

Nephus includens Kirch

Cryptolaemus montrouzieri Mulsant

(2) (1)

Cryptolaemus montrouzieri Mulsant
Planococcus citri Risso) *Nephus includens* Kirch

N. includens . *C. montrouzieri* ()
 2.41±10.53 3.76±30.87
C. montrouzieri . /2
 14.78 ±107.3 1.8 *N. includens* 13.63±59.70
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Cryptolaemus montrouzieri :
Nephus includens

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**Study and Determination of the Most Important
Biological Parameters of the Predator, *Nephus
includens* Kirch and Comparison with Parameters
of the Famous Introduced Predator, *Cryptolaemus
montrouzieri* Mulsant**

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ABSTRACT

Cryptolaemus montrouzieri Mulsant and the local predator, *Nephus includens* Kirch were reared on the *Planococcus citri* Risso in Lattakia Insectary for Rearing Natural Enemies. A comparative study was done applying the most important biological parameters (Predation rate, life cycle, longevity, starvation tolerance, fecundity, sex ratio, adult emergence) for both predators under laboratory conditions.

Research results proved the overpass of that predation rate of *C. monro- uzieri* males and females, was greater than that of males and females of *N. includens*, by three folds with significant differences. Similarly the perdition rate of the third instar, in first predator over passed three times the rate of the second predator, with significant differences reaching 10.53 ± 2.41 , 30.87 ± 3.76 nymphs (second nymphal instars)/day. The results proved a significant rise of fecundity index in females of *C. montrouzieri* over that of predator, *N. includens* by 1.8 times (50.70 ± 13.63 , and 107.3 ± 14.87 , respectively), while both predators were equal in values of other biological parameters with no significant differences (biological development stages, longevity of males and females, adults emergence and sex ratio).

Key words: Biological Parameters, Predators, *Nephus includens*, *Cryptolaemus montrouzieri*, Syria.

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Psedococcidae (5)

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Planococcus citri Risso

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P. citri

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.(7 4) .

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Cryptolaemus montrouzieri Mulsant

P.citri

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1995/6/17

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Nephus renion Foresh

(3) *Nephus includens* Kirch

12

<i>Nephus</i>	<i>C. montrouzieri</i>								
1931	Armitag	Smith	(15	14	13	12	9	8)	1963
									<i>includens</i>
									Whitcomb
									:
			(/)				.1
									12-10
									15-10
<i>P. citri</i>		()					.2
2±25		/							
)				16	%10±60		
	<i>N. includens</i>	<i>C. montrouzieri</i>							.3
				/					
			16	%85-75					30-27

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N. includens *C.montrouzieri* .1
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2001
16
C.montrouzieri
N. includens
10 / 50 / 100
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9

Ginetalia (1)

C. montrouzieri .(
N. iencludens

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C.montrouzieri
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C.montrouzieri

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C.montrouzieri

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35-25

2002

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%75-65

C.montrouzieri

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() *C.montrouzieri*
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N. includens *C.montrouzieri* (
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N. includens *C.montrouzieri*

%5

Cryptolaemus (1)

Nephus includens Kirch *montrouzieri* Mulsant

Risso

Planococcus citri

Predation rate	First larval stage of <i>P.citri</i>	Second larval stage of <i>P.citri</i>	Third larval stage of <i>P.citri</i>	Adult of <i>P.citri</i>
<i>Cryptolaemus montrouzieri</i> ♀	A 52.3±4.35a	AB 40.23±2.68a	CB 36.74±2.68a	D 92±0.81a
<i>Cryptolaemus montrouzieri</i> ♂	A 47.31±4.60a	AB 38.48±1.46a	CB 31.46±1.57a	D 27±0.63a
<i>Nephus includens</i> ♀	A 17.11±1.82a	AB 12.74±2.70b	CB 11.51±2.68b	D 91±0.30b
<i>Nephus includens</i> ♀	A 14.81±1.93a	AB 11.88±3.06b	CB 10.72±1.57b	D 88±0.29b

.%5

N. includens *C.montrouzieri* .(

(2)

C. montouzier

%5

N. includens

(2)

Nephus includens
Risso

Cryptolaemus montrouzieri Mulsant

Kirch

Planococcus citri

Predation rate			
	First larval stage of <i>P.citri</i>	Second larval stage of <i>P.citri</i>	Third larval stage of <i>P.citri</i>
<i>N. includens</i> (L3)	12.43±3.13 a	10.53±2.41 a	7.55± 1.19 a
<i>C.montrouzieri</i> (L3)	37.47±4.86 b	30.53±3.29 b	20.27± 5.60 b

Cryptolaemus

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Nephus includens Kirch

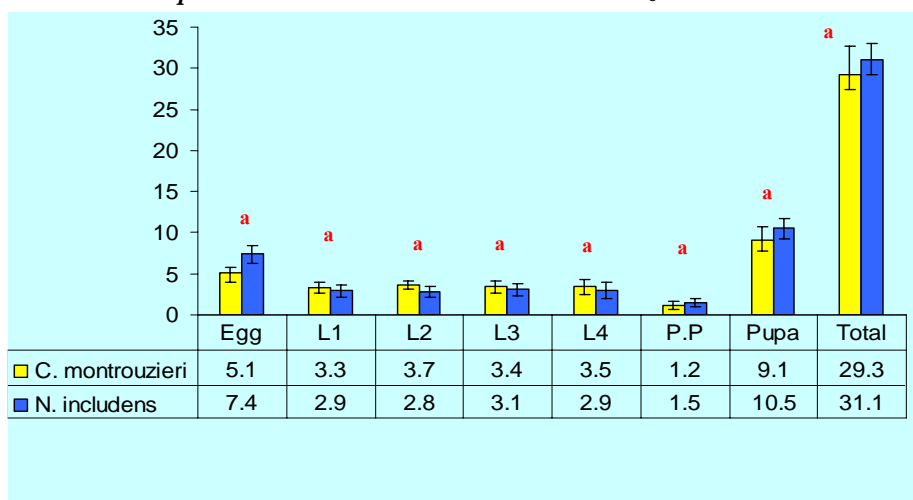
montrouzieri Mulsant

Cryptolaemus

(3)

Nephus includens Kirch

montrouzieri Mulsant



%5

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(4)

Nephus *Cryptolaemus montrouzieri* Mulsant
inclusens Kirch

	Fecundity	Sex rate	Emergency %
<i>C.montrouzieri</i>	14.87 ± 107.3 a	51.39 % a ♂ 48.61 % a ♀	90.19 ± 2.29 a
<i>N.includens</i>	59.70 13.63 ± b	51.85 % a ♂ 48.15 % ♀	89.88 ± 2.53 a

5%

%5 ()

C. montrouzieri

Nephus includens

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(5)

Cryptolaemus montrouzieri Mulsant
Nephus includens Kirch

<i>C.montrouzieri</i>	a 6.38±67.4	a 6.7±70.6	a 3.92±13.3	a 4.59±11.8
<i>N.includens</i>	a 13.97±60.1	a 10.21±54.8	a 5.90±14.1	a 5.51±12.2

5%

() *N. includens* *C.montrouzieri*

%5

(6)

- 0.03	×	<i>Nephus</i> male
-0.02	×	
-0.24	×	<i>Nephus</i> Female
-0.32	×	
- 0.3	×	<i>Cryptolaemus</i> male
- 0.09	×	
- 0.4	×	<i>Cryptolaemus</i> Female
- 0.2	×	

:

+ 0.14	×	<i>Nephus</i> male
+ 0.1	×	
+ 0.1	×	<i>Nephus</i> Female
+ 0.18	×	
+ 0.28	×	<i>Cryptolaemus</i> male
+ 0.21	×	
+ 0.4	×	<i>Cryptolaemus</i> Female
+ 0.3	×	

- 0.1	×	<i>Nephus</i>
- 0.2	×	<i>Crypto</i>

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+ 0.01	×	<i>Nephus</i> <i>includens</i>
+ 0.05	×	<i>Cryptolaemus</i>

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0.07-	×	<i>Cryptolaemus</i>
0.03 -	×	<i>Nephus</i>

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-0.4

+0.4

Cryptolaemus

-0.03

0.07-

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N. includens

5%

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C.montrouzieri

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C. montrouzieri

N. includens

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C. montrouzieri

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C. montrouzieri

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N. includens

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Received	2006/03/15	
Accepted for Publ.	2006/11/16	