

CERULEAN WARBLER DISTRIBUTION AND ECOLOGY NOTES ON EASTERN ECUADOR

DISTRIBUCION Y NOTAS ECOLOGICAS DE LA REINITA CERULEA EN EL ORIENTE DE ECUADOR

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BACKGROUND

Scarce knowledge on Cerulean Warbler distribution and ecology in Ecuador.

Wintering range in Ecuador encompass eastern Andean foothills (400-1400 masl) with several records out of its range.

Described as “scarce boreal winter resident” by Ridgely and Greenfield (2001)

Wintering habitats occupied by migratory birds could influence its performance year round.

GOALS

Field assessment of CEWAR occurrence in previous known and expected localities

Remnant optimal habitat estimation.

Collect information on CEWAR interspecific co-occurrence within mixed species flocks.

METHODS

DISTRIBUTION

Field look down during wintering season 2005-2006.

Maps elaboration with current occurrence localities.

Spatial distribution modeling using occurrence sites and environmental variables with a Maximum Entropy algorithm.

Remnant optimal habitat estimation by using remnant vegetation maps.

METHODS

CO-OCCURRENCE ANALYSES

Presence or absence of CEWAR within mixed flocks of each site visited.

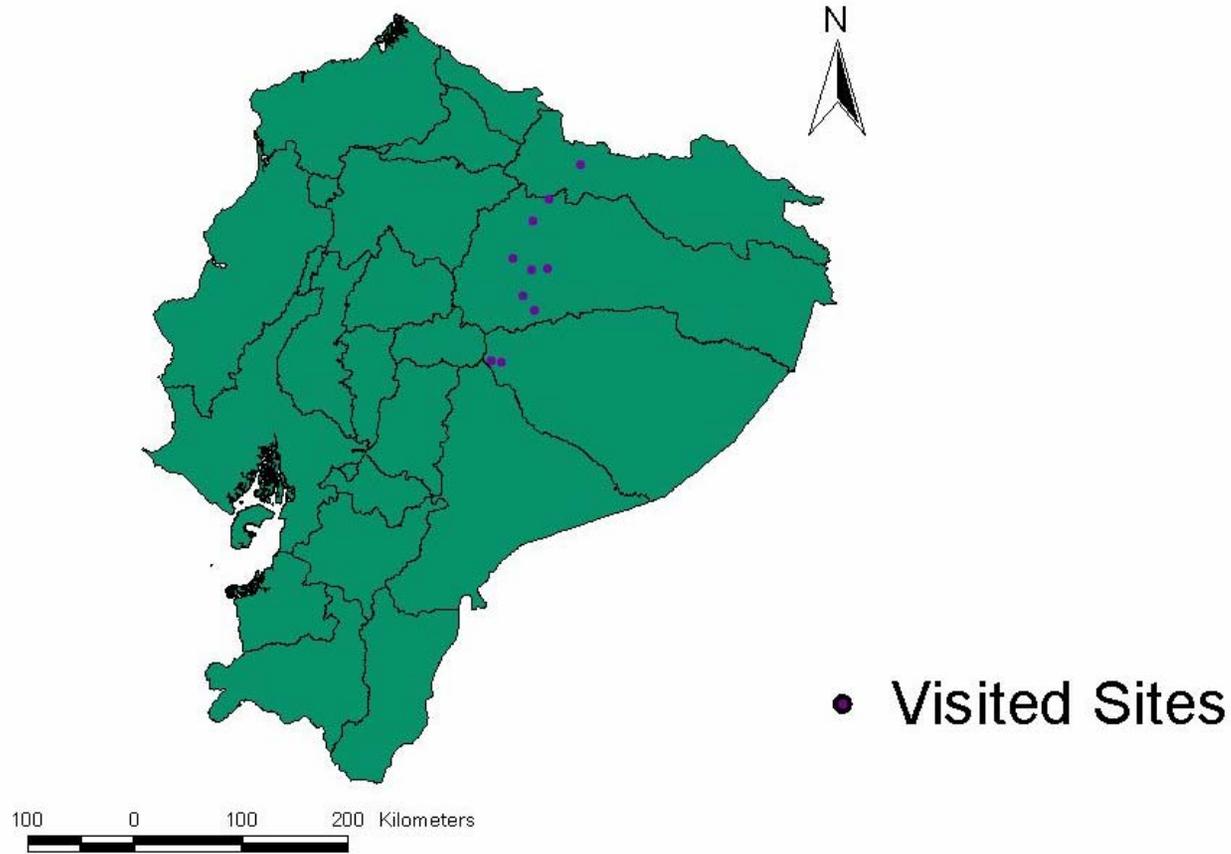
Species composition of each mixed flock detected within the CEWAR range.

Species classified within functional groups.

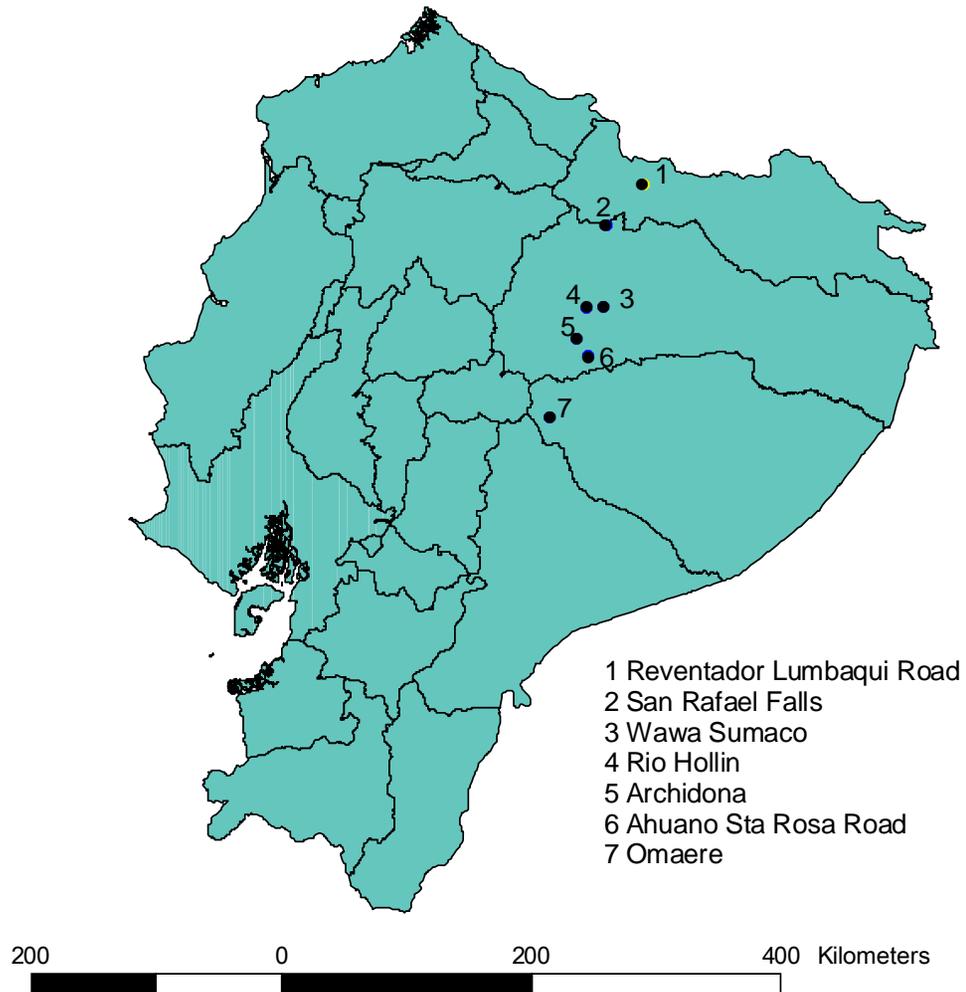
Presence-absence matrix building of a functional groups and CEWAR.

Multidimensional Scaling (MDS) was used to identify potential co-occurrence patterns

RESULTS AND DISCUSSION



OCCURRENCE SITES

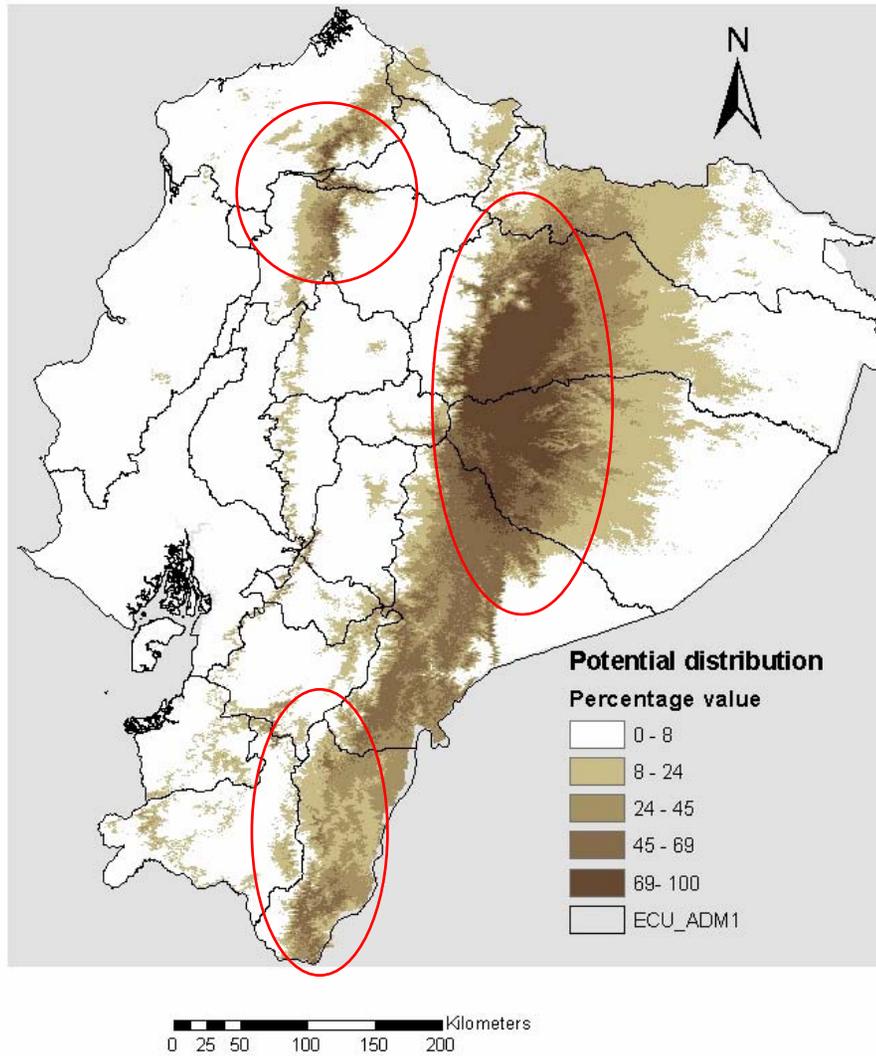


All individuals detected
between 450-1500
m.a.s.l.

Earliest record October
12 2005.

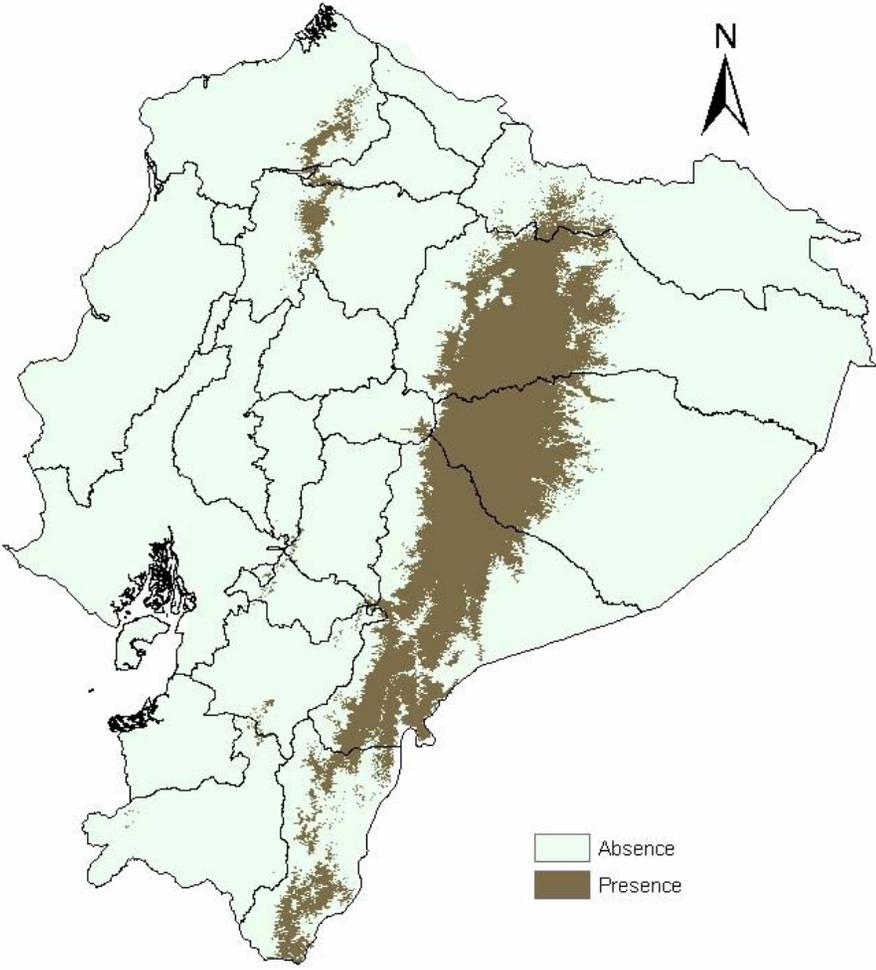
Last record March 22
2006

CONTINUOS MAP



AUC Value = 0,951
Training data

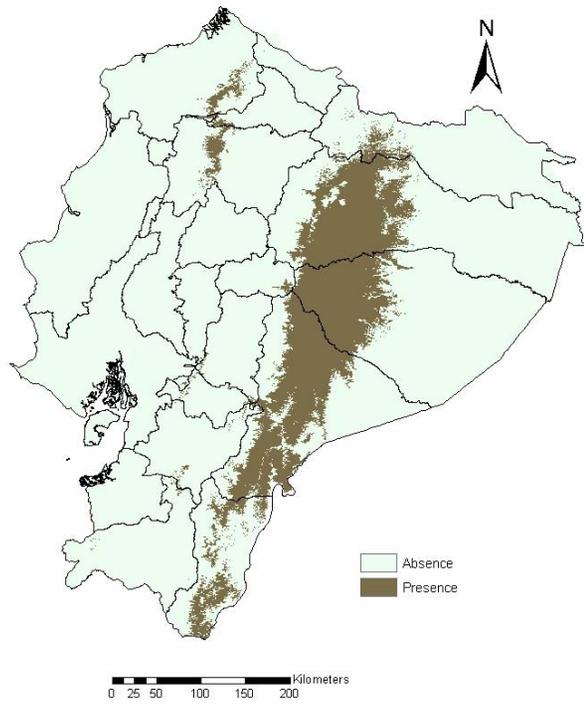
PRESENCE ABSENCE MAP



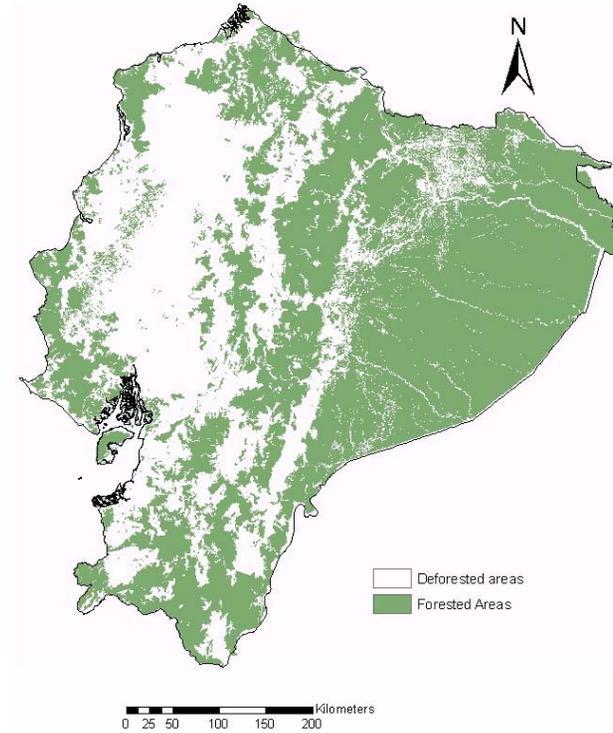
Habitat estimation =
36 709,5 km².

14,84 % of the whole
Ecuadorian territory

REMNANT HABITAT ESTIMATION

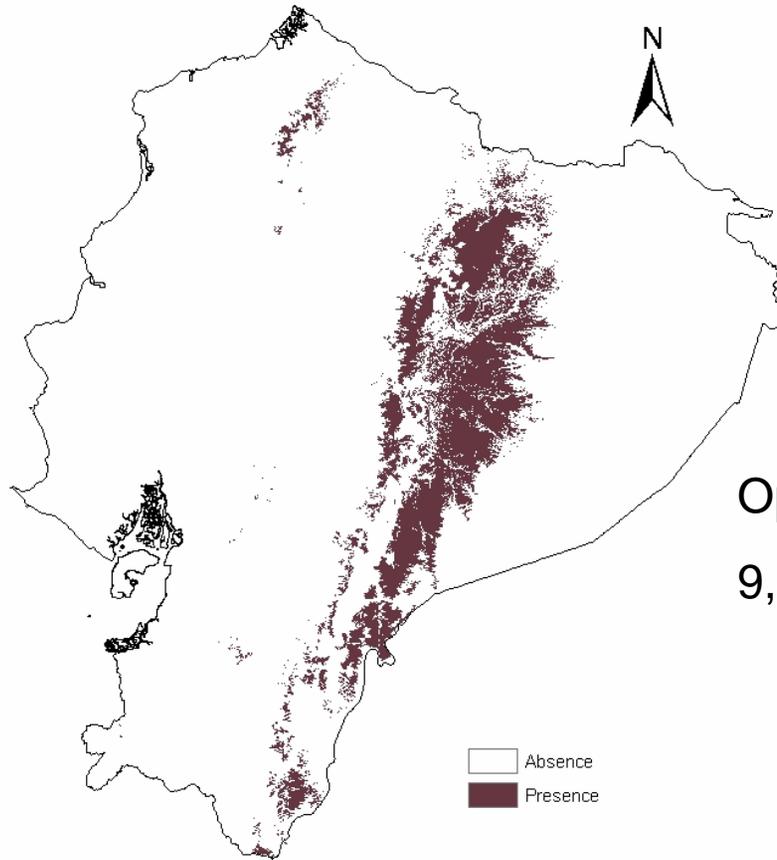


X



Raster calculation to cut distribution

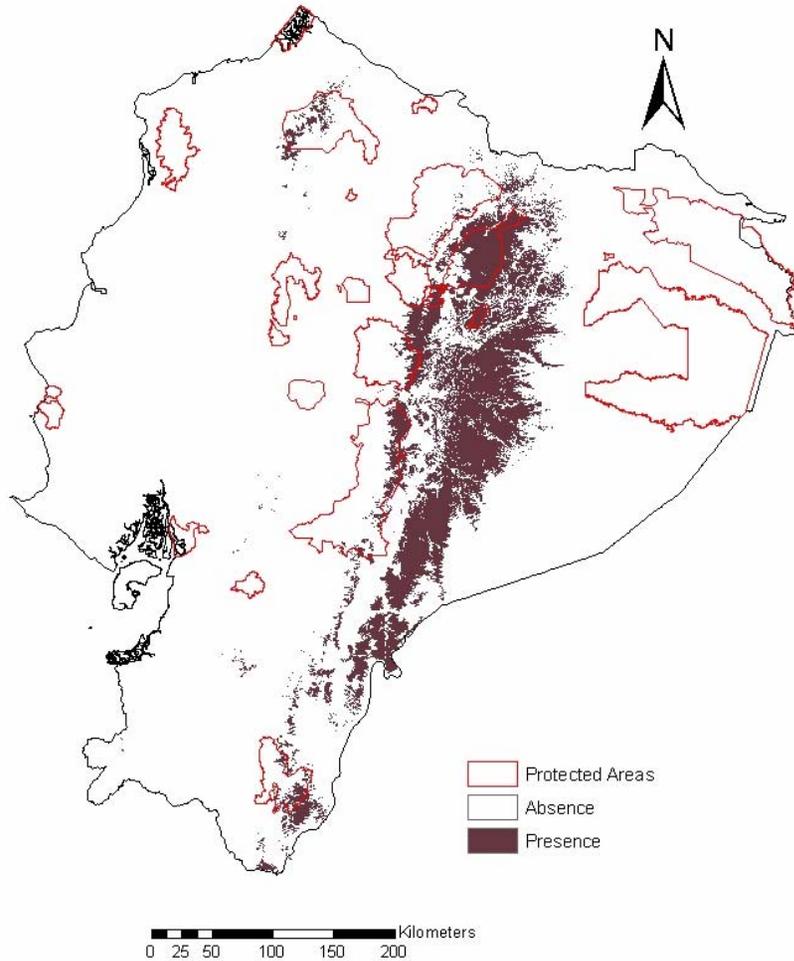
REMNANT HABITAT



Optimal remnant habitat = 24 265,25 km²
9,81 % of the whole Ecuadorian territory



REMNANT HABITAT AND PROTECTED AREAS



Just a small portion of the distribution predicted is covered by National Protected Areas System

INTERESPECIFIC CO-OCCURRENCE

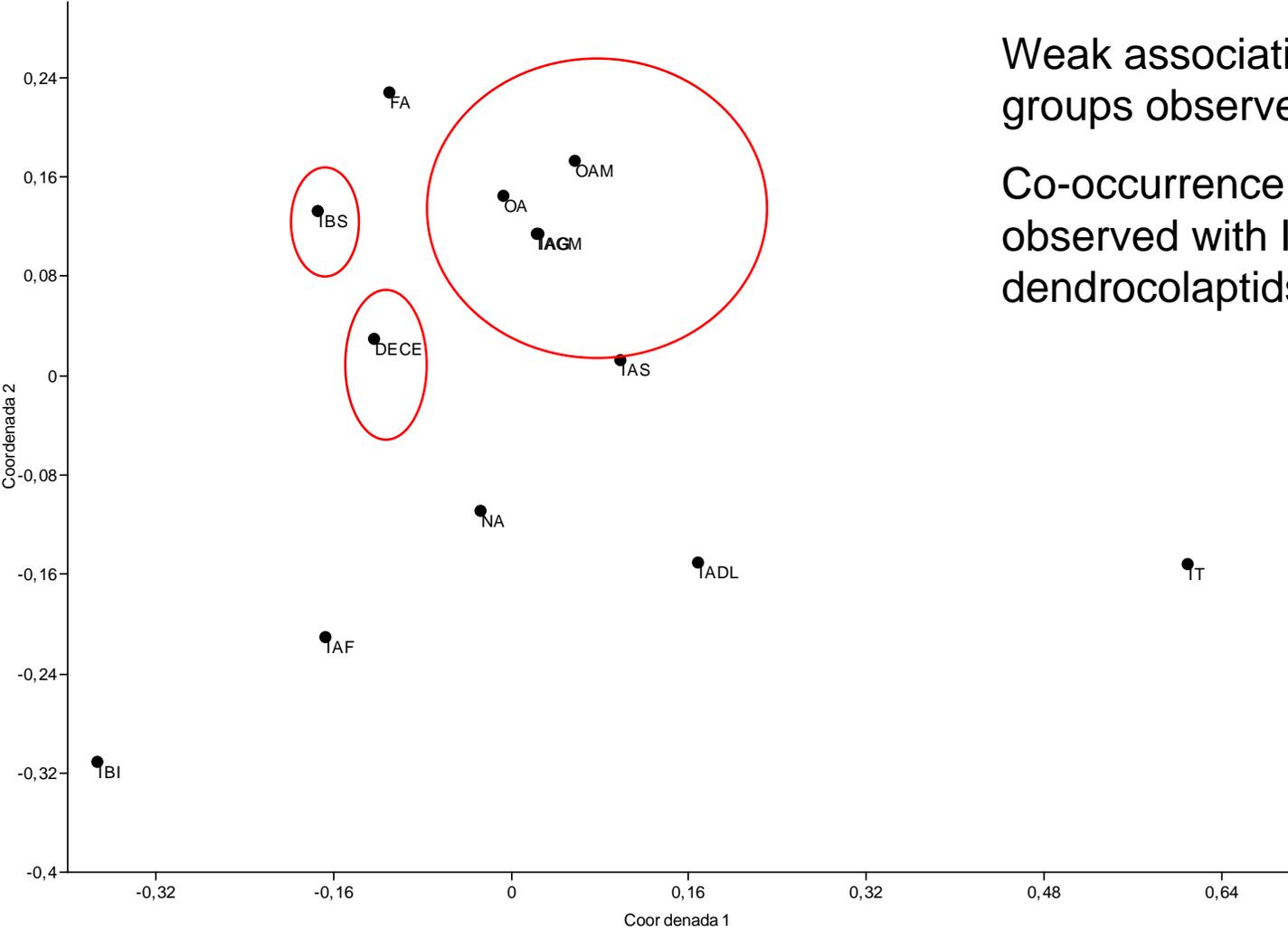
Mixed species flock associations were detected in 76% of the sightings

A number of 60 species (10 ± 3 , range 4-15) were recorded foraging along with CEWAR within mixed species flocks.

CEWAR was present within mixed species flocks in numbers of 1-4

Species were clasified in 13 functional groups

MULTIDIMENSIONAL SCALING



Weak association with others groups observed

Co-occurrence patterns observed with IBS (mostly dendrocolaptids)