

# Survey of Adult flesh flies (Family: Sarcophagidae) in Some Iraqi provinces By Using Sticky trap

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## Abstract:

The aims of this study are to identify the adults of flesh flies that attract to the yellow sticky traps and studying prevalence of these species in some Iraq provinces. The results showed that *Sarcophaga africa* (Wiedemann) was the most abundant species caught in all studied provinces during November 2010, and highly occurrence of all studying species was 37.5% in Baghdad, the lowest was 1.5% in Missan in this month; while it was in Nijef, Babylon, and Diyala are: 24.2, 19.1 and 17.7 in sequences.

**Keywords:** Flesh Flies, Iraq Sarcophagidae.

## Introduction:

Sarcophagidae (flesh flies) large, grayish – black chequer-board abdomen and black striped thorax, few species are brownish yellow in color but the thoracic strips are always present [1,2,3].

Most species of flesh flies are robust, mostly grey flies ranging from 2.5 – 23.0 mm long. The thorax has three dark strips on top and the abdomen is striped, banded or spotted with markings that shift tones depending on the angle of the light. The abdomen is sometimes partly red. The head is wider than high and, in side view, usually a little higher than long. The compound eyes are bare. The fronto – orbital area usually has spars setulae, but the central part of the frons is normally bare. There about 4 to 10 frontal setae and one of three orbital setae curving backward, two to four curving forward; these last setae missing in males in the Sarcophaginae. The face is concave and lacks a central ridge. Vibrissae are present. The antennal arista is bare or finely setulose to plumose, especially on the basal half or two – third (most Sarcophaginae). On the thorax there are normally 3 to 4 pairs anterior and 3 to 4 posterior dorsocentral bristles. The scutellum has 2 to 3 pairs of lateral setae and one pair of discal setae; if a pair of apical setae occurs, they are small. The wings has the origin of vein R

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$4+5$  setulose above and below , with the setulae containing toward cross vein r-m above . Any extension at the bend in vein M is usually not developed , but is merely present as a short , darkened fold [4].

Sarcophagidae are very rich in species and subdivided into three subfamilies , the Miltograminae , Paramacronychiinae and Sarcophaginae, containing about 108 genera [5]. flesh flies quite closely related to the family Calliphoridae , which belongs to the same large Infraorder, Moscomorpha and includes the species such as the blow flies that have similar to the flesh flies . There are about 2500 species in this family

A great number of species develop in decomposing organic matter , some are obligatory parasites in vertebrates and very many breed in invertebrates , especially in other arthropods ; flesh flies is beside the oestroid flies , the most important with respect to myiasis and it comprises those members which have the greatest economic importance compared with all other families.

On the other hand the adult flies are therefore of greatest hygienic importance as potential vectors of bacteria, viruses, protozoan and helminthes causing various enteric disease [6,7,8,9 and 10].

Of the same interest it is the fact that flesh flies dominate carrion communities and are among the first insects to arrive on dead bodies , including humans and are therefore of great significance in forensic medicine [2] .

Despite the importance of flies that cause myiasis to livestock in Iraq in last years , little is known about their distribution and abundance. Therefore, a study deals with their foundation in some province was done.

Some genera of Sarcophaginae such as *Ravinia* are associated with dung , mostly as , but at least some species coprophagous but at least some species may be partly predatory [11]. Some of them produced myiasis in selected vertebrate, in turtle [12], frog, toads, [13] .

Sarcophagidae , some of them seems to bread in vertebrae or invertebrates carrion [14].

Sarcophaga may be scavenger of small carrion like dead insects and snail as well as smaller vertebrates , and only few species are beading in larger vertebrate carcasses and feces [15] .

Some of species used as indicator to determine the crime and post morton of dead organism [16, 17, 18, and 19]

### Materials and Methods:

Many samples were collected from sticky traps of Iraq State Board for Veterinary Services during November 2010. Fly populations were monitored using 50 x 24.5 cm yellow sticky traps (Starkeys products) Figure -1, traps consist of attractive lure which composed of several chemicals. These samples were collected from different areas of some provinces of Iraq. The provinces are

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Baghdad ( Tagi ) ; Babylon ( Alexandria ) ; Najaf ( Al – Kifal ) ; Missan ( Ali Al- Gharbi ) and Diyala ( Baquba ) .

The flies were examined with the aid of dissecting microscope after removing them from traps by xylol . Then using keys for diagnosed them such as [20,18], in addition the samples compared with specimens which kept at Iraq Natural History Museum .

The temperature and relative humidity through this study obtained from Iraqi meteorological office. The distribution or presence of flies was recorded .

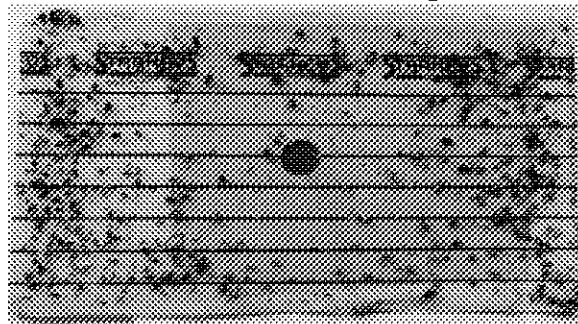
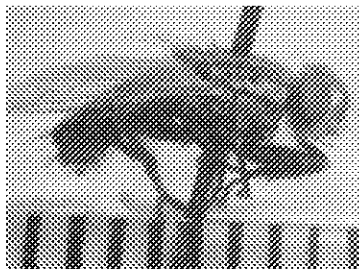
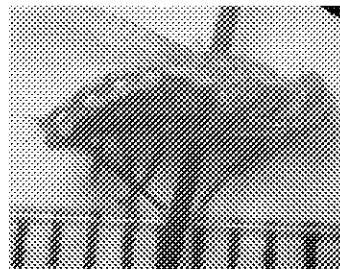


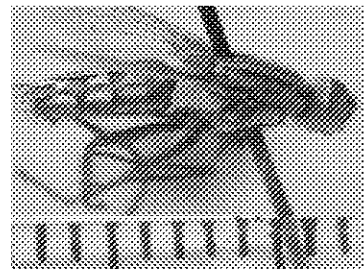
Figure 1: yellow sticky trap (Starkeys products)



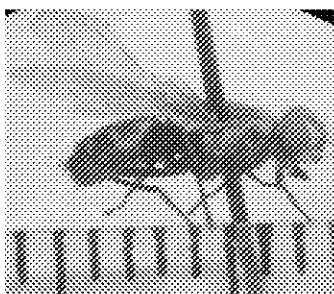
*Ravinia*



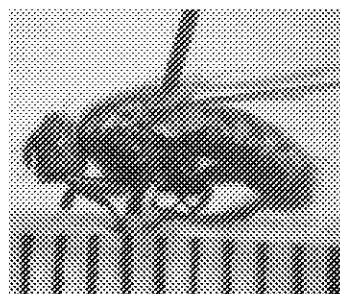
*S. albiceps*



*S. Africa*



*S. frenata*



*S. melanura*



*S. carnaria*

### Results and Discussion:

The following species were captured in the sticky traps : *Sarcophaga africa* ( Wiedemann ) , *S. albiceps* Meigen , *S. argyrostoma* ( Robineau – Desvoidy ) , *S. carnaria* Linnaeus , *S.frenata* ( Pand.) , *S. melanura* Meigen , *S. haemorrhoidalis* Meigen and *Ravinia pernix* ( Harr.) ; their prevalence and relative humidity were recorded in table 2 .

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**Table -2 Species record of flesh flies in some provinces of Iraq through November 2010**

Province	Species	NO.	Temp. °C		RH%	%
			Min.	Max.		
Baghdad	<i>Sarcophaga africa</i>	6	10.1	27.7	46	37.5
	<i>Sarcophaga albiceps</i>	2				
	<i>Sarcophaga argyrostoma</i>	2				
	<i>Sarcophaga carnaria</i>	26				
	<i>Sarcophaga frenata</i>	4				
	<i>Sarcophaga melanura</i>	9				
	<i>Ravinia pernix</i>	2				
Babylon	<i>Sarcophaga africa</i>	16	11	27.8	49	19.1
	<i>Sarcophaga albiceps</i>	4				
	<i>Sarcophaga frenata</i>	3				
	<i>Sarcophaga haemorrhoidalis</i>	3				
Nijef	<i>Sarcophaga africa</i>	15	12.9	28.3	41	24.2
	<i>Sarcophaga albiceps</i>	1				
	<i>Sarcophaga argyrostoma</i>	1				
	<i>Sarcophaga carnaria</i>	15				
	<i>Sarcophaga frenata</i>	1				
Missan	<i>Sarcophaga africa</i>	2	12.2	29.4	51	1.5
Diyala	<i>Sarcophaga africa</i>	16	11.4	28.3	48	17.7
	<i>Sarcophaga albiceps</i>	5				
	<i>Ravinia pernix</i>	1				
	<i>Sarcophaga carnaria</i>	1				
	<i>Sarcophaga frenata</i>	1				

Furthermore (table 2) showed the estimated total number of sarcophagid flies during the month of study , the highest percentage of all collected species prevalence in Baghdad ( 37.5 % ) while the lowest percentage was in Missan . Whereas in Nijif , Babylon and Diyala were (24.2 , 19.1 ,17.7) % respectively . The provinces which showed the lowest percentage of flies could be due to the dusty climate which caused lower fly catch rates and indicated that dust accumulation on traps may reduced trap efficiency [ 21] and may be resulted in decreasing the activity of flies flying .

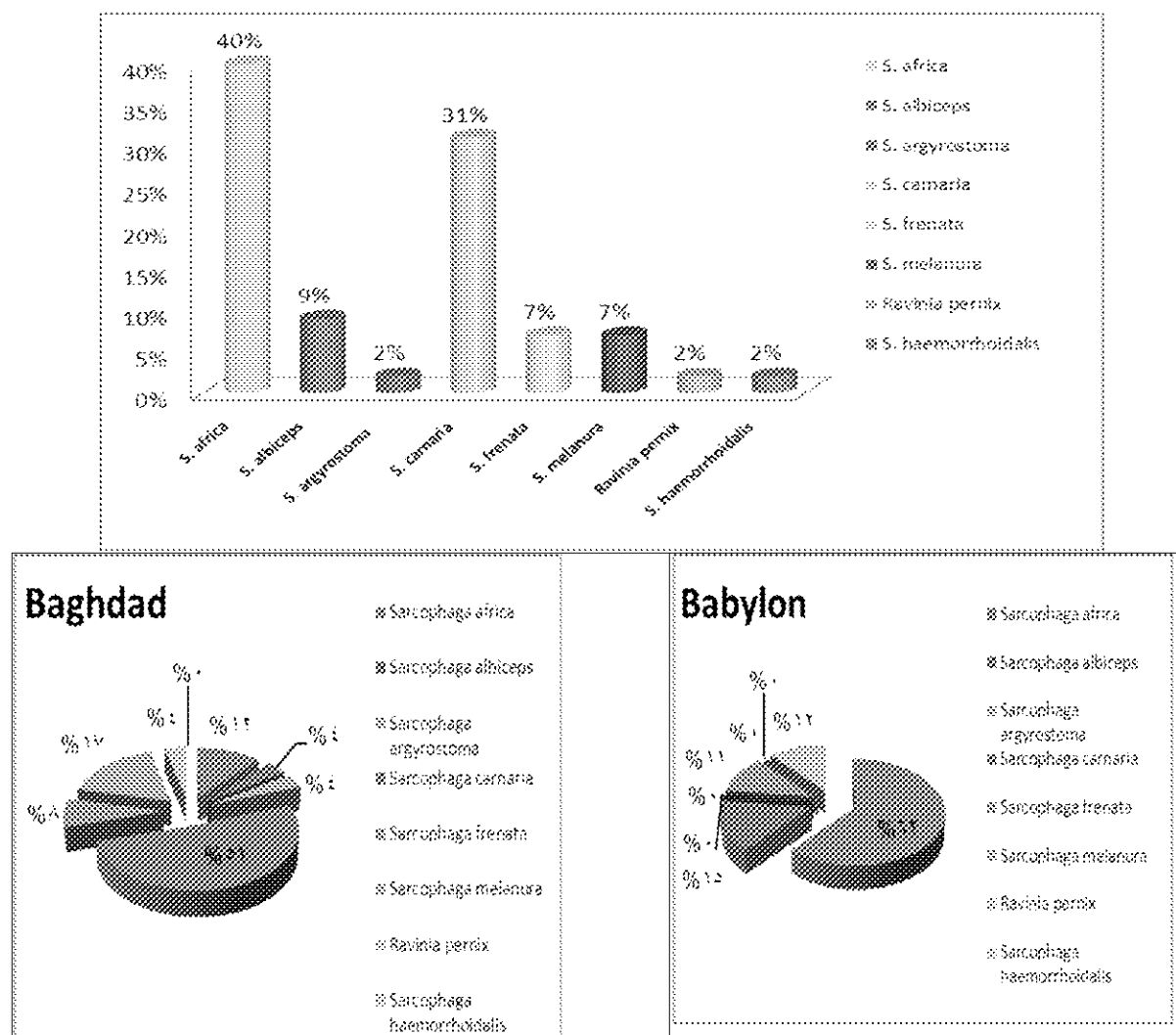
The survey showed that the flesh fly *Sarcophaga africa* was the predominant species and it had the first ranked in overall prevalence in all provinces under studies (Figure 2). The flesh fly was commonly found wherever man has

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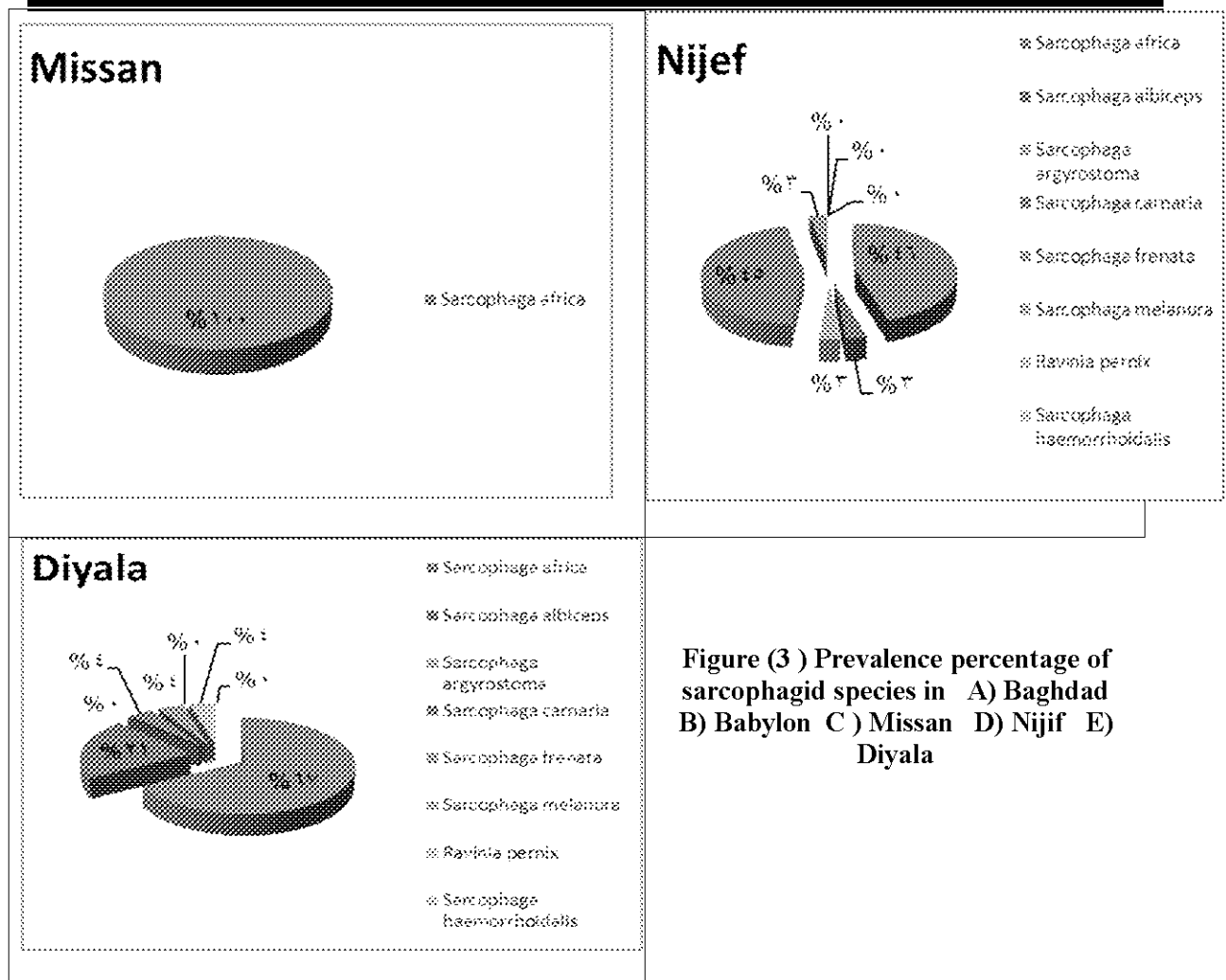
established himself , therefore it can be found in abundance at fisheries , slaughterhouses , garbage disposal sites , vegetable farms , market places and poultry farms [22] . The high number of *S. africa* recorded in the current study was similar to previous studies of flies associated with west in other countries [23, 24, 25].

**Figure 2: The whole percentage of prevalence of sarcophagid species which attracted to sticky traps in some provinces of Iraq in November 2010 .**



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**Figure (3) Prevalence percentage of sarcophagid species in A) Baghdad B) Babylon C) Missan D) Nijif E) Diyala**

The abundance of collected species was : In Baghdad as follows *Sarcophaga africa* , *S. albiceps* , *S. argyrostoma* , *S. carnaria* , *S. frenata* , *S. melanura* , and *Ravinia pernix* , the percentage of these types as illustrated in table 2 and figure ( 3 A ) , this results in agreement with the results of [8, 26] ,for *Ravinia pernix* could not recorded because it did not associated with carcasses but it was agricultural pollinator .

In Babylon the collected species were *Sarcophaga africa* , *S. albiceps* , *S. frenata* and *S. haemorrhoidalis* the percentage of species as in table 2 and figure( 3B ) . In Missan was collected *S. africa* only the percentage as in table 2 and figure ( 3 C ) . While in Nijif the collected species were *Sarcophaga africa* , *S. albiceps* , *S. argyrostoma* , *S. carnaria* , and *S. frenata* , the percentage of these species as recorded in table 2 and figure ( 3 D ) .

Finally in Diyala collected species were *Sarcophaga africa* , *S. albiceps* , *S. carnaria* , *S. frenata* and *Ravinia pernix* , the percentage of species as illustrated in table 2 and figure ( 3 E ) , this results agreement with [20].

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## مسح لكاملات (عائلة ذباب اللحم) في بعض محافظات العراق باستخدام المصائد اللاصقة.

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### الخلاصة

هدفت الدراسة للتعرف على بالغات ذباب اللحم المنجذبة للمصائد اللاصقة الصفراء وكذلك دراسة انتشار هذه الأنواع في بعض المحافظات العراقية. وأظهرت النتائج أن النوع *Sarcophaga africa* (Wiedemann, 1819) كان أكثر الأنواع أنشارا في جميع المحافظات المدروسة خلال شهر تشرين الثاني عام 2010 بينما كان النوع *Sarcophaga frenata* الأقل تواجدا . كما سجلت محافظة بغداد أعلى تواجد للأنواع المدروسة حيث بلغت 50.2% ، أما محافظة ميسان سجلت أقل نسبة خلال هذا الشهر فقد كانت 15.2% . بينما سجلت محافظات النجف ، بابل وديالى نسب التواجد 24.2 ، 19.1 ، 17.7 على التوالي .