind tibia (fig. 2d) with two bristles on each surface of anterodorsal , posterodorsal and anteroventral .

The tarsus divided into five segments and densely covered with minute setae , first tarsus elongate and about half the length of all remind segments , the second segment slightly longer than the third , the dorsal side of fifth segment with a pair of curved claws , and pulvilli is nearly triangular in shape , and longer than the fifth segment in male , but slightly shorter in female , empodium is spine-like structure and longer than the pulvilli .

**Abdomen :** Black , with white-silvery pollinos pattern forming as a checkerboard , abdomen consists four visible tergites distinctly separate except for the combined tergite 1+2 , the hind marginal of this tergite , and third tergite without bristles , hind margin of fourth tergite with one pair of median bristles , fifth tergite with row of strong median bristles , the whole dorsal surface of tergites is densely covered with black, short setae .Ventral surface of abdomen with five distinct sterna , the first sternite in male is rectangular in shape , the second is exposed and largest of all , with straight posterior margin , third sternite is slightly larger than the fourth , these with rounded posterior margin , fifth sternite (fig. 2c) is deeply clefts and forming two lamellae , the sternites 2-4 are provided with long soft seae and 4-5 long bristles at their distal ends , lamellae orange in color and provided with densely long bristles,. abdomen in female nearly similar with male (fig. 2f) but slightly different in shape of sternite and posterior margin of fifth sternite without cleft .

**Male terminalia :** Tergite 6 apparently reduced , sternite 6 (fig. 3a) nearly Y shaped its right arm is long and connected firmly to sternite 5 , and left arm very short and failing to reach to the same sternite . Syntergosternite 7+8 (fig. 3b) with anterior margin emarginated , its posterior margin provided with a row of bristles , spiracle 7 is circular in shape and situated far from the anterior margin . Empandrium (Tergit 9) (fig. 3c) semi-spherical in shape , its posterior edge provided with few bristles .

Posterior arm of hypandrium (sternite 9) (fig 3d) slightly flange , and the distance among its apical is large . Paralobes (fig 3e) small , nearly trapezoid in shape , without bristles . Anal cerci (fig. 3e) are pair of

boat shape , united with each other basally and free in 1/3 apically , half of basal surface with long bristles its apical part nearly bare . Phallopodeme (fig. 3f) with an antero-median flange . Pregonite (fig. 3g) hook-like and without bristles . Postgonite boat-like in shape and bear 7-8 short bristles on its posterior margin . Phallus (fig. 3h) strongly sclerotized , basiphallus nearly rectangle in shape , and without epiphallus , paraphallus claw-like in shape and sharply pointed apically , hypophallus palate-like in shape , expanded apically . Ejaculatory sclerite (fig. 3i) small, weakly sclerotized and nearly oval in shape .

**Comparison Notes :** *Sarcophaga dialensis* sp. nov. is closely related to *S. haemorrhoidalis* (Fallen) but differ from it by the following characters:-

Frontal stripe with eight frontal bristles , scutellum bristles are 2+1 , dorsal surface of radius veins r 1 bear 8-9 short bristles , third tergite of abdomen without bristles , basiphallus nearly rectangle in shape , paraphallus claw-like in shape . And the body length 3.1-4.5 mm.

**Host plant:** Alfalfa , *Medicago sativa* , and weeds .

Material examined : DIALA

1 ♂ (Holotype), 1 ♂ and 1 ♀ (Paratype)

Coll. 2/4/2001 (Leg. N.A. Mawlood) .

The types were deposited in Iraq Natural History Museum .

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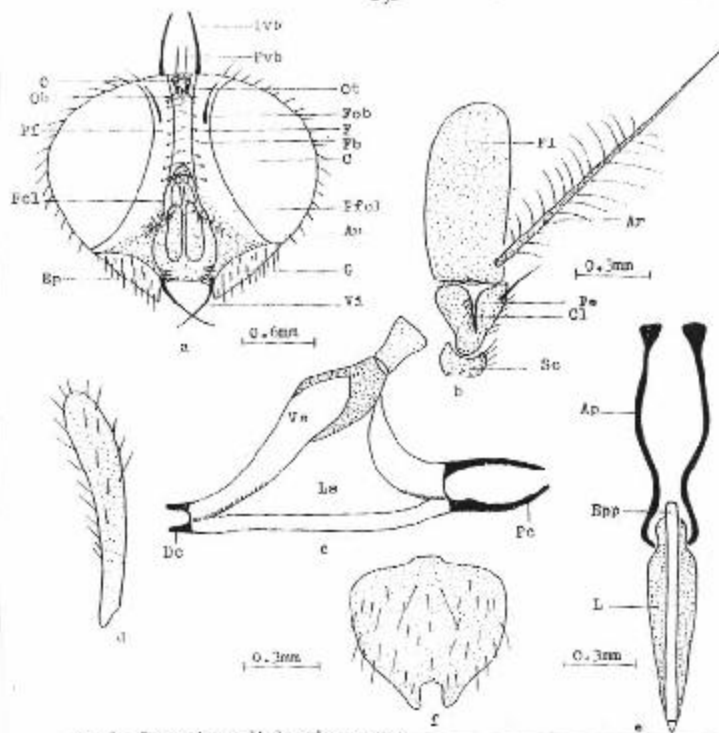


Fig.(1) *Sarcophaga dialensis* sp . nov. a. Head (Male),  
 b. Antenna c. Fulerum d . Maxillary palp  
 e. Labrum - epipharynx f. Mentum ., An= Antenna ,  
 Ap = Apodeme, Ar = Arista, c = Compound eye ,  
 CL = Cleft , Dc = Distal cornua, Ep = Epistoma , Epp =  
 Epipharynx, F = Fron , Fb = Frontal bristles , Fcl = Face,  
 FI = Flagellum, Fob = Fronto - Orbital bristles , G = Gena,  
 Ivb = Inner vertical bristles , L = Labrum , Ls = Lateral sclerite,  
 O = Ocellus, Ob = Ocellar bristles, Ot = Ocellar triangle ,  
 pc = Proximal cornua, Pe = Pedicel, Pf = Para - frontal , Pfcf =  
 Parafacial , Sc = Scape , Vi = Vibrissae.

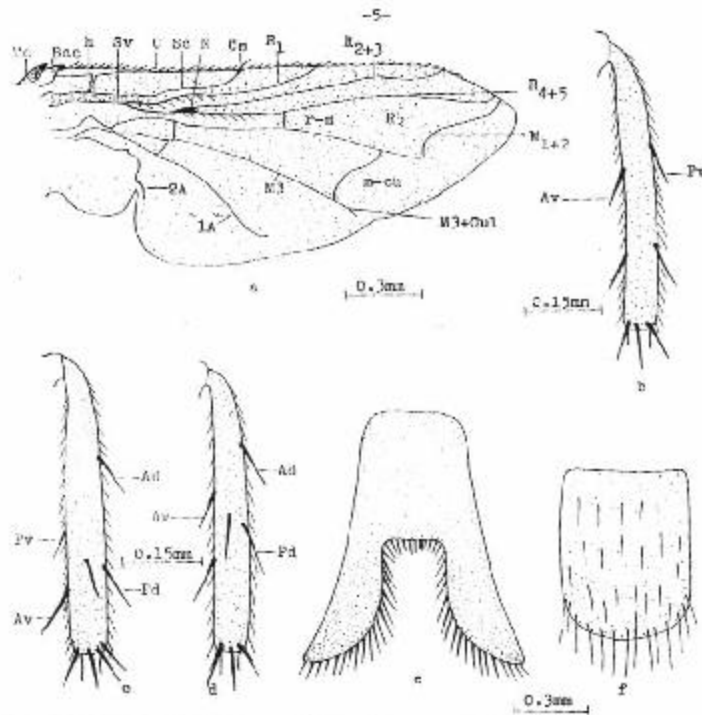


Fig.(2) *Sarcophaga diulensis* sp . nov. a. Wing b. Fore tibia  
 c. Mid tibia d. Hind tibia e. Fifth abdominal sternite (Male)  
 f. Same (female) . Ad = Anterodorsal bristle , Av= Anteroventral  
 bristle, IA,2A=Anal veins Bac = Basicosta, C = Costa ,  
 M3 + Cul = Third median + first cubital vein N = Node ,  
 Pd = Posterodorsal bristle , Pv = Posteroventral bristle  
 (R<sub>1</sub>,R<sub>2+3</sub>,R<sub>4+5</sub> = Radial veins) , R5 =Apical cell,  
 (h , m- cu ,r-m =Cross veins)



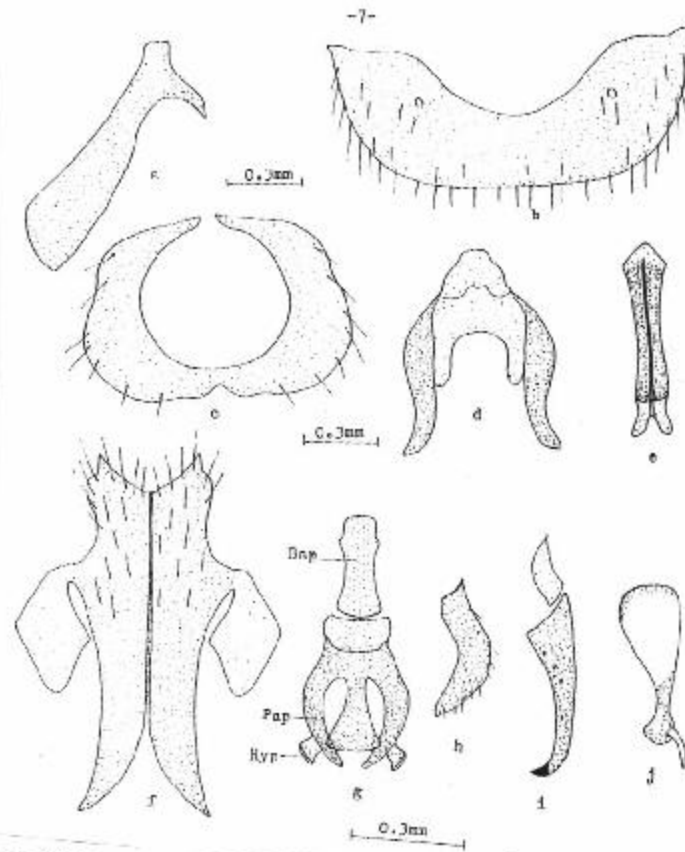


Fig.(3) *Sarcophaga dialensis* sp . nov. a. Sternite 6  
 b. Syntergosternite 7+8 c. Tergite 9 d. Sternite 9  
 e. Phallopodeme f. Paralobes and Anal cerci g. Phallus  
 h. Progonite i. Postgonite j . Ejaculatory sclerite.  
 Bap = Basiphallus, Hyp = Hypophallus, Pap = Paraphallus.

**تسجيل نوع جديد *Sarcophaga* Meigen 1826**  
**لجنس (Diptera:Sarcophagidae)**  
**في العراق**

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**الخلاصة**

تضمن البحث وصف تفصيلي للمظهر الخارجي لنوع جديد للعلم *Sarcophaga dialensis* sp.nov. في العراق. استخدمت عدة صفات مظهرية لتشخيص النوع ولا سيما توزيع الشويكات والسوءة الذكرية. سجلت مناطق وتاريخ جمع الحشرة فضلاً عن عوائلها .