

are prepared for the table by frying.

I have to thank Mr. E. J. Godfrey for kindly identifying this moth for me.

A. KERR.

Bangkok, December 26th, 1930.

#### REVIEWS.

**Reisen in Siam.** By Dr. W. Credner. *Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, 1928, Nr. 7/8, pp. 296-301.

**Geographische Untersuchungen in Siam.** By Dr. W. Credner. *Forschungen und Fortschritte*, November 1929.

The author of the above two papers will be well known to the members of the Siam Society from the very interesting paper, accompanied by a series of wonderful slides picturing the various types of Siamese landscapes, which he read last year before the Society (later published in the *Natural History Supplement to the Journal of the Siam Society*, Vol. VIII No. 1). The first of the above mentioned papers is a reprint from "*Zeitschrift der Gesellschaft für Erdkunde zu Berlin*" while the second has been reprinted from "*Forschungen und Fortschritte*".

The author, originally a lecturer in Geography at the well known university of Kiel in North Germany, arrived in Siam during the month of October 1927 and spent nearly all his time from the day of his arrival until his departure, in April 1929, on travels through this country, many times on foot for considerable distances, in order to study "au fond" all pertaining to its geomorphology and geological structure, its climate and distribution of vegetation, which subjects combined alone can give a full and reliable picture of a country's physical features. From Siam Dr. Credner was called to China to take up a chair in Geography at the Sun Yat Sen University in Canton, which position he still occupies to-day.

Geology and physical geography have so far, not been the subject of much study in this country and before Dr. Credner came only two men had contributed—and that in part only—to that particular branch of science, namely the Swedish geologist Bertil Högbom and the American oil-geologist Wallace Lee, whose good work the author fully acknowledges. Dr. Credner is, however, the first to give us a general survey of the geomorphology of the whole area of the kingdom. The reports of his travels and the results arrived at through them are therefore so much the more welcome to all those who are interested in this fair and hospitable land of the Thai.

Dr. Credner undertook altogether six voyages through Siam. The first of these, which occupied the months of November and December 1927, was to the Circle of Ratburi in order to study the mountain types of that region. When going from the south, from the delta of the Meklong river, toward the north one passes first through the flat alluvial plains, thereafter meeting, what the author character-

ristically calls, the "island mountain landscape" whose strangely shaped peaks are so well known to all who have travelled on the railway between Petchaburi and Ratburi. Next these isolated limestone hills become united into groups of hills and finally—from the confluence of Kwaë Yai and Kwaë Noi—into serried ranges. West of Kwaë Noi the material of the mountains furthermore changes from limestone into slate and sandstone, reaching a height of 1,300 meters on the frontier of Siam and Burma. With the mountain types the vegetation also changes successively from north to south, from the cultivated plains to the thorny acacia bush of the island mountain landscape, until the dry monsoon forest of the mountain groups and ranges of the north are reached. Similar landscapes to those described above are found in Africa and the south western parts of North America. The population too changes with the landscape. In the South, with its paddy fields, live the Thai, while when going north one meets, in succession, Cambodians (former prisoners of war); Mon; Tongsu (from the Shan States); Kamu (hailing from Luang Phrabang) and finally, living on the hills toward the frontier, the Karen people.

During his second voyage, made in January 1928, Dr. Credner visited South East Siam where he observed another mountain island landscape, consisting of a chain of isolated sandstone and granite hills, running from north to south (Phukhao Khio and Sriraja hills), which are all clothed in dense wet monsoon forest. The soil of the plains in this part of the country rests on a thick layer of decaying laterite, giving the ground a deep red colour (the famous red earth, described by Chinese travellers as far back as 650 A. D.).

Dr. Credner's third travel, lasting from the end of January to the end of March 1928, covered the country lying between Phrae and the hills that form the boundary between Changvad Nān and the French enclave on the right bank of Mekong. From these eastern frontier hills the author went straight west for Chieng Rai and Chieng Saen, and finally down to Chieng Mai. Travelling in this way he was able to cross all the parallel, north and south running, ranges which enclose the valleys of Upper Me Nān; Me Yom; Me Wang and Me Ping. In the highlands at Doi Puka (Changvad Nan) Dr. Credner found at a height of 1,100—1,300 metres traces of an ancient plateau. The valleys of North Siam are all formed by the deposit brought down by the rivers, just as the great central plain of Siam has been built up by the silt of its rivers—the plain being indeed a gift of the hills in the north. Laterite is also met with in the North, both in the valleys and at the edge of the foot hills. The hills are covered with dense dry monsoon forests, among whose trees the magnificent Teak is found. The population of the plains and valleys is Lao or Thai Yuan, while in the hills live, in order from east to west: the tea-cultivating Tin, the Yao, the Kamu, the Maeo and the Lawā and, in the western-most parts, the Karen, Musseu and Lisso.

Dr. Credner's fourth voyage was to the Malay peninsula. The

types of mountain found there consist of several long ranges of granite hills, that contain the valuable tin ore, and, in the plains, isolated limestone peaks which characterize the landscape from Tung Song to Hād Yai. Tropical rain forest clothe the hills and (part of) the plains of the Siamese Malaya. The population is Thai and Malay, among which live strong communities of Chinese immigrants, finally there are a few scattered bands of the primitive Negritos.

On his fifth voyage Dr. Credner went to the north western parts of Siam (from where he crossed to the Shan States and Burma) and during his sixth and last trip North Eastern Siam was crossed from north to south. These two last voyages were made during the latter part of 1928 and the beginning of 1929. During the voyage in N. E. Siam Dr. Credner travelled no less than 700 kilometres on the Mekong river, besides making excursions into the hilly region to the east of Luang Phrabang.

Of special interest is the author's report on the existence of ancient plains which still to-day lie on a considerably higher level, up to 1,500 meters, than the younger, deeply eroded, river plains. Such ancient plains, which must represent remains of an early surface of our earth, are met with in the extreme north of Siam and in the Shan States. While the greater part of the area of Siam seems to have been subjected to a slow process of rising, the Korat plateau has only felt this process at its rims. The surface of this plateau may therefore (together with the above mentioned remains of ancient plains in North Siam) be considered to represent the oldest part of the country—geologically speaking.

We understand that the very abridged publications under review are but forerunners of a larger and more detailed work on the geomorphology and geology of Siam which is now being written by Dr. Credner and the publication of which will be looked forward to with a lively interest in view of the excellent work already done by this young and promising savant.

Bangkok, June 1930.

ERIK SEIDENFADEN.

**The Hong Kong Naturalist.** Volume I. 1930.

This is a quarterly magazine which should appeal to many of our members. It contains much of general interest to naturalists, and others; though it is primarily concerned with the natural history of Hong Kong.

An editorial in the first number outlines the aims and scope of the magazine. The editors tell us that "Some readers want pre-digested and yet popular facts, others a kind of scientific encyclopaedia of local knowledge. We have therefore to steer a middle course, by making part of the magazine purely popular and some a little more technical". So far, it must be said that the editors have succeeded very well in their aims, and they have our best wishes for a like success in the future.