DNA

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Mastacembelus simach 1142 *Silurus glanis* 1246
Contracaecum sp. *Eustrongylides* sp.
Oswaldocruzia ninevana *Kathalania ninevana* *Rhabdias bufonis*

DNA

Melting Temperature (Tm)

. 260 DNA %G-C

DNA

Eustrongylides sp. ° (80 81 82 83 83 84)

O.ninevana *K.ninevana* *R.bufonis* *Contracaecum* sp.

%33.43 %35.87) (%G-C)

(%26.11 %28.55 %30.99 %33.43

Comparative Study for DNA Characteristic of some Parasitic Nematodes in Fishes and Frogs

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ABSTRACT

The present study has investigated the nematodes settled in fishes and frogs after being anatomized with numbers reached, 1246 of *Silurus glanis*, 1142 of *Mastacembelus simach* fishes, 490 of *Bufo viridis* frog. Five species of nematodes which are the Larva 4 of *Eustrongylides* sp., Larva 3 and 4 of *Contracaecum* sp. in fishes and mature nematodes *Rhadias bufonis*, *Kathalania ninivana*, *Oswaldocruzia* in frogs.

In this study, the DNA was isolated and its purity was tested as well as studying the effect of heat on the DNA by measuring its thermal denaturation temperature (T_m), and determining its G-C%. It was found that the isolated DNA has an evident absorption –peak at a wavelength of 260 nm. It was also found that the thermal denaturation temperature (T_m) of the DNA in different species of nematodes is convergent and has reached (84,83,83,82,81,80) c° in larva 4 of *Eustrongylides* sp., and larva 3 of *Contracaecum* sp., larva 4 of the same nematode and the mature nematodes *O. ninivana*, *K. ninivana* and *R. bufonis* respectively. While it has reached G-C% (35.87%, 33.43%, 33.43%, 30.99%, 28.55%, 26.11%) for the above mentioned nematodes, respectively.

The study aimed to study some characteristics of DNA in different parasitic nematodes in fishes and frogs .

		DNA	
Cytosine	Guanine	DNA	%(G-C)
	(	) RNA	DNA
%10		. (2006	; Hassanin <i>et al.</i> , 2005)
DNA			%G-C
	(Sueoka, 1961)	G-C	
	DNA	%30-20	

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DNA (2006 1985)
Tm Thermal Denaturation Temperature
Tm (1991 Chappell, 1980) Melting temperature
%50 DNA
DNA
(1991 Marmur and Doty, 1959) 260

Alberts *et al.*,)
(1994; Naber, 1994
DNA DNA
Nadler and Hudspeth, 2000)
(Nadler *et al.*, 2005; Santos *et al.*, 2006; Farjallah *et al.*, 2008 ;

Trichostrongylidae
DNA (1998) Blouin
(2007) Fagerholm Szostakowska .
Contracaecum rudolphii L3
C.rudolphii *C.rudolphii* A DNA
A B
Wielgoss B
Anguillicola DNA (2007)
Anguilla japonica (Japanese eel) *crassus*

)
(
DNA DNA
DNA %G-C

	(	)	
:	2008	2007	
		-1	
1142	<i>Silurus glanis</i>	1246	
	<i>Mastacembelus simach</i>		(
			)
	%0.65	NaCl	Normal saline
			.
			-2
	<i>Bufo viridis</i>	490	
.			
			.
			.
	(Moravec and Rahemo, 1993)	%10	
		Lactophenol	
	(	)	
:		.(Smyth and Smyth, 1980; Yamaguti, 1961)	
.(1	)	<i>Eustrongylides</i> spp.	L4
			-1

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	<i>Contracaecum</i> spp.	L4	L3	-2
			.(3 2)	
.(4)		<i>Rhabdias bufonis</i>		-3
.(5)		<i>Kathalania ninevana</i>		-4
.(6)		<i>Oswaldocruzia ninevana</i>		-5

. 20 -

:2

(100X) *Contracaecum* sp.

:1

Eustorngylides sp.
(100X)

:4

(100X) *R.bufonis*

:3

Contracaecum
(100X) sp.

:6
(100X) *O.ninevana*

: 5
(100X) *K.ninevana*

					(	)	
					(1967) Burton		
DNA					(2006	)	
	:		RNA	DNA			
	:						-1
		30	/	4000		1 :24	
					RNA	DNA	
			%95				-2
Saline-citrate (Sc)		3	5				-3
7			0.15			1.5	
	250		0.15		3	1	
		37		Ribonuclease			
(	:	)					-4
				(2 1)			
DNA			Sc	3	5		
			4		Sc		

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Sc				DNA	-1
			$\frac{3}{20}$		
(280 260 230)			DNA		-2
:230)	(280/260)				
.DNA	(Marmur, 1961)			(280 :260	
	. 30		Sc		-3
	DNA	G-C	Tm		
		$\frac{3}{(20)}$	DNA		-1
			. Sc		
25			DNA		-2
	260		. 75		
				5	
		75			-3
	DNA				
			10	260	
				.DNA	
	:(Mandel and Marmur, 1968)		%(G-C)		
			% (G-C) = (Tm – 69.3) 2.44		
	DNA				
280 260 230			DNA		
			DNA		
DNA	(6) (5) (4) (3) (2) (1)				
(280/260)	(1)		. 260		
DNA		(1961) Marmur			
.DNA	(1.86-1.82)		DNA

DNA (uv) : 1
(280-230) *Eustrongylides sp.*

DNA (uv) : 2
(280-230) *Contracaecums sp.*

DNA (uv) : 3
(280-230) *Contracaecum sp.*

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DNA (uv)
(280-230)

:4

R.bufo

DNA (uv)
(280-230)

: 5

K.ninevana

DNA (uv)
(280-230)

: 6

O.ninevana

DNA :1
(280:260:230) (280/260)

280:260:230	280/260	280	260	230	DNA
0.54:1:0.49	1.85	0.20	0.37	0.18	L4 -1 <i>Eustrongylides</i> sp.
0.55:1:0.46	1.83	0.92	1.68	0.78	L3 -2 <i>contracaecum</i> sp.
0.54:1:0.44	1.84	0.32	0.59	0.26	L4 --3 <i>contracaecum</i> sp.
0.54:1:0.45	1.85	0.52	0.96	0.43	-4 <i>Rhabdias bufonis</i>
0.55:1:0.45	1.82	0.17	0.31	0.14	-5 <i>Kathlania ninevana</i>
0.55:1:0.42	1.83	0.18	0.33	0.14	-6 <i>Oswaldocruzia ninevana</i>

-1.82) DNA
(2006) . DNA (1.85
Fasciola *Leishmania* spp. 1.83 (280/260)
. *Moneizia expanza* *hepatica*
L4 (280 :260 :230) (1)
Contracaecum sp. L4 L3 *Eustrongylides* sp.
:1 :0.54) (0.46 :1 :0.55) (0.49: 1: 0.54) *O.ninevana* *R.bufonis*, *K.ninevana*
(0.42 :1 0.55) (0.45 :1 :0.55) (0.45 :1 :0.54) (0.44
(0.42 :1 :0.54) (2006)
Leishmania donovani (0.41 :1 :0.54) (0.44 :1 :0.54)
Moniezia expansa *Fasciola hepatica*
(0.41-0.5 : 1 : 0.52-0.62) (230 :260 :280)

DNA

DNA G-C Tm

DNA

Tm

(7)

L4

DNA

(12) (11) (10) (9) (8)

*R.bufo*nis*Contracaecum* sp.

L4

L3

Eustrongylides sp.

%G-C

(80 81 82 83 83 84)

*O.ninevana**K.ninevana*

Tm

%35.87 *Eustrongylides* sp.

L4

DNA

%G-C

*R.bufo*nis, *K.ninevana*%33.43 *Contracaecum* sp.

L4

L3

%26.11

%28.55

%30.99

O.ninevana

(2)

DNA

260

:7

Eustrongylides sp.

260

:8

Contracaecum sp.

DNA

DNA

260

:9

Contracaecum sp.

DNA

260

:10

R. bufonis

DNA

260

:11

K.ninevana

DNA

260

:12

O.ninevana

DNA :2

%G-C	Tm *	() DNA
35.87	84	() <i>Eustrongylides</i> sp. L4 -1
33.43	83	() <i>Contracaecum</i> sp. L3 -2
33.43	83	() <i>Contracaecum</i> sp. L4 -3
30.99	82	() <i>R.bufo</i> -4
28.55	81	() <i>K.ninevana</i> -5
26.11	80	() <i>O.ninevana</i> -6

DNA *

DNA

DNA

DNA

G-

DNA

(Bhagavan, 2002; 1991) C

Eustrongylides sp. L4 Tm

O.ninevana Tm

.%G-C

DNA

260

260

(1991) DNA

G-C DNA

DNA

(Baron and Finegold, 1990)

DNA

% G-C

(2)

.(Mishra, 2002)

%10

% (35.87-%26.11)

DNA

(Sueoka, 1961)

%G-C Tm

(2006)

. Nematoda

DNA

Tm

DNA

(DNA)

.(2006)

.(1991)

.(1985)

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