

Albatross-borne loggers show feeding on deep-sea squids: implications for the study of squid distributions

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Table S1. List of sampled birds. Nest ID, bird ID, sex (M: male, F: female), camera-logger ID, camera on the back or belly, image sampling interval, GPS-logger ID, position sampling interval, image data (Y: Yes, N: No), position data (Y: Yes, N: No), date and time of deployment and retrieval are shown. We retrieved both GPS and camera loggers from 28 birds when they returned to their nest. However, because of various electronic problems, data from both devices were usable for 26 complete trips of 20 individuals (16 birds with camera on the back and 4 birds on the belly) and were used for the analysis.

Nest ID	Bird ID	Sex	Camera ID	Back or belly	Camera interval	GPS ID	GPS interval	Image data	GPS data	Deployment (local time)	Retrieval (local time)
N9	O167P	M	N80	back	1min	19	1min	Y	Y	1/31/15 17:46	2/2/15 17:17
N12	O420P	M	N20	back	1min	11	1min	N	Y	2/1/15 17:24	2/3/15 17:10
N58	K247Red	F	N53	back	1min	12	1min	N	Y	1/31/15 9:21	2/4/15 15:11
N58	KP172Blue	M	H15	back	1min	13	1min	Y	Y	2/3/15 18:05	2/6/15 9:32
N5	KP992Black	F	3s-video	back	10min	16	1min	Y	Y	2/4/15 15:35	2/6/15 16:57
N18	O729P	F	N116	back	1min	15	1min	Y	Y	2/5/15 18:10	2/7/15 17:55
N13	O074P	M	N103	back	1min	5	1min	N	Y	2/6/15 11:17	2/9/15 15:37
N61	O679P	F	N53	back	1min	14	1min	Y	Y	2/6/15 15:43	2/10/15 16:30
N48	O168P	F	3s-video	belly	10min	20	1min	Y	Y	2/7/15 17:15	2/11/15 16:40
N19	O453P	M	N79	back	1min	21	1min	Y	Y	2/6/15 18:09	2/12/15 16:39
N12	O653P	F	N20	back	2min	6	1min	Y	Y	2/9/15 17:10	2/13/15 17:30
N6	O190P	M	N103	back	1min	7	1min	Y	Y	2/11/15 18:20	2/15/15 7:00
N18	O243P	M	N80	back	2min	1	1min	N	Y	2/10/15 18:00	2/15/15 8:50
N19	O175P	F	N116	back	2min	17	1min	Y	Y	2/9/15 16:37	2/15/15 9:00
N74	O493P	F	N52	back	2min	8	1min	Y	Y	2/12/15 17:19	2/19/15 8:55
N10	O039P	F	N53	back	2min	9	1min	Y	Y	2/11/15 17:24	2/22/15 7:29
N76	O129P	M	3s-video	belly	10min	13	1min	Y	Y	2/17/15 8:40	2/22/15 6:55
N22	O076P	F	N79	back	2min	16	1min	Y	Y	2/15/15 8:38	2/23/15 7:25
N80	O130P	M	N19	back	2min	5	1min	Y	N	2/19/15 9:15	2/23/15 7:04
N32	O406P	M	N116	back	2min	7	1min	Y	Y	2/17/15 7:32	2/24/15 6:51
N80	O346P	F	N111	back	2min	11	1min	Y	Y	2/17/15 8:30	2/25/15 6:48
N87	O253P	M	N79	belly	4min	16	3min	Y	Y	2/24/15 7:28	3/2/15 18:21
N32	O661P	F	N57	back	2min	14	1min	N	Y	2/15/15 8:08	3/4/15 14:43
N20	O028P	M	N52	belly	4min	19	3min	Y	N	2/23/15 8:55	3/5/15 15:42
N74	O488P	M	N53	back	2min	17	1min	Y	Y	2/17/15 7:44	3/12/15 14:19
N73	O357P	F	3s-video	belly	10min	13	3min	Y	Y	2/23/15 7:56	3/22/15 12:40
N14	O066P	F	N47	back	2min	12	1min	Y	Y	2/15/15 9:31	3/26/15 12:07
N10	O244P	M	N56	back	2min	21	1min	N	Y	2/17/15 8:12	7/1/15 0:00

Table S2. List of 26 foraging trips from 20 birds used in the analysis. Bird ID, trip ID, sex (M: male, F: female), camera-logger ID, camera on back or belly, camera interval, GPS-logger ID, GPS interval, maximum trip distance (km), trip duration (h), N of on-water bout, On-water bout frequency (number h⁻¹), camera available duration (h), camera duration per trip duration (%), N of image taken, N of image with squid, N of feeding squid event, N of image with fishing vessel, and N of following fishing vessel event are shown.

Bird ID	Trip ID	Sex	Camera ID	Camera on back or belly	Camera interval	GPS ID	GPS interval	Maximum trip distance (km)	Trip duration (h)	Trip duration in daytime (h)	Trip duration in nighttime (h)	N of on-water bout in daytime	N of on-water bout in nighttime	On-water bout frequency in daytime (number h ⁻¹)	On-water bout frequency in nighttime (number h ⁻¹)	Camera available duration (h) (from start record to end record)	Camera duration per trip duration (%)	N of image taken	N of image with squid	N of feeding squid event	N of image with fishing vessel	N of following fishing vessel event
KP172Blue	1	M	H15	back	1min	13	1min	267.4	46.4	27.0	19.3	89	59	3.3	3.1	2.7	5.9	110	0	0	0	0
KP992Black	1	F	3s-video	back	10min	16	1min	301.5	46.0	25.0	21.0	69	96	2.8	4.6	31.7	68.9	129	0	0	0	0
O039P	1	F	N53	back	2min	9	1min	573.9	88.6	46.6	41.9	115	122	2.5	2.9	88.5	100.0	1335	0	0	10	1
O039P	2	F	N53	back	2min	9	1min	605.9	128.5	71.5	57.1	115	128	1.6	2.2	106.5	82.9	1874	0	0	0	0
O066P	1	F	N47	back	2min	12	1min	112.9	25.5	15.0	10.5	30	47	2.0	4.5	25.5	99.9	435	0	0	0	0
O066P	2	F	N47	back	2min	12	1min	1494.3	195.7	111.8	83.9	256	124	2.3	1.5	152.8	78.1	2602	4	1	0	0
O076P	1	F	N79	back	2min	16	1min	110.1	37.9	17.3	20.6	41	46	2.4	2.2	27.8	73.2	503	0	0	0	0
O076P	2	F	N79	back	2min	16	1min	124.1	40.4	19.5	21.0	17	31	0.9	1.5	40.4	100.0	552	0	0	0	0
O129P	1	M	3s-video	belly	10min	13	1min	644.6	60.5	39.6	21.0	52	56	1.3	2.7	60.3	99.7	239	4	4	0	0
O167P	1	M	N80	back	1min	19	1min	458.6	45.2	24.3	21.0	46	13	1.9	0.6	45.2	100.0	1272	0	0	3	1
O168P	1	F	3s-video	belly	10min	20	1min	349	61.7	37.3	24.3	91	107	2.4	4.4	58.2	94.3	226	1	1	0	0
O175P	1	F	N116	back	2min	17	1min	719.2	71.8	40.3	31.4	38	136	0.9	4.3	71.7	100.0	1160	0	0	0	0
O190P	1	M	N103	back	1min	7	1min	597.4	68.5	37.0	31.4	87	73	2.4	2.3	68.5	100.0	1999	0	0	23	3
O253P	1	M	N79	belly	4min	16	3min	187.5	40.5	21.4	19.0	30	48	1.4	2.5	31.8	78.7	313	0	0	0	0
O253P	2	M	N79	belly	4min	16	3min	164.7	35.9	18.0	18.0	16	33	0.9	1.8	28.3	78.7	260	1	1	0	0
O346P	1	F	N111	back	2min	11	1min	1134.7	126.2	73.8	52.4	124	98	1.7	1.9	120.4	95.4	1960	0	0	0	0
O357P	1	F	3s-video	belly	10min	13	3min	2820.7	340.0	193.3	146.8	171	178	0.9	1.2	126.7	37.2	451	8	7	0	0
O406P	1	M	N116	back	2min	7	1min	71.3	5.7	5.7	0.0	5	0	0.9	-	5.7	99.7	172	0	0	0	0
O406P	2	M	N116	back	2min	7	1min	442	32.0	21.2	10.8	61	23	2.9	2.1	31.1	97.2	603	0	0	11	1
O406P	3	M	N116	back	2min	7	1min	320.5	56.6	35.6	21.0	134	45	3.8	2.1	56.6	99.9	1037	0	0	17	2
O453P	1	M	N79	back	1min	21	1min	908.7	111.9	60.4	51.4	121	111	2.0	2.2	82.0	73.3	2936	4	1	0	0
O488P	1	M	N53	back	2min	17	1min	1084.4	103.5	61.5	41.9	104	60	1.7	1.4	103.5	100.0	1755	0	0	0	0
O493P	1	F	N52	back	2min	8	1min	717.5	73.5	42.1	31.4	69	80	1.6	2.5	73.5	100.0	1215	0	0	5	1
O653P	1	F	N20	back	2min	6	1min	116.9	33.2	22.7	10.5	55	48	2.4	4.6	33.2	99.9	666	0	0	0	0
O679P	1	F	N53	back	1min	14	1min	820.1	94.4	52.4	41.9	76	95	1.4	2.3	94.4	100.0	3018	0	0	0	0
O729P	1	F	N116	back	1min	15	1min	406.4	31.8	21.3	10.5	39	27	1.8	2.6	31.8	100.0	1246	1	1	0	0

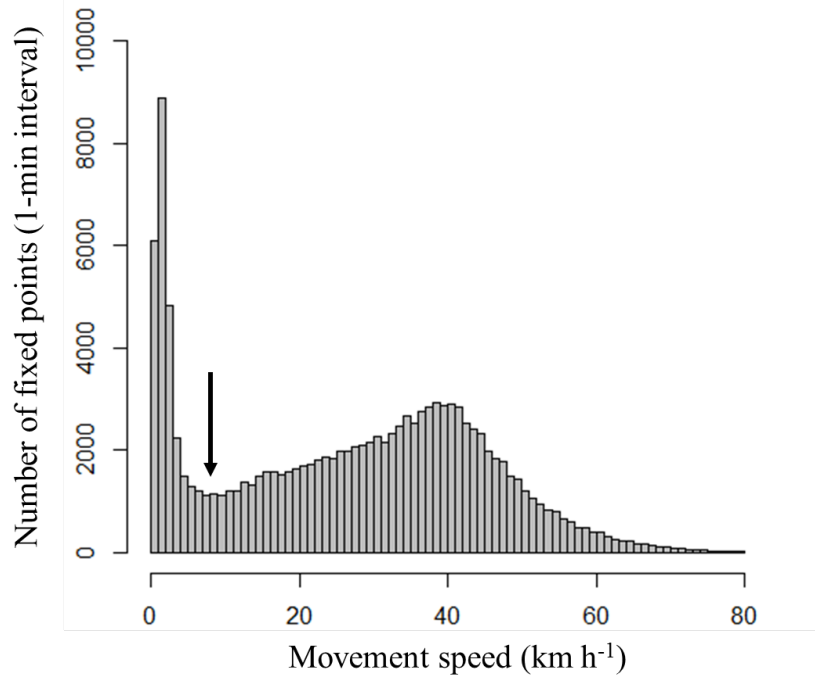


Fig. S1. Histogram of movement speed of 120,121 points from all analyzed foraging trips (26 trips of 20 birds). The black arrow indicates the cutoff value of 9 km h⁻¹, which was used for the threshold of “flight”.

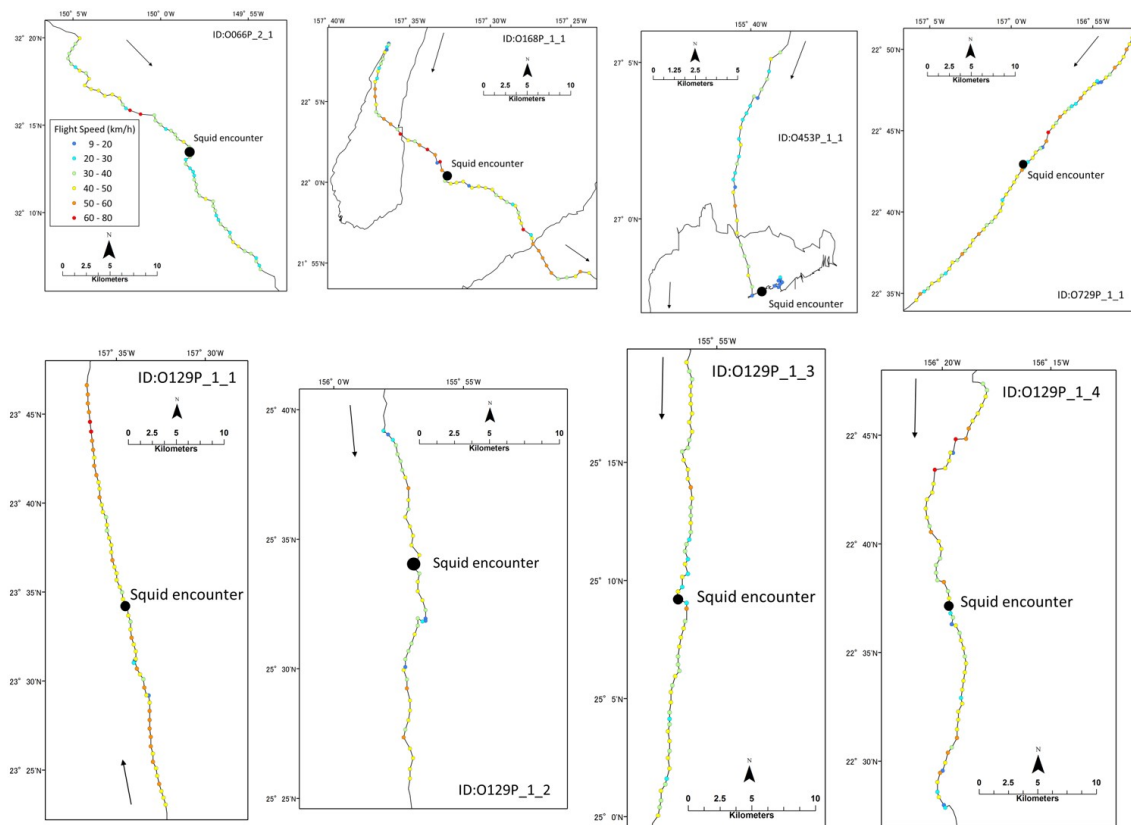


Fig. S2. Tracks 30-minutes before/after on-water bouts with squids. Flight speed is shown by color as blue (slow) to red (fast). Locations every 1-minute are shown. Locations of on-water bouts with squids are shown by black circle and flight direction by arrow.