Wet preservation

This is used for larvae and soft bodied insects. Insects are preserved in differing ethanol concentrationLarvae are preserved in 70 –80% ethanol while the soft bodied insects are preserved in 95% ethanol. This high concentration prevents the membranous wings from twisting and folding, hairs from matting and the soft body parts from shriveling. Labels are written with an alcohol-proof pen if specimens are to be preserved using this method. The vials for insects preserved by wet methods are placed in Vial holders and arearranged on shelves according to their families.



Specimen preserved in ethanol



shelve for wet persevered specimen

Locating specimens

Pinned specimens are stored in storage boxes which are housed in Cornwell cabinets. Cabinets contain varying number of storage boxes in which insect specimens are pinned. At the front of each storage box, a family name is written for easy reference. Inside the box each insect specimen has a name of its genera and species are.



One of the Conwell cabinets at NaFORRI



Inside the stroage box

Way forward.

We are currently under way to digitize the reference collection; this will help in; increasing the audience of the reference collection, providing additional indexing and increasing access to the collection while reducing handling of the specimens.

We also intend to collect new specimens and update the reference collection and continue with maintenance of the existing ones.

Contact Director
National Forestry Resources Research Institute
P.O Box 1752 Kampala
Tel: 256-414 383028/712 161161
Email: naforridir@infocom.co.ug

National Forestry Resources Research Institute

NaFORRI

INSECT REFERENCE COLLECTION

A library of insect biodiversity

NARO

MINISTRY OF AGRICULTURE
ANIMAL INDUSTRY AND FISHEREIS
(MAAIF)
UGANDA

FOR GOD AND MY COUNTRY

THE REPUBLIC OF UGANDA

BACKGROUND

An Insect is an organism with three pairs of jointed legs, a pair of compound eyes, a pair of antennae and three body parts. Insects are the most dominant organisms on earth. They can be found in nearly all environments with the ocean having the least insect species. Although the diversity of insects remains uncertain, estimates range from 1.4 to 1.8 million species. There are mainly two sub classes of insects; Apteryota (wingless) and Pteryota (winged), with over 30 orders. The four dominant orders in terms of described species are Coleoptera, Lepidoptera, Diptera and Hymenoptera, with Coleoptera having the majority of species. The majority of insects are harmless many are beneficial while others cause damage to plants and animals (pests).

Insects can be beneficial to man, for example, as a source of food, medicine, biological control agents, pollinators, and source of raw material for the silk industry. They are also used in study and research.



Research on Genometa podocarpi at NaFORRI

Insects commonly regarded as pests are those that; directly damage animals and plants in the field and infest stored products, cause indirect damage by spreading diseases to plants and animals.It is important that a record of insects both beneficial, harmless and pests is kept to serve as a library of insect biodiversity. This forms the Insect reference collection.

What is an Insect Reference Collection?

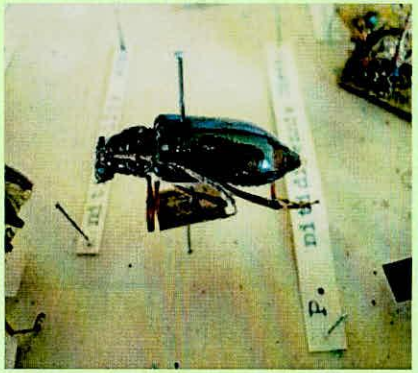
An insect reference collection is an assembly of preserved insects, stored, recorded and arranged systematically for reference purposes, outreach and studies. Essentially all specimens in the insect reference collection have appropriate collection data labels. The labels include information such as; specimen number, collection locality, day, month and year of collection, name of collector, co- ordinates (tree on which it was found). Other information included is the identifier and method of collection.

NaFORRI Insect Reference Collection

The National Forestry Resources Research Institute houses an Insect Reference Collection for a diversity of forest insects. The insect reference collection has slightly over 7000 specimens contained in Cornwell drawers as follows: Coleoptera-beetle specimens, Lepidoptera (moths and butterflies), Orthoptera-grasshoppers , Hemiptera-bugs, Hymenoptera(ants, bees wasps) and other smaller orders of forest insects collected over time mainly from Uganda but some from Kenya and Tanzania. The collection is used for training, research, identification of insect pests and outreach activities.



Order Lepidoptera



Order Hemiptera



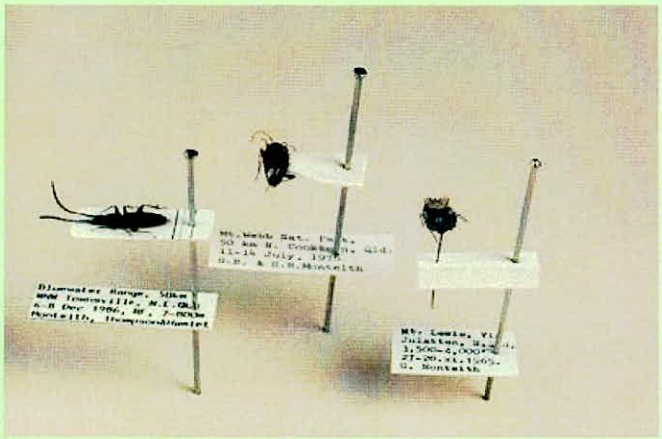
Order Orthoptera

Specimen preservation

Two methods of preservations are used for NaFORRI insect reference collection. These are dry and wet methods.

Dry preservation

This is used for hard bodied specimens and two methods are used; pinning and mounting. Pinning refers to the insertion of a standard insect pin directly through the body of the insects. Insects are pinned vertically through the body with a pin of appropriate thickness taking care not to damage any body part. Most insects at NaFORRI are pinned to the right of the midline so that all the characters of at least one side are visible.



Mounted insects