



Damen und Herren
habilitierte und promovierte Angehörige
sowie
Mitglieder des Rates
des Fachbereiches VI

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16.03.2021

**Promotionsverfahren zur Erlangung des akademischen Grades Doktor der Naturwissenschaften
(Dr. rer. nat.) von Herrn Luis Fernando Marin da Fonte**

Sehr geehrte Damen und Herren,

die Dissertation von **Herrn Luis Fernando Marin da Fonte** mit dem Titel

**„Patterns and drivers of amphibian diversity, with particular emphasis on
Amazonian floating meadows“**

sowie die Berichte liegen gemäß § 8 S. 2 PromO vom 27. Juli 2016 in der Zeit

vom 16.03.2021 bis zum 14.04.2021

im Dekanat (Zi. F 126) zur Einsichtnahme aus. Die Zeit der Auslagefrist entspricht den
Regelungen der PromoO des FB VI vom 27.7.2016.

**Aufgrund der aktuellen Auflagen der Corona-Bekämpfungsverordnung, ist eine
Einsichtnahme nur nach vorheriger Terminvereinbarung mit dem Dekanat möglich.**

Vorbehaltlich einer einspruchslosen Auslage ist als Termin für die Disputation vorgesehen:

Donnerstag, 15.04.2021, 15:00 Uhr, via Zoom

**Weitere Informationen zur Durchführung der Disputation
finden Sie auf der Homepage der Universität Trier unter:
Fachbereich VI > Der Fachbereich > Aktuelles > Disputationen am FB VI**

Mit freundlichen Grüßen

Univ.-Prof. Dr. Thomas Udelhoven
Dekan

SUMMARY

The Amazon rainforest belongs to the mega-diversity regions of the globe and it has an iconic status in biogeographic and evolutionary research. Amphibians have been proposed as good models to study general diversity patterns of Amazonian biota. We studied the knowledge gap with regard to the ca. 600 anuran species from Amazonia in GenBank, a collection of publicly available DNA sequences. We found that Amazonian amphibians are largely underrepresented in GenBank. Moreover, the spatial distribution of samples was clustered in areas of increased anthropogenic activity, and sampling was lacking in major portions of Amazonia. The geographic distribution of samples also showed that Amazonia is home to several species of amphibians with large geographic ranges. One example of a widespread amphibian in Amazonia is *Scarthyia goinorum* (Bokermann, 1962). During fieldwork, we recorded the species in several new localities, extending its distribution range in ca. 2,000 km from its type locality. One of the explanations for the existence of widespread amphibians is long-distance dispersal (LDD). We reviewed the cases of LDD in amphibians reported in the literature. Compiling information from more than 70 articles, we recovered at least 90 LDD events involving at least 56 extant amphibian species. We showed that LDD has played an important role in shaping current global amphibian biogeographic patterns and that most events were related to passive dispersal promoted by vegetation rafts. We then investigated how the floating vegetation, i.e. floating meadows, shapes the diversity patterns of amphibians in Amazonia. We recorded 50 amphibian species over 57 sites, covering ca. 7,000 km along river courses. Using multi-site generalised dissimilarity modelling of zeta diversity, we tested Hanski's core-satellite hypothesis and identified the existence of two functional groups of species operating under different ecological processes. 'Core' species were associated with floating meadows, while 'satellite' species were associated with adjacent environments. The turnover of 'satellite' species increased much faster with distances and was controlled by a wider range of climatic features. Distance was not a limiting factor for 'core' species, suggesting that they have a stronger dispersal ability even over large distance. This is probably related to the existence of passive LDD of individuals along rivers via vegetation rafts. Instead of serving as a dispersal barrier for amphibians, Amazonian rivers can facilitate dispersal, especially for floating meadows species.