

Contrasting signals of genetic diversity and historical demography between two recently diverged marine and estuarine fish species

Sophie von der Heyden*, Jessica A. Toms, Peter R. Teske, Stephen Lamberth, Wouter Holleman

*Corresponding author: svdh@sun.ac.za

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Supplement

Clinus spatulatus/superciliosus divergence

The Bot and Klein estuaries have been sampled at least twice annually since 2000 as part of a long-term monitoring programme of priority South African estuaries. Water levels (above mean sea level - msl) are daily averages (2000-2010) obtained from the Department of Water and Sanitation gauging station G4R003, <http://www.dwaf.gov.za/hydrology/HyDataSets.aspx?Station=G4R003>. The seine-net used was 30 m long and 2 m deep with a stretched-mesh size of 10 mm, hauling ropes of 50 m and mean area swept of 160m². Eight sites spread evenly throughout the estuary were seined on each sampling occasion. Depending on the size of the catch, either all fish or subsamples were identified measured and released alive. There were 165 seine catches over the 2000-2010 sampling period.

We used water surface-area instead of volume to estimate numbers of *C. spatulatus* as it's a benthic species not distributed throughout the water column. Water surface areas were calculated using the G4R003 water levels and bathymetry maps overlaid on Google images (van Niekerk et al. 2005, van Niekerk et al. 2011). Mean fish densities (fish.m⁻¹) at each sampling event were multiplied by the water surface area (m²) available to *C. spatulatus* in the Bot Estuary at that time. Population estimates during the pre and post breaching closed and open phases were tested using the Normal approximation to the Mann-Whitney Test, (Zar 1984).

Table S1. Water level (daily average metres above mean sea-level), mouth state, mean fish.m⁻² and the estimated total number of fish in the Bot Estuary on 38 sampling events during the period 2000 – 2010. Zero values indicate no *Clinus spatulatus* caught.

Date	Water level msl	Mouth state	Fish m ⁻²	Estimated total number of fish
10/25/2000	0.475	open	0	0
11/8/2000	0.357	open	0.719	230000
1/26/2001	0.629	open	0	0
3/1/2001	0.473	open	0.003	1000
8/6/2001	2.150	closed	0	0
9/19/2001	2.536	closed	0.030	234328
10/23/2001	2.299	closed	0.026	202007
3/18/2002	1.660	closed	0.017	133324

Date	Water level msl	Mouth state	Fish m ⁻²	Estimated total number of fish
6/27/2002	1.968	closed	0.003	24241
8/23/2002	2.553	closed	0.001	9696
9/22/2002	2.453	closed	0.006	48482
10/24/2002	2.347	closed	0.056	436335
12/11/2002	1.999	closed	0.222	1721098
1/30/2003	1.673	closed	0.016	126052
3/17/2003	1.436	closed	0	0
6/5/2003	1.999	closed	0.006	48482
8/26/2003	2.751	open	0	0
10/30/2003	0.459	open	0.441	141000
11/18/2003	0.480	open	0.150	48000
12/3/2003	0.361	open	0.128	41000
1/28/2004	0.464	open	0.228	73000
3/30/2004	0.209	open	0.530	169500
6/23/2004	0.275	open	0.211	67500
9/28/2004	0.895	open	0.041	13000
12/1/2004	1.516	closed	0.361	2799814
5/19/2005	2.355	closed	0.024	184230
9/2/2005	2.470	closed	0.005	36361
11/30/2005	1.990	closed	0.017	133324
1/25/2006	1.580	closed	0.056	436335
12/13/2006	0.557	open	0.650	208000
6/13/2007	0.244	open	0.020	6500
9/19/2007	2.404	closed	0.014	109084
1/24/2008	2.077	closed	0.077	593900
8/20/2008	2.252	closed	0.001	9696
10/23/2008	0.468	open	0.008	2400
11/11/2008	0.411	open	0.038	12000
7/8/2010	0.634	open	0.003	800
12/13/2010	1.255	open	0.090	28800
5/31/2011	0.671	open	0.021	6667

LITERATURE CITED

van Niekerk, L, van der Merwe, JH, Huizinga, P. 2005. The hydrodynamics of the Bot River Estuary revisited. *Water SA* 31(1):73-85. <http://www.wrc.org.za>.