

Supplementary materials

Diel changes in the vertical distribution of larval cutlassfish *Trichiurus japonicus* (Trichiuridae)

Journal of the Marine Biological Association of the United Kingdom

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Fig. S1 Water temperature and salinity in September 2016.

Fig. S2 Water temperature and salinity in June 2017.

Fig. S3 Water temperature and salinity in September 2017.

Fig. S4 Photographs of larvae.

Table S1 Details of larval collection.

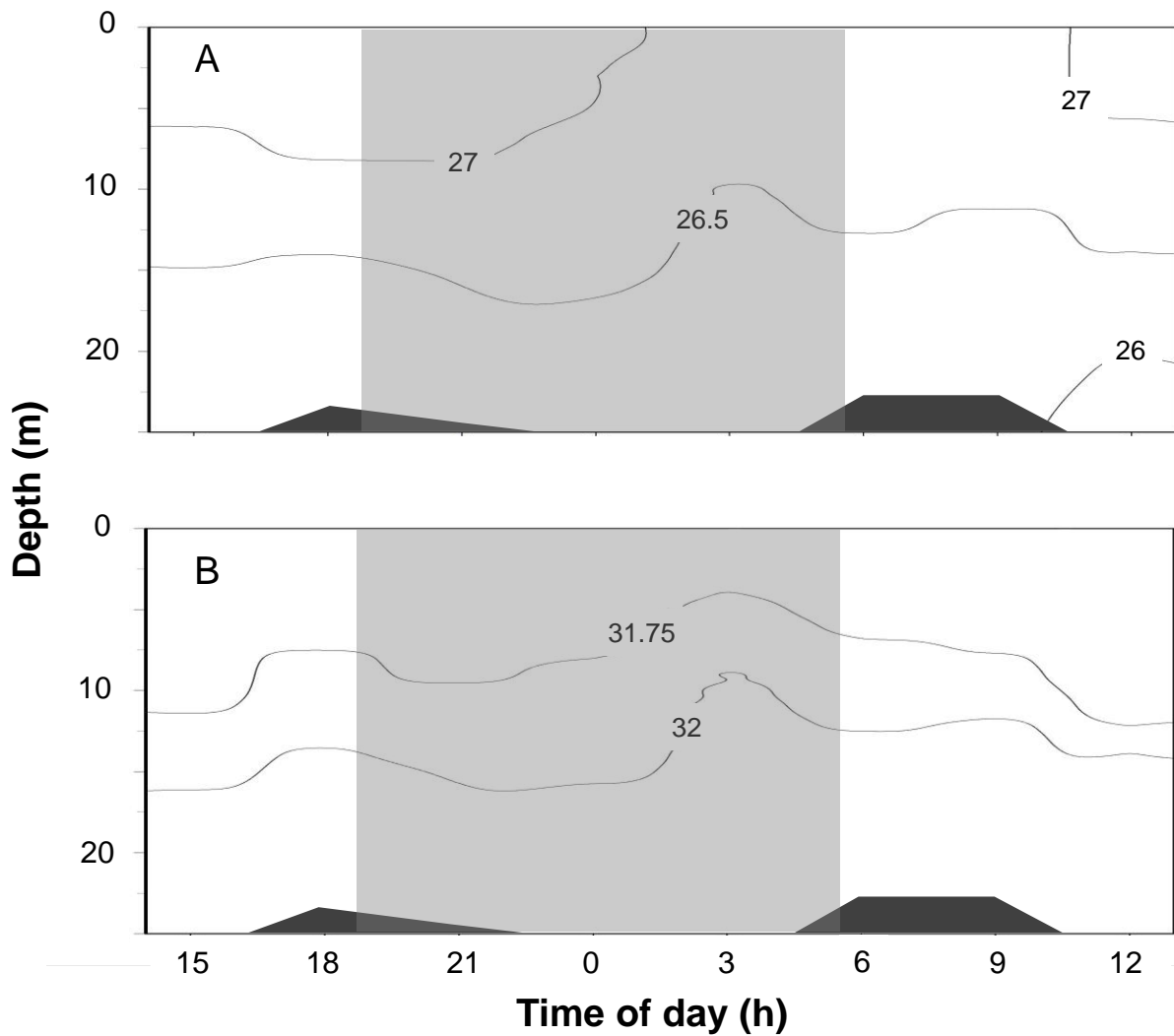


Fig. S1 Diel changes in vertical profiles of (A) water temperature ($^{\circ}\text{C}$) and (B) salinity at the sampling station during 5-6 September 2016. Shaded zones indicate nighttime.

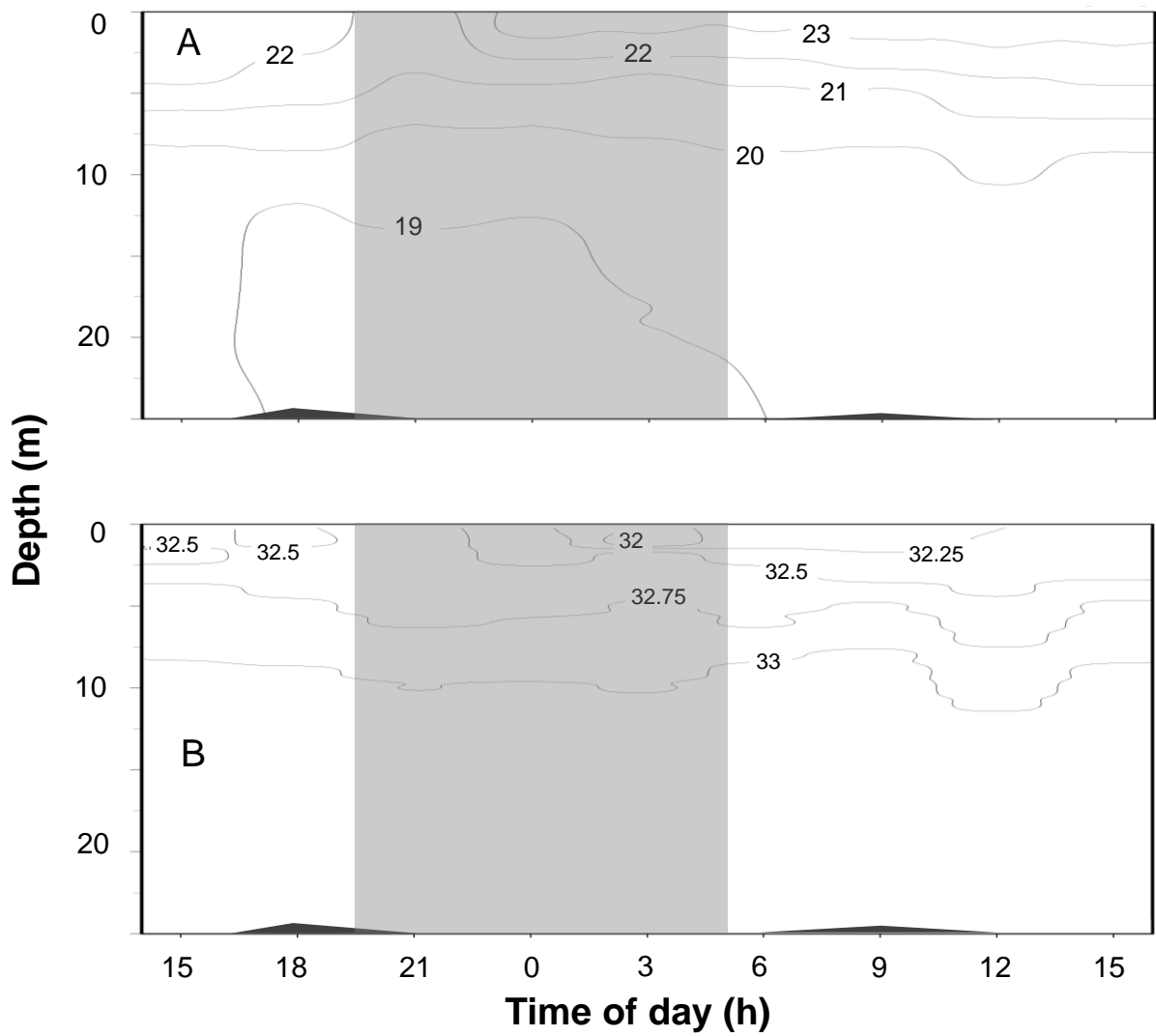


Fig. S2 Diel changes in vertical profiles of (A) water temperature (°C) and (B) salinity at the sampling station during 27-28 June 2017. Shaded zones indicate nighttime.

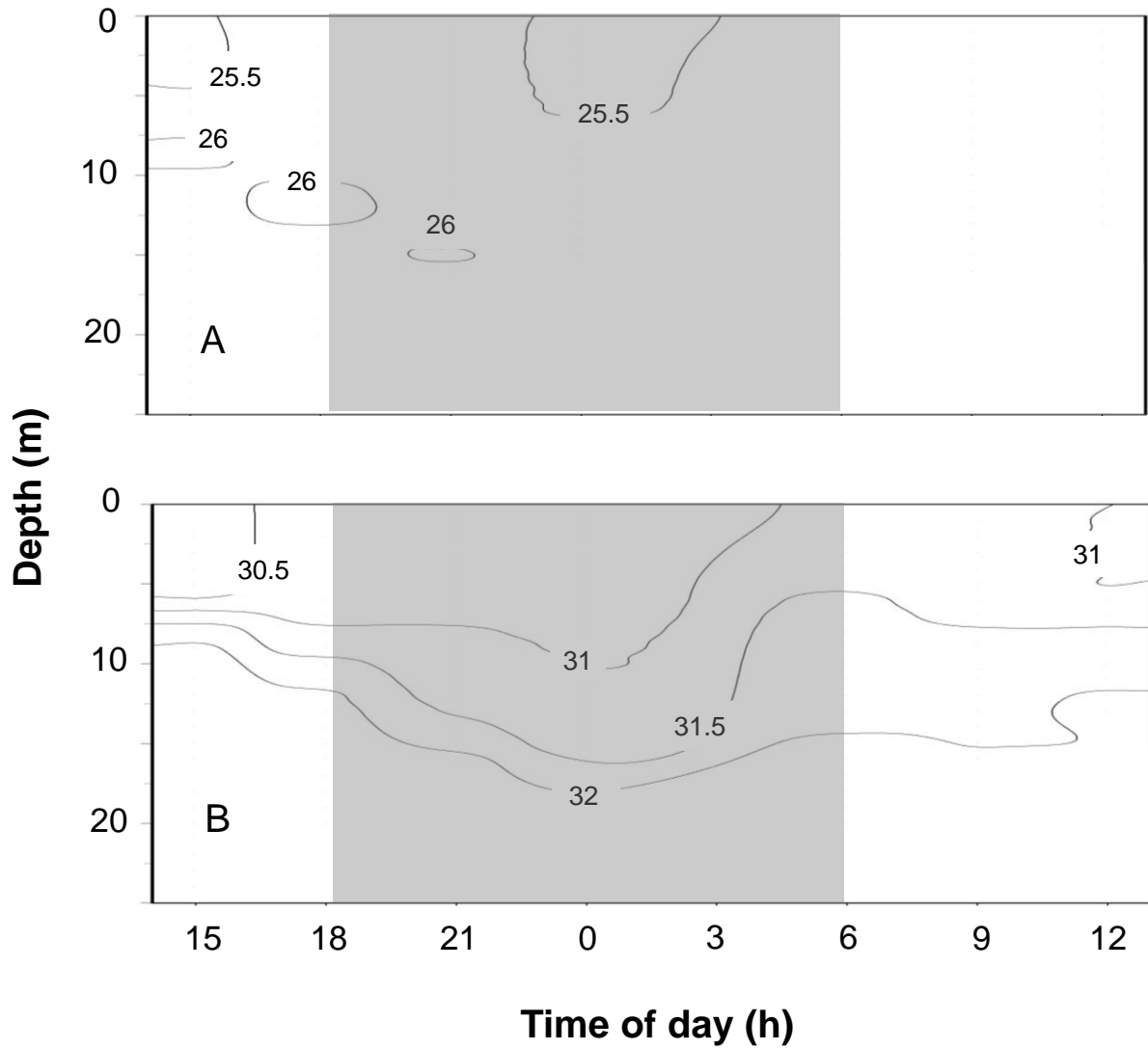


Fig. S3 Diel changes in vertical profiles of (A) water temperature (°C) and (B) salinity at the sampling station during 20-21 September 2017. Shaded zones indicate nighttime.

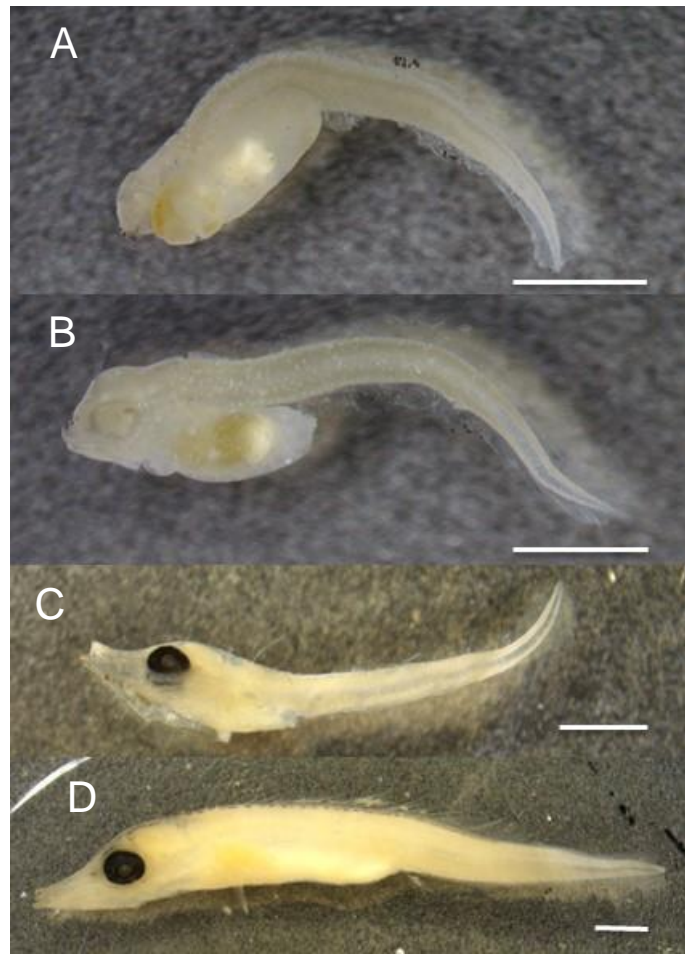


Fig. S4 Photos showing larval *Trichiurus japonicus*. A: Stage Pr1, 4.2 mm TL, collected at 16 m depth at 0900 h on 6 September 2016. B: Stage Pr2, 4.6 mm TL, collected at 16 m depth at 1800 h on 5 September 2016. C: Stage Po, 5.7 mm TL, collected at 16 m depth at 1100 h on 18 September 2015. D: Stage Po, 20.3 mm TL, collected at 16 m depth at 1000 h on 17 September 2015. White bars indicate 1 mm.

Table S1 The number of collected larvae during research cruises in 2015, 2016 and 2017.

Date	Time (h)	Time of net tows (h)	N of larvae	N of <i>Trichiurus japonicus</i> (proportion)
2015				
17 Sep	0900	0913–0923	813	19 (2.3%)
17 Sep	1000	0949–0959	2501	23 (0.9%)
18 Sep	1100	1051–1101	1895	55 (2.9%)
2016				
5 Sep	1500	1545–1555	602	7 (1.2%)
5 Sep	1800	1812–1822	866	2 (0.2%)
5 Sep	2100	2117–2127	2327	27 (1.2%)
6 Sep	0000	0017–0027	2380	39 (1.6%)
6 Sep	0300	0314–0324	2799	65 (2.3%)
6 Sep	0600	0616–0626	1195	9 (0.8%)
6 Sep	0900	0912–0922	1390	61 (4.4%)
6 Sep	1200	1211–1221	892	17 (1.9%)
2017				
27 June	1500	1533–1543	13	0
27 June	1800	1813–1823	45	0
27 June	2100	2115–2125	131	0
28 June	0000	0016–0026	193	0
28 June	0300	0315–0325	232	0
28 June	0600	0610–0620	86	1 (1.2%)
28 June	0900	0910–0920	47	0
28 June	1200	1210–1220	57	0
28 June	1500	1510–1520	46	0
20 Sep	1500	1507–1517	981	6 (0.6%)
20 Sep	1800	1813–1823	2374	3 (0.1%)
20 Sep	2100	2117–2127	1812	17 (0.9%)
21 Sep	0000	0012–0022	1124	10 (0.9%)
21 Sep	0600	0608–0618	638	3 (0.5%)
21 Sep	0900	0908–0918	672	1 (0.1%)