Sexual selection as a potential driver of fish diversity in Amazonia

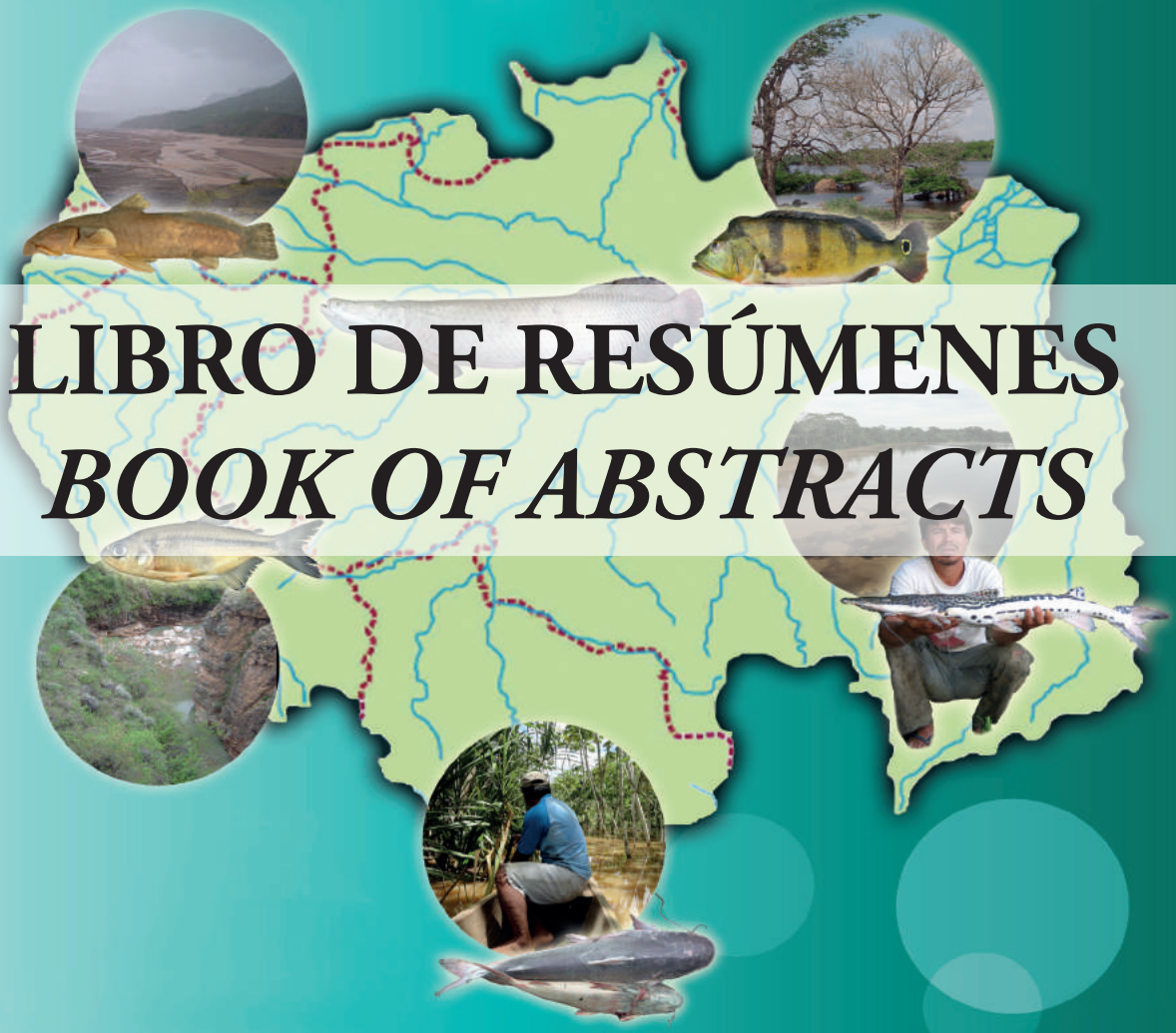
J.-F. Renno[1,5*], M. Tomadin[1], A. Vela[2], V. Salas[3], C. García-Dávila[2,5], J. Núñez[1,5], M. J. Darias[1,5], S. Sirvas[3,5], U. Römer[4,5], F. Duponchelle[1,5]

[1]Institut de Recherche pour le Développement (IRD), UMR 207 BOREA, Montpellier, France
[2]Instituto de Investigaciones de la Amazonía Peruana (IIAP), AQUAREC, Iquitos, Peru
[3]UNFV, Lima, Peru
[4]University of Trier, Inst. Biogeography, Trier, Germany
[5]Laboratoire Mixte International Evolution et Domestication de l'Ichtyofaune Amazonienne (LMI EDIA), Iquitos, Peru
[*]Jean-Francois.Renno@ird.fr

The genus *Apistogramma* displays a large range of species in Amazonia. In some of them, the mtDNA haplotype phylogenies show polytomies of haplotypes or a similar haplotype shared by differentiated endemic morphotypes originating from the same Amazonian creek, suggesting the recent formation of biological species or incipient speciation. Sexual selection through female mate-choice could contribute to these speciation events, a hypothesis that we are beginning to test in *Apistogramma agassizii*. Our results under experimental laboratory conditions demonstrate that *A. agassizii* females prefer to mate with males that originate from the same forest creek as they do, rather than with males from neighbouring creeks (<3 km distance). In contrast, mate choice becomes undifferentiated when females are proposed males from their own creek as well as males from distant creeks (tens of km). This first observation suggests a prezygotic reinforcement between neighbouring populations or a rare-type mating advantage between distant populations. Moreover, the choice of male by the female takes place independent if the glass separations between male and female is sealed, preventing water exchange, or not. However fewer spawning events are observed when the glass separations are sealed suggesting stimulating role of pheromones in mating. Several varieties of male colour-morphs frequently coexist in the same species and the same creek. Our results also show that, when *A. agassizii* females and males originate from the same creek, the female chooses to mate systematically and repeatedly with males of the same colour variety (blue male or red male) when given the choice. We discuss the potential contribution of sexual selection to the hyper-diversity of species in Amazonia.

RED DE INVESTIGACIÓN SOBRE LA ICTIOFAUNA AMAZÓNICA
RESEARCH NETWORK ON AMAZONIAN ICHTHYOFAUNA

4º COLOQUIO INTERNACIONAL
4TH INTERNATIONAL CONFERENCE
COCHABAMBA - BOLIVIA - 30.09 - 02.10.2014



LIBRO DE RESÚMENES
BOOK OF ABSTRACTS

Organizadores - *Organizers*

ULRA
UNIDAD DE LIMNOLOGIA Y RECURSOS ACUÁTICOS

IRD
Institut de recherche
pour le développement

4º COLOQUIO INTERNACIONAL RIIA
RED DE INVESTIGACIÓN SOBRE LA ICTIOFAUNA AMAZÓNICA

4TH RIIA INTERNATIONAL CONFERENCE
RESEARCH NETWORK ON AMAZONIAN ICHTHYOFAUNA

30.09-02.10.2014
Cochabamba, Bolivia

LIBRO DE RESÚMENES
BOOK OF ABSTRACTS

Editores - *Editors*:
Maria J. Darias
Danny Rejas

www.riiaamazonia.org

Red de Investigación sobre la Ictiofauna Amazónica (RIIA)
Research Network on Amazonian Ichthyofauna (RIIA)
www.riiaamazonia.org

Editores - *Editors*: Maria J. Darias, Danny Rejas

Darias, M.J. & Rejas, D. (Eds.) (2015). 4º Coloquio Internacional RIIA - Red de Investigación sobre la Ictiofauna Amazónica: Libro de resúmenes. Cochabamba; Marseille: Universidad Mayor de San Simón; Institut de Recherche pour le Développement. 84 p.

Darias, M.J. & Rejas, D. (Eds.) (2015). 4th RIIA International Conference - Research Network on Amazonian Ichthyofauna: Book of Abstracts. Cochabamba; Marseille: Universidad Mayor de San Simón; Institut de Recherche pour le Développement. 84 p.