**S1 Table.** **Accession names of the sound archives used in the bioacoustics analysis.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Museum No.** | **Sound archives names** | **Species** | **Sources** |
| -- | 44 PuertoAlmacen\_SantaCruz\_BO | *Dendropsophus arndti* | Fonoteca Zoológica of MNCN |
| -- | 45 Beni\_BO | *D. arndti* | Fonoteca Zoológica of MNCN |
| SMF88384 | AS0399\_NuflodeChavez\_BO | *D. arndti* | Jansen et al. 2011 |
| SMF88388 | MJ-98\_SanSebantian1\_BO | *D. arndti* | Jansen et al. 2011 |
| SMF88389 | MJ-1246\_NuflodeChavez\_BO | *D. arndti* | Jansen et al. 2011 |
| SMF88390 | MJ-1360\_Yucuma\_BO | *D. arndti* | Jansen et al. 2011 |
| SMF88393 | MJ-1657\_Ichilo\_BO | *D. arndti* | Jansen et al. 2011 |
| -- | SanSebastian | *D. arndti* | Jansen et al. 2011 |
| MZUSP950152 | 950152 S,Nav\_Mar27-1-AC | *D. leucophyllatus* | Lougheed et al. 2006 |
| MZUSP950153 | 950153 S,Nav\_Mar29-5-AC | *D. leucophyllatus* | Lougheed et al. 2006 |
| MZUSP950156 | 950156 S,Nav\_Mar29-4-ac | *D. leucophyllatus* | Lougheed et al. 2006 |
| MZUSP950157 | 950157 S,Nav\_Mar29-2-AC | *D. leucophyllatus* | Lougheed et al. 2006 |
| MZUSP950158 | 950158 S,Nan\_Mar29-1-AC | *D. leucophyllatus* | Lougheed et al. 2006 |
| MZUSP950161 | 950161 A,Chao\_Apr4-1-AC | *D. leucophyllatus* | Lougheed et al. 2006 |
| -- | Kaw mountain | *D. leucophyllatus* | AmphibiaWebEcuador website |
| -- | Kaw2 | *D. leucophyllatus* | AmphibiaWebEcuador website |
| -- | Toponowini | *D. leucophyllatus* | AmphibiaWebEcuador website |
| KU143179 | 7695\_KU143179\_Sucumbios\_SantaCecilia\_EC | *D. reticulatus* | Fonoteca Zoológica of MNCN |
| KU126484 | 7823\_KU126484\_Sucumbios\_SantaCecilia\_EC | *D. reticulatus* | Fonoteca Zoológica of MNCN |
| KU126485 | 7824\_KU126485\_Sucumbios\_SantaCecilia\_EC | *D. reticulatus* | Fonoteca Zoológica of MNCN |
| KU143145 | 8063\_KU143145\_Sucumbios\_SantaCecilia\_EC | *D. reticulatus* | Fonoteca Zoológica of MNCN |
| -- | LS100450\_Loracachi\_EC | *D. reticulatus* | AmphibiaWebEcuador website |
| QCAZA267-9 | QCAZ367-9\_Misahualli\_EC | *D. reticulatus* | AmphibiaWebEcuador website |
| QCAZ49174 | QCAZ49174\_Indillama\_ViaPompeya\_EC | *D. reticulatus* | AmphibiaWebEcuador website |
| -- | 39040\_44k\_Madre\_de\_Dios\_PE | *D.* sp. D | The Cornell Lab of Ornithology |
| -- | 39053\_44k\_Madre\_de\_Dios\_PE | *D.* sp. D | The Cornell Lab of Ornithology |
| -- | 39054\_44k\_Madre\_de\_Dios\_PE | *D.* sp. D | The Cornell Lab of Ornithology |
| -- | 39055\_44k\_Madre\_de\_Dios\_PE | *D.* sp. D | The Cornell Lab of Ornithology |
| MZUSP950253 | 950253 R,Bran\_Apr26-1-DP | *D.* sp. D | Lougheed et al. 2006 |
| MZUSP950254 | 950254 R,Bran\_Apr26-2-AC | *D.* sp. D | Lougheed et al. 2006 |
| MZUSP950163 | 950163 A,Chao\_Apr4-5-AC | *D.* sp. F | Lougheed et al. 2006 |
| MZUSP950164 | 950164 A,Chao\_Apr4-3-AC | *D.* sp. F | Lougheed et al. 2006 |
| MZUSP930042 | 930042\_hapl3\_AUkre\_BR | *D.* sp. G | Lougheed et al. 2006 |
| MZUSP930045 | 930045\_hapl3\_AUkre\_BR | *D.* sp. G | Lougheed et al. 2006 |
| MZUSP930046 | 930046\_hapl3\_AUkre\_BR | *D.* sp. G | Lougheed et al. 2006 |
| MZUSP930047 | 930047\_hapl3\_AUkre\_BR | *D.* sp. G | Lougheed et al. 2006 |
| MZUSP930050 | 930050\_hapl3\_AUkre\_BR | *D.* sp. G | Lougheed et al. 2006 |
| KU143152 | 7702\_KU143152\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| KU143153 | 7703\_KU143153\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| KU143154 | 7704\_KU143154\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| -- | 7832\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| KU126421 | 7833\_KU126421\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| -- | 7834\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| -- | 8009\_Sucumbios\_SantaCecilia\_EC | *D. triangulum* | Fonoteca Zoológica of MNCN |
| MZUSP950187 | 950187 Obd\_Apr7-4-AC | *D. triangulum* | Lougheed et al. 2006 |
| MZUSP950192 | 950192 Obd\_Apr7-1-AC | *D. triangulum* | Lougheed et al. 2006 |
| QCAZA44290 | Chiroisla\_QCAZ44290\_EC | *D. triangulum* | AmphibiaWebEcuador website |
| -- | Tambococha | *D. triangulum* | AmphibiaWebEcuador website |