Directory of zoological (and entomological) specimen collections of tropical institutions



U N E S C O

Humid Tropics Research

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Published in 1962 by the United Nations Educational, Scientific and Cultural Organization, Place de Fontenoy, Paris-7° Printed by Fratelli Pozzo - Salvati - Gros Monti & C., Turin © Unesco 1962. Printed in Italy. NS.61/VI.6/A

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Following a recommendation of the first session of the International Advisory Committee for Humid Tropics Research, the Unesco Secretariat undertook a survey of zoological (and entomological) specimen collections maintained by tropical institutions. The Secretariat circulated a questionnaire among institutions maintaining such collections and also obtained relevant information from annual reports published by government departments of agriculture, forestry, etc., and/or by the boards of wild life. In a few cases the institutions wrote directly to the Secretariat giving information regarding their collections. The information thus collected was presented to the Advisory Committee at its second session, held in Abidjan in October 1959; the Committee approved the document and suggested that it be submitted to the Permanent Committees of the International Zoological and Entomological Congresses for comments. This was done, and the document elicited favourable comments from these expert bodies; it is now in demand from institutions and scientists all over the world.

In order to meet this widespread demand, the Secretariat felt it necessary to publish the information at its disposal in the form of a directory. Before doing so, it set about bringing the information up to date by inclusion of details related to 1959 and 1960.

The directory contains information regarding material collected or exchanged and its identification. As far as possible, the number of specimens in the collections and the number of annual additions have been given.

In the majority of cases, information regarding the sources of specimens was provided by the institutions, and in several cases it has been possible to state the regions or areas where collection expeditions have been sent during the last five years.

Concerning identification services operated by institutions maintaining collections, information is given in most cases as to whether identification of specimens is carried out for local purposes only, or also at the request of external organizations and individuals. Nearly all the institutions listed identify material, and half of them operate an identification service of varying magnitude for the benefit of government departments, educational institutions, private individuals, etc. In several cases, the number of specimens identified annually is also given.

With regard to exchange of material, only about two-thirds of the institutions listed undertake regular exchange of specimens and have at their disposal the necessary means and machinery for the purpose. More than a third of the institutions listed do not exchange material and have no exchange arrangements. Some of the listed institutions exchange literature only.

Every effort has been made to extend the coverage of the directory as widely as possible and to give accurate and up-to-date information. Unesco and its Advisory Committee for Humid Tropics Research hope that this directory will go some way towards meeting the demands of zoologists, entomologists and other interested professional and amateur scientists for information on zoological and entomological collections of tropical specimens.

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Collections in Africa

Laboratoire d'Entomologie, sous direction des Grandes Endémies et Service National d'Éradication du Paludisme. (A l'Institut Pasteur du Cameroun), BP 888, Yaounde, Cameroun.

Maintains a collection of insects and insect vectors of diseases with special emphasis on anopheles mosquitoes.

Institut pour la Recherche Scientifique en Afrique Centrale, Congo (Leopoldville).

Centre de Lwiro, Kivu

Service d'Ornithologie. Maintains a bird collection numbering 600 specimens collected from the Lake Kivu region and the Ruanda Urundi territories.

Specimens are identified for the purposes of IRSAC only. No specimens are exchanged. Exchanges of specimens would probably be of interest only to those African countries having similar climate or biotopes.

Note: Besides maintaining a collection, IRSAC carries out a programme of ringing migratory birds. Annual reports of such work are published in *Le Gerfaut*, the ornithological review of the Musée Royal d'Histoire Naturelle in Brussels.

Laboratoire de Mammalogie. Mostly skins and cranes of mammals. Approximately 400 skins. Annual additions to the collection number approximately 50 skins. A fairly large collection of Muridae skins exists also. The specimens have been collected from north-east Congo and from Katanga. A few come from the Lower Congo region and from Ruanda Urundi.

Specimens are identified only for purposes of the Institut. Much of the material is identified by the Musée Royal d'Afrique Centrale at Tervuren, Belgium.

No exchange of specimens is undertaken with other museums. Literature, however, is exchanged with other institutions.

Centre d'Uvira, Kivu

- Collection: Maintains a small collection of about 150 different species of fishes.

 Most of the specimens come from Lake Tanganyika and Lake Kivu.

 A few have been collected in Lake Tumba and in several rivers of Congo. Several missions are now collecting fishes from the lakes of Ruanda-Urundi.
- Identification: Specimens are normally identified for the purposes of the Institut. Requests for identification are attended to exceptionally. Until now, all specimens have been sent to the Musée Royal d'Afrique Centrale at Tervuren.

Coryndon Memorial Museum, Nairobi, Kenya

Entomological collection: In 1958, 11,067 new specimens were added to the entomological collection. Slides of the genitation of a considerable number of Lepidoptera were made in connexion with a check list and revision of The Butterflies of East Africa in course of preparation. Considerable additions were made to the spirit collections of Arachnida and Crustacea. During the year collection trips were made to regions of Uganda, to the Mbeya and Ufipa districts of southern Tanganyika, and to Kitale and Nanyuki.

Entomological specimens were determined for the Museum by members of the staffs of the British Museum and the Commonwealth Institute of Entomology and by other specialists in Europe and Africa. Identifications were undertaken for numerous private individuals and for Scott Agricultural Laboratories, Nairobi; Pyrethrum Research Board, Nakuru; Forest Entomologist, EAA and FRO, Muguga; International Red Locust Control Service, Abercorn; Desert Locust Survey, Nairobi; Kawanda Research Station, Kampala; Ukiriguru Research Centre, Fela, Tanganyika. Exhibits of a specialized nature were prepared for Makerere College, Kampala; Royal Technical College, Nairobi; and Egerton Agricultural College, Njoro.

Fish collection: 84 additions were made to the collection, including live specimens for the aquaria. Collecting trips were made to Kakamega, Yala

River and to the sea coast south of Mombasa.

Reptile and Amphibian collection: During 1958, a total of 143 specimens of reptiles and amphibians was added to the collection. Among the specimens were example of 27 species not previously represented in the Museum. A snake identification scheme is operated by the Museum for the benefit of the public and over two hundred snakes were identified during the year for the public. Specialists abroad co-operate in identifying certain specimens of the reptiles for the Museum.

Ornithology collection: During 1958, a total of 752 specimens was added to the collections, including 39 species of birds and clutches of 3 birds' eggs previously unrepresented in the Museum. Specimens have been obtained from different regions of Uganda, Tanganyika, British Somaliland and Kenya. Field expeditions for collecting specimens were undertaken to the forest areas of western Uganda and to Kilifi on the Kenya Coast. Facilities for ornithological study are provided at the Museum's bird room for research workers.

Verbal enquiries from numerous persons are attended to (more than

a thousand) every year.

Specimens have been sent to the Edward Grey Institute of Field Ornithology at Oxford, to the Western Foundation of Vertebrate Zoology and to the California Academy of Sciences.

Personnel are trained in methods of collecting and preserving ver-

tebrate specimens.

Mammal collection: A total of 447 specimens was added to the collection; there were also many additions to the spirit and skeletal collection, comprising bat specimens and several skeletons of larger mammals. Nine species new to the Museum collection and 3 new records for Kenya were added in 1958. Special exhibits are prepared periodically. Collecting trips were made to the Tsavo National Park and to Kakamega. Considerable number of surplus specimens were loaned to schools; a large number of specimens were received from the public for identification. Several duplicates of study material were presented to the British Museum.

Entomology Branch, Scott Agricultural Laboratories, PO Box 30028, Nairobi, Kenya

A small collection of insects of economic importance in agriculture is maintained at the Laboratories.

Personal Collection of Mr. D. G. Sevastopulo, PO Box 5026, Mombasa, Kenya

Collection: Consists of 20,000 specimens of Macrolepidopteres, collected from India and East Africa, or acquired through exchange from North America, Japan, Formosa, Central Europe and Spain. Personal expeditions have been undertaken during the last three years to Uganda and Kenya. In 1959, 450 specimens and in 1960, 850 specimens were added to the collection.

Identification: Specimens are identified for own purposes only. In 1959 and 1960 no specimens were identified except those for own collection.

Exchange: A number of specimens have been presented in the past to the British Museum (Natural History) and the Coryndon Memorial Museum, Nairobi. In 1959 and 1960, no specimens were exchanged with other institutions.

East African Agriculture and Forestry Research Organization, PO Box 21, Kikuyu, Kenya

Forest Entomology Division

Collection: Composed mainly of insect pests of trees, both adult and larval forms, and parasites associated with them. The collection is strongest in Coleoptera. The main reference collection is now in the process of reorganization to make biological data more readily available, but consists of approximately 1,000 species and 11,000 specimens. New material is added from insects sent in at regular intervals by collectors.

Identification: Undertaken on request—mainly of the territorial forest departments. Since 1958, Isoptera have formed the bulk of identified material.

Specialists: Wood-boring beetles and Isoptera.

Exchange: The main transaction since 1958 was the supply of 1,600 named forest insects to the Kenya Forest Department Entomologist to form the nucleus of his collection at Muguga. A duplicate reference collection has been installed for the Tanganyika Forest Department at Lushoto.

Nematology Division

Collection: A collection of the plant-parasitic nematodes of East African soils is maintained, principally those belonging to the order Tylenchida Thorne, 1949. Since the collection was begun only in 1956, it is not yet large enough to allow for wide distribution of named paratypes of the new genera and species described. In time it is hoped to remedy this deficiency. About 40,000 specimens have so far been mounted and a great deal of identification and descriptive work remains to be done.

Identification: Identification of plant-parasitic nematodes undertaken on request, principally for the territorial agricultural departments, but requests for assistance from other tropical regions are welcomed.

Specialists: Taxonomy of *Tylenchida* and particularly root-knot nematodes—spp. of *Meloidogyne Goeldi*.

Institut de Recherche Scientifique de Madagascar, Section de Biologie, Tananarive, Madagascar

Collection: Consists of specimens representing several thousands of species of Madagascar and numerous species of neighbouring islands and archipelago. Collection missions have been sent to several isolated mountain massifs (Andringitra, Marojejy, Tsaratanana, Ankaratra, Montagne des Français, Montagne d'Ambre, Analamerana) and also to several primitive formations such as Lambomakandro in the south-west and to Antsingy in the west, and continuous collections are made throughout the year in the principal Forest Reserves such as Perinte, Analamazaotra, etc. Collection expeditions were also organized to the islands of Reunion, Rodriguez, Glorieuses, Tromelin and to Comores. During the last three years (1958, 1959, 1960) more than 400,000 zoological specimens have been collected. Several workers from South Africa, from the South Pacific Commission and ORSTOM, and from France,

Switzerland, Great Britain, the United States of America, Austria and Mauritius have during the period 1956-59 undertaken collection work using facilities of the Institut. A rich collection of water-table fauna of sandy regions and fossil fauna has been made with the collaboration of over 170 foreign specialists. The type specimens are all deposited in the Paris Museum, but paratypes and series of identified specimens maintained in Tananarive constitute an important representative collection. For some groups such as Lepidoptera, Odonata, Tipulidae, Pentatomidae and Coccidae, the great majority of species of Madagascar are represented in the collection. In 1959 and 1960, more than 50,000 specimens were collected each year.

Identification of specimens of Madagascar fauna is undertaken for the technical services of the Republic of Madagascar and for individual workers; the staff of the Institut regret their inability to undertake identification of specimens not belonging to the fauna of Madagascar. About 1,500 species were identified in 1959 and 1960. The Lepidoptera collection on which much effort has been concentrated now holds about 2,500 local species.

Exchange: The Institut de Recherche Scientifique de Madagascar is not interested in exchanges, as its work relates only to Madagascar fauna, but material is sent out for identification, or on request from specialists or other scientific institutions. More than 300 lots have been sent during the last three years to about 170 specialists or scientists in all parts of the world.

The Mauritius Institute, PO Box 54, Port Louis, Mauritius

Collection: Maintains regional collections of Coleoptera and Lepidoptera at present, with plans to include all other orders in the future. The total number of specimens is approximately 20,000 with an average annual addition of 750 to 1,000 specimens. All the specimens have been collected from the Mascarene islands-Mauritius, Réunion, and Rodriguez. Collection missions were sent to Réunion in 1955 and to Rodriguez in 1958.

Identification of specimens is carried out for purposes of the Institute and also at the request of other institutions and individuals. On an average,

150 specimens are identified annually.

Exchange: No proper exchange is carried out as the collections are regional in character. A certain number of specimens are sent from time to time to the British Museum (Natural History), the Musée National d'Histoire Naturelle, Paris, and to several other similar institutions. The Mauritius Institute Bulletin publishes descriptions of new species, revisions of groups, catalogues, etc., and is sent in exchange.

Entomological Branch, Federal Ministry of Agriculture, PO Box 8100, Causeway, Salisbury, Rhodesia and Nyasaland

Collection: Consists of more than 128,000 insects of Rhodesia, contained in eight 40-drawer cabinets; also a large number of insects contained in store boxes, a large spirit collection including many larvae, and a collection of slides of scale insects, thrips, aphids, genitalia of insects and other objects requiring microscopic examination. The numbers of new accessories entered for 1959 and 1960 were 70 and 168 respectively. Each accession represents one or a series of specimens of a species of insect sent to authorities for confirmation of

identity.

Identification: Insect specimens are identified for the Branch by the British Museum (Natural History) or the Commonwealth Institute of Entomology, London, and also sometimes by the South African Museum, the Transvaal Museum, the Musée National d'Histoire Naturelle, Paris, or the Coryndon Museum at Nairobi. The Branch identifies insects for members of the public, veterinary and health departments, practising doctors, the Department of Conservation and Extension, and research stations in Southern Rhodesia. Nearly all the accessions in 1959 and 1960 were sent to the Commonwealth Institute of Entomology. In this period some Lepidoptera were identified by Mr. E. Pinhey at the Southern Rhodesian National Museum, Bulawayo. Mites were identified by Dr. A. E. Pritchard at the University of California, Berkeley. Routine identifications of insects made by this Branch in connexion with pest inquiries amounted to approximately 400 in 1959 and 320 in 1960.

Exchange: All type materials are presented to the British Museum; batches of living Musca pupae have periodically been sent for study to the Istituto Superiore di Sanità at Rome; specimens of Diptera have been sent to the South African Institute for Medical Research at Johannesburg. Odonata and a considerable number of Orthoptera-Acrididae have been received from the Coryndon Museum, Nairobi.

National Museums of Southern Rhodesia, PO Box 8540, Causeway, Salisbury, Rhodesia and Nyasaland

Three museums—the National Museum, Bulawayo, the Queen Victoria Museum, Salisbury, the Umtali Museum, Umtali—today com-

prise this institution.

The collection consists of more than 335,000 specimens, the majority of which have been collected from Southern Rhodesia. It also includes material collected from Ethiopian regions, Madagascar, South Africa, Nyasaland, Northern Rhodesia, East Africa, the Congo and West Africa. During 1958, 1959 and 1960, expeditions were organized to the Zambesi River and other parts of Rhodesia, with short safaris to Portuguese East Africa.

In 1958, 1959 and 1960, additions to the bird collection of the National Museum, Bulawayo, amounted to 5,036, 3,420, and 2,548 specimens respectively and additions to the mammal collection to 1,496, 1,864 and 1,508 specimens respectively. Additions to the entomology collection amounted to 6,000 specimens in 1959 and 22,800 specimens in 1960. With regard to the Queen Victoria Museum, few additions were made to the vertebrate zoology collection in 1959. In 1960, additions to the bird collection amounted to 500 specimens and additions to the mammal collection to 230 specimens.

Additions to the vertebrate zoological material in the Umtali Museum in 1960 amounted to 500 specimens and additions to the insect collection to 1,000

lection to 1,000.

Identification of both vertebrate zoological material and entomological material is undertaken for the general public in the Federation of Rhodesia and Nyasaland, and also for institutions or collectors in other countries. Many insects are sent to specialists overseas for naming.

Exchange and loans: With regard to loans, during 1959 and 1960, 2,149 skins were sent on loan by the National Museum, Bulawayo, for study purposes to museums in South Africa, Angola, Portuguese East Africa, Kenya and the United Kingdom. In addition, between 5,000 and 6,000 skins were sent on loan to specialists within the Federation. During the same period, the National Museum sent off 300 skins in exchange. With regard to entomological material, no record is kept of specimens on loan or exchanged by the National Museum, but such traffic was carried on throughout the two years 1959 and 1960.

No record is kept by the Queen Victoria Museum of the exact number of specimens on loan but it amounts probably to some 100 per year in the vertebrate groups.

The Umtali Museum carried out exchanges with museums in South Africa, Angola, Portuguese East Africa, Kenya, the United Kingdom and the United States of America, the principal names in this list being the Coryndon Museum, Nairobi, the Durban Museum and Art Gallery, the British Museum (Natural History), the Museu de Alvaro de Castro, Laurenço Marques, the Instituto de Investigação Çientifico de Angola, and the Smithsonian Institution. Washington.

Laboratoire de Parasitologie, Faculté de Médecine et de Pharmacie, Dakar, Sénégal

Collection: Consists of protozoa, worms, arthropods, and molluscs of medical and veterinary interest, totalling 12,565 specimens. During 1959, 1960 and 1961, 11 species of Culicidae represented by 1,158 specimens, 35 species of Phlebotomidae (1,785 specimens), 2 species of Simulidae (32 specimens), 2 species of Glossines (16 specimens), 5 species of Ixodidae (150 specimens), 4 species of Siphonapterae (1,260 specimens) and 2 species of molluscs (650 specimens) have been added to the collection. The specimens have been collected from Europe and from Senegal, Ivory Coast, Mauritania, Dahomey, Niger, Upper Volta, Middle Congo, and Cameroun in Africa. Several missions for the collection of parasitological specimens have been organized, and every year systematic collections are made in the peninsula of Cap Vert and in the region of Thiès.

Identification of material used in the work of the laboratory: Plasmodium, eggs of helminths, fleas, ticks, mosquitoes, intestinal 'sanguicole' flagellates. Identification is also undertaken at the request of institutions such as the Service de l'Élevage, Dakar (Phlebotomae), Service des Grandes Endémies, Bobo (Phlebotomae), Service d'Hygiène, Dakar (fleas, mosquitoes), Institut Pasteur de Dakar (mosquitoes), IFAN, Senegal (various Diptera, Ixodidae and fleas), Hôpital de Dantec (trypanosomes), Service Antipaludique, Thiès (Culicidae, Phlebotomidae), Institut d'Études Centrafricaines, Brazzaville (Phlebotomidae), ORSTOM, Bobo-Dioulasso (Phlebotomidae); and also of individual workers of the Institut Pasteur, Paris (Phlebotomidae), ORANA,

Dakar (various insects). An average of 1,430 specimens have been identified annually during the last three years (1959, 1960 and 1961).

Exchanges: During the last three years material has been sent to, deposited or exchanged with no less than 10 institutions in the French community (such as the Institut Pasteur, Paris), and with 8 institutions in Africa, Europe, and the United States of America.

Laboratoire de Zoologie, Institut Français d'Afrique Noire, Dakar, Sénégal

Laboratoire de Zoologie des Invertébrés Terrestres et d'Eau Douce

Collection: Nearly 400,000 specimens of invertebrates, mostly insects, collected in West Africa, 75 per cent of which have been identified; the majority of them are insects, including Myriapodes, Arachnida, Crustacea, Molluscs, etc. During 1959 and 1960, the collection increased by 30,000 specimens, coming mostly from the Mont-Nimba region (Guinea and Ivory Coast, from the Parc National du Niokolo-Koba, from

Dakar and from Richard-Toll (Senegal).

Identification: Some of the specimens collected by IFAN are identified locally, as was the case in 1959 and 1960 for about 5,000 specimens. At the same time, about 10,000 samples were identified for the Institut by various specialists all over the world. In addition, during these two years, the laboratory has been able to identify about 2,000 specimens submitted by various organizations or private individuals—foreign museums, schools in Senegal, Service des Eaux et Fôrets, Institut Pasteur and amateur entomologists.

Exchanges: Hardly any exchange of material until now. In 1959-60 about 100 specimens were exchanged (aquatic Coleoptera and *Lepidopteres satyradae*). Efforts will be made with a view to increasing the exchanges

in the future.

Laboratoire de Zoologie des Vertébrés

Collection: Consists of 10,500 vertebrates (fishes, reptiles, birds, mammals, etc., of West African countries) other than marine fishes and organisms. Annual additions vary depending on the number of missions undertaken. In 1958, 200 birds and about 50 mammals were added. In April 1956, 1957 and 1958, the Parc National du Niokolo-Koba (Senegal) was visited for collecting purposes.

Identification of material is carried out for own purposes and at the request of other institutions. Snakes are identified at the request of the medical department. Fresh-water fishes are sent to the Director of the Laboratoire d'Hydrobiologie de Diafarabé (Soudan) for identification.

Exchange: No arrangements exist for exchange of specimens with other institutions, but the principle of certain exchanges, in special cases, has been accepted.