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utter dependence on their fungal partner, unless, of course, it be claimed that these orchids are able to utilise organic matter in the soil through their own unaided efforts. There is no experimental support for the latter view, and with our present evidence it is more reasonable to regard them as plants which show extreme specialisation in the exploitation of the mycorrhizal habit.

In the darkness of the earth there can be no photosynthesis. All organic food material is derived directly or indirectly from the world of light, from the green organs of the earth's surface. Below that flourish only the non-green roots and the teeming host of life forms ultimately dependent on the green plants. A partnership with one or more of these exploiters of the photosynthetic labours of the sub-aerial plant population makes it possible for a flowering plant to become independent of light. We have such leafless orchids as 

EASTER EXCURSION, 1939, TO UPPER ALBERT RIVER AND NATIONAL PARK.

GENERAL ACCOUNT.

The Easter excursion was held this year to the same spot as that visited in 1936, on the Upper Albert River, on Edgar Stephens and Sons' property adjoining the Lamington National Park and about 64 miles from Brisbane.

The attendance was about 43 adults and 11 juveniles. The majority of the party arrived at the camp on the Thursday evening. Friday was somewhat showery, and only short excursions and walks were favoured. Saturday broke finer, and a considerable party entered the park, which is here dense "scrub" or rain forest, but owing to a late start and heavy rain following, the main objective was not achieved and members returned at
dark with hearty appetites and wet skins.

Following this some shorter excursions were made to the Razorback, Widgee Creek, and to local caves in the cliffs.

In the evenings entomological work was carried out, and other specimens of botanical and geological interest examined.

Despite a showery week-end a well-satisfied company returned to town on Monday evening ready to resume the usual daily round.

J. E. YOUNG.

ORNITHOLOGY.

Owing to the rather inclement weather experienced on this trip the list of birds noted was not so numerous as in 1936. There were, however, several notable additions to the former list such as: The Lyre Bird (*Menura alberti*) seen in the scrub near the river, the two large feathers of the tail being plainly seen. As these birds usually inhabit the dense rain forest of the border ranges they are not very frequently observed.

A pair of *Podargus strigoides*, or frogmouth, were noted by a party on adjacent trees on Widgee Mountain, both being comparatively low. Close to camp on the river a number of white-browed scrub wrens, double-bar and red-browed finches and yellowrumped fit warblers were fairly tame. Amongst others were the bellbirds (Miners) and eastern whip birds. There were also some crested pigeons, western birds settled in the locality in recent years. In all a total of about 32 species was noted on this occasion.

J. E. YOUNG.

BOTANICAL NOTES.

The camp site was in a cleared area formerly occupied by mixed eucalypt and rain forest. A selection of silky oaks (*Grevillea robusta*), red cedars (*Cedrela toona*), hoop pines (*Araucaria cunninghamii*), Moreton Bay Chestnuts (*Castanospermum australe*), and other native trees had been retained along the banks of the stream. The rain forests in the valley beyond the camp, though cut over for cedar in the past, still contain some magnificent specimens of the species. Other very large trees are Hoop Pine, Box (*Tristaniopsis conferta*), Flooded Gum (*Eucalyptus grandis*), and a Moreton Bay Fig (*Ficus Watkinsiana*). In one gully a group of huge box trees was reminiscent of the Giant’s Garden across on the
Coomera, near O'Reilly's.

Three years ago an advancing beech forest was examined on Widgee Mountain. Young beeches (Nothofagus Moorei) were found in the open eucalyptus forest, and there was undoubted evidence of the relatively recent expansion of the beech community. The spot was not visited on this occasion, but it was learned that bush fires had swept the area last year. It is probable, therefore, that the advance has for the time being been checked. On the cliffs there were extensive patches of the pink flowering orchid, Dendrobium kingianum, and in places though old stems had been charred by fire within the last six months, new healthy growth was being produced.

For some reason which is not apparent, lantana has not invaded this valley. Many other introduced plants flourish on the rain forest margin, amongst them passion fruit, tree tomato (Cyphomandra) and Solanum seaforthianum, while taro, originally planted by the stream, has become naturalised on the banks and even in the stony creek bed. In the pastures many of the rain forest pioneer trees such as Homalanthus and stinging trees are reasserting themselves. The two species of stinging tree, Laportea gigas and L. photiniphylla, commonly have their leaves blotched with downy patches suggestive of a parasitic mould. These are actually abnormal hairs produced as the result of the attack of a mite. The hairs, which are branched, are not impregnated with silica and do not sting, but even the downiest of the leaves still possess enough siliceous stinging hairs to make them as formidable as healthy specimens. In the rain forest the wild ginger (Alpinia coerulescens) was commonly marked by the black lesions of the fungal parasite, Phyllachora alpiniae. Affected leaves become brown and ragged. The horse-hair fungus (Marasmius equicrinus) was noted in several instances as killing seedling trees. One dead tree had a magnificent growth of several hundred fruits of the luminous fungus, Panus conchatus.

D. A. HERBERT.

ETHNOLOGICAL NOTES.

The area visited during the Easter Excursion to the Upper Albert River was part of the land formerly inhabited by the Chepara tribe, whose country extended from the Logan River to the southern cliffs of the Macpherson Range.
The material collected, though not extensive in range, was quite interesting, and could have been further added to if time had not been so limited.

The first point of interest found was a burial cave in the face of some rhyolite bluffs among the foothills of Razor Back Mountain, or The Lost World. The cave itself—which had been formed by weathering and falls of rock—was so small that only one person at a time could possibly have crept inside. In it were the remains of portion of an aboriginal skeleton, obviously there for many years.

When a person died in this district, it was frequently the custom of the tribe for the nearest female relative, such as the wife, to carry a number of the deceased's bones, including the skull, about in a dilly bag for some months, and then to deposit them in a cave such as this, or in a hollow tree.

The only implement accompanying these bones was a rather ideal form of quartzite scraper or knife, left as a last token by the gin. This implement is composed of pink quartzite, is well flaked and possesses three cutting edges, one of which shows light secondary chipping. It was apparently a custom in the Moreton district to leave a knife with the bones of the departed, as another skeleton collected by myself several weeks ago on the Upper Mary River, was accompanied by a fresh water mussel-shell knife.

On another bluff in the same range of mountains is a shallow rock overhanging at the bottom of the cliffs, used in the old days as a camping shelter. Near this was a beautifully ground stone axe, discarded owing to a break in the butt end. It shows good flaking, and the amount of grinding on the blade is considerable.

At the other side of the Albert River is a similar bluff of rhyolitic rock, possessing the usual shallow caves. This bluff is situated just above the rain forest of the river, and is surrounded by open eucalyptus forest, the country being free of undergrowth and altogether a much more favourable camping spot.

At the base of the cliffs is a larger cave capable of holding ten or fifteen people, and running back for some little distance into the rock. It has apparently been worn out by seeping water.

Among the implements found buried in its floor was a stone axe made from a creek pebble roughly flaked into shape. It also had been discarded owing to a badly
broken blade. However, grinding is still noticeable.

The other implements found comprised a mussel-shell knife, and a number of scrapers, including several side and end scrapers, and also one fine example of a half-circular side scraper, which has been very well flaked.

Another is a small triangular point with a ridged back which is a common stone implement right throughout Moreton Bay and the Brisbane district.

G. K. JACKSON.

GEOLOGICAL NOTES.

The excursion this year added little to the observations made on the previous visit to the locality. This was due in part no doubt to the smaller number of geologists, and in part to the comparative inactivity of those present, but mainly to the fact that on the previous visit we had "picked the eyes" of the sections already known to be of interest. That is to say we then went to look at sections rather than look for them. This time we hoped to find new sections. As was expected, the geology did not seem to have changed much in the three years' interval. Keen readers may refer to the notes made then as still applicable.

The chief geological problem, and a very important one, is the relationship of the widely differing types of volcanic rocks to one another and to the Jurassic strata on which they rest and into which they have been intruded.

Sir Roderick Murchison once told the young Geikie that good legs were more important to a geologist than his head.

There is fine scope in the Upper Albert region for a geologist, but with good hands and heart and head, as well as legs, if he is to do justice to the task.

We followed up the river for a few miles, but only met with volcanic rocks either in situ or in the river-borne material. Some of the party picked up nice pieces of green jasper—probably the infilling of steam holes in the lava flows.

On another day, on the ridge separating the Albert from Widgee Creek waters, or rather in a gully on the Widgee Creek side, we noted a coal seam in the sandstones forming the ridge. On the previous visit we saw seams in Widgee Creek and in the Albert River.

We were not this time lucky enough to find a section
showing the volcanic rocks in contact with the sedimentary rocks.

E. O. MARKS.

ENTOMOLOGY.

Generally speaking, the insects were not as numerous as on the previous trip held in 1936. Since then many acres of forest have been cleared, reducing the insect population considerably. The long dry summer followed by heavy rains (resulting in the scouring of the creeks) also affected the insects.

As usual the dragon flies (Odonata) were very conspicuous, and species like Orthetrum caledonicum, O. villosavittatum, Diplacodes haematodes, Synthemis regina, Austrogomphus achraceus, Argiolestes icteromelas were particularly common. Rarer species like Diphlebia lestoides, Synlestes weyersi, etc., were not seen.

May flies (Ephemeroptera) were very common near the river, and a fine specimen of Siphonuridae was taken at the camp light. This is the first record of this family for Queensland. Two very fine larvae, which are thought to be the larvae of the same species. were found in the gravel in the creek.

The stone flies (Plecoptera) were rare, only two specimens were taken both at night. They were two species of Leptoperlidae. Many larvae of both Sternoperla australis and Leptoperlidae were found under stones in the stream.

Only two specimens of Tueniochorista pallida (Mecoptera) were found. Usually a number of specimens of this rare and interesting species are caught at Easter.

The only Neuroptera collected were three specimens of Eidoleon bistrigatus, the large ant-lion with the peculiar linear marking on the fore wings. In 1936 three or four specimens of a rare species of Osmylidae were taken, but none were seen on this occasion.

The beetles were, as usual, fairly plentiful, but all of those collected were quite common species.

The most interesting fly was a large brown and black tachinid with smoky wings. It has not yet been identified.

The Hemiptera, Orthoptera, and Lepidoptera were numerous, but of no particular interest.

A great deal of time was devoted to studying the Arthropods found under bark and logs. After the heavy rains the water-table was very near the surface, with the result that many forms not usually seen were exposed
when the log was turned over. The outstanding find was four specimens of *Peripatoides leuckarti* Sanger, two mature and two half grown. In 1936 three specimens were found so that the Upper Albert River is evidently a good locality for these rare and interesting Arthropods. A handsome species of Opiliones was fairly numerous. The Opiliones are close relatives of the spiders from which they differ in having a segmented and non-petiolate abdomen. The very long legs and hard body are very characteristic of these rather rare Arachnids. The identity of the species has not yet been established, and probably it will be necessary to send specimens to Europe for identification.

Millepedes and centipedes were common under the stones and logs. Several specimens of Symphyla belonging to the family Scutigerellidae were found. These very primitive, fragile Myriapoda were not common, and considerable patience was required to collect them without injury.

Practically no attempt was made to collect the insects of the rain forest, and perhaps more attention will be paid to them on some future occasion. The locality is an excellent one for the naturalist and well worthy of another trip.

F. A. PERKINS.