

***Culex* spp. (Culicidae: Diptera)**

-

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1613 *Culex* spp.

250

Culex (*Culex*) *pipiens* , *Culex* (*Culex*) *quinquefasiatus*, *Culex* (*Culex*) *vagans*,
. *Culex* (*Culex*) *torrentium* , *Culex*(*Culex*) *thieleri* , *Culex*(*Culex*) *tritaeniorhynchus*

Culex spp. :

Taxonomical Study of *Culex* spp . Larvae (Diptera:Culicidae) in the North of Aleppo- Syria

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ABSTRACT

This study was conducted in the north of Aleppo / Syria. The specimens were collected from several constant and temporary water sites for the contribution of classification of *Culex* spp. Larvae, a total of 1613 fourth instar larvae were collected by a dipper with a size

of 250 ml , six species which belong to genus *Culex* were recorded : *Culex* (*Culex*) *pipiens*, *Culex* (*Culex*) *quinquefasciatus*, *Culex* (*Culex*) *vagans*, *Culex* (*Culex*) *torrentium*, *Culex* (*Culex*) *thieleri*, *Culex* (*Culex*) *tritaeniorhynchus*.

It had been excerpted a classification key to the species of *Culex* in the north of Aleppo- Syria based on morphology of fourth instar larvae.

Keywords: *Culex* spp., Classification key, fourth instar larvae, the north of Aleppo.

fauna	751	25 <i>Culex</i> L.
.(Harbach, 1988)	34	(Service, 1993; Reinert, 2001)

Culex spp.

***Culex* mosquito larvae**

:

)	193	Chaetotaxy
	.(Harbach, 1985) (
19		
13	14	15 (cranium)
7 7-2	15	12
	4	13
	(-)	
	.(Harbach, 1985)	

)

(

.(Harbach, 1985)

(1) (Laffoon and Knight, 1973) Cranium (head capsule) :

C

head capsule

cervix

6

:

3

.2,3-A 1,4,5,6,14-C

Clypeus

Frons

(DAP)

:Dorsal apotome -1

.Clypeofrons

Epistoma

Clypeus

(LAT)

: Lateralia -2

apotome

)

Dorsal apotome

.(labiogula Submentum

.submentum

gula

(Lg)

: Labiogula -3

.Subgena

submentum

maxillary plate

Labial plate

(Hys) hypostomal suture

Labiogula

Lateralia

.(Ptp) posterior tentorial pit

(MLP) Median labral plate

.Clypeolabral suture (CLS)

apotome

(occipital foramen)

collar

:(A) Antenna

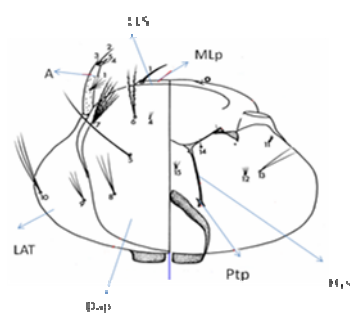
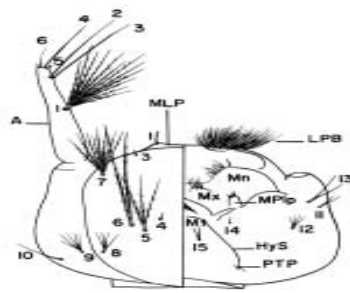
1-

(1,2,3,4,5,6-A)

6

2,3-A

A



:1

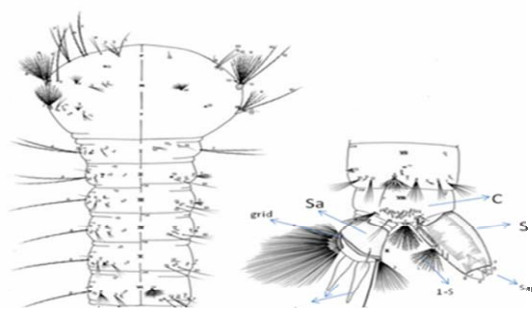
(2) Thorax :

: 3
(T) metathorax (M) mesothorax (P) prothorax

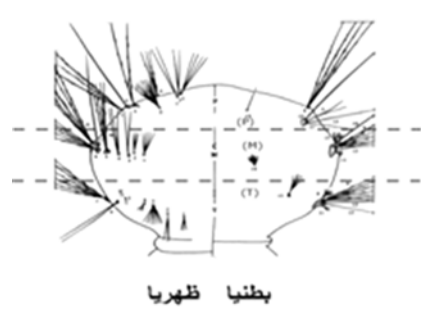
(Goma, setae . 1966)

(3) Abdomen :

Goma (Service, 1996) 9 10
9 8 (1966)



:3



:2

()

.(Harbach, 1985)

Anopheline 1 .
12 .Anopheline
Aedine Sabethine
.(Harbach, 1985)

X VIII VII VI V IV III II I
X VIII -

			
			VIII	
postabdominal		(S) Spiracular apparatus		5
(S)	.			spiracles
			.Culicine	
(Sa) Saddle			X	
X				
.girdle				
Sa		Anal segement	X	
4		(App) anal papillae		
/				
	.			Siphon index
			VIII	
comb		Comb		
				(C) scales
		denticles		
	(S)	.comb plate		sclerite
		.culicine		
1-S	(Pt) pecten teeth		(siphon index)	
				.
	1-S			
1-S	.	<i>Culex</i>		
				.
ventral	4-X	dorsal brush	3-X 2-X	
		()		.brush
cratal setae		:		
		grid		(Crs)

1613

Culex spp.

(36°27'51.84"_36°11'90.6")

(37°01' 33.6"_ 36°51' 37 .44")

449-222

"

250 Dipper

%80

%80

() %10

.(Gaffigan and Pecor, 1997)

ScopePhoto.2.0

(0.1)

(Mattingly and Knight, 1956; Harbach, 1985, 1988; Snell, 2005;

.Hamidian and Harbach, 2009).

:

Culex

Culex *Culex pipiens*, *Culex* *Culex quinquefasciatus*, *Culex* *Culex vagans*, *Culex* *Culex torrentium*, *Culex* *Culex thieleri*, *Culex* *Culex tritaeniorhynchus*.

:

.....

(4)

.1

Cx. theileri...

(5)

-

2..



5



4

5 2

.2

1-C

(6)

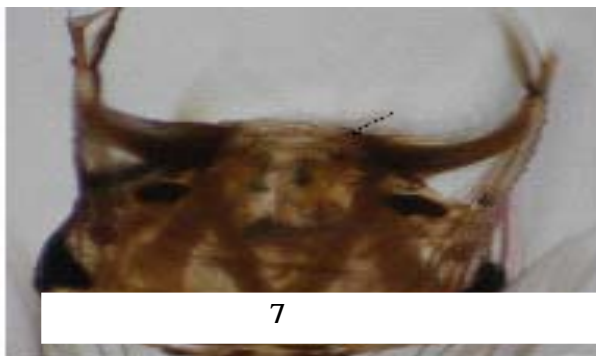
3.. (7) 5- C

7

-

Cx. ... (9 8) 5-C

Tritaeiorhynchus



7



6



9



8

5 4 5 4 3 1 .3
1-X (10) 10
Cx. torrentium... (11)
5 4 3 1 -
1-X 6
4...

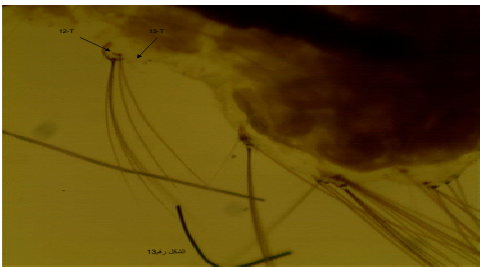


11



10

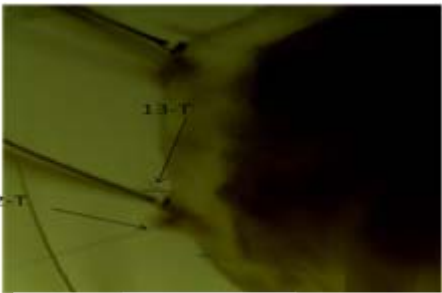
(12)
Cx. vagans.. (13) 12
13 (14)
5.. (15) 12
1-C .4
13
1-C -



13



12



15

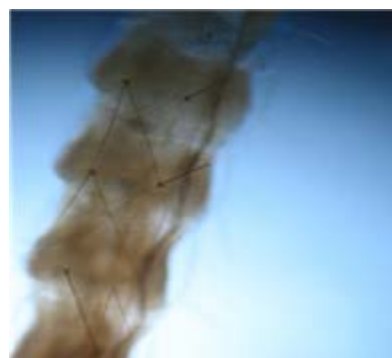


14

<i>Cx. pipiens</i> .. (16)	4 3	1	.5
<i>Cx. quinquefasciatus</i> ... (17)	4 3	1	-

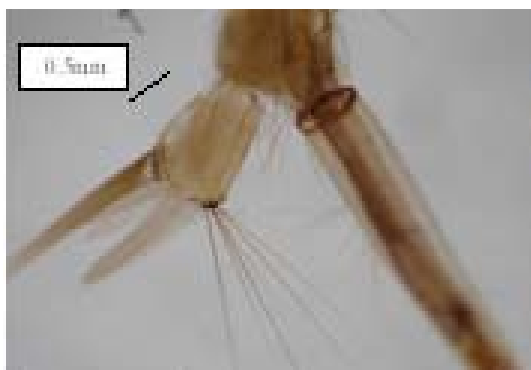


17

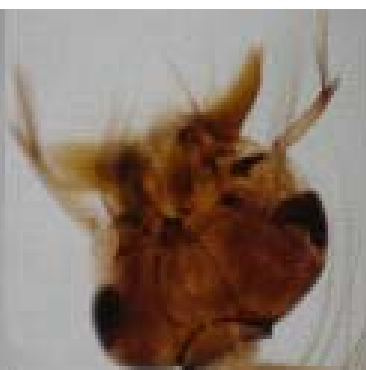


16

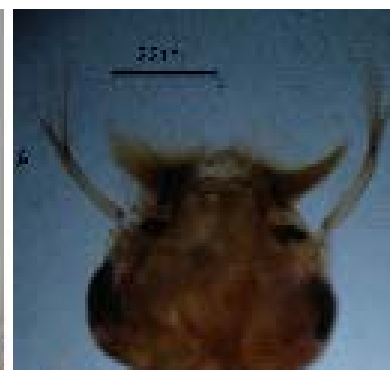
(20 19 18) **Culex(Culex)pipiens Linnaeus, 1758**



20



19



18

1.14-1.07 : . 0.91 0.96-0.88 : . :

. . 1.10

(Hys) . (Lg) .

.collar

(Ptp)

10 (Dm) . (Lat)

. 2-C . 1-C .

. 5 5-C . 4-C . 3-C

. 10 5,6-C 7-C . 4 6-C

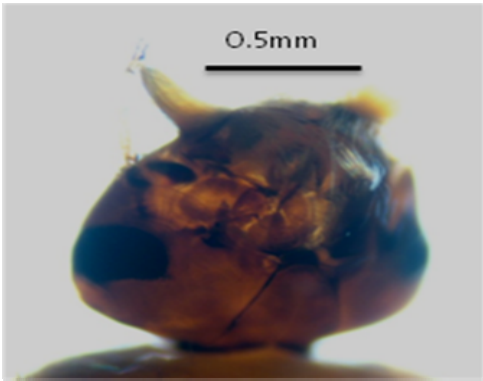
11,12,13- . 10-C . 5 9-C . 8-C

. 14-C . 4 13-C . C

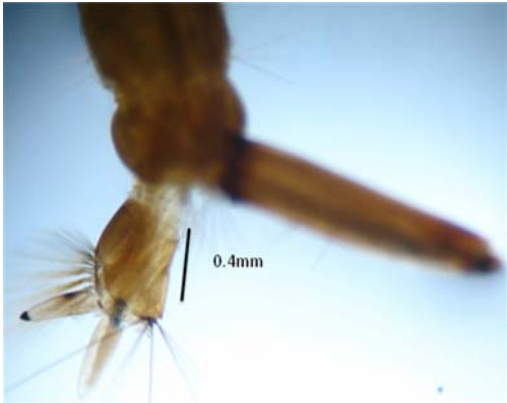
0.49 0.51-0.38 ;
1-A . 0.7 1-A .
. 22 1-A .1-A
. 1-3-P . :
1-M . 5 11-P . 4,7,8-P .
. 4-M . 3-M .3-M
2-T . 2-T 1-T
. 2,3-X . 1,3-VIII 7-I,6-I-VI :
6-III . 6-III-VI . 3-I,VII .
1-III-VI . 6-I 7-I .
.45 58-33 Comb :VIII .
5 1-VIII . 4
.(5-3) 4 5-VIII .(9-6) 8 3-VIII .(9-4)
.5.88 5.91-4.66 Index :
0.3 (Pt) .
. (18-10) 10
) 4 1-S . 4- 3
:X .(
3.53-2.64 / . 0.53 0.68-0.39 .
4-X . 2-X . 1-X .2.96
. girdle . 6

(22 21) :**Culex (Culex) quinquefasciatus** Say, 1823

.....



22



21

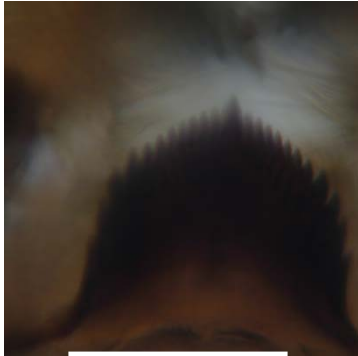
Culex(Culex)pipiens

.1-III,IV /
1.07 1.14-1.01 . 0.81 0.84-0.78 :
2-C . 12 (Dm)
8-C . 8 7-C . 5 6-C .
10-C
(5-2) 1-T : . 0.44 0.48-0.40 :
1-III,IV :
.4.61 4.82-4.41 .pipiens :
. 3 4 1-S .17-5
2.86-2.41 / . 0.46 0.56-0.37 :X
. 2.63

(24 23) :**Culex (Culex) vagans Wiedemann, 1828**



24



23

124

7-C . 8 .

. 9-C . 9 8

26 1-A . 0.44 0.62-0.35 :

. .

2-T 1-T . 1-M :

. 3-I,VII : . 2-T . 4

1-VII . 4 1-III-V . 4 3 6-II . 6-I

pipiens 1-III-VI .

:VIII . *vagans*

3-VIII . 6 1-VIII .39 46 -31 (C)

. 7

. 16-10 .5.94 6.38-5.06 :

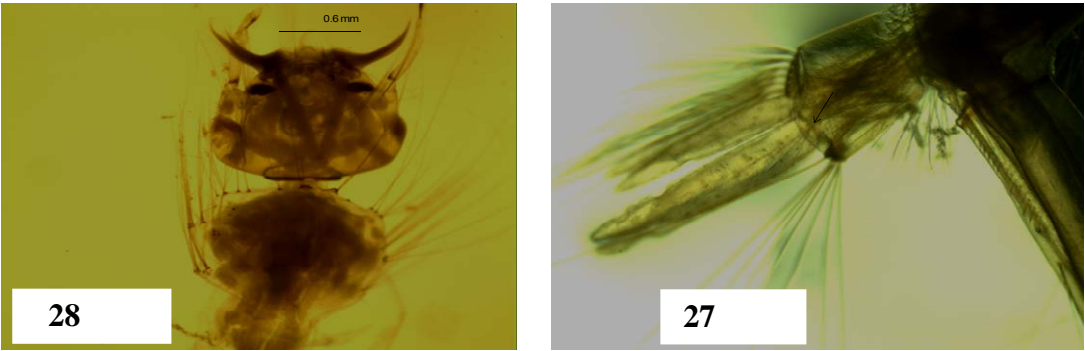
. 1-S

-2.69 / . 0.49 0.68-0.45 :X

6 4-X . 1-X . 3.06 3.60

. .

(28 27) :Culex(Culex)theileri Theobald, 1903a



. 1.21 1.54-1.28 . 0.96 1.05-0.78 :

(Dm) . (Lat) .

. 2-C . 1-C . 6

. 4 3 10-C .(10-6) 7 7-C . 4-C
. 14-C . 4 12-C . 11-C
.(32-18) 22 1-A . 0.70 0.80-0.60 :
7-P . :
. 12-T . 8-P .
3-I . :
6-I-III . 6-I-VI . 5 3-VII .
4 1-V . 1-V,VI . 4 3 1-III,IV .6-IV-VI
. 4 1-VI .
. 35 45-28 (C) :VIII
. 8 3-VIII . 7 1-VIII
. 4.79 5.36-4.15 :
1-S . 0.3 13-8 .
. (13-7) 10
-0.44 . :X
. 3.33 3.46- 3.15 / . 0.48 0.59
4-X . 4 2-X . 4 (27) 1-X
7

(30 29) :**Culex(Culex)tritaeniorynchus** Giles, 1901a



. 1.07 1.11-1.03 . 0.75 0.78-0.73 :
(Hys)

.	2-C	.	1-C	.	9-6 (Dm)	.	(Ptp)		
.	.5,6-C	.	10-5	7-C	.	6-C	.	5-C	
.		.			.	11-C	.	10,12 13-C	
.	24	1-A	.	0.55	0.58-0.52	:			
						.	2,3-A		
1-M	.	8-P	.	7-P	.	4-P	.	:	
2-T				1-T	.	4-M	.	2-M	
.	3-III	.	3-III	.	3-I,II,IV	.	:		
					.	6-I,II	.	3-V	
	18-12	.			60-26	:	VIII		
		.	6	1-S	.	12-7			
	0.36 -0.29					:	X		
3	2-X	.	1-X	.	4.73	6.14-4.23	/	0.33	
.		.			.	6	4-X	.	4

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