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A Further Contribution On *Dendrobium Elobatum*, Rupp

Describing polymorphism in the species and two new flower forms.
By S. F. St. CLOUD, Cairns

This species was described by Rev. H. M. R. Rupp in Victorian Naturalist, Vol. 69, Jan., 1953. The type plant in the author's possession has since produced two further flower forms quite distinct from the type form. Subsequently, another plant produced two flower forms identical with the variants on the type plant.

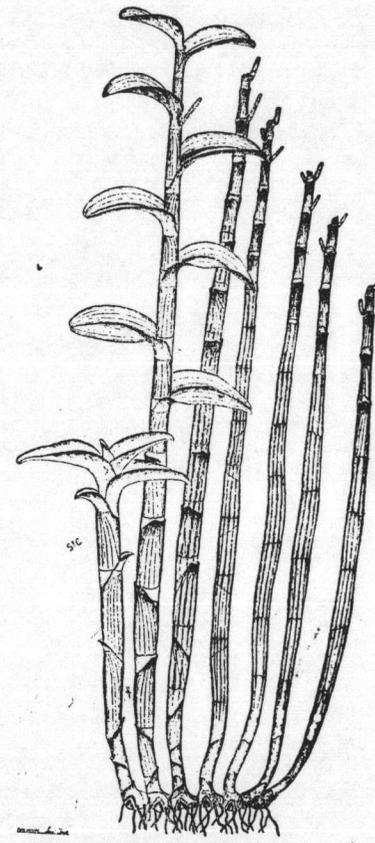
Specific or varietal names cannot be recognised in connection with the persistent polymorphism of this remarkable species. It can only be said that the plants produce three distinct flower forms, with *Dendrobium elobatum* as the type form.

FLOWER FORM B.

Raceme 46 cm. long, 4 mm. diameter, stem dark brown, with about 24 flowers on pedicels 3 cm. long. Bracts, oblong acute. Flowers 3-4 cm. across. Sepals and petals greenish, heavily suffused with brown, conspicuous red-lilac veins, and pale green margins. Dorsal sepal 19 mm. long, 6 mm. wide, broad linear. Lateral sepals, 25 mm. long, obliquely falcate, obtuse. Petals spatulate, slightly longer than the sepals. Petals and sepals, undulate and twisted. Labellum, shorter than the sepals, lateral lobes broad, slightly contracted towards the middle, incurved, with fine lilac lines broadening out to brownish edges. Midlobe, oblong acute, deflexed, slightly undulate, with irregular red brown lines to greenish apex. Disc, prominent raised callus extending to two thirds of lamina or one-third middle lobe, 4 raised lilac ridges converging towards tip of callus, undulations towards point of convergence. Column about 15 mm. long, winged wings slightly higher than the anther. Head, wings and foot flecked with lilac. Stigma broad,

urceolate. Rostellum, not prominent.

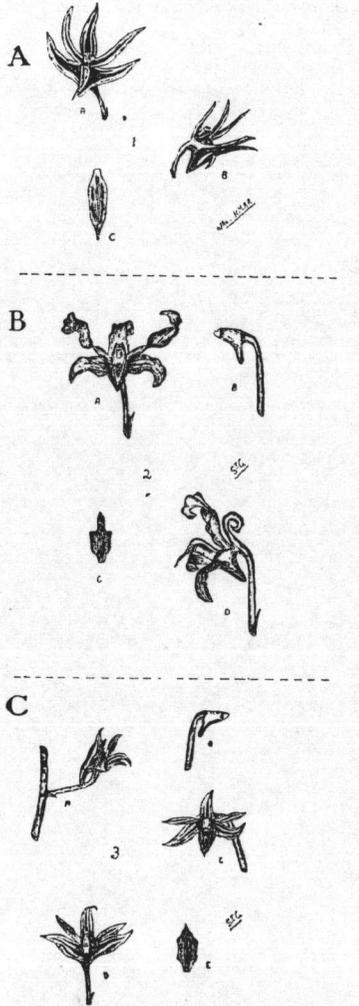
Specimen flower form B from type plant in Herbarium St. Cloud.



Dendrobium elobatum, Rupp
Scale graduated in centimetres

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A. Type form after H. M. R. Rupp. A, Flower from front. B, from side. C, Labellum from front.
 B. Flower from front, Labellum removed. B, Column, ovary and pedicel.
 C. Flower from side, normal position (reversed). B, Column, ovary and pedicel. C, Flower from front. D, Flower from front, Labellum removed. E, Labellum from front.

This flower shows remarkable variation from the type form, and in the undulate character of the segments, bears a superficial resemblance only to *Dendrobium undulatum* R.Br. Flowers were first produced in cultivation by the type plant of *D. elobatum* Rupp. in the author's possession, and witnessed by Dr. Flecker, of Cairns. Further flowers were subsequently grown on another plant, collected in the Cairns city area. All flowers on both plants were identical. I consider that the production of similar flowers by two separate plants from different areas in the one locality to be an indication that these polymorphic flowers are a fixed feature of *D. elobatum*.

FLOWER FORM C.

Raceme, 22 cm. long, 4 mm. diameter, stem light green, with about 11 flowers on pedicels 2 cm. long. Bracts, broad, acuminate, lilac.

Flowers reversed, 2-3 cm. across. Sepals and petals cream coloured with red-brown longitudinal lines. Dorsal sepal about 14 mm. long, 6 mm. wide, broad, acuminate. Lateral sepals 18 mm. long. Petals linear lanceolate, shorter than the sepals, slightly twisted at the base. Labellum as long as the petals, 15 mm. long, 8 mm. wide. Lateral lobes narrow, erect, veined and suffused with lilac. Middle lobe broad, acuminate. Disc, raised callus extending to half length of middle lobe, prominent raised margins with one prominent ridge dividing at two thirds length and re-uniting at apex. Spur, narrow, obtuse. Column, about 12 mm. long, winged, wings projecting about 1 mm. above the anther, foot flecked with lilac. Stigma urceolate. Rostellum prominent.

Specimen flower, flower form C from type plant in Herbarium St. Cloud.

The flowers were first recorded on the type plant of *D. elobatum*, and witnessed by Dr. Flecker and E. Gilmore, Esq., President of Cairns Orchid Society. They were subsequently produced by another plant. The flower has a strong affinity with the type

(*Dilleniaceae*) and *Eugenia tierneyana* (*Myrtaceae*).

The type form, and flower form B have both produced normal, well filled seed capsules, flower form C has not been tested. All flower forms show evidence of being long lasting.

The known flowering periods are, type form, August, flower form B, June, and flowering form C, October. The emergence of new growth takes place in May and December.

The disposition and number of individual flower forms, which constitute the floral record of the type plant are as follows:—

The disposition and number of individual flower forms, which constitute the floral record of the type plant are as follows:—		The points of emergence of racemes on the pseudobulbs were (totals):—	
1st (forward) pseudobulb, Flower form C,	1 raceme.	Apices, Type Forms, 2, Flower Form B, 2, Flower Forms C, 2.	
2nd ditto	" B,	First Nodes, ditto 0,	" B, 2, Flower Form C, 3.
3rd ditto	" C,	Second Nodes, Type Form, 3.	
4th ditto	" B,		
5th ditto	" B,		
6th ditto	" C,		
7th ditto	" C,		

form. It differs in the lateral lobes of the labellum and in this segment, of 21 flowers produced by two plants, 4 specimens were without one lateral lobe. In all other respects, the flowers of both racemes were similar. In the central callus the difference is marked by the one prominent ridge and prominent margins to callus. Also, this flower has the unusual feature, for a North Queensland dendrobe of being reversed. The production of similar polymorphic flowers by two different plants is an indication of the fixed nature of this flower form, and as the type plant, *D. elobatum*, produced a raceme of these flowers, they are inseparably associated with that species.

In all cases, a complete raceme is composed exclusively of the one flower form also, the several flower forms develop at different periods of the year, so that only one flower form inflorescence is blooming at one time on the same plant. Individual flower forms are not confined to individual pseudobulbs of the one plant, and each flower form appears at different times from separate axils on the same pseudobulb.

Racemes of the three flower forms are quite distinct and easily recognised in the dried state. Evidence of past production of the three flower forms was on the flowered plants. The spent racemes were obviously consistent with the type form, a short slender specimen, 27 cm. long, 3mm. diameter, flower form B, a long, robust, many flowered raceme, 46 cm. long, 4 mm. diameter and flower form C, a short, few flowered raceme 22 cm. long, 4 mm. diameter. The plants themselves are the subject of an unusual diurnal colour variation. The upper part of the pseudobulb, and the cauline leaf bracts in particular, are heavily coloured with a deep lilac until about noon. This colour changes to grey brown for the remainder of each day. All plants are well grown and the host trees of the seven specimens were. *Wormia alata*

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Each one of these new flower forms would ordinarily be ranked as distinct species and would be described as such by anyone unacquainted with the habit of these remarkable plants.

I believe *D. elobatum* to be an endemic species, confined to the Trinity Inlet area, and the clearing of land for settlement has

destroyed all except a few specimens remaining on the outer fringe of what is now the City of Cairns.

I am indebted to Rev. H. M. R. Rupp for his advice and interest, and in particular to Mr. H. K. C. Mair, National Herbarium of N.S.W., Sydney, for his definition of the status of the flower forms referred to.

Lychas lappa sp.n.

A New Scorpion from North Queensland

By L. GLAUERT

Cephalothorax as long as the first and two-thirds of the second caudal segment, emarginate in front, slightly sinuous behind; closely covered with larger and smaller granules which are also present on the median depression; two short granular keels extending for a short distance in front of the ocular tubercle and merging into clusters of large granules which occupy most of the area between the lateral eyes and the median depression, the lateral central keels and the posterior median keels represented by rows of spaced granules.



Tergites closely covered with larger and smaller granules, largest of the pigmented areas; the first sinuous behind like the Cephalothorax. The rest almost straight, the second to the sixth with short keels, consisting of about four enlarged granules extending to the hind margin; the seventh with four long granular keels the external of which reach the finely granular hind margin, a faint short median keel is also present, lateral edges finely serrate.

Sternites, all except the last, smooth and shining with faintly serrate edges, the last dull with a few scattered granules and four finely serrate keels which extend to the hind margin, serrations on lateral edges more pronounced.

Tail short and stout, four times as long as the Cephalothorax, parallel sided, with fine, sparsely scattered granules and coarser granular keels on the first to fourth segments, the terminal granule enlarged, less so than in the female of *L. armatus*, first and second with ten keels, third with eight well defined keels and two indistinct ones, fifth segment as long as the first and second together, somewhat irregular, the keels on the left normal, those on the right represented by clustered granules closely scattered on the dorsal, lateral and ventral surfaces, but the median keel on the lower surface well developed.

Vesicle upper surface smooth and shining, the lower with a

prominent median keel which ends in an obliquely truncated and prominent tooth, four rows of minute granules represent lateral and ventral-lateral keels; aculeus long and slender, almost as long as the vesicle. The vesicle is narrower than the fifth caudal segment.

Palps **Humerus** finely granular with two prominent granular keels above and one on the posterior surface, anterior surface with several large granules.

Brachium dull with three granular keels above and an ill-defined keel of large spaced granules in front, lower surface with scattered granules and an indistinct, smooth median keel, hind surface with an ill-defined, almost smooth median keel.

Hand somewhat swollen, not as wide as the brachium, dull with the keel of the fixed finger extending backwards as a row of granules not reaching the margins, fingers long, slightly arched, not gaping at the base, movable finger with six series of granules, the basal series which is nearly as long as the other five combined, flanked externally with three granules, the other five series each with an enlarged external and internal granule at its base. On the right hand the fingers are abnormal, of unequal size and gaping at the tip. Legs dull with a few scattered granules, tibiae and femora with well-marked, finely serrate keels, tarsal spur on third and fourth legs not larger than

the diameter of the basal tarsal joint.

Pectines not extending beyond the coxa, with twenty-three teeth, fulcra present.

Measurements—length 51, cephalothorax 7, trunk 22.5, tail 28.5, vesicle 9.5, hand 11.5, movable finger 7.5, width of hand 2 mm.

Colour (specimen preserved in spirits and therefore probably faded), uniform yellow-ochre brachium and fifth caudal segment ochraceous orange, ocular tubercle and area round the lateral eyes black; dark streaks arranged symmetrically along the cephalothorax probably represent former keels; each tergite with regularly spaced darker areas, one covering the short median keel; tail with the keels only slightly pigmented, limbs with darker markings which are absent on the tarsi and fingers; under surface uniformly yellow-ochre, tail ochraceous orange.

Remarks. Close to *Lychas mucronatus* (Fabr.) and *Lychas armatus* (Pocock). From the former it differs in some of its proportions, details of structure and the greater number of teeth on the pectines and from the latter in size, some proportions and structural details as well as in the greater number of teeth on the pectines. The specimen, a female, was collected at Lappa Junction, North Queensland, by Mr. Wm. Hosmer.

Type in the collection of Western Australian Museum, Perth, W.A.

River Drift Man In England

* The Piltdown Skull

By K. KENNEDY

President of Townsville and District Naturalists' Club

A recent "discovery" that the lower jaw of the famous Piltdown skull does not belong to it is no surprise to most anthropologists, for, right from the beginning when the remains were found in 1912, there have been many doubts expressed by scientists. As early as 1915, Sollas (1) wrote that although the brain case was truly human, the lower

jaw was distinctly simian as shown by a flange extending inwards from the lower margin in the region of the second molar and continuing forward. This feature occurs in the lower jaws of apes.

*Read at March, 1954, meeting of Townsville and District Naturalists' Club.

In his Presidential Address at the British Association in 1927, Sir Arthur Keith (2) mentioned that although he considered it genuine, the lower jaw was so ape-like that some experts denied that it went with the human fossil skull and supposed it to be the jaw of some extinct kind of chimpanzee. Even in popular scientific publications doubts have been expressed, and in 1949, C. and J. Hawkes (3) wrote: "It is now a widely held opinion that the jaw found at some little distance from the Piltdown cranium had nothing to do with it but in fact had belonged to an ape."

From the above, it is clear that the discovery that the jaw is not authentic is only what has been suspected for a long time.

The finding of the Piltdown skull makes a very fascinating story. For many years, Mr. Charles Dawson, a lawyer, of Lewes in Sussex, in England, put in his spare time studying geology, especially that of the Sussex Downs. Once, while walking along a country road he found that it was being repaired with flint that showed marks of being used by prehistoric man in the making of artifacts. On asking the road members where the flint came from, he was shown a small gravel pit on the edge of Piltdown Common. That was in the year 1908. He made friends with the roadmenders and visited the pit periodically to see if any artifacts could be unearthed. Then one day he was given a small piece of bone which looked like part of a human skull. This seemed so important that he communicated with the distinguished scientist, Sir Arthur Smith-Woodward, and both of them commenced a systematic

Mount Peter Goldfield

By J. D. KELLY

Towards the end of World War I, Mr. Petersen, a sugar cane farmer, was preparing his land for the new planting. As the plough turned the soil over it brought to the surface fragments of schist, greywacke and

excavation of the gravel pit. The gravel of the pit was originally the bed of an ancient river which existed away back in early Pleistocene times in an interglacial period when Britain was part of the European mainland and the climate was much warmer than at present.

After patient and systematic searching, more fragments of the skull were found, a jaw bone and a bat shaped club cut out of the thigh bone of an extinct species of elephant. Fossil bones of other extinct animals were dug up and a number of flint implements. The fragments of skull were re-assembled by Smith-Woodward and a plaster cast taken of the interior to ascertain the shape and size of the brain. As he considered it to be too primitive to be included in the genus *Homo*, he created for it a new genus, which he called *Eoanthropus*, meaning "Dawn Man," and gave it the specific name, *dawsoni*, as a tribute to the finder.

The skull is now in the British Museum and is considered by some scientists to be that of a woman, not a man.

Apart from the importance of the skull is the importance of the bone club found near it, which proves that away back before the last great Ice Age and the one previous to it, man had already developed enough intelligence and the skill to fashion such an implement which he had to saw out of the thigh bone of an elephant.

REFERENCES.—(1) SOLLAS, W. W., "Ancient Hunters," Macmillan, London, 1915, p. 49.

(2) KEITH, Sir Arthur, "Man's Origin," London, 1927, p. 9.

(3) HAWKES, C. and J., "Prehistoric Britain," Penguin Series, p. 27.

white quartz. The area he was ploughing was close to the foot of Mount Peter and so his interest was not aroused by these quartz fragments until a piece that appeared to be different somehow from the other frag-

ments, caught his eye. On picking this stone up, his heart skipped a beat, for against the white of the quartz a dull yellow material showed. This was the beginning of the small Mount Peter Goldfield which has produced gold intermittently for thirty-six years.

The Mount Peter auriferous lodes lie in a formation of greywacke, striking north and south, dipping west at 75 degrees. Above this formation lie a series of mica schists and quartzites, while an arenaceous schist containing manganese underlies the greywackes. Superimposed on the greywackes lies a formation which is probably greenstone. The Mount Peter greywackes vary in texture, sometimes having a schistose structure, while other areas are slightly graphitic.

Two major series of quartz filled faults cross the greywacke formation. The first series strikes north and south with the country and has resulted in the occurrence of numerous quartz reefs. These reefs, however, are barren. A small copper lode, assaying up to 30% copper, was located striking north and south, and may be connected to this series. The second series consists of east-west faults containing rather narrow quartz reefs, generally dipping to the north at 60 degrees. These are the reefs in which the auriferous lodes occur.

The ore shoots are rich, but occur sporadically in the reefs, and are mostly shallow, although the shoot located in the Talisman reef was followed to a depth of 300 feet. The gold occurs in a free state, in white quartz in most of the reefs; however, in some of the deeper mines sul-

phide ores have been noted. As the gold has a tendency to occur in rich dabs, even the rich shoots are very variable in quality. Where reefs intersected the graphite greywacke, the ore was very rich. The graphite content of this greywacke was possibly the chemical agent which precipitated the gold from the rising auriferous solutions, similar examples being the graphite shales of Gympie and the graphite granites of Croydon, adjoining which rich gold was also located.

Of the reefs, the Talisman has been the biggest producer. Other reefs are the Specimen Hill, outcropping at a height of 450 feet and is four to nine inches wide, and the Twins, which is probably a faulted continuation of the Specimen Hill reef. The small, but very rich Golden Bar reef, which has a different class of quartz to the other reefs, and lies vertically. The Alpine reef, half-way up Mount Peter at a height of 1400 feet, is the highest known auriferous reef for this field.

One mile to the north-west of the Mount Peter auriferous quartz reefs is found, in a series of manganiferous arenaceous schists, a manganiferous lode ten feet wide, while in the same area, in a formation of chlorite topaz schists, is located a small tin lode.

Further prospecting on the Mount Peter goldfield and in the precipitous country to the west may reveal other as yet unknown ore bodies, either of gold, copper or tin.

REFERENCES.— Queensland Geological Survey Reports on the Mount Peter Goldfield, published in the years, 1919 and 1931.

North Queensland Naturalists' Club Annual Report, 1953-1954

By ALFRED A. READ

Again I have the privilege of presenting the annual report of the general activities of the club for the year ended tonight, 14th September, 1954.

At our last annual meeting we had a full complement of officers elected and it augured well

for a full year of activities. During that month we had a visit by the R.A.O.U. from the southern states to study the bird life in our northern area. During their stay, when the visitors spent much time at Lake Barrine, this club arranged an outing to

Michaelmas Cay during very boisterous weather, as well as another to Hartley Creek. A welcome at the home of Mr. and Mrs. Read was extended to them, and on the following evening they entertained this club by a lantern slide description of their previous year's trip to the McDonnell Ranges, which was very much appreciated by our members. During that month, a successful outing to Davies Creek was arranged.

At the October meeting, the H. Flecker Natural History Medalion was awarded to the winner, Keith Barry, and presented on behalf of the Club by Dr. H. Flecker. Keith's subject was "Green Tree Ants," and has been published in this journal.

During November, the club had an outing to the Cairns Intake and at the November meeting a very interesting talk was given by our Mr. Pateman on "Eye Aid to Study," illustrating the great value of the microscope. In this talk, he was ably assisted by our Mr. N. Coleman.

At the December meeting, our Mr. St. Cloud gave a talk on his experiences in growing *Dendrobium elobatum* with its peculiar changes in forms of flowers.

The Herpetological League held a four days' exhibition of reptiles, which proved very successful.

A Christmas Social at the R.S.S.A.I.L.A. Hall was also very successful.

The January outing was held at Brown Bay and at the January meeting Mr. W. Hosmer gave some interesting information in the method of identifying venomous and non-venomous snakes, illustrating his talk with diagrams on the blackboard.

At the February meeting it was resolved that three questions be asked at each meeting to be answered at the next meeting.

These have resulted in some very interesting talks.

At the March meeting it was resolved to raise the annual subscriptions for town members from 12/6 to £1 for adults. Those over 16 will be charged 12/6 and those under 16, 5/-. The country membership will remain at 10/- as before.

Our Mr. W. Hosmer has been admitted a Fellow of the Zoological Society, London.

At our June meeting we were honoured with a visit from Professor Wells, of the Cornell University, U.S.A., and Mr. Serventy, of Perth, W.A. The former gave an interesting address, aided by films, on "Atolls of the Pacific Ocean," in which the U.S. is particularly interested, Bikini and Eniwetok. Mr. Serventy described the activities of the W.A. Naturalists' Club. Mr. A. B. Cummings showed a film of the bird life of Michaelmas Cay.

At the July meeting was a general discussion on orchids, and Mr. St. Cloud exhibited what was thought might be a new species of *Balanophora* inasmuch as the plant appeared to be dioecious.

At the August meeting, an address was given by Col. I. M. Mackerras on diseases spread by insects, mites and viruses. The Colonel was in charge of an Army Malarial Control Unit operating at the time at Yorkey's Knob.

Our membership has grown quite considerably during the year and it is pleasing to note the number of juniors who are taking an interest in the club's proceedings.

Although we had several outings around the beginning of the year, uncertain weather precluded the making of arrangements further ahead for the more recent months.

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