Planta parvissima cum scapo brevi, folia carinata 3-5. Racemi sub foliis patentes, 3-6 cm. longi. Flores numerosi flavovirides labellis albis. Sepalum dorsale 2 x 1 mm., sepala lateralia angustiora, petala orbicularia, 1 mm. Labellum calcaratum, trilobatum lobis lateralibus angulatis. Columna 1½ mm., anther magnus fuscus.

A very small plant, epiphytal on trees, with a short stem. Leaves 3-5, with prominent dorsal midrib or keel. Racemes straight, spreading or slightly deflexed, under the leaves, 3-6 cm. long. Flowers numerous, almost sessile with narrow bracts, yellowish-green with white labellum. Dorsal sepal 2 x 1 mm., narrowed basally: lateral sepals similar but not as broad, adnate to the foot of the column. Petals orbicular, 1 mm. Labellum with a basal spur, above which it is three-lobed; midlobe rounded with inturned margins, lateral lobes rather sharply angular. Column 1½ mm., anther large, dark brown.

The plant appears to me to differ from C. armitii, F.v.M. in the following respects: Bracts and sepals longer; petals never "a little acuminate" (in a few cases minutely mucronate); lateral lobes of labellum never "ovate" but angular; column not "very short"—i.e. relatively to the other parts. The anther of C. armitii is not mentioned: in the new species it is a very striking feature. The plant differs from C. nugentii, Bail. as follows: Racemes not erect, and devoid of a larger "spreading or recurved" bract below the flowers; lateral lobes of labellum not colored on the margins; column lacking "broad green ciliate wings; anther not purple.

In default of any other striking feature well adapted for nomenclature, I have given the specific name orbiculare from the shape of the petals. The discoverer is to be congratulated upon this addition to the list of our orchid flora, and it would have been a pleasure to attach his name to it, but this course is prohibited by the fact that Bentham and Mueller gave the name C. macphersoni to another Queensland species.

Mount Dryander, near Proserpine, N.Q., Nov. 1933, K. Macpherson.

Census of North Queensland Plants (Continued)

FAMILY AMARANTACEAE (Juss.)

Deeringia (R Br.)
- celosioides (R.Br.)
  - Yama Is. (Macgregor); Endeavour R. (Cunn.); Barnard Is. (Macgillivray); Rockingham B. (Dallachy); Pt. Denison (Fitzalan).
- altissima (F.v.M.)
  - Endeavour R. (Banks and Sol.); Rockingham B. (Dallachy); Pt. Denison (Fitzalan); Edgecombe B. (Dallachy)
- arborescens (R.Br.)
  - L. Barrine (Kajewski)

Amarantus (L.)
- spinosus (L.). Prickly Amaranth. Introduced.
  - Endeavor R. (Tenison-Woods)
- leptostachyus (Benth.)
  - Is. off Cape Flattery
- pallidoflorus (F.v.M.) Pallid Amaranth.
  - Flinders R. (Plant)
- mitchellii (Benth.)
  - Flinders R. (Sutherland)
- viridis (L.) Flowers Feb., March and Dec.
  - Mt. Mulligan; Dimbulah; Cairns.

Ptilotus (R.Br.)
- conicus (R.Br.)
  - Is of G. of Carpentaria R.Br.)
- corymbosus (R.Br.)
  - Is. of G. of Carpentaria (R.Br.)
- spicatus (F.v.M.). var. leianthus (Benth)
  - Flinders R. (Bowman); G. of Carpentaria (Leichhardt).

Trichinium (R.Br.)
- parviflorum (Lindl.)
  - Flinders R. (Bowman)
- dissitiflorum (F.v.M.)
  - G. of Carpentaria (F.v.M.)
- distans (R.Br.)
  - Thursday Is. (F.M.Bail.); Rockingham B. (Dallachy); Cape R. (Bowman).
- macrocephalum (R.Br.). Featherheads.
  - Charters Towers (Plant)

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Aquatic Insects in North Queensland

By DAVID O. ATHERTON, B.Sc.Agr., Q.D.A.

The abundance of insects closely associated with other forms of life in pools and streams of fresh water is one of the most striking impressions made on the student of nature. This insect life is particularly interesting and abundant in North Queensland where the diversity of water-frequenting forms and totally aquatic species is displayed in all its shades of glory. Diverse shapes and sizes are adopted by the varied species as the best means of adapting themselves to the watery environment, and even the same species present quite different appearances at different stages of its existence. One or two examples will illustrate this diversity. Few people would imagine that a certain queer segmented larva, clinging by means of six ventral suckers to a rock in swiftly running water, eventually emerges as a delicate gauzy winged midge; or that an ungainly nymph, stalking its prey under the surface of the water, matures into a brilliant flier such as the dragon fly. The various orders which supply species to the aquatic fauna of the North include the following:—Trichoptera, Diptera, Coleoptera, Hemiptera, Perlaria and Odonata.

The Trichoptera are popularly known as caddis flies or caddis worms and are more familiar to the student as larvae than as adults. The species in this order are, almost without exception, aquatic during their immature stages. The larvae or caddis worms use an autogenous cement to bind pieces of leaves, sticks, or small grains of sand into permanent shelters which are used throughout their aquatic existence. The shelter may be either fixed or portable but is always so constructed to enable the larvae to extend the fore part of the body through an opening. This method of construction allows the freedom of movement necessary in the operations of obtaining food, adding to the shelter, and, in the case of those worms with portable shelters, progress from place to place. The adults are generally small dull or dark colored moth-like creatures found near streams of fresh water; very often they are to be seen resting on the rocks which abound in the courses of our northern mountain torrents.

The Diptera or true flies include a number of local aquatic species of which there are, unfortunately for ourselves, enormous numbers of individuals. Of all aquatic flies the Culicidae or mosquitoes are of course the best known group—their attentions are forced on the unobservant as well as on the observant and consequently they merit little attention in an article such as this. However, although the fact that most mosquitoes breed in fresh water is well known, it is not generally realised that all species must have water for the development of their immature stages. A number of species are able to breed in sea water provided it occurs in protected situations. The occurrence of enormous numbers of mosquitoes on parts of the Queensland coast can probably be explained by some such phenomenon as the above, especially as their appearance is generally seasonal.

To be continued

Census of North Queensland Plants (Continued)

Trichinium (continued)
exaltatum (Benth.) Lamb-tails.
Northcote (Burton); Cape R. (Bowman).
semilanatum (Lindl.)
Head of Gilbert R. (F.v.M.)
fusiforme (R.Br.)
Is. of G. of Carpentaria (R.Br.); Normanton (Gulliver).
gracile (R.Br.)
Is. of G. of Carpentaria (R.Br.)
calostachyum (F.v.M.)
Is. of G. of Carpentaria (R.Br.)
Cyathula (Lour.)
prostrata (Blume)
Mulgrave R.
Achyranthes (L.)
aspera (L.) Washerman's Plant.
Is. of G. of Corpentaria (R.Br.); Albany Is. (F.v.M.); C. York (Daemel); Rockingham B. (Dallachy).
var. canescens (Benth)
Is. of G. of Carpentaria (R.Br.)
Alternanthera (R.Br.)
denticulata (R.Br.). Joyweed.
Gilbert R. (Daintree); Pt. Denison (Fitzalan).
angustifolia (R.Br.). Narrow-leaf Joyweed.
Is. of G. of Carpentaria
Gomphrena (L.)
canescens (R.Br.)
G. of Carpentaria (R.Br.)
flaccida (R.Br.)
C. York (Daemel)
humilis (R.Br.)
Pt. Denison (Fitzalan)
brownii (Moq.)
Is. of G. of Carpentaria (R.Br.)
conica (Sprengel)
Is. of G. of Carpentaria (R.Br.); Wednesday Is. (Haswell).
conferta (Benth.)
C. Flinders (Cunn.)
diffusa (Sprengel)
Is. of G. of Carpentaria (R.Br.)
decumbens. Introduced.
Mareeba; Torrens Cr.; Townsville.
FAMILY CHENOPODIACEAE (Endl.)
Rhagodia (R.Br.)
spinescens (R.Br.). Thorny Saltbush
Burdekin R.
Chenopodium (L.)
auricomum (Lindl.) Bluebush.
G. of Carpentaria (Landsborough).
Atriplex (L.). Saltbushes.
humilis (F.v.M.)
Subsaline banks of Flinders R. (F.v.M.)
halimoides (Lindl.)
Lawn Hill (Hann)
Enchylaena (R.Br.)
tomentosa (R.Br.)
Cloncurry (Palmer); Burdekin R. (F.v.M.)

Addenda and Corrigenda

Vol. 1
No. 10, p. 5.—After (Drosera) indica add Narrow-leaf Sundew.
Add loc. Badu Is. (Macgregor).
Before (D.) burmanni add
(D. indica), forma robusta (Bail.)
Millstream Falls
After (D.) petiolaris add Tufted Sundew.
After (D.) banksii add (R.Br.) Slender Sundew.
p. 6—Delete (Garcinia) cherryi, and substitute
(G.) gibbsiae (Moore)
Boonjee (Kajewski); Nr. Mt. Bartle Frere (White)
kajewskii (White)
Daintree R. (White)
Delete Family Ternstroemiaceae.
Delete Saurauja andreana.
Before Family POLYGALACEAE insert
(Calophyllum) touriga (White and Francis). Brown Touriga.
Bellenden Ker Range, 2,000 to 3,000 ft. (White); Boonjie (Francis); Gourka Pocket, Atherton Tableland (Merrotsy).
FAMILY CAMELLIACEAE.
Ternstroemia (L.)
cherryi (Bail.)
Coen (Cherry); Gadgarra (Kajewski)
Atherton District (Mocatta).
After (Polygala) leptalea (De Cand.) add Slender Milkwort.
(P.) arvensis. Add loc. Mapoon (Macgregor).
After (P.) stenoclada (Benth.) add Narrow-leaf Milkwort.
After (Bredemeyera) secunda (Labill) add Stiff Milkwort.
Before Family Meliaceae insert
Xanthophyllum (Roxb)
octandrum (F.v.M.)
Daintree R. (Kajewski); Boonjie (Kajewski).
For Dysoxylon (Bail.) read Dysoxylum.
Before (D.) klanderi insert
(D.) muelleri (Benth.). Kedgy-kedgy.
Daintree R. (Kajewski).
(D.) klanderi. Add loc. Gadgarra (Kajewski).
(D.) pettigrewianum. Add locality Gadgarra (Kajewski).
After (D.) nernstii (F.v.M.), insert Flowers Dec.
Add loc. Daintree R. (Kajewski).
Before (D.) oppositifolium insert
densevestitum (White and Francis)
Harvey's Cr. (Bail.); Johnstone R. (Michael).
Before Synoum insert
(A.) ferruginea (White and Francis)
Atherton Tableland (White); Gadgarra (Kajewski)

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Aquatic Insects in North Queensland

By DAVID O. ATHERTON, B.Sc.Agr., Q.D.A.

(Continued from p. 15

Another group habitually breed in the water held in holes and hollows of trees, and this hab.t explains their presence in forest country often miles from any visible water.

Sand flies, midges or Chironomidae are closely allied to the former group and may breed in either fresh or salt water. The tiny insects known as "sand flies" on the coastal areas of Queensland belong to the genus Ceratopogon. The adults make themselves familiar to all, but the extremely small worm-like larvae generally escape notice. The insects known as sand flies in New Zealand belong to the family Simuliidae and are known as buffalo gnats in America. Some species of this group also occur in the north and the larvae are legless grubs which cling to the rocks of mountain streams by means of a sucker situate in the posterior region. These larvae are also possessed of another sucker on the thorax and progress by means of the two, advancing in a series of loops somewhat similar to the locomotion of a "looper" caterpillar.

Larvae of the net-veined midges or Blepharoceridae also occur on the rocks in the rapids of northern streams. They are extraordinary-looking creatures about a quarter of an inch in length, and the body is deeply divided into six segments, each segment being provided with a ventral sucker. The under side of the body is light coloured but the dorsal surface is dark grey or nearly black and blends very well with the environment. These interesting creatures can be found clinging to the rocks in the most swiftly running water; I have taken them myself in the south branch of the Mossman river and surmise that there are a number of undescribed species in this and other Northern streams.

Several families of the Coleoptera or beetles are aquatic and a number of other families include aquatic species. The Dytiscidae or true water beetles include insects up to an inch in length, though there are numerous small species. They are generally dull coloured and the legs are modified for swimming, though the adults are able to live on land. Both larvae and adults are exclusively carnivorous and feed on any aquatic animals of convenient size. One large species over an inch long is Homeodytes Acutellaris, Germ. It is almost black in color except for a band of light brown on each side extending back from the eyes along the edge of the pronotum and around the costal margin of each elytron. Another, about three quarters of an inch long, is Sandracottus Bakewellii, Clark. This species is generally black but with an irregular yellowish band across the pronotum and three jagged irregular yellowish-brown bands across the folded elytra.

The Gyrinidae are popularly known as whirligig beetles and occur very commonly in creeks and ponds and sometimes even in the pools which lie for short periods after rain.

To be continued