

## Research Items

### Garments from Yunnan

THE late Prof. Augustine Henry, well known as an authority on forestry, was stationed in southern Yunnan as an officer of the Chinese Customs in the last decade of last century. He then made a study of the little-known peoples of the country, including the Lolo, more correctly known as the Nosu. A small collection of clothing which he brought back to England, described as 'Lolo', but now shown to be Miao, was presented to the Manchester Museum by Mrs. Henry. It has since been studied and described by the Misses Laura E. Start and Mabel C. Wright (*Notes from the Manchester Museum*, No. 37: Repr. *Mem. Manchester Lit. and Phil. Soc.*, 80; 1935-36). The garments consist of four coats—a short-waisted pullover with long sleeves and the chief embroidery at the waist, two linen coats, sleeveless and short-sleeved, with shoulder and collar decoration, and a Chinese derivative, little worn by Miao women—and lastly a short skirt. All differ in technique and style from Chinese work. The description 'Lolo' is shown to be incorrect, as Lolo women wear jackets and long petticoats (which are rarely heavily embroidered) silver ornaments and a long felt cloak. This last is a prominent feature in the clothing of both sexes. The Miaos, who are tenants or serfs of the Lolo, call themselves *mp'eo*, a sound which means "embroidery". The amount of embroidery on the clothing of a Heh Miao young woman is astonishing; and it takes them years to embroider the jackets or skirts, in which they hope to be married. The embroidery on the garments now in the Manchester Museum, the only ones of their kind in an English museum, clearly indicates their origin. They belonged either to the concubine of a Nosu chief or to serfs on a Nosu estate. The materials used are local cloths made from flax or wool, with trimmings of silk, cotton and wool. Cotton cloth is obtained from the Shan, the only people of the region who now weave cotton. The ornament, hand sewn, is mainly geometric, and well placed. Possibly Chinese influence can be traced; but Shan influence is more marked, for example, in the use of coloured cloths applied in strips and small pieces, in borders, and joined in large pieces to give variety of colour. Two unusual methods employed in making patterns are folding to produce a strip effect, and a stitching giving a brocade texture.

### Mound Builders in Louisiana, U.S.A.

AN examination by Mr. Winslow M. Walker in 1931-32 of the remains of a group of mounds in Louisiana has preserved evidence relating to early indigenous culture, which was in danger of being lost entirely. The mounds, upon which now stands the township of Jonesville (formerly Troyville) in Catahoula Parish, near the junction of the Tensas, Black, or Ouachita, and Little Rivers, eighteen miles west of the Mississippi, are thought to be identical with the capital city of the Province of An'ico visited by de Soto in 1542. They were seen by Duncan and Hunter in 1804. The remarkable feature

of the group was then a conical mound raised on a pyramidal platform with two terraces, and there is evidence to show that it had a total height of eighty feet. This would make it second in height only to the Cahokia mound in Illinois. It was partially destroyed in the American Civil War, and finally levelled in 1931, when great sheets of cane, pottery, bones and variously coloured clays were brought to light. The neighbouring mounds have been used for house sites, but enough remained of the great mound beneath the levelled surface to yield to Mr. Walker's excavation something of the cultural history and evidence of the method of construction (*Bull.* 113, *Bureau of American Ethnology*). Excavation of part of a burial ground near the river brought to light a number of burials; but there was no certain indication of a connexion between the human remains and the former inhabitants of the mounds. The artefacts found in the remains of the mound were not numerous, the most important being the pottery, which though extremely fragmentary, afforded material for a classification into a number of types. The most remarkable feature was the constructional use of cane in layers of some thickness. There is evidence of at least two periods of occupation or construction, of which the earlier resembles that of the Hopewell Mound builders of Ohio, and the second inaugurated important structural changes. The last inhabitants of the site may have been the Taensa or the Avoyel, both related to the Natchez, who were broken up by the French in the eighteenth century.

### Inheritance of *l*-Xyloketosuria

THERE are known to be at least two types of the rare chronic pentosuria, differing in the nature of the pentose sugar found, one being optically inactive *dl*-arabinose and the other *l*-xyloketosuria. The latter—a quite abnormal sugar—is now well authenticated, and a simple new test devised by Lasker and Enklewitz facilitates its identification. The same authors have adduced evidence that *d*-glucuronic acid is the precursor of the pentose, though on theoretical grounds the conversion is difficult to follow from the formulæ of the two substances. At any rate the administration of glucuronic acid causes a greatly increased elimination of this pentose in the urine. What is more interesting is the observation (*Human Biology*, 8, No. 2; 1936), based on the study of twenty pentosuric families, as to the inheritance of *l*-xyloketosuria. The urine pentose of thirty-seven individual members has been identified as this sugar. The disease is very rare in the general population, but is frequently found in the families of known cases. Most cases are among Jews. The disease was present in children of ten families in which neither parent shows evidence of it. One case was a child of first cousins. These facts are regarded as indicating strongly that *l*-xyloketosuria is inherited as a recessive character and controlled by a single recessive gene.

### Shore Fauna of the Arctic

THE East Greenland Polar Current bathes the shores of east Greenland in low-temperature water and gives rise to much more severe conditions there than obtain on the west coast. Holger Madsen has surveyed the area 70° 29' N. to 74° 05' N., and finds that life in the littoral and supralittoral zones is limited to comparatively few species ("Investigations on the Shore Fauna of East Greenland with a Survey of the Shores of other Arctic Regions". *Medd. Grønland*, 100, No. 8; 1936). *Fucus vesiculosus*, *Balanus balanoides*, and *Littorina saxatilis* var. *grønlandica*, all of which occur in the same longitude on the west coast, are absent here, and the common forms are oligochaetes, dipteran larvæ, and certain mites and nematodes. The first two may be present in numbers as great as 18,000 and 27,000 per square metre respectively. In the first part of this paper, a detailed account is given of the faunas of the different types of facies—rocky, gravel, clay, etc., and in the second part the area is compared with the west coast of Greenland and with the other known arctic and subarctic shores. The survey of the scattered literature on this subject is of particular value.

### Fishes from West Borneo

*Treubia* (Deel 15, Aflevering 3; 1936) contains a paper by Dr. J. D. F. Hardenberg (Laboratorium voor het Onderzoek der Zee, Batavia) "On a Collection of Fishes from the Estuary and Lower and Middle Course of the River Kapuas", in which he describes a large number of interesting species, adding many records to the fauna of Borneo. These were to a large extent collected from the fish-market at Pontianak, caught in an affluent of the River Kapuas and on the adjoining coast. Others came from streams connected by numerous water courses with the Kapuas, and from the Peniti River, the last coming from farther up the river and from some of the great lakes near. The author gives notes wherever possible on the various species used as food, their local names and feeding habits besides the morphological descriptions.

### Anatomy of a Nymphomyiid Fly

IN 1932, Mr. M. Tokunaga announced the discovery of a new dipterous insect in Japan, which he described as *Nymphomyia alba* gen. et sp. nov. It exhibited a combination of peculiar features which led him to establish the family Nymphomyiidae for its inclusion. He now discusses the nervous, tracheal and digestive systems of this insect (*Philippine J. Sci.*, 59, No. 2, 189; 1936). As regards the nervous system, he describes the ventral nerve cord as consisting of three thoracic and eight abdominal ganglia. The presence of eight separate ganglia in the abdomen is frequent among dipterous larvæ but very rare in the adults of the higher Pterygota. In the tracheal system there are only two pairs of functional spiracles, namely, meso- and metathoracic, while vestigial closed spiracles are present in the abdomen. The tracheal system itself is very simple, consisting of two main longitudinal trunks with very few transverse anastomoses. The alimentary canal is of relatively simple structure: there is no trace of crop or sucking stomach, and histologically the gut shows no evidence of serving a digestive function. The Malpighian tubes are only two in number and open into a common ventral excretory chamber. The structure of the cells of the tubes are peculiar in that small intracellular tubuli open into a common central canal.

### Studies of Frost Hardening

IN a very suggestive investigation upon this subject (*Canadian J. Res.*, 14, Sec. C, Aug. 1936) by J. Levitt and G. W. Scarth, comparisons were made by the plasmolytic method of the permeability of the cells of corresponding tissues of various herbaceous and woody plants in the unhardened and hardened state. Frost hardening of herbaceous seedlings was carried out by keeping them for some days in a cold chamber, in the case of the woody plants; in addition to twigs thus artificially hardened, comparisons were made with tissues brought in from the open country where they were undergoing the normal seasonal hardening during winter. The result has been to show an unexpectedly definite effect, a marked increase in permeability with hardening. It is concluded that cell permeability in the hardened state shows a better correlation with ability to resist frost than any other character so far examined. The permeability change is most marked towards a salt like potassium nitrate; the change is less marked towards polar non-electrolytes with small molecules such as urea; there is no change towards an apolar substance such as urethane. The authors suggest that these phenomena point to an increase in size of the aqueous pore surface in the plasma membrane as a result of the exposure of the living tissues to cold.

### Hudson Strait Survey

THE sixty-ninth annual report of the Canadian Department of Marine for the fiscal year 1935-36 (Ottawa: J. O. Patenaude, price 25 cents) contains interesting information respecting the exploratory survey work now in hand in connexion with the development of navigation in Hudson Bay and from the recently established port of Churchill. The principal feature of the season's operations was the charting of a deep-water channel inside the Digges Islands and close to the continental coast, and extending for a distance of twenty-two miles from Wolstenholme to the westernmost islet. It is more than a hundred fathoms in depth and so straight that two courses only are required. The new channel, called Digges Island Sound, is reported as being ice-free in the late fall for some ten days after the usual ship's route, north of the Digges Island, and it shortens considerably the distance from the sea to places on the eastern side of Hudson Bay and to Moosonee in James Bay. The newly charted channel possesses a bleak grandeur. At the eastern entrance of the Sound on the mainland side stands Cape Wolstenholme, with perpendicular walls rising a thousand feet from the water's edge. From this great headland, the Sound is walled for several miles by enormous cliffs. Thousands of guillemots and murre come yearly to these cliffs to breed and, in the summer months, the place is alive with their clamour.

### Silting of Reservoirs

THE problem of the silting of reservoirs by stream-carried material and the means of reducing the process are being widely studied in the United States by the Soil Conservation Service of the Department of Agriculture. The first report dealing with representative reservoirs in the southern areas has been published (*Silting of Reservoirs*. By H. M. Eakin. Washington, D.C.). The rapid silting would appear to be due to the broad prevalence of soil erosion induced by human occupation. The highest rates

