

# Crustacean parasites in the Belgian part of the North Sea:

*Sacculina carcini* on *Liocarcinus holsatus* and *Peltogaster paguri* on *Pagurus bernhardus*

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**Rationale:** The common swimming crab and common hermit crab are hosts to a specific rhizocephalan parasite. The parasites form an extensive internal root system (interna), and an external reproductive body (externa). The infection effects on the hosts include: incapability of moulting, modifications of the secondary sexual characteristics, and infertility.

**Sampling:** Swimming crabs and hermit crabs were sampled every spring and autumn for 7 years with a shrimp beam trawl (in total 1731 samples). Individuals were counted and parasites were noted as present when an externa was visible.

**Research question: Difference in parasite prevalence (% infection) between:**

Years	Seasons	Gender	Zones	Human pressures
2006-2012	Spring vs. Autumn	Male-Female only for <i>Liocarcinus holsatus</i>	Near-, mid- and offshore	Sand extraction, dredge disposal and offshore wind energy development Difference between reference and impact stations

## *Liocarcinus holsatus*

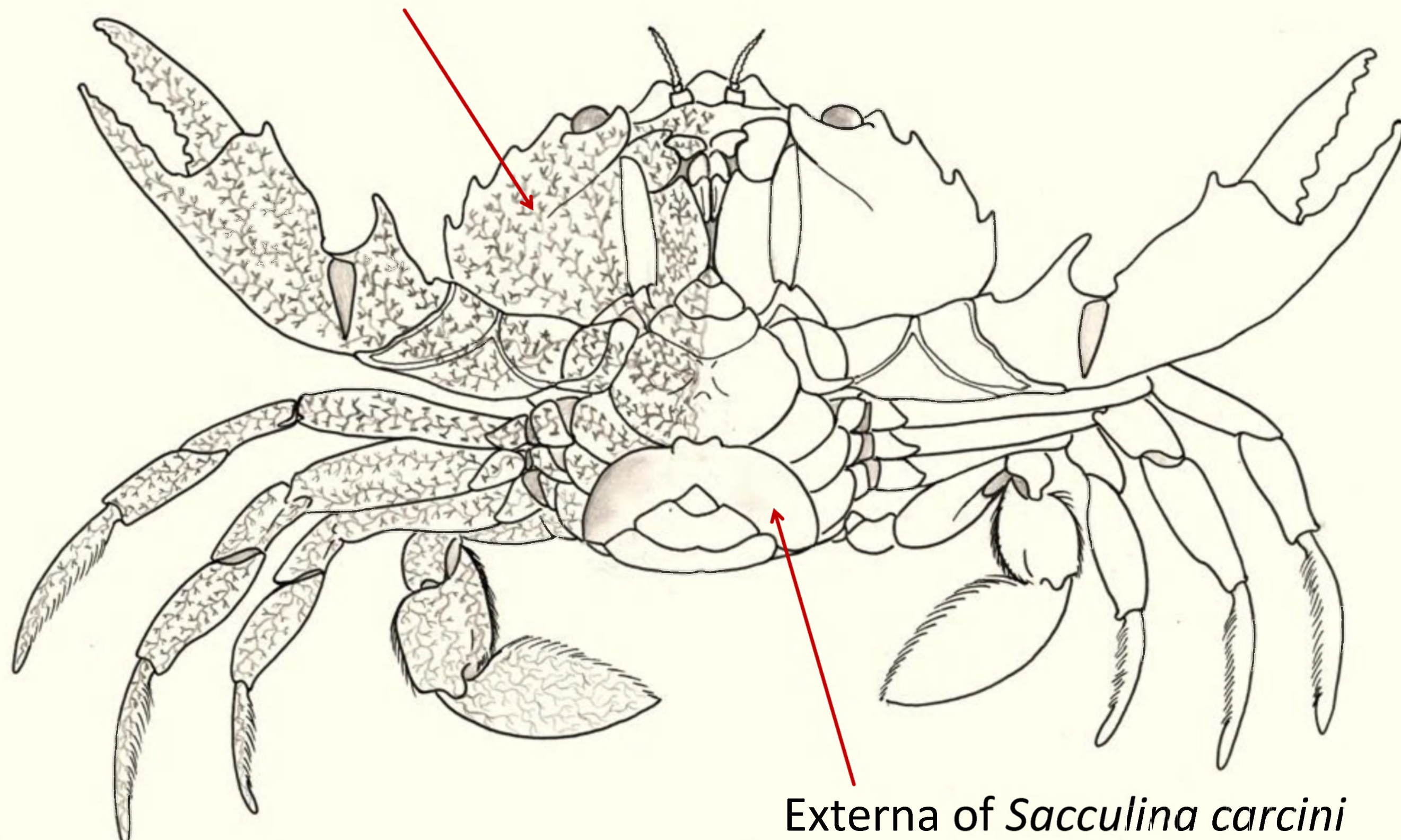
20 158 caught → 3.35% infected

## Main results

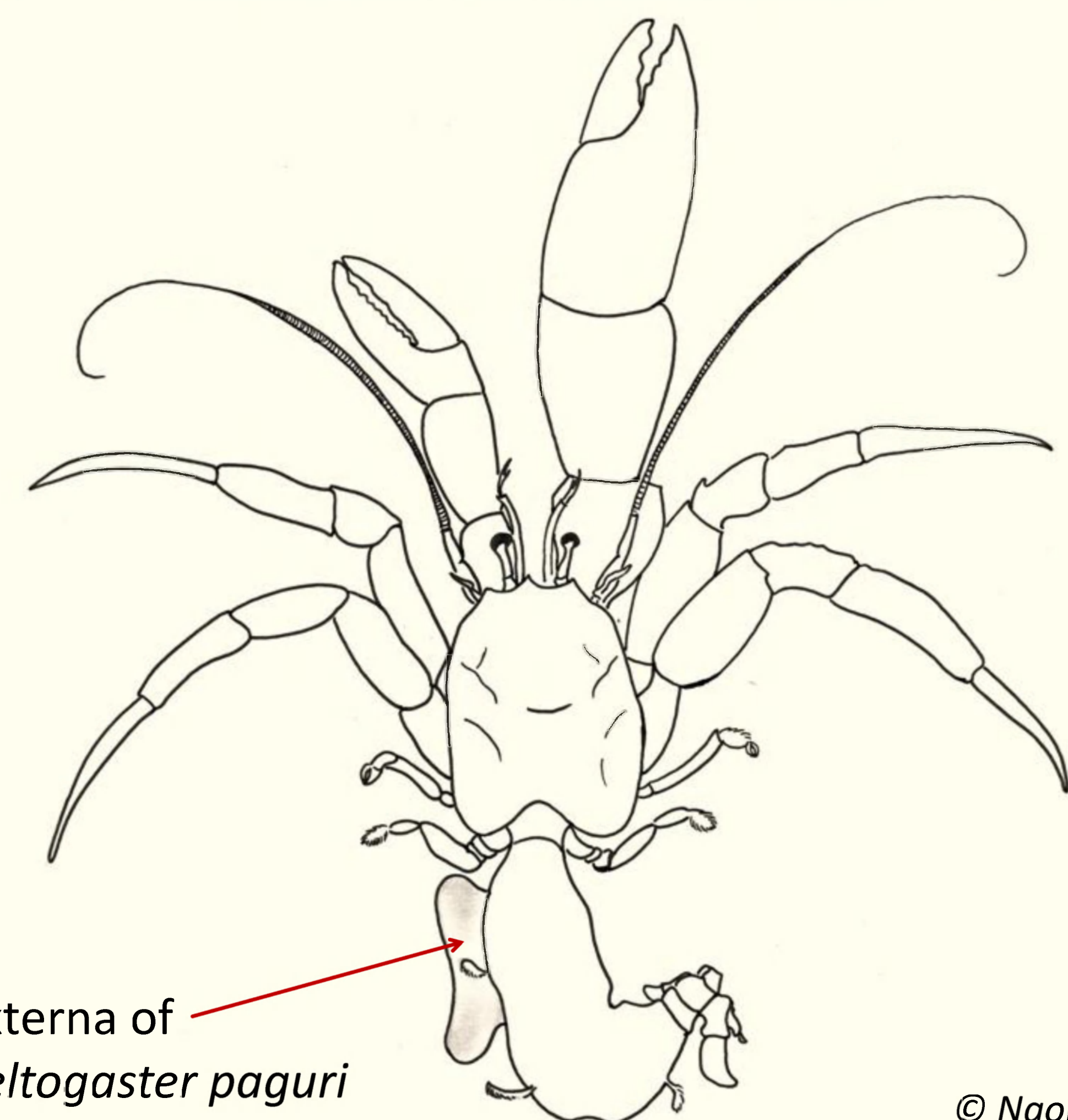
## *Pagurus bernhardus*

43 114 caught → 0.37% infected

Extensive root system forming the interna

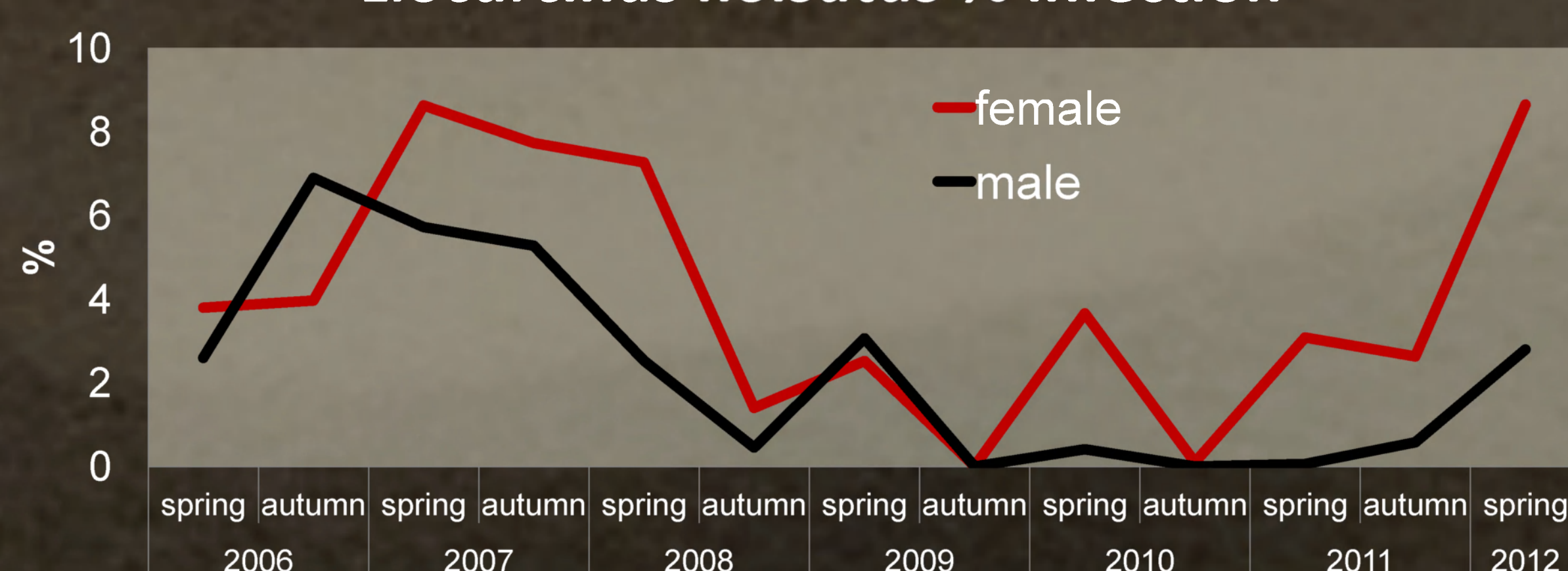


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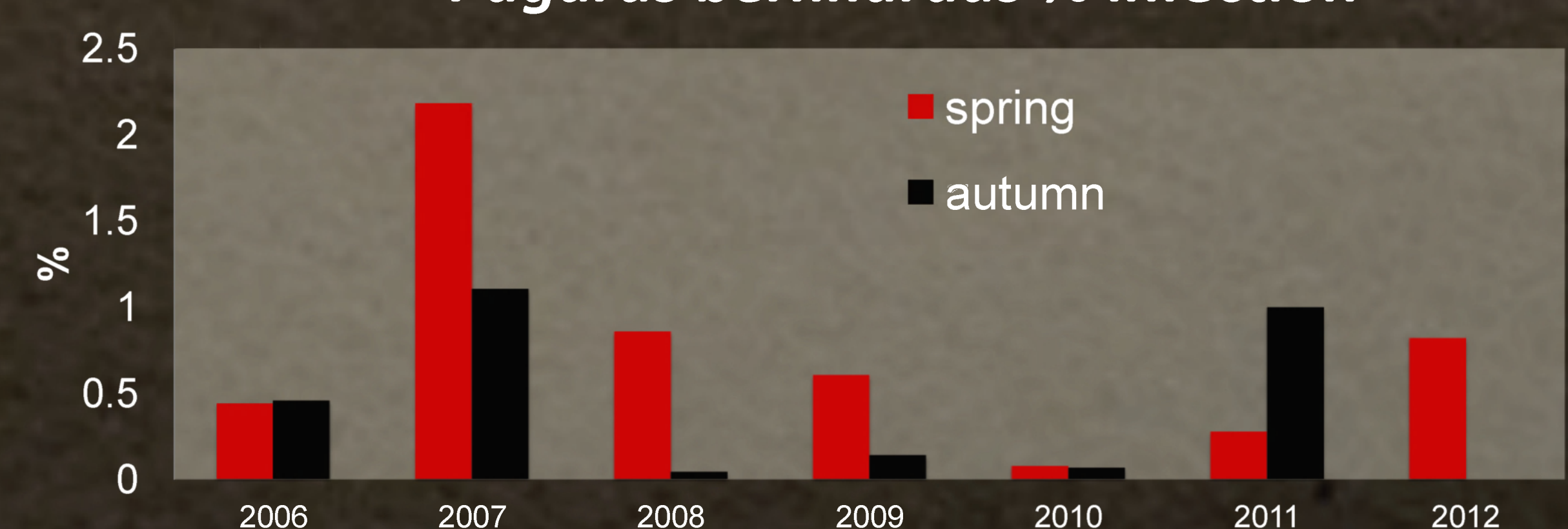
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### *Liocarcinus holsatus* % infection



	Years	Seasons	Gender	Zones	Human pressures
Significant difference in parasite prevalence ?	<b>Yes</b> Variation between all years	<b>Yes</b> Higher in spring	<b>Yes</b> Higher for females	<b>Yes</b> lower in nearshore stations	<b>No</b>

### *Pagurus bernhardus* % infection



	Years	Seasons	Zones	Human pressures
Significant difference in parasite prevalence ?	<b>Yes</b> Variation between all years	<b>Yes</b> Higher in spring	<b>No</b>	<b>No</b>

**Conclusion:** We found substantial variation in infection rates, largely determined by natural interannual and seasonal differences, and by host-specific preferences of the parasites. We found no evidence that human activities have an influence on the infection rates.

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