

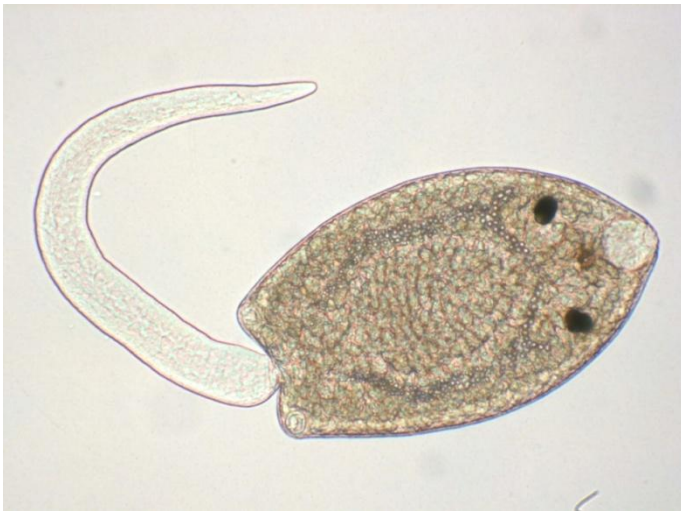
Svalbard seabird parasites

as seen during marine night

Anya Gonchar

PhD student, SPbU (St Petersburg, Russia)

Trematoda: Notoctylidae



BAMSE: Bilateral Arctic Marine Science and student Exchange programme





Summer course

EVOLUTIONARY AND TAXONOMIC DIVERSITY OF MARINE INVERTEBRATES

White Sea

3 – 28 August 2015

<http://zoology.bio.spbu.ru/>

Marine Night



Marine Night

1x glaucous gull *Larus hyperboreus*

1x black guillemot *Cepphus grylle*

2x little auk *Alle alle*



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<https://www.flickr.com/photos/reynirsk/5068862567/>



<http://www.pbase.com/bister/image/76495147>

Full parasitological survey of a bird

What to look for

“Protozoa”

Metazoa

- Trematoda
- Cestoda
- Acanthocephala
- Nematoda
- Arthropoda

No freezing!

Where to look for

Body surface

Blood system and heart

Liver and gallbladder

Pancreas and spleen

Digestive tract

Bursa of Fabricius

Respiratory system

Reproductive system

Kidneys and ureter

Body cavity

Eyes, mouth and nose

Skin and muscles

Brain

Marine cestodes: host animals



K. Rhode "Marine Parasitology" 2005

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Nematoda
Cestoda

Cestoda
Acanthocephala

Nematoda
Cestoda
Acanthocephala

Svalbard seabird parasites: summer 2001

Invasion of sea birds of the Svalbard Archipelago with helminths (June–August 2001)

Species	Examined, ind.	Infected, ind.			
		cestoda	trematoda	nematoda	acanthocephala
Little auk	5	–	–	–	–
Purple sandpiper	10	9 (9–1341)	4 (1–39)	3 (1–7)	–
Arctic tern	5	3 (1–41)	–	–	5 (2–6)
Kittiwake	10	10 (6–180)	–	–	1 (1)
Atlantic fulmar	10	10 (73–1531)	1 (2)	10 (15–132)	–
Glaucous gull	26	26 (5–306)	10 (1–203)	15 (1–7)	12 (1–6)
Common eider	2	2 (16900–80170)	2 (367–731)	2 (6–10)	2 (112–223)

Kuklin et al., 2004

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Little auk: third account of infection by helminths ever, first account of infection by Acanthocephala.

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Kuklin et al., 2004



Previous helminth infection accounts:
1966-69, Labrador sea (Threlfal, 1971)
1993, Franz Joseph Land (Galkin, Galaktionov, 2000)

CLAUDE COMBES

Translated by Daniel Simerloff

THE ART OF BEING A

PARASITE

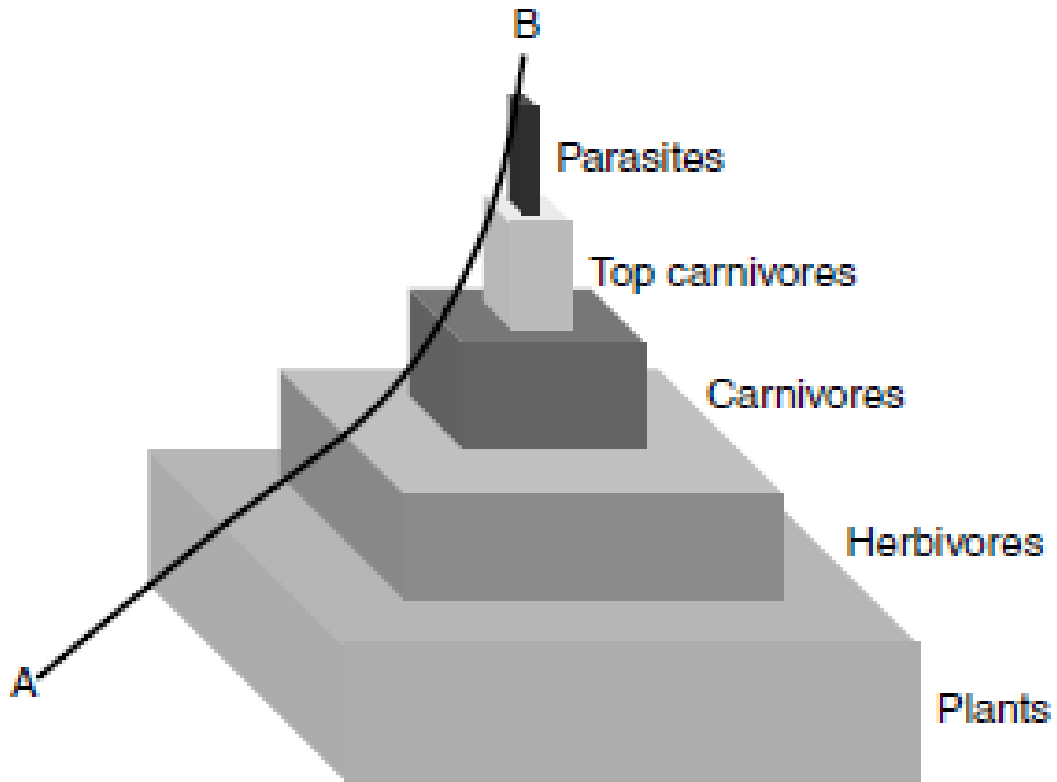


The following slides are adds-on

Franz Joseph Land seabird parasites

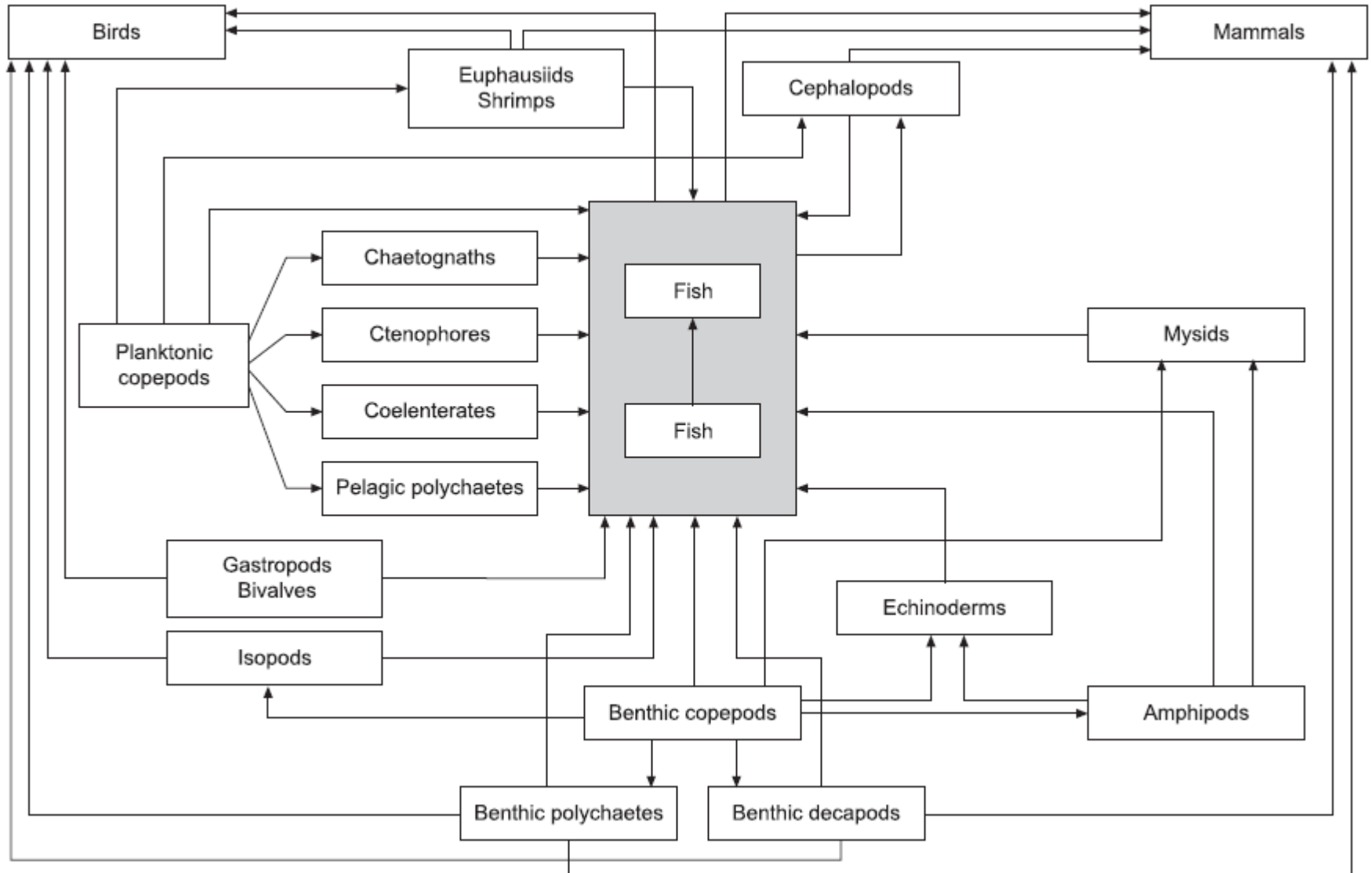
Table 2. Composition of the helminth fauna of the Franz Josef Land in marine and coastal birds in 1991-1993

Bird species		Number of dissected birds	Cestoda		Acanthocephala	
			Prevalence %	Range in intensity	Prevalence %	Range in intensity
Kittiwake (<i>Rissa tridactyla</i>)	ad.	17	82.3	1-52	11.8	2-4
	juv.	4	100	1-8	0	0
Glaucous gull (<i>Larus hyperboreus</i>)	ad.	8	75.0	2-11	0	0
	juv.	4	100	1-10	0	0
Arctic tern (<i>Sterna paradisaea</i>)	ad.	11	9.1	1	72.7	8-227
Brunnich's guillemot (<i>Uria lomvia</i>)	ad.	13	46.1	1-10	0	0
	juv.	5	100	2-26	0	0
Black guillemot (<i>Cephus grylle</i>)	ad.	11	27.3	1-7	18.2	1
Little auk (<i>Alle alle</i>)	ad.	15	6.7	1	0	0
Purple sandpiper (<i>Calidris maritima</i>)	ad.	7	28.6	3-142	14.3	2



Modified from Rafaeli (2002)

Potential transmission pathways for helminth parasites in marine environments



Marcogliese & Cone, 1997)