

Sablefish make unusual sounds composed of variable broadband ticks and frequency modulation.

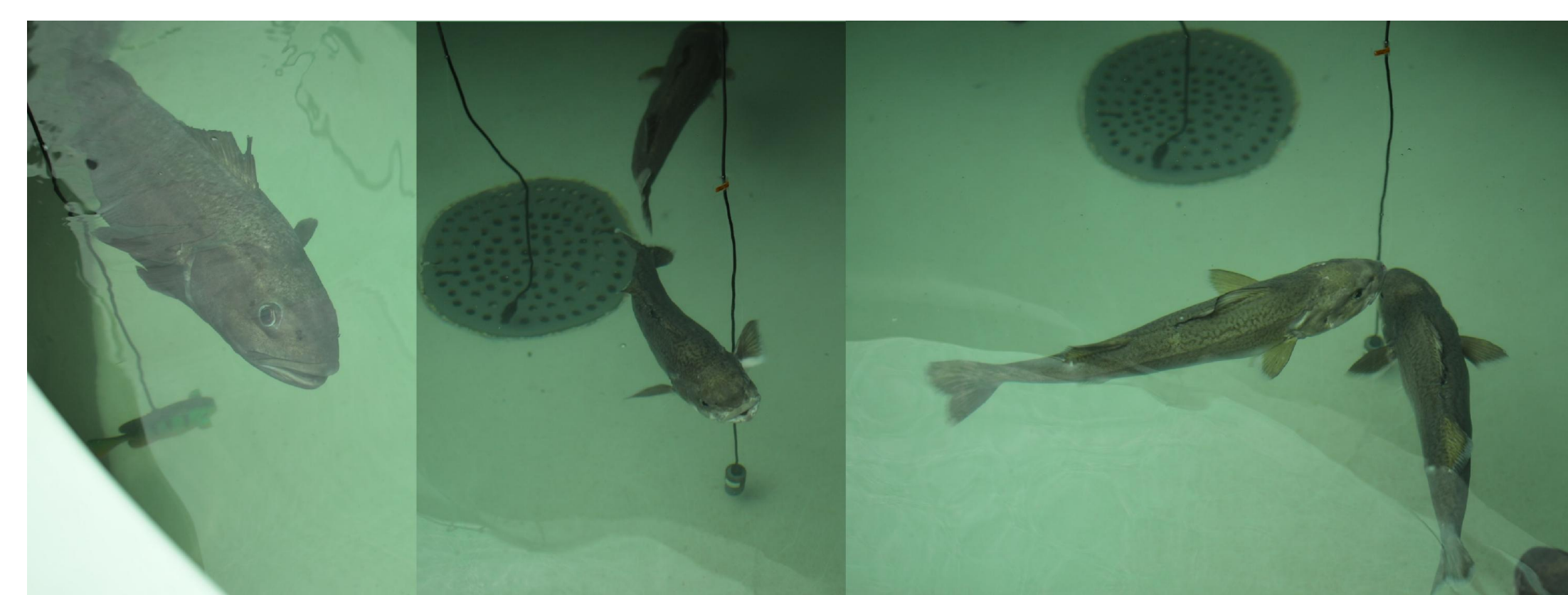
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INTRODUCTION

- Sablefish (*Anoplopoma fimbria*) are deep-sea demersal fish of economical and ecological importance in the North Pacific Ocean.
- Although unpublished accounts had previously suggested sablefish could be soniferous, a validated description of their sounds was not available.

METHODS

1. We collected and analyzed passive acoustic recordings from:
 - a) sablefish-holding net pens in Kyuquot Sound (BC)
 - b) rearing tanks in Manchester (WA)
2. We searched for evidence of sablefish sounds in the wild in video and acoustic recordings made at the Ocean Networks Canada (ONC) observatory in Barkley Canyon located at a depth of 639 m

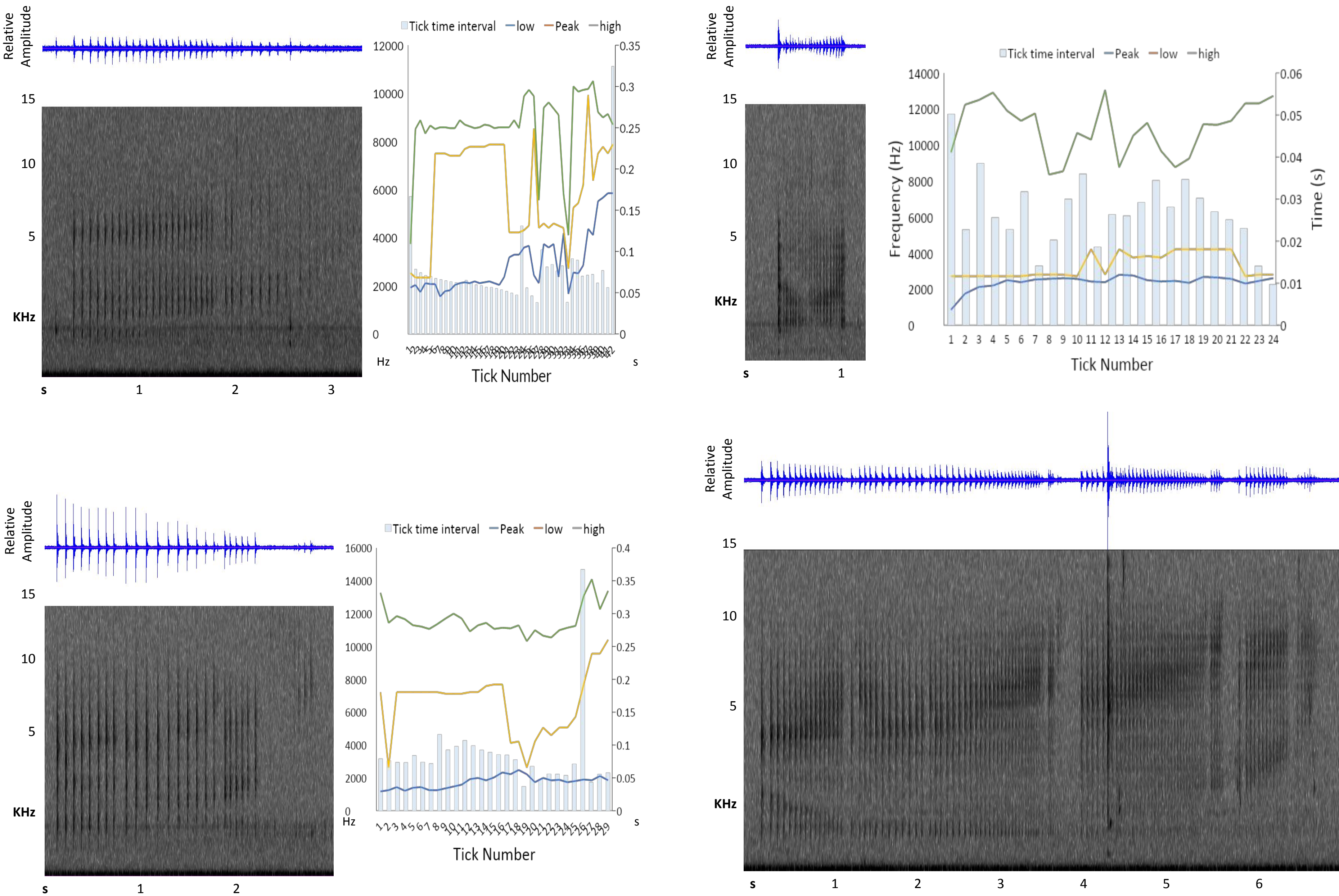


DISCUSSION

- We do not know yet how sablefish produce these unusual sounds nor if they can hear them. We are investigating possible mechanisms...
- No rasps were found on the ONC recordings, but we are building a detector to increase the sample size.

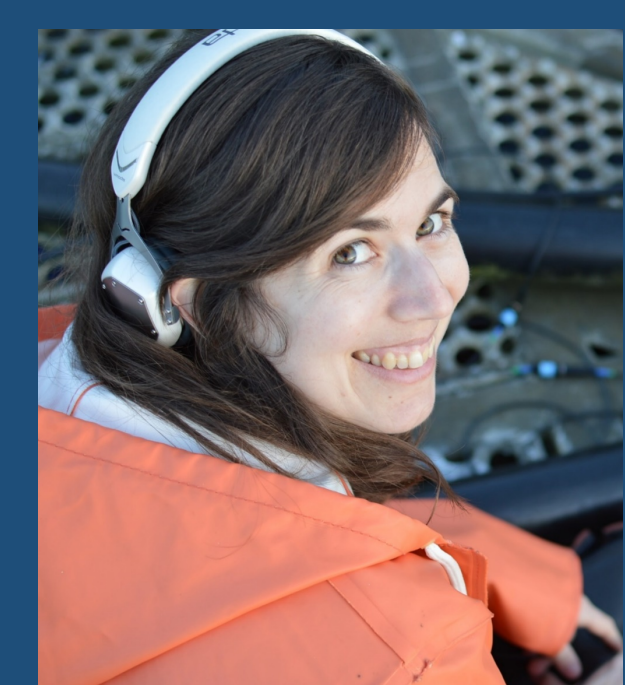
RESULTS

Examples of rasps recorded in captivity, illustrating waveform, spectrogram, and changes in frequency along the tick progression.



Summary of rasp characteristics

Acoustic variables	Min	Max	Average (± st. error)	Sample size
Rasp Low frequency (Hz)	448	3,620	1,488 ± 91	73
Rasp High frequency (Hz)	5,224	38,639	14,999 ± 878	73
Rasp Peak frequency (Hz)	750	10,219	4,568 ± 237	73
Rasp duration (ms)	52	8,537	1,913 ± 189	73
Number of ticks per rasp	3	311	24 ± 7	43
Tick Peak frequency (Hz)	94	22,594	5,116 ± 303	43
Tick duration (ms)	0	47	13 ± 1	43
Tick time interval (ms)	1.5	75.86	15.9 ± 5.8	43



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