**Appendix S1.** Detailed information on sites sampled.

**Turvo State Park (TSPK).** The TSPK is a large fragment (17,500 ha) located at Derrubadas city (27°12’17”S, 53°52’57”W), at northwest of Rio Grande do Sul. Its boundaries include the Santa Catarina state (north) and Argentina (west), following the Uruguay River with an elevation between 300 and 450 m a.s.l. It is the last refuge for large animals such as jaguar (*Panthera onca* (Linnaeus, 1758)), tapir (*Tapirus terrestris* Linnaeus, 1758), and harpy eagle (*Harpia harpyja* Linnaeus, 1758) in Rio Grande do Sul. For these attributes, it is considered one of the most important areas for the conservation of Rio Grande do Sul threatened fauna.

**Moreno Fortes Biological Reserve (MFBR).** The MFBR is an isolated and protected forest fragment located at Dois Irmãos das Missões city (27º36’31”S, 53º30’04”W), northwest of Rio Grande do Sul, with elevation ranging from 400 to 600 m a.s.l. Its approximate area is 458.6 ha and the vegetation is predominantly the Seasonal Deciduous Forest, with some species belonging to the Mixed Ombrophilous Forest (e.g. *Araucaria angustifolia* (Bertol.) Kuntze, 1898).

**Morro do Cerrito (MOCE).** The MOCE is an isolated forest fragment located at Santa Maria city (29°42’07”S, 53°47’08”W), central region of Rio Grande do Sul. Its approximate area is 141.5 ha and elevation varies between 150 and 240 m a.s.l. In the last decades, its forest vegetation has been transformed into fields and residences, while human buildings dominate its surroundings.

**Val Feltrina (VAFE).** The VAFE is a non-isolated forest fragment located at Silveira Martins city (29º38’19”S, 53º36’58”W), central region of Rio Grande do Sul. Is highly fragmented approximate area is 1,960 ha, with an elevation between 150 and 480 m a.s.l. Agriculture and livestock dominate the surroundings.