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Diversity and Distribution of Canopy Hemi-parasitic plants in Bwindi  
Impenetrable National Park (BINP)

# Definitions

- Kuijt, 1969; describes parasitic flowering plant to share a single unifying characteristic, have the capacity to form hostarium.
- Hostaria are specialized and extremely variable structures that connect the vascular system of the parasitic plant with the host plant

# Study area

- BINP covers an area of 331km<sup>2</sup>
- (McGinley, 2009), Bwindi is a tropical forest that spread over a series of steep ridges and valleys
  - BINP is divided into the four management sectors
    - i.e. (Northern, Southern, Western and Eastern)

# Statement of the problem

- Although canopy hemi-parasitic plants have been reported to be present in BINP
  - management sectors and
    - in neighboring gardens,
- There has been no botanical study to ascertain this
- Hence, little is known on the:
  - Identity,
  - Diversity,
  - Distribution (in terms of host specificity or preference) and
  - Abundance in Bwindi

- Without such information,
  - ❖ the conservation value and status of species cannot be clearly known or defined
  
- Lack of enough scientific information on pp may pose
  - A challenge to holistic approach to biodiversity conservation planning on the side of
    - administrators and
  
    - conservationists

# objectives

## ○ General objective;

- Aimed at inventorying the canopy hemi-parasitic plants in BINP with the view of understanding their diversity and distribution in terms of host specificity and preference

## ○ Specific objectives

- Determine the diversity of canopy hemi-parasitic plants in the four management sectors of BINP
- Determine the distribution of hemi-parasitic plants in relation to host plant characteristics

# Cont-----

e.g

- Nature of the bark
- Stem –diameter size and
- Architecture

And local environmental condition

- Identify the most important characteristics among the most preferred host tree

# Methodology

- The four management sectors form the basis for placement of line transects
  - A transect of 1 km is randomly sited in each sector along the trail with two (2) replicates (interior)
  - Another 1 km transect, randomly sited along the park edge with two (2) replicates
  - Opportunistic sampling method was considered (this included capturing data outside the park and areas in the park but outside the designated transects)



# Analysis

- Two-way ANOVA will be used to examine difference in diversity and abundance of hemi-parasitic plants
- Linear regression analysis will be used to determine if a relationship exists between;
  - the stem-diameter of host,
  - diversity and
  - level of infection
- A canonical ordination analysis employed to relate parasitic plants and local environmental conditions

# Progress

- Field work started, already all the four sector have been surveyed.
- For reliability and accuracy nearly all the procedures have been maintained during data collection
- Gradient orientation of the transects have been supplemented by
  - compass and GPS use
- This made it possible for sampling to capture nearly all the different variations in terms of slope position and aspect.

# Cont-----

- The four research sites have been maintained due to;
- their representativeness,
- similarities and
- distinctive characteristics  
(Northern, Southern, Eastern and Western sectors)

# sample of the canopy hemi-parasitic plants























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