

**Table S1.** Lakes and reservoirs with presence of galaxiids. Basin, latitude, and fish species are indicated. Detailed positions are shown in Figure 1.

Lakes & Reservoirs	Basin	Lat. (S.)	Native fishes <sup>1</sup>	Alien fishes <sup>1</sup>
Calafquén	Valdivia	39°	<i>Ba, Gm, Gp, Omau</i>	<i>Om, St</i>
Panguipulli	Valdivia	39°	<i>Ba, Gm, Gp, Omau</i>	<i>Om, St</i>
Neltume	Valdivia	39°	<i>At, Ba, Gm, Gp, Pt</i>	<i>Om, St</i>
Pirehueico	Valdivia	39°	<i>Gm, Pt</i>	<i>Om, St</i>
Riñihue	Valdivia	39°	<i>Az, Ba, Ca, Gm, Gp, Omau, Pt</i>	<i>Om, St</i>
Pellaif	Valdivia	39°	<i>Gp, Pt</i>	<i>Om, St</i>
Rupanco	Bueno	40°	<i>Ba, Gm, Omau</i>	<i>Ok, Om, Ot, Ss, St</i>
Piedra del Águila	Limay	40°	<i>Hm, Dv, Gm, Oh, Pt</i>	<i>Om, Sf, Ss, St</i>
Filo Hua Hum	Limay	40°	<i>Dv, Gm, Gp, Pt</i>	<i>Om, St</i>
Espejo	Limay	40°	<i>Dv, Gm, Gp, Pt</i>	<i>Om, Sf, St</i>
Alicura	Limay	40°	<i>Dv, Gm, Hm, Oh, Pt</i>	<i>Om, Sf, Ss, St</i>
Correntoso	Limay	40°	<i>Gm, Pt</i>	<i>Om, Sf, St</i>
Larga	Limay	40°	<i>Gm</i>	
Redonda	Limay	40°	<i>Gm</i>	
Llanquihue	Mauillin	41°	<i>Gm, Gp, Omau</i>	<i>Ok, Om, Ot, Ss, St</i>
Azul	Puelo	41°	<i>Gp, Pt</i>	<i>Om, St</i>
Candelaria	Puelo	41°	<i>Gm, Pt</i>	<i>Om, St</i>
Victoria	Puelo	41°	<i>At, Gm, Gp, Pt</i>	<i>Ok, Om, Ot, St</i>
Las Rocas	Puelo	41°	<i>Gp</i>	<i>Om, Sf, St</i>
Inferior	Puelo	41°	<i>Gp, Pt</i>	<i>Om, Sf, St</i>
Morenito	Limay	41°	<i>Gm, Gp, Oh, Pt</i>	<i>Om, Sf</i>
Ezquerria	Limay	41°	<i>Gm, Gp, Oh, Pt</i>	<i>Om</i>
Nahuel Huapi	Limay	41°	<i>Dv, Gm, Gp, Oh, Pt</i>	<i>St, Om, Sf, Ss</i>
Gutiérrez	Limay	41°	<i>Dv, Gm, Gp</i>	<i>Om, Sf, St</i>
Moreno	Limay	41°	<i>Dv, Gm, Gp, Oh, Pt</i>	<i>Om, Sf, Ss</i>
Mascardi	Puelo	41°	<i>Gm, Gp</i>	<i>Om, Sf, St</i>
Fonck	Puelo	41°	<i>Gm, Gp</i>	<i>Om, Sf, St</i>
Los Moscos	Puelo	41°	<i>Gm, Gp</i>	<i>Om, Sf, St</i>
Martin	Puelo	41°	<i>Gm, Gp</i>	<i>Om, Sf, St</i>
Steffen	Puelo	41°	<i>Gm, Gp</i>	<i>Om, Sf, St</i>
Blanco	Blanco	42°	<i>Ga, Gm</i>	<i>Om, Ot</i>
Cucao	Chiloé	42°	<i>Gm</i>	<i>St</i>
Huillinco	Chiloé	42°	<i>Gm, Omau</i>	<i>Om, St</i>
Natri	Chiloé	42°	<i>Gm</i>	<i>Om, St</i>
Tarahuin	Chiloé	42°	<i>Gm</i>	<i>Om, St</i>
Tepuhueico	Chiloé	42°	<i>Gm</i>	<i>Om, St</i>
Puelo	Puelo	42°	<i>Az, Gp, Oh, Pt</i>	<i>Om, Ot, Sf, St, Ss</i>

Rivadavia	Futaleufú	42°	<i>Az, Gp, Oh, Pt</i>	<i>Om, Sf, St</i>
Futalaufquen	Futaleufú	42°	<i>Az, Gp, Oh, Pt</i>	<i>St, Om</i>
Lonconao	Futaleufu	43°	<i>Az</i>	<i>Sf</i>
Yelcho	Futaleufu	43°	<i>Gm</i>	<i>Ok, Om, Ot, St</i>
Las Torres	Cisnes	44°	<i>Gp</i>	<i>St</i>
Risopatrón	Palena	44°	<i>Gm, Gp</i>	<i>St</i>
Escondida	Aysen	44°	<i>Gp</i>	<i>St</i>
Caro	Aysen	45°	<i>Az</i>	<i>St</i>
Elizalde	Aysen	45°	<i>Az, Gp</i>	<i>St</i>
La Paloma	Aysen	45°	<i>Az</i>	<i>St</i>
Riesco	Aysen	45°	<i>Az, Ga, Gm, Gp</i>	<i>St</i>
Thompson	Aysen	45°	<i>Gp</i>	<i>Om</i>
Pollux	Aysen	45°	<i>Gp</i>	<i>St</i>
Los Palos	Aysen	45°	<i>Ga, Gm, Gp</i>	<i>St, Om</i>
Alta	Aysen	45°	<i>Gm, Gp</i>	
Atravezado	Aysen	45°	<i>Gp</i>	<i>St</i>
Verde	Aysen	45°	<i>Gp</i>	<i>St</i>
Condor	Aysen	45°	<i>Az, Gm, Gp</i>	<i>St</i>
Yulton	Cuervo	45°	<i>Gp</i>	
Meullín	Cuervo	45°	<i>Gp</i>	
Coyte	Coyte	45°	<i>Gp</i>	
General Carrera	Baker	46°	<i>Gp, Hm, Oh, Pt</i>	<i>Omas, Ss, St</i>
Jeinimeni	Baker	46°	<i>Gp</i>	<i>St</i>
Cochrane	Baker	47°	<i>Gp, Hm, Pt</i>	<i>Om, St</i>
Largo	Baker	47°	<i>Gp, Hm</i>	
Esmeralda	Baker	47°	<i>Gp, Oh, Pt</i>	<i>Om</i>
Maldonado	Baker	47°	<i>Gp, Pt</i>	
Tortel	Baker	47°	<i>Gp</i>	
Pullin	Baker	47°	<i>Gp</i>	
Paine	Serrano	50°	<i>Gp</i>	
Roca	Santa Cruz	50°	<i>Gm</i>	
Negra	Negro	50°	<i>Gm</i>	<i>Sf</i>
Las Mellizas E	Serrano	51°	<i>Gp</i>	
Las Mellizas O	Serrano	51°	<i>Gp</i>	
Nordenskjold	Serrano	51°	<i>Gp</i>	
Toro	Serrano	51°	<i>At, Gm, Gp</i>	<i>Om, Ot, St</i>
Sarmiento	Serrano	51°	<i>Gp</i>	<i>St</i>
Pehoe	Serrano	51°	<i>Gp</i>	
Porteño	Serrano	51°	<i>At, Az, Gm, Gp</i>	<i>St</i>
Vision Mundo	Serrano	51°	<i>Gp</i>	
Azul	Serrano	51°	<i>Az, At, Gp</i>	

Dickson	Serrano	51°	<i>Gp</i>	
Balmaceda	Hollemborg	51°	<i>Gm</i>	<i>St</i>
Blanco Sur	Grande	54°	<i>Gp</i>	<i>St</i>
Deseado	Sanchez	54°	<i>Gp</i>	<i>St</i>

<sup>1</sup> Native fishes; *At*: *Aplochiton taeniatus*, *Az*: *Aplochiton zebra*, *Ba*: *Basilichthys australis*, *Ca*: *Cheirodon australe*, *Ci*: *Cheirodon interruptus*, *Cp*: *Corydoras paleatus*, *Dv*: *Diplomystes viedmensis*, *Ga*: *Geotria australis*, *Gm*: *Galaxias maculatus*, *Gp*: *Galaxias platei*, *Hm*: *Hatcheria macraei*, *Jm*: *Jenynsia multidentata*, *Oh*: *Odontesthes hatcheri*, *Oj*: *Odontesthes jenynsi*, *Omau*: *Odontesthes mauleanum*, *Pt*: *Percichthys trucha*, *Ta*: *Trichomycterus areolatus*. Alien fishes; *Cc*: *Cyprinus carpio*, *Ob*: *Odontesthes bonaerensis*, *Ok*: *Oncorhynchus kisutch*, *Om*: *Oncorhynchus mykiss*, *Omas*: *Oncorhynchus masou*, *Ot*: *Oncorhynchus tshawytscha*, *Sf*: *Salvelinus fontinalis*, *Sn*: *Salvelinus namaycush*, *Ss*: *Salmo salar*, *St*: *Salmo trutta*.

**Table S2.** Rivers and streams mentioned in the text. Fish species present and corresponding river basins are indicated.

River / Stream	Native fishes <sup>1</sup>	Alien fishes <sup>1</sup>	Basin
Negro	<i>Ci, Cp, Dv, Ga, Gm, Gp, Hm, Jm, Oh, Pt, Ta</i>	<i>Cc, Ob, Om</i>	Negro
Limay	<i>Cp, Dv, Gm, Gp, Hm, Oh, Pt</i>	<i>Cc, Om, Sf, Ss, St</i>	Negro
Caleufú	<i>Gm, Hm, Oh, Pt</i>	<i>Om, St</i>	Negro
Santa Cruz	<i>Ga, Gm, Gp, Pt</i>	<i>Om, Ot, Sn, St</i>	Santa Cruz
Bompland	<i>Gm</i>		Bompland
Arroyo Negro	<i>Em, Gm, Psp</i>	<i>Ot, St</i>	Arroyo Negro
Robalo	<i>At, Gm</i>	<i>Ok, Om, Sf, St</i>	Robalo

<sup>1</sup> Native fishes; *At*: *Aplocheilichthys taeniatus*, *Az*: *Aplocheilichthys zebra*, *Ci*: *Cheirodon interruptus*, *Cp*: *Corydoras paleatus*, *Dv*: *Diplomystes viedmensis*, *Em*: *Eleginops maclovinus*, *Ga*: *Geotria australis*, *Gm*: *Galaxias maculatus*, *Gp*: *Galaxias platei*, *Hm*: *Hatcheria macraei*, *Jm*: *Jenynsia multidentata*, *Oh*: *Odontesthes hatcheri*, *Psp*: *Patagonotothen sp.*, *Ta*: *Trichomycterus areolatus*. Alien fishes; *Cc*: *Cyprinus carpio*, *Ob*: *O. bonaerensis*, *Ok*: *Oncorhynchus kisutch*, *Om*: *O. mykiss*, *Ot*: *O. tshawytscha*, *Sf*: *S. fontinalis*, *Sn*: *S. namaycush*, *Ss*: *S. salar*, *St*: *S. trutta*.

**Table S3.** Summary of the key, distinguishing attributes (Taxonomy, Changes in distribution, Feeding and thermal tolerance, Morphological variation, Vertebral number, Life history) of the galaxiid species in South America; *Aplochiton marinus*, *Aplochiton taeniatus*, *Aplochiton zebra*, *Brachygalaxias bullocki*, *Brachygalaxias gothei*, *Galaxias globiceps*, *Galaxias maculatus* and *Galaxias platei*.

Species	Taxonomy	Changes in distribution	Feeding and thermal tolerance	Morphological variation	Vertebral number	Life history
<i>A. marinus</i>	Resurrected	A				Diadromous
<i>A. taeniatus</i>		A, C	1			Diadromous
<i>A. zebra</i>		A	1	Related to diet and turbidity.		Landlocked or diadromous.
<i>B. bullocki</i>		A, C				
<i>B. gothei</i>		Extinct?				
<i>G. globiceps</i>		Extinct?				
<i>G. maculatus</i> *		A, B, E, F	1, 3	Related to feeding, water color, life history and genetic drift.	Related to latitude and life history.	Landlocked or diadromous. Upstream migrations in landlocked populations. Lack of larval homing in lakes.
<i>G. platei</i>	Need of revision	A, B, D	2, 3	Associated with risk of predation and diet.	Related to latitude, altitude, and temperature.	Landlocked. The largest and longest-lived species.

\*The main food category for native and exotic fish predators. **A:** Negative effects of non-native fish species have caused reduction of distribution ranges, **B:** Existence of thermal refugia (extremely high or low temperature) against salmonids, *Gambusia* spp., and common carp, **C:** Affected by anthropic effects, **D:** Bottom or littoral anti-predatory refugia. "Better sampling" effect, **E:** Negative effects of river fragmentation, **F:** Negative effects of warming **1:** Invertebrate predator, affected by the presence of salmonids. Ontogenetic habitat and diet shifts. Piscivory in great individuals, **2:** Benthic carnivore, greater sizes with cannibalistic habits, affected by the presence of salmonids, **3:** Limited by high temperature. With extreme tolerance to low temperature.

**Table S4.** The key documented threats to the galaxiid species. The effects of threats (exotic fishes, warming, river fragmentation and human activities) on the galaxiid species (*Aplochiton marinus*, *Aplochiton taeniatus*, *Aplochiton zebra*, *Brachygalaxias bullocki*, *Brachygalaxias gothei*, *Galaxias globiceps*, *Galaxias maculatus* and *Galaxias platei*) are indicated.

Species	Salmonids	<i>Gambusia</i> spp.	Common carp	Warming	River fragmentation	Human activities
<i>A. marinus</i>						
<i>A. taeniatus</i>	Diet shifts					Extirpation
<i>A. zebra</i>	Diet shifts			North limited by high temperatures.		
<i>B. bullocki</i>						Extirpation
<i>B. gothei</i>						
<i>G. globiceps</i>						
<i>G. maculatus</i>	Displacement from the streams	Replacement in northern basins	Decline at the Negro River basin	North limited by high temperatures. Changes in the use of lake littoral zone.	Extirpation or decline, mainly of diadromous populations.	
<i>G. platei</i>	Predation risk. Diet shifts. Displacement from the streams at intermediate elevations and from lake limnetic zone.			North limited by high temperatures.		