Supplementary Tables S1-S8

Table S1

Sample size details for geometric morphometrics analyses shown in figures 2 and 3.

Group	Sample size day 0	Sample size day 90
Control females	5	15
Control males	5	9
AI females 1	5	17
AI females 2	5	16

Table S2

Gonado-somatic index (GSI) and sample size of females, males and AI females fish after 168 and 310 days. Fish were used for histology (168 days) and gene expression (310 days). GSI is shown as mean ± SD.

Group	168 days		310 days	
	GSI	Sample size	GSI	Sample size
Control females	1.34 ± 1.1	3	2.15 ± 1.55	8
AI females	0.46 ± 0.4	3	0.72 ± 0.64	6
Control Males	0.27 ± 0.05	3	0.58 ± 0.16	6

Table S3

Statistics for gene expression comparisons among control females, control males and AI females (fig. 6). A Kruskal-Wallis test was used to assess group differences. For p-values < 0.05 a Dunn post-hoc test was performed (table S4).

Gene	Tissue	chi-squared	p-value
ara	brain	10.421	0.015
	gonad	8.337	0.040
arb	brain	4.156	0.245
	gonad	9.499	0.023
cyp19a1a	brain	12.450	0.006
	gonad	10.775	0.013
cyp19a1b	brain	14.226	0.003
	gonad	12.088	0.007
foxl2A	brain	4.786	0.188
	gonad	11.894	0.008
foxl2B	brain	4.795	0.188
	gonad	0.316	0.957
cyp11b2	brain	2.732	0.435
	gonad	11.473	0.009
sf-1	brain	2.088	0.554
	gonad	7.565	0.056
dmrt1	gonad	11.710	0.008

Table S4

Dunn's post-hoc tests for gene expression data comparisons with a Kruskal-Wallis test p-value < 0.05 (see table S3). Shown are Z- and p-values. Significant p-values indicated in figure 6 are highlighted in grey.

Gene & Tissue	Comparisons					
	Females *vs.* AI day 168	Females *vs.* AI day 310	Females *vs.* Males	Males *vs.* AI day 168	Males *vs.* AI day 310	AI day 168 *vs.* day 310
ara brain	-2.709097 0.0202	-2.680355 0.0110	-1.236293 0.1298	1.638436 0.1013	1.389089 0.1236	0.502624 0.3076
ara gonads	-1.492437 0.1356	-2.778178 0.0164	-0.899122 0.2764	0.713774 0.2377	1.839076 0.0989	-0.837707 0.2413
arb gonads	-0.648885 0.2582	-1.662994 0.0963	1.292488 0.1471	1.768213 0.1155	3.012954 0.0078	-0.753937 0.2705
dmrt1 gonads	-0.308220 0.3790	0.802150 0.2535	2.922147 0.0104	2.838874 0.0068	2.249933 0.0245	1.005249 0.2361
cyp19a1a brain	-0.697552 0.2427	2.729267 0.0095	1.404878 0.1200	1.914212 0.0556	-1.261919 0.1242	3.057633 0.0067
cyp19a1a gonads	0.210887 0.4165	-0.332598 0.4437	-2.753562 0.0177	-2.595542 0.0142	-2.543403 0.0110	-0.502624 0.4614
cyp19a1b brain	-2.757764 0.0087	-3.179253 0.0044	-0.842927 0.2396	2.027767 0.0319	2.298845 0.0215	0.125656 0.4500
cyp19a1b gonads	-0.178443 0.4292	-1.193443 0.1745	2.135415 0.0491	2.027767 0.0426	3.423811 0.0019	-0.837707 0.2413
foxl2a gonads	-0.259554 0.3976	-1.144531 0.1893	-3.203123 0.0041	-2.514432 0.0179	-2.201021 0.0277	-0.712051 0.2859
cyp11b2 gonads	0.227109 0.4102	-0.753238 0.2708	2.416391 0.0235	1.865546 0.0621	3.277077 0.0031	-0.879593 0.2843

Table S5

Measurements of focal fish and stimulus pair information as used for the behavioural experiments shown in figures 7 and S5-S9.

Group	Individual	Total length (mm)	Standard length (mm)	Weight (g)	Used with stimulus pair
Female	F1	63.62	51.44	4.51	1
Female	F2	63.60	51.20	4.74	2
Female	F3	61.95	49.61	3.07	3
Female	F4	59.77	47.82	3.29	4
Female	F5	63.86	50.47	3.76	5
Female	F6	58.89	46.53	3.10	6
Female	F7	58.73	46.67	2.78	7
Male	M1	75.58	59.51	6.14	1
Male	M2	74.37	58.84	6.85	2
Male	M3	74.75	58.66	6.71	3
Male	M4	72.90	58.63	5.43	4
Male	M5	71.57	55.40	5.28	5
Male	M6	66.78	53.91	4.42	6
Male	M7	64.33	51.59	4.28	7
AI	AI1	75.46	59.76	5.65	1
AI	AI2	76.38	59.64	6.61	2
AI	AI3	71.32	56.21	5.17	3
AI	AI4	72.81	55.95	4.96	4
AI	AI5	70.02	54.90	5.30	5
AI	AI6	65.21	52.43	3.56	6
AI	AI7	67.85	51.36	4.65	7

Table S6

Measurements and pair information of stimulus fishes used for the behavioural experiments shown in figures 7 and S5-S9.

Individual	Total length (mm)	Standard length (mm)	Weight (g)	Sex	Belonging to stimulus pair
F8	58.72	46.61	2.55	Female	1
F9	58.67	46.46	2.59	Female	2
F10	55.60	44.94	2.98	Female	3
F11	55.25	45.55	3.59	Female	4
F12	55.05	44.65	2.79	Female	5
F13	54.07	43.26	2.80	Female	6
F14	53.59	44.81	2.90	Female	7
M8	89.87	71.13	11.58	Male	1
M9	83.33	64.92	7.49	Male	2
M10	83.05	64.65	8.64	Male	3
M11	82.95	64.16	8.78	Male	4
M12	80.09	63.38	6.63	Male	5
M13	79.07	61.62	7.84	Male	6
M14	74.30	60.89	7.39	Male	7

Table S7

Friedman test for experiments shown in figure 7.

	Friedman Test	
	chi-squared	p-value
Fig. 7A Time spent in female choice zone	6.000	0.0498
Fig. 7B Time spent in male choice zone	1.143	0.5647
Fig. 7C Number of displays	8.000	0.0183
Fig. 7D Presence of eye-bar in choice zones	8.963	0.0113

Table S8

Pairwise Wilcoxon post-hoc test for Friedman tests with $p < 0.05$ in Table S7 (marked in grey) and figure 7.

	p-values of Pairwise Wilcoxon post-hoc test					
	Uncorrected			Bonferroni-corrected		
	Females *vs*. AI	Females *vs*. Males	Males *vs*. AI	Females *vs*. AI	Females *vs*. Males	Males *vs*. AI
Fig. 7A Time spent in female zone	0.016	0.109	0.375	0.047	0.328	1.000
Fig. 7C Number of displays	0.034	0.016	0.866	0.103	0.047	1.000
Fig. 7D Presence of eye-bar in choice zones	0.036	0.074	0.150	0.110	0.220	0.450