

DAVIS EXPEDITION FUND

REPORT ON EXPEDITION/PROJECT

Expedition/Project Title: EXPEDITION TO PERUVIAN AMAZONIA

Travel Dates: MAY-AUGUST 2007

Location: JENARO HERRARA, DEPARTMENT OF LORETO, PERU

**Group Members: MARIA BADEN, YUMIKO BABA, EURIDICE HONORIO,
RUBY PRICKETT**

**Aims: FLORISTIC ASSESSMENT OF TWO TROPICAL TERRA FIRME
FORESTS OF JENARO HERRARA**

OUTCOME (not less than 300 words):-

See attached report.

Expedition Peruvian Amazonia 2007

Preliminary Report

The 2007 Royal Botanic Garden Edinburgh MSc graduate expedition to Peruvian Amazonia aimed to assess the floristic composition of two terra firme forests of Jenaro Herrera in the Loreto region by establishing one hectare plot each within both a low terrace broad leaf forest and a low hill forest. These forests were chosen for having an almost unknown floristic composition due to lack of previous study of these forest habitats.

The expedition was completed successfully and all members of the expedition have safely returned to their home bases. The team members were Heide Maria Baden (German), Yumiko Baba (Japanese), Ruby Prickett (Irish), Eurídice Honorio (Peruvian), Mariano Alves (Peruvian) and Nállarett Dávila (Peruvian).

All plant specimens collected have as far as possible been identified within Peru (in the herbaria of Jenaro Herrera research station and La Molina, Lima). Only few plant specimens now need further attention from experts, to whom they shall be dispatched in due course with the logistical assistance of the RBGE, where duplicates of all 856 plant specimens have been deposited.

The expedition went to a small village within Peruvian Amazonia, 200 km south-southwest of Iquitos. The team met in Iquitos, and travelled by boat upstream on the



Image 1: Satellite image showing Iquitos at the top and Jenaro Herrera at the bottom.

Amazon and then upstream on the Ucayali River. A satellite image of the area has been labelled in Image 1 above.

Below is a rough time table of the activities during the expedition.

| Dates | 21May-17June | | | | 18June-15July | | | | 16July-12August | | | | 13August-3September | | |
|--|--------------|---|---|---|---------------|---|---|---|-----------------|----|----|----|---------------------|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Arrival to Jenaro Herrera (Europe-Lima-Iquitos-Jenaro Herrera-Field station) | X | | | | | | | | | | | | | | |
| Introduction to the flora of Jenaro Herrera (Training in the Arboretum) | X | X | | | | | | | | | | | | | |
| Establishment of one-hectare plot of palm-dominated riverine forest | | | X | X | | | | | | | | | | | |
| Plant collection in palm-dominated riverine forest | | | X | X | | | | | | | | | | | |
| Process herbarium specimens (press, dry, label) | | | X | X | X | | | | | | | | | | |
| Establishment of zero point one-hectare plot in low hill forest | | | | | | X | | | | | | | | | |
| Plant collection in low hill forest | | | | | | X | | | | | | | | | |
| Process herbarium specimens (press, dry, label) | | | | | | X | X | X | | | | | | | |
| Identification of material in local herbarium (CIJH) | | | | | | | X | X | X | X | | | | | |
| Identification of material in Lima La Molina herbarium (MOL) | | | | | | | | | | | X | X | | X | |
| Holiday in Paracas = EARTHQUAKE!!! | | | | | | | | | | | | | ! | | |
| Packing of specimens to RBGE, MOL and return | | | | | | | | | | | | | | | X |

The locations of the plots were altered from those set out in the research proposal. There were a number of reasons for these changes. While looking for a suitable area to establish the first plot the decision was made to replace investigation of the low terrace broadleaf forest by that of a palm-dominated riverine forest because no permanent plot existed in the area or within the RAINFOR database for this forest type. The second hectare plot was reduced to 0.1 hectare to contribute to a series of five 0.1 hectare plots located in a same type of forest 15-30 km away, increasing the amount of trees measured and identified by lowering the qualifying diameter, and enabling one of the Peruvian team members to use the data in his upcoming thesis, a change agreed to by all team members.

Preliminary results have been established for the palm forest investigation. The results show the highest plant species diversity for a palm forest in Jenaro Herrera. Two other palm forests have been inventoried, a low terrace palm forest with 72 species and a black water palm forest with 24 species, dominated by the palm *Mauritia flexuosa*. The shape of the plot is shown in Figure 1. Here it can be made out that the plot was established to follow the shape of the river, as the vegetation changes to the right and left of the valley as it slopes up to higher elevation. The total basal area covered by trees within the plot added up to 23.7 m², which translates into the fact that just under

one quarter of the total area of the hectare plot was, at breast height, occupied by stems. Figure 2 shows the importance index value of the encountered species in a pie chart, where the first quarter is occupied by a total of only 6 species of which three are palms (Arecaceae), the second quarter by 23 species, and the last half by the remaining 220 species of trees with a diameter of more than ten centimetres.

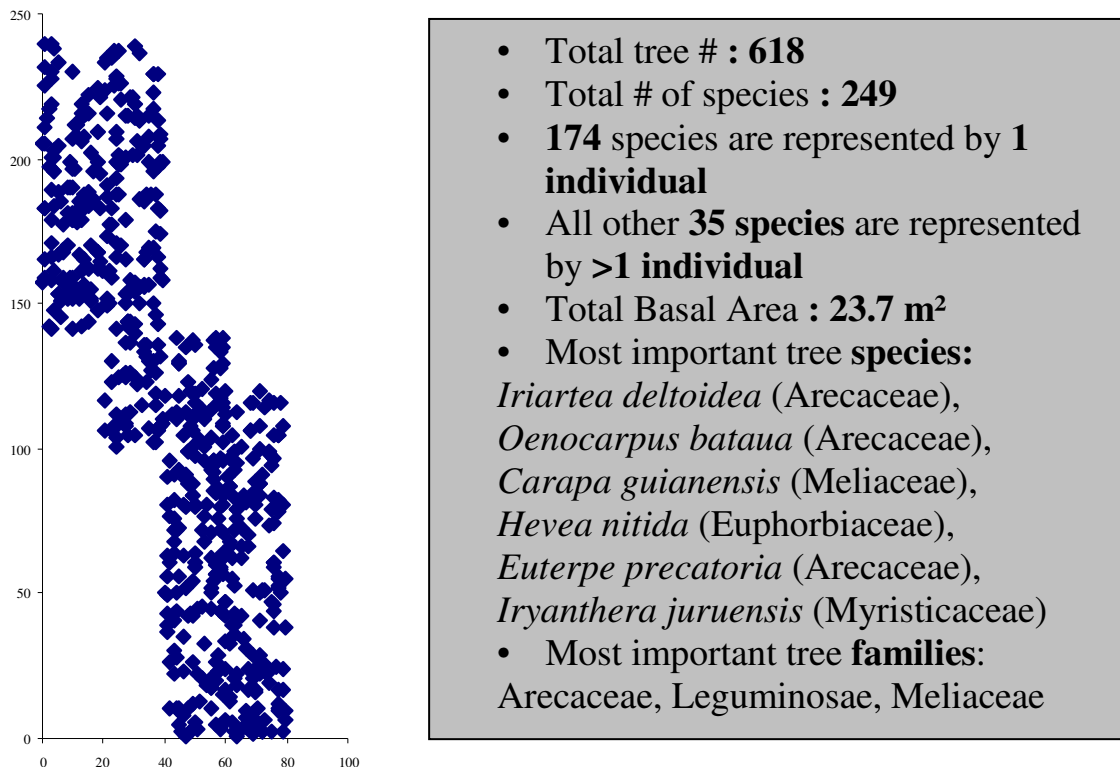


Figure 1: Palm-dominated riverine forest plot. Each square denotes one tree with a diameter equal or greater than 10 cm at breast height. Axes denote meters. Vital statistics of the plot are given in the shaded box.

Figure 3 shows the distribution of trees by diameter classes. As expected, the majority of trees fall into the smallest diameter class: ninety percent of all trees have a diameter smaller than 30 cm at breast height. The largest classes are represented by only one individual.

Post fieldwork will continue with further identification of as of yet unidentified specimens in the Edinburgh, Kew and Natural History Museum, London herbaria; curation of specimens will take place in Edinburgh. Further analyses (Shannon index, α -diversity, etc.) will be done after all identification has been attempted and/ or completed. The results are expected to be published in two scientific journals, one of which may be based in the English-speaking scientific community, such as Conservation Biology or the Edinburgh Journal of Botany, as well as a journal such as Revista Peruana de Biología or Folia Amazónica where the results can be made available to the Spanish-speaking scientific community.

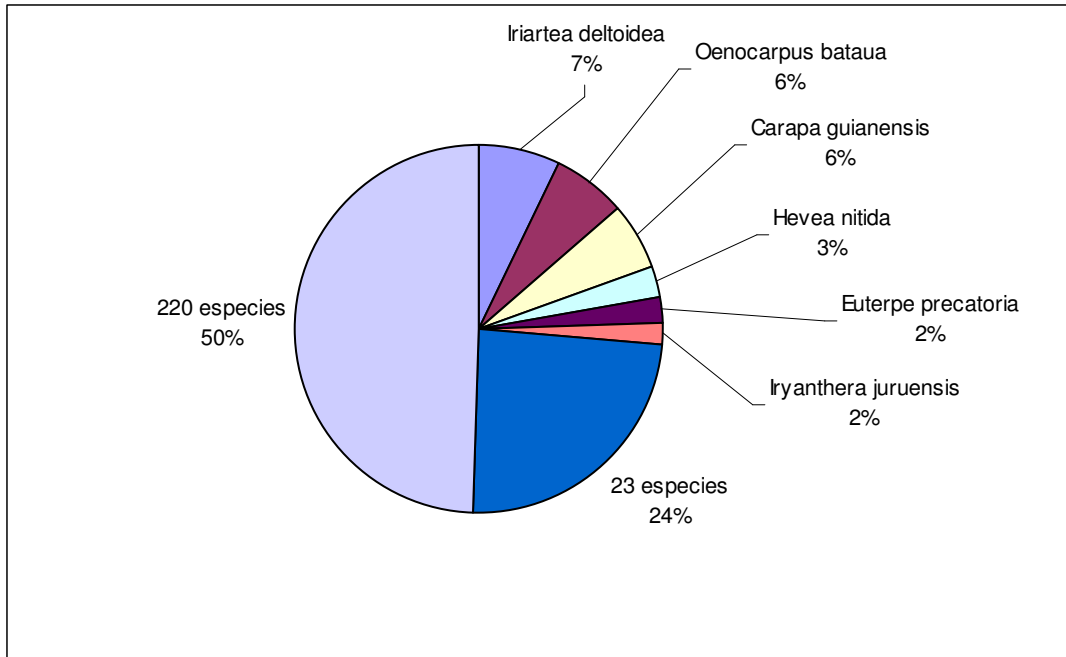


Figure 2: Graph showing the importance index value for all species in the plot. The 6 dominant species occupy one quarter of the chart.

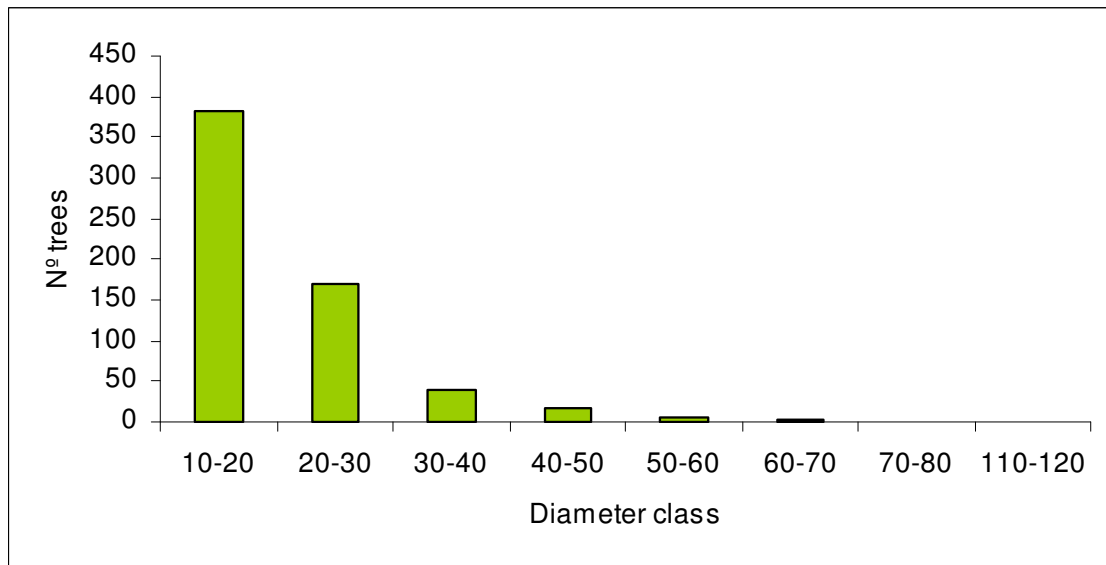


Figure 3: Graph showing the distribution of trees by diameter classes.

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