**Supplementary Material**

Habitat requirements and population estimate of the endangered Ecuadorian Tapaculo *Scytalopus robbinsi*

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**Contents**

Detailed description of the assessment of the microhabitat characteristics in the subplots of the Tapaculo territories and the control plots.

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**Inclination**

Mean inclination of a subplot was measured with a clinometer. Values are given in °.

**Tree height**

The tree height was measured using a rangefinder (Rangemaster CRF 900, Leica, Wetzlar) and rounded to the nearest 10 m. Values are given in m.

**DBH (Diameter in breast height)**

The girth of trees was measured with a tape measure and converted into the diameter. We only included trees with a DBH ≥ 10 cm into the analysis. Values are given in cm.

**TBA (Tree basal area)**

The tree basal area was determined for all trees with a DBH ≥ 10 cm. Values are given in m².

**Number of trees**

We counted all trees with a DBH ≥ 10 cm.

**Density in 0 – 50 cm**

The density was estimated visually as the proportion of the subplot covered by vegetation in 0 - 50 cm. Values are given in %.

**Density in 50 – 100 cm**

The density was estimated visually as the proportion of the subplot covered by vegetation in 50 – 100 cm. Values are given in %.

**Density in 100 – 150 cm**

The density was estimated visually as the proportion of the subplot covered by vegetation in 100 – 150 cm. Values are given in %.

**Wooden debris**

We recorded the presence or absence of coarse wooden debris like fallen trunks or large branches. Smaller twigs or pieces of bark were not included.

**Streams**

We recorded the presence or absence of streams or water runs of any size.

**Canopy density**

Canopy density was assessed via the estimation of light penetration. For each subplot, three standard canopy photographs were taken using a digital camera (Lumix DMC FT-5, Panasonic, Osaka). After conversion into a monochromatic bitmap format, the percentage of black (canopy) and white (sky) pixels was analyzed using the open source software “CanopyDigi” (Goodenough & Goodenough 2012).

References

Goodenough, A. E. and Goodenough, A. S. (2012): Development of a rapid and precise method of digital image analysis to quantify canopy density and structural complexity. *ISRN Ecology* 2012: 1-11.