Resource use and the impacts of fisheries on two sympatric sea snake species on the West Coast of India.

Shawn Dsouza[1,2*], Chetan Rao[1], Muralidharan M[1] and Kartik Shanker[1,2]

Affiliations:
[1]Dakshin Foundation, Bangalore, India.
[2]Center for Ecological Sciences, Indian Institute of Science, Bangalore, India.

*Corresponding author
Email: shawn27.dsouza@gmail.com

Electronic Supplementary Materials

Supplementary materials A

Table A1: Linear models summarising the effect of fishing intensity on Carbon and Nitrogen isotope ratios of plasma and scale in *Hydrophis curtus* and *H. schistosus*

Species	Tissue type	Isotope	Parameter	Coefficient	Standard Error	T	p	r_{adj}^2
Hydrophis curtus	Plasma	δN^{15}	Intercept	13.866	0.234			
			Fishing intensity	-0.003	0.003	-0.835	0.418	-0.021
		δC^{13}	Intercept	-15.665	0.404			
			Fishing intensity	-0.017	0.006	-3.149	0.007	0.373
	Scales	δN^{15}	Intercept	14.331	0.295			
			Fishing intensity	0.000	0.003	-0.018	0.986	-0.048
		δC^{13}	Intercept	-15.010	0.324			
			Fishing intensity	0.003	0.004	0.958	0.349	-0.004
Hydrophis schistosus	Plasma	δN^{15}	Intercept	14.684	0.260			
			Fishing intensity	0.001	0.004	0.195	0.846	-0.025
		δC^{13}	Intercept	-16.577	0.256			
			Fishing intensity	-0.001	0.004	-0.294	0.770	-0.024
	Scales	δN^{15}	Intercept	14.864	0.363			
			Fishing intensity	0.000	0.006	-0.075	0.940	-0.029
		δC^{13}	Intercept	-14.079	0.377			
			Fishing intensity	-0.009	0.006	-1.347	0.187	0.023

Supplementary Materials B

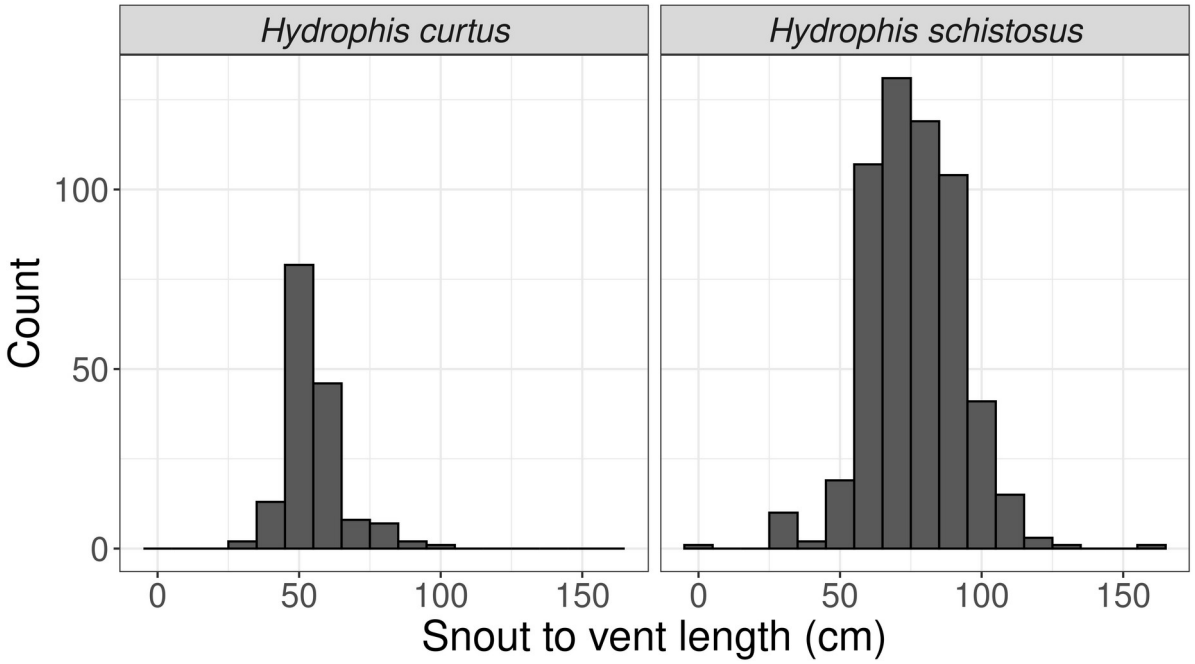

Fig B1: Snout to vent length (cm) distribution of sampled sea snakes.

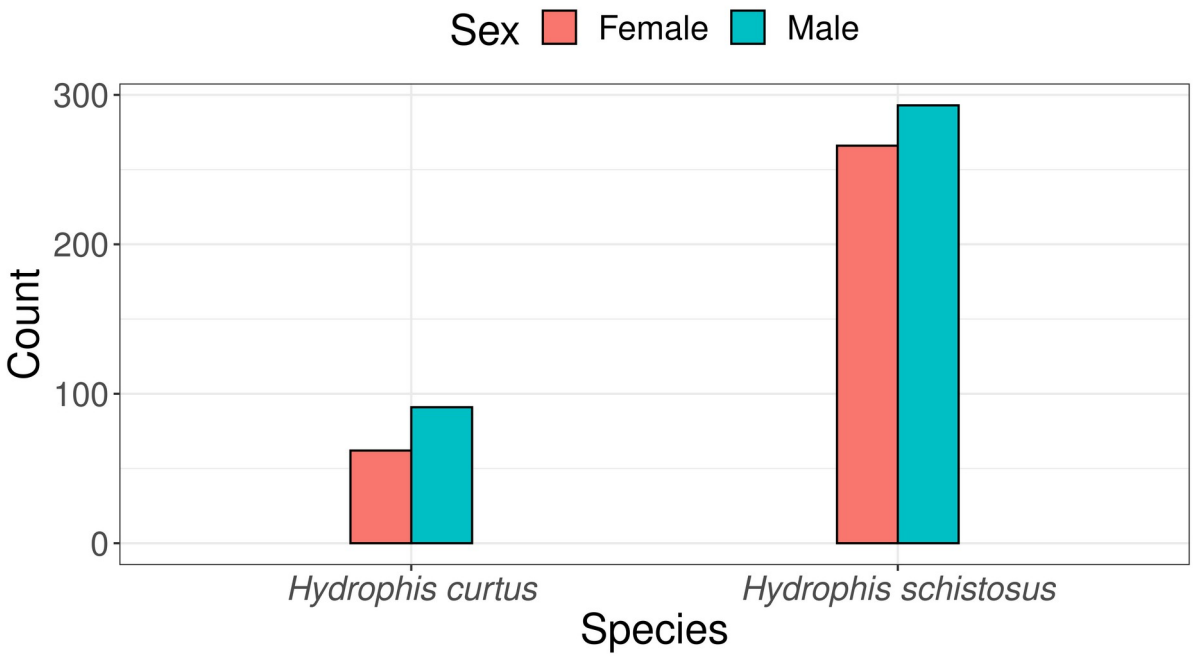

Fig B2: Distribution of males and females among sampled sea snake species.

Supplementary Materials C

We compared prey preference and overlap across sexes in *Hydrophis curtus* and *H. schistosus*. Sample sizes (number of prey specimens) were too small for further analysis.

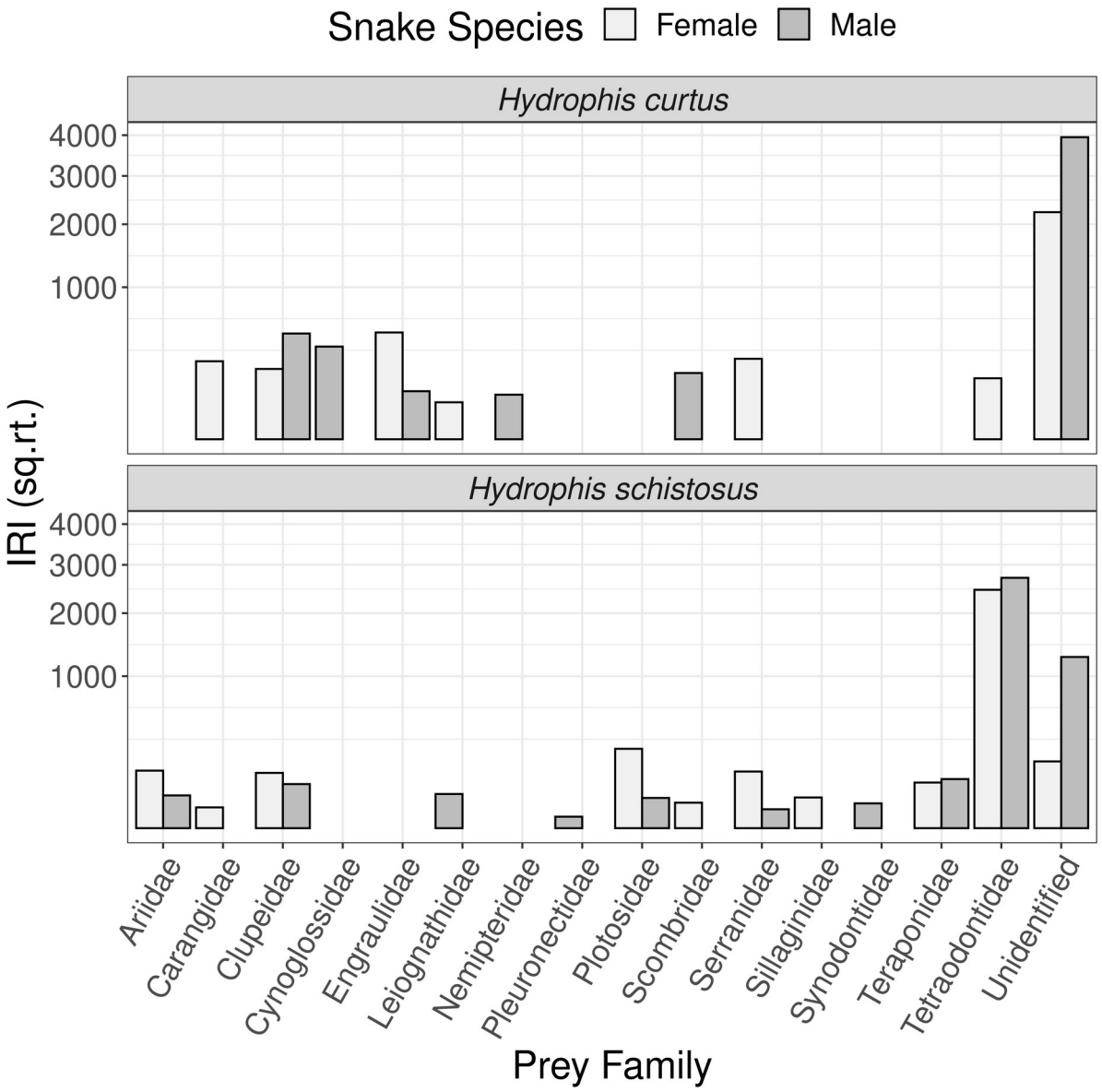

Fig C1: Preferences among males and females of *Hydrophis curtus* and *H. schistosus*.

Table C1: Richness of prey species and prey families taken by males and females of sampled sea snake species.

Snake Species	Sex	Prey Species	Prey Families	Overlap
Hydrophis curtus	Female	6	6	2
Hydrophis curtus	Male	4	5	
Hydrophis schistosus	Female	12	9	6
Hydrophis schistosus	Male	10	9	

Supplementary Materials D

A comparison of gut content data across locations using data collated by Sherratt et al. (2018) from Malaysia (Voris and Voris, 1983) and Australia (Fry et al., 2001).

Table D1: Richness of prey families found in sea snake guts in current and previous studies.

Snake species	Location	Reference	Richness	Sample size
Hydrophis curtus	Australia	Fry et al. (2001)	18	118
	Malaysia	Voris and Voris (1983)	33	130
	India	Dsouza et al. (Current)	9	35
Hydrophis schistosus	Malaysia	Voris and Voris (1983)	9	172
	India	Dsouza et al. (Current)	12	89

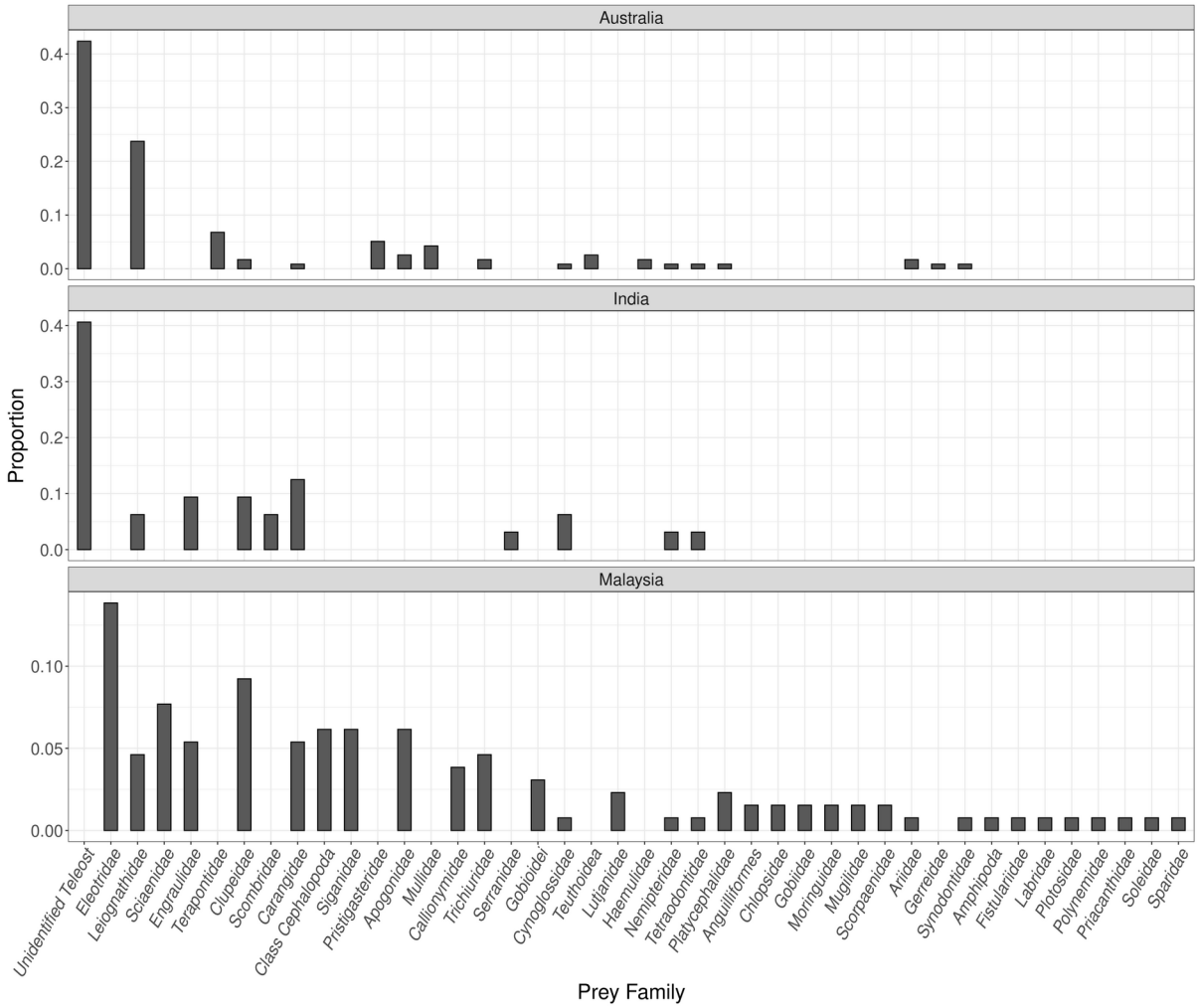

Fig D1: Relative proportions of prey families in *Hydrophis curtus* gut content as reported in the current study (India), Fry et al. (2001, Australia) and Voris and Voris (1983, Malaysia).

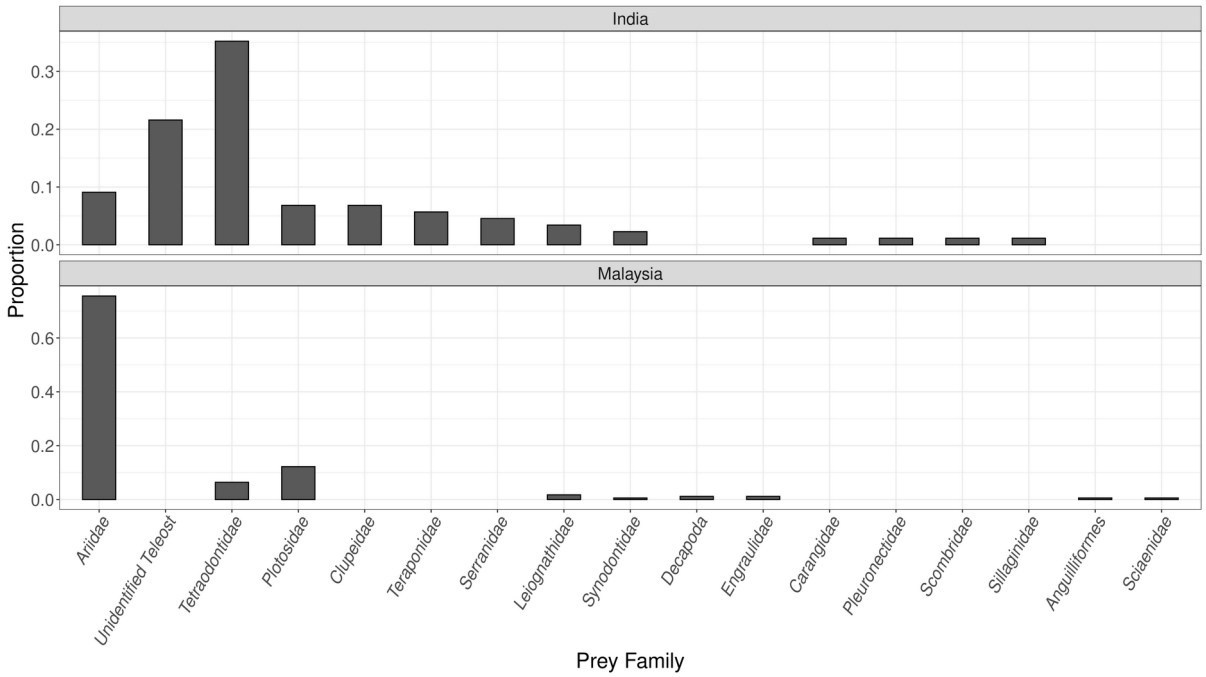

Fig D2: Relative proportions of prey families in *Hydrophis schistosus* gut content as reported in the current study (India) and Voris and Voris (1983, Malaysia).