

# Antifungal isolates database of amphibian skin-associated bacteria and function against emerging fungal pathogens

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**Abstract.** Microbial symbionts of vertebrate skin have an important function in defense of the host against pathogens. In particular, the emerging chytrid fungus *Batrachochytrium dendrobatidis*, causes widespread disease in amphibians but can be inhibited via secondary metabolites produced by many different skin-associated bacteria. Similarly, the fungal pathogens of terrestrial salamander eggs *Mariannaea elegans* and *Rhizomucor variabilis* are also inhibited by a variety of skin-associated bacteria. Indeed, probiotic therapy against fungal diseases is a recent approach in conservation medicine with growing experimental support. We present a comprehensive Antifungal Isolates Database of amphibian skin-associated bacteria that have been cultured, isolated, and tested for antifungal properties. At the start, this database includes nearly 2000 cultured bacterial isolates from 37 amphibian host species across 18 studies on five continents: Africa, Oceania, Europe, and North and South America. As the research community gathers information on additional isolates, the database will be updated periodically. The resulting database can serve as a conservation tool for amphibians and other organisms, and provides empirical data for comparative and bioinformatic studies. The database consists of a FASTA file containing 16S rRNA gene sequences of the bacterial isolates, and a metadata file containing information on the host species, life-stage, geographic region, and antifungal capacity and taxonomic identity of the isolate.

**Key words:** *amphibian; antifungal; Batrachochytrium dendrobatidis; culture database; disease ecology; microbiota; probiotic therapy; skin pathogens.*

The complete data sets corresponding to abstracts published in the Data Papers section of the journal are published electronically in *Ecological Archives* at <http://esapubs.org/archive> (the accession number for each Data Paper is given directly beneath the title).

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See the full data paper in *Ecological Archives* for affiliations of other authors.