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bioacoustica

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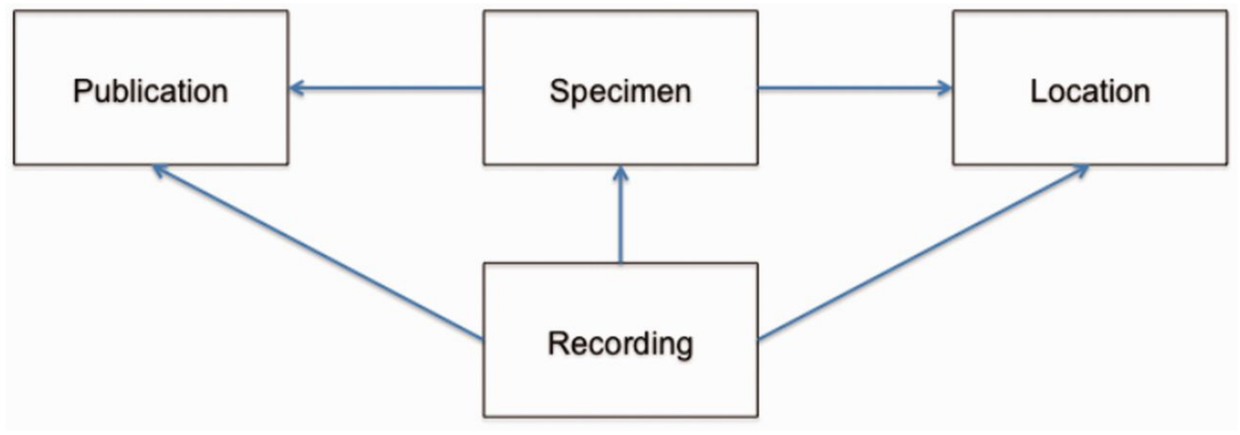
Introduction

The Natural History Museum (London) collection of recorded wildlife sound comprises mainly of field and laboratory recordings made between the 1970s and 1990s by David Ragge and Jim Reynolds. The recordings underpin historic acoustic studies on the European Orthoptera (e.g. Ragge & Reynolds, 1998) and the taxonomy of the frogs of Mulu National Park (e.g. Dring, 1984).

Where possible BioAcoustica makes links between sound recordings and preserved specimens, and the collecting of appropriate voucher specimens is encouraged for those submitting recordings. The majority of specimens for which recordings are held (including a number of holotypes) are deposited in the Natural History Museum, London. Depositing specimens in other collections is also encouraged, and several projects will also be depositing material in the National Museums of Scotland, Edinburgh.

Linking recordings to published works is also facilitated, allowing the recordings that underpin research to be easily identified and faciliating reproducability in bioacoustic research.

A description of the project canbe found in Baker et al (2015).



Data linkages in BioAcoustica

An online annotation tool allows for sections of voice introduction (blue), extraneous noise (red) and clear calls (green) to be identified, facilitating automatic analysis.

Horatosphaga raggei Heller & Baker, 2017: a new species of bush cricket first discovered from a sound recording on BioAcoustica

Current Work

The value of sound recordings in taxonomy is highlighted by the recent description (Heller & Baker, 2017) of a new species of the Orthopteran genus *Horatosphaga* that was initially uncovered by an unusual sound recording that did not match other members of the genus. The linkage of sound recordings to museum specimens allowed the status of the new species to be confirmed.

Several publications (e.g. Marshall *et al*, 2016) have specified BioAcoustica as a repository for sound recordings underpinning research findings, and others (e.g. Milach *et al*, 2015) have contributed recordings that are linked to publictions after the original publication.

Future Plans

Recordings in BioAcoustica underpin the Leverhulme Trust funded Automated Acoustic Observatories project. This project aims to use a new supertree of Orthoptera, bioacoustic analysis, and other trait data to create a step change in acoustic monitoring of species.

RECORDINGS USED IN THIS WORK

Recording name	Species	Recording
DAT.02.AU.QL.NSR.03.D23b.Crotopsalta.nr.strenulum.wav	Crotopsalta "nr. strenulum"	00:00 00:12
06.AU.VI.GRC.01.T03.Grampians.adelaida.wav	"Grampians adelaida"	00:00 01:04
06.AU.VI.MAR.01.T09.Gelidea.torrida.wav	Gelidea torrida	00:00 00:54
06.AU.WA.MDE.01.Chrysocicada.nr.franceaustralae.wav	Chrysocicada "nr. franceaustralae"	00:00 00:08
06.AU.WA.NUL.01.T02.Nullarbor.green.wav	"Nullarbor green"	00:00 00:30
07.AU.NS.BHS.T04.saltbush.cicada.wav	"saltbush cicada"	00:00 00:23
07.AU.SA.WPB.01.T08.Woomera.urchip.wav	"Woomera urchip"	00:00 00:06
08.AU.QL.TTX.01.T03.Graminitigrina.bolloni.wav	Graminitigrina bolloni	00:00 00:17
09.AU.WA.TUS.01.T06.Ewartia.cuensis.first.song.mode.wav	Ewartia cuensis	00:00 01:37
10.AU.NT.HMW.01.T01.Erempsalta.hermannsburgensis.wav	Erempsalta hermannsburgensis	00:00 00:16

Recordings linked to a publication (Marshall *et al*, 2016) on BioAcoustica.

References

Baker E, Price BW, Rycroft SD, Hill J, Smith VS. 2015. BioAcoustica: a free and open repository and analysis platform for bioacoustics. Database 2015:bav054.

Dring JC. 1984. Some new frogs from Sarawak. Amphibia-Reptilia 4(2):103 - 115.

Heller K-G, Baker E. 2017. From an old sound recording to a new species in the genus Horatosphaga (Orthoptera: Tettigonioidea: Phaneropterinae: Acrometopini). Zootaxa 4323(3):430-434.

Marshall DC, Hill KBR, Moulds M, et al. 2016. Inflation of Molecular Clock Rates and Dates: Molecular Phylogenetics, Biogeography, and Diversification of a Global Cicada Radiation from Australasia (Hemiptera: Cicadidae: Cicadettini). Systematic Biology 65(1):16-34.

Milach EM, Martins L de P, Da Costa MKM, et al. (2015) A new species of tree crickets Oecanthus (Orthoptera, Gryllidae, Oecanthinae) in tobacco plantation from Southern Brazil, with body color variation. Zootaxa 4018(2):266.

Ragge DR, Reynolds WJ. 1998. The Songs of the Grasshoppers and Crickets of Western Europe. Colchester, Essex: Harley Books;

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