

***Culex pipiens molestus* Forskal (Diptera: Culicidae)**

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2009 / 02 / 16

2008 / 06 / 25

**ABSTRACT**

The aim of the present study was to detect the effect of aqueous and alcoholic extracts obtained from eight species of plants on the growth and development of ovaries in mosquito *Culex pipiens molestus* Forskal.

This study included the treatment of the third larvae stage of the aforementioned with four different concentrations (160, 120, 80, 40) ppm of aqueous extracts and other four concentrations (3.0, 2.0, 1.0, 0.5) ppm of alcoholic extracts. These extracts were obtained from the leaves of *Myrtus communis* L., leaves of *Ficus carica*, leaves and inflorescences of *Mentha piperrita* and *Ocimum basilicum*, fruits of *Rhus coriaria* L., seeds of *Nigella sativa*, aerial parts of *Hypericum crispum* and leaves of *Melia azedarach* L., the length and width of ovarian follicles were measured in the females obtained from the aforementioned treated larvae. The measurements were carried out at adult eclosion and at 12, 24, 36, 48, 72, and 96 hours after eclosion. The results of the present study, in general, revealed that the best inhibition of the length of the ovary took place when larvae were treated with fruits of *R. coriaria* extracts, whereas the extracts of *N. sativa* gave the best inhibition of the width of the ovary. This also showed that the best inhibition of the length of the follicles was when larvae were treated with the extracts of *H. crispum*, whereas the best inhibition of the width of the ovarian follicles took place when larvae were treated with extracts of *N. sativa*. The result of this study also revealed that the alcoholic extracts showed their superiority of inhibition effect over that of aqueous extracts.

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*Culex pipiens molestus* Forskal

(40 80 120 160)

(0.5 1.0 2.0 3.0)

*Ficus* *Myrtus communis* L. :

*Mentha pipiarta* *carica*

*Nigella* *Rhus coriaria* *Ocimum basilicum*

*Melia* *Hypericum crispum* *sativa*

*azedarach* L.

96 72 48 36 24 12

(1962 )

(1988 Roitberg VanRanden)

Service)

*Culex*

(1980

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AL-Sharook 1990                      1989                      1988                      1980 Amine)  
(1996                      1989 AL-Sharook)                      (1991

*Culex pipiens molestus* Forskal

(1986)                      Marcard

.%5 – 10

*Ficus carica*                      :

*Mentha piperita* L.

*Ocimum basilicum*

*Hypericum crispum*

*Myrtus communis* L

*Nigella sativa*

*Melia azadarach* L.

*Rhus coraria*

(1968)

Elmore

100 .

Blender

7.4 (PH)

magnetic stirrer

24

...

(WhatmanNo.1)

Lyophilizer + 35

50 . (1988) Grand  
% 95 500  
. 24

35

1000 ( )

200 250 500

%100

40 80 120 160  
. % (10-5)

5 10 15 20

1.0 2.0 3.0  
. % (15-10)

0.5

36 24 12

96 72 48

(1996) (1962 Gurr)

Ocular 7x

(1985, SAS)

(F) CRD

%5

*Culex pipiens molestus* Forskal  
(1996)

250 500 1000) (2004 )  
(5 10 15 20) (200  
(1999 )

M. *F. carica*

M. *O. basirlicum*

*communis*

*piperita*

*Culex pipiens molestus* Forskal

(2006 )

(1999 )

(1 )

24 12

0.55 0.493 0.392

48 36

72

793 0.756 0.686

96

...

0.856

0.031

24 12

0.054 0.042

48

0.099

96 72

0.157 0.126

(3s )

(.2 )

12

0.186

36 24

0.210 0.183

48

96 72

0.231 0.238.

(4 )

0.029

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|        |       |    |        |
|--------|-------|----|--------|
|        | 12    |    |        |
|        |       |    | .0.036 |
| 0.045  |       | 24 |        |
|        |       |    | 36     |
|        |       | 48 |        |
|        | 0.059 |    |        |
|        | 96    | 72 |        |
| .0.054 | 0.067 |    |        |

corpora allata  
 (1976 Chen 1970 Engelmann)  
 MNSCs  
 Egg Developmental Neurosecretory Hormone  
 (EDNH)  
 (1967 Lea)  
 (1976 Bowers)  
 (1983 Rembold Siber)  
 corpora cardiaca  
 (1970 Lea) (EDNH)  
 (1998 Mulla Su) Antifeedants  
 (2004 )

EDNH

.(1970 Lea) EDNH

Tingle

.(1984) Mitchell

*C. pipiens* ( ) : (1)

*. molestus* Forskal

|       |       |       |       |       |       |       |  |
|-------|-------|-------|-------|-------|-------|-------|--|
|       |       |       |       |       |       |       |  |
| 96    | 72    | 48    | 36    | 24    | 12    | 0     |  |
| 0.872 | 0.793 | 0.756 | 0.686 | 0.647 | 0.517 | 0.421 |  |
| 0.856 | 0.882 | 0.850 | 0.760 | 0.623 | 0.505 | 0.416 |  |
| 1.095 | 0.892 | 0.804 | 0.719 | 0.555 | 0.493 | 0.392 |  |
| 1.472 | 1.226 | 0.987 | 0.773 | 0.647 | 0.526 | 0.414 |  |

. 0.05

*C.* ( ) : (2)

*. pipiens molestus* Forskal

|       |       |       |       |       |       |       |  |
|-------|-------|-------|-------|-------|-------|-------|--|
|       |       |       |       |       |       |       |  |
| 96    | 72    | 48    | 36    | 24    | 12    | 0     |  |
| 0.157 | 0.126 | 0.115 | 0.077 | .0068 | 0.05  | 0.034 |  |
| 0.159 | 0.146 | 0.103 | 0.086 | 0.054 | .0042 | 0.035 |  |
| 0.180 | 0.139 | 0.099 | 0.069 | 0.058 | 0.044 | 0.032 |  |
| 0.353 | 0.219 | 0.139 | 0.078 | 0.060 | 0.045 | 0.031 |  |

. 0.05



&

( )

:(3)

*C. pipiens molestus* Forskal

| 96    | 72    | 48    | 36    | 24    | 12    | 0     |  |
|-------|-------|-------|-------|-------|-------|-------|--|
| .0286 | .0274 | .0273 | .0272 | .0233 | 0.186 | 0.162 |  |
| 0.231 | 0.238 | 0.243 | 0.247 | 0.206 | .0150 | 0.136 |  |
| 0.309 | 0.257 | 0.243 | 0.215 | 0.193 | 0.161 | 0.138 |  |
| 0.324 | 0.323 | 0.260 | 0.210 | 0.183 | 0.151 | 0.140 |  |

. 0.05

C. ( )

:(4)

*pipiens molestus* Forskal

| 96    | 72    | 48    | 36    | 24    | 12    | 0     |  |
|-------|-------|-------|-------|-------|-------|-------|--|
| 0.057 | 0.070 | 0.078 | 0.055 | 0.057 | 0.043 | 0.032 |  |
| 0.054 | 0.067 | 0.066 | 0.055 | 0.047 | .0036 | 0.034 |  |
| 0.075 | 0.076 | 0.059 | 0.050 | 0.045 | 0.036 | 0.030 |  |
| 0.089 | 0.095 | 0.092 | 0.054 | 0.046 | 0.037 | 0.029 |  |

. 0.05

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|  |            |      |
|--|------------|------|
|  | (2004)     | (1)  |
|  | (1999)     | (2)  |
| <i>Culex pipiens molestus</i> Forskal (Diptera:            |            |      |
|  | Culicidae) |      |
|  | (1988)     | (3)  |
| <i>Culex pipiens molestus</i> Forskal (Diptera: Culicidae) |            |      |
|  |            | (4)  |
| .343 314 .   | (1962)     |      |
| <i>Cuscuta chainensis</i>                                  | (1990)     | (5)  |
| . <i>Culex molestus</i> Forskal                            |            | Lam. |
|  | (1996)     | (6)  |
| <i>Culex pipiens molestus</i>                              |            |      |
|  | .Forskal   |      |
|  | ( 2006)    | (7)  |
|  | (1989)     | (8)  |
| <i>Culex pipiens molestus</i> Forskal. (Diptera:Culicidae) |            |      |

9) Al-Sharook, Z., M., J. Edu. Sci. 9: 152-161. (1989).  
10) Al-Sharook, Z., Balan, K., Jiang, Y. and Rembold, H., J. Appl. Ent. 111: 425-430. (1991).

- 11) Amin, A. A. M.Sc thesis, university of Mosul, (1980).
- 12) Bowers, W. S. Discovery of insect anti\_allatotropins In: Gillbert, LI (ed) the juvenile hormones plenum press, New York (1976).
- 13) Chen, T. T., Couble, P., Delucca, F. L. and Wyatt, G. R. "The juvenile hormones Plenum press", New York and London (1976).
- 14) Elmore, D. T. "Peptide and proteins". Cambridge University press. U. S..(1968).
- 15) Engelmann, F. "The physiology of insect reproduction". Pergamon press. New York .(1970).
- 16) Grand, A., Wondergerge, P. A. Verpoort., R. and Pousset, J. L.. J. Enthopharmacology . 22:25-31.(1988).
- 17) Gurr, E. Staining animal tissues. "practical and Theoretical". Leonard and Hill, London. (1962).
- 18) Lea, A. O. . J. Insect Physiol. 13: 419 - 429. (1967).
- 19) Lea, A. O. J. Insect Physiol. 6: 1689-1696. (1970).
- 20) Marcard, V., Zebitz, C. P. and Schmutterer, M. J. Appl. Ent. 101: 146 – 154. (1986).
- 21) SAS "Statical Analysis System". SAS Institute Inc., Cary, NC 27511. USA. (1985).
- 22) Service, K. W. "A Guide to medical entomology". The Macmillan press Litd, London. (1980).
- 23) Sieber, K. P. and Rembold, H. J. Insect physiol. 17:1807-1814. (1983).
- 24) 'Su, T. and Mulla–Mirs "Ovicidal activity of Neem products (Azadirachtin) against *Culex tarsalis* and *C. quinquefasclatus*" (1998).
- 25) Tingle, F. C. Mitchell, E. R J. Chem. Ecol. 10:101-113.(1984).
- 26) VanRanden, E. J. and Roitberg, B. D. "The effect of a development of juvenile western cherry Fruitfly (*Rhagoletis indifferens*)". The Canadian Entomologist (1988).