

**FLORA**  
Tropical Rainforest Ecology

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**Plant life**

- Exhuberant
- Trees
  - Buttresses
  - Trunk-borne flowers (cauliflory)
- Climbers & Epyphytes
- Palms
- Bamboos

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**Trees**

- Dominant
- All sizes:
  - Dwarf, unbranched, <2m
  - Giants, >70 m
    - Coniferae - *Araucaria hunsteinii*
      - 89 m - New Guinea
      - Klinki pine



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### Trees

- Dominant
- All sizes:
  - Giants, >70 m
    - Leguminosae - *Koompassia excelsa* - 87 m - Malaysia
      - Tualang



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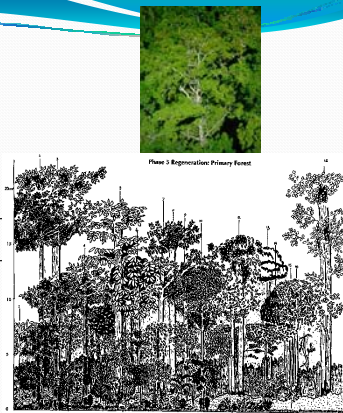
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### Trees

- Dominant
- All sizes:
  - Giants, >70 m
    - Dipterocarpaceae - *Dryobalanops lanceolata* - 76 m - Malaysia
      - Kapur



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### Dipterocarpaceae

- Dipterocarpaceae is a family of 17 genera and approximately 500 species of mainly tropical lowland rainforest trees.
- Malaysia



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## Trees

- Dominant
- All sizes:
  - Giants, >70 m
    - Bombacaceae – *Ceiba pentandra* 70 – Africa/America
      - Kapok tree



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## Herbs

- Absent or rare
- Landslips and along rivers
  - Giant herbs forming thickets
    - Gingers – Marantaceae / Asia
    - Bananas – Musaceae / Asia
    - Heliconia – Heliconiaceae / America + Oceania
    - Bamboos – Poaceae / Asia + America
- Shrubs – small + various stems
  - Rare
  - Restricted to GAPS

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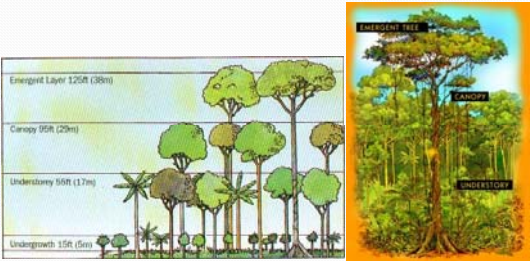
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## Autotrophic & heterotrophs

- Autotrophic – through their metabolism they produce their food
- Heterotrophic – they consume other organism or depend of others to produce their food
  
- Autotrophic: Most plants
- Heterotrophic: Mistletoes (Loranthaceae), Hemiparasitic epyphytes (Santalaceae)

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## Rafflesia arnoldii

- Rafflesiaceae
- World largest flower
- 1m diameter
- Full parasite
- Smell like rotten meat
- Pollinator: flies
- Indonesia
- Phillipines (new)



thread-like strands of tissue completely embedded within and in intimate contact with surrounding host cells from which nutrients and water are obtained

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*Tiputinia foetida*

- Thismiaceae
- mycosaprophytic plant
- Tiputini
- Pollinator: beetles



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### Climbers & Epyphytes

- Woody climbers
  - Woody stem
  - Hang freely from trees
  - Leaves up in the canopy
  - Light-demanding
  - Canopy growers



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### Climbers & Epyphytes

- Bole climbers
  - Adheres to the tree trunk
  - Special roots
  - Cover the bark
  - Very humid microclimates
- Question:
  - Different types of epyphytes & climbers and their characteristics (ej., bromeliads, hemi-epiphytes).

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