Table S1. Detail coordinates of the study sites at Fengshan River.

Sampling sites	Longitude	Latitude
FS1	120°58'38.4"E	24°51'17.5"N
FS2	121°02'20.7"E	24°50'09.7"N
FS3	121°04'39.4"E	24°49'09.5"N
FS4	121° 07'55.3"E	24°48'25.7"N

Table S2. Detail coordinates of the study sites at Shimen River

Sampling sites	Longitude	Latitude
SM1	121°34'00.6"E	25°17'27.4"N
SM2	121°34'10.7"E	25°17'07.8"N
SM3	121°34'17.3"E	25°16'52.6"N
SM4	121°34'25.6"E	25°16'42.9"N

Table S3. Detail coordinates of the water sampling sites of 34 river basins in a national scale survey

Name of River	Longitude of sampling site	Latitude of sampling site
Beishikeng River	121°54'44.1"E	25°05'18.4"N
Hemei River	121°54'43.1"E	25°04'55.3"N
Jingshawan River	121°54'31.7"E	25°04'21.3"N
Daxi River	121°52'42.1"E	24°56'59.2"N
Gengfang River	121°51'27.3"E	24°54'16.1"N
Dezikou River	121°47'28.7"E	24°48'32.9"N
Xinchen River	121°50'24.4"E	24°38'00.1"N
DongaoNorth River	121°49'53.2"E	24°31'26.3"N
Liwu River	121°37'30.8"E	24°09'14.1"N
Sanzhan River	121°36'25.6"E	24°06'07.7"N
Shuliao River	121°32'53.7"E	23°44'52.5"N
Xiuguluan River	121°29'00.5"E	23°28'11.4"N
Ningpu River	121°24'56.2"E	23°14'14.9"N
Dabin River	121°23'57.0"E	23°12'35.2"N
Duwei River	121°23'39.0"E	23°11'32.8"N
Fujia River	121°23'07.5"E	23°07'58.8"N
Hsinkang River	121°22'45.5"E	23°06'29.9"N
Mawu River	121°18'00.5"E	22°59'26.4"N
Taimali River	120°59'34.1"E	22°35'29.4"N
Anshuo River	120°52'56.9"E	22°17'35.9"N
Nanwan River	121°19'56.5"E	25°07'11.7"N
Nankan River	121°15'05.9"E	25°05'43.0"N
Shuangxikou River	121°10'23.0"E	25°04'38.1"N
Xinwu River	121°02'15.1"E	25°01'03.2"N
Zhonggang River	120°51'39.5"E	24°39'52.4"N
Oldzhuoshui River	120°24'09.2"E	24°02'35.8"N
Newhuwei River	120°14'10.2"E	23°45'15.9"N
Yanshui River	120°15'48.1"E	23°03'32.1"N
Erren River	120°13'58.9"E	22°54'21.5"N
Tianliao River	120°25'04.8"E	22°49'28.9"N
Dianbao River	120°16'24.9"E	22°45'10.4"N
Gaoping River	120°26'27.5"E	22°37'36.6"N
Donggang River	120°29'24.8"E	22°31'51.6"N
Linbian River	120°32'18.5"E	22°27'31.6"N

Table S4. Calculation and comparison benchmark of River Pollution Index

Water quality / Item	Non/mildly-polluted	Lightly-polluted	Moderately-polluted	Severely-polluted
DO (mg/L)	$DO \geq 6.5$	$6.5 > DO \geq 4.6$	$4.5 \geq DO \geq 2.0$	$DO < 2.0$
BOD_5 (mg/L)	$BOD_5 \leq 3.0$	$3.0 < BOD_5 \leq 4.9$	$5.0 \leq BOD_5 \leq 15.0$	$BOD_5 > 15.0$
SS (mg/L)	$SS \leq 20.0$	$20.0 < SS \leq 49.9$	$50.0 \leq SS \leq 100$	$SS > 100$
NH_3-N (mg/L)	$NH_3\text{-}N \leq 0.50$	$0.50 < NH_3\text{-}N \leq 0.99$	$1.00 \leq NH_3\text{-}N \leq 3.00$	$NH_3\text{-}N > 3.00$
Point	1	3	6	10
Pollution Point (S)	$S \leq 2.0$	$2.0 < S \leq 3.0$	$3.1 \leq S \leq 6.0$	$S > 6.0$

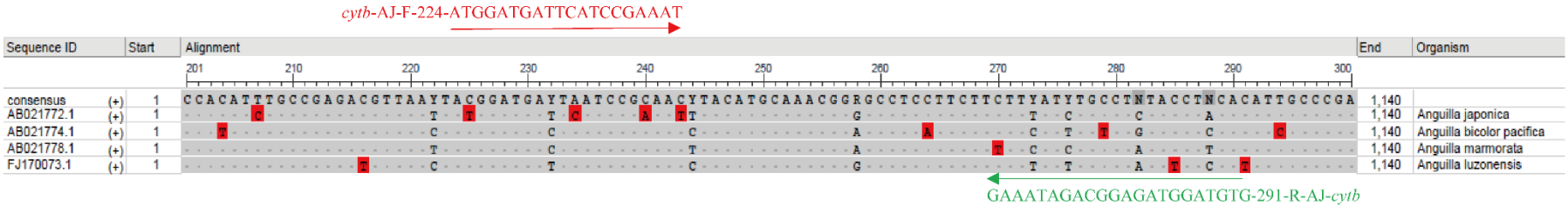

Figure S1. Comparison of *cytb* sequences among four different Anguillid eel species found in Taiwan and the location of *Anguilla japonica*-specific primers for real-time PCR of *cytb* The *cytb* sequences of *A. japonica* (Accession Number in GenBank: AB021772.1), *A. bicolor pacifica* (Accession Number in GenBank: AB021774.1), *A. marmorata* (Accession Number in GenBank: AB021778.1), and *A. luzonensis* (Accession Number in GenBank: FJ170073.1) aligned and compared using the Multiple Alignment tool available on NCBI.

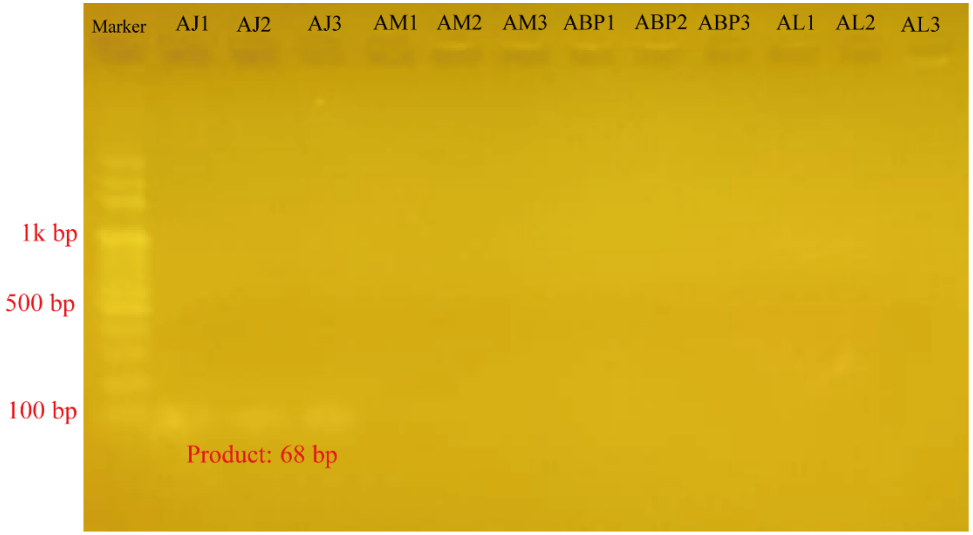

Figure S2. Gel electrophoresis following polymerase chain reaction (PCR) with the *A. japonica*-specific *cytb* primer pair The PCR product size is 68 base pairs (bp). Each species' genomic DNA (gDNA) was subjected to PCR in triplicate. AJ: *A. japonica*; AM: *A. marmorata*; ABP: *A. bicolor pacifica*; AL: *A. luzonensis*