Notes on Tasmanian Flies of the Genus *Atherimorpha*.

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(*Read before the Royal Society of Queensland, 30th August,* 1926.)

In the Proceedings of the Royal Society of Tasmania, 1914, White gave descriptions of all the Tasmanian Rhagionidæ known to him, and subsequently, in 1919, when cataloguing the Australian species I was able to revise the then known genera, remove *Metoponia* which is a Stratiomyiid, and add two further genera from Tasmania. In 1921 a further alteration transferred *Clesthenia* to the *Therevidæ,* thus five genera are now left under the family. The total number of known species is now practically doubled, most of this new material being in my own collection, and although all the genera incorporate a larger number of species, no genera new to the Commonwealth have yet been discovered.

Spaniopsis and *Austroleptis* are limited to the Australian region; the former (a blood-sucking genus with five described and at least one undescribed species) may possibly not belong here; the latter, only known from Tasmania, has three species, two of which are described. *Dasyomma* is a South American genus; two undescribed Australian as well as three described Tasmanian forms appear to conform to it. *Chrysopilus* is cosmopolitan in distribution, but the number of Australian species belonging to it is uncertain; one from Tasmania, the same and another species from Sydney, and a giant of its race plentiful around the scrub-lands of Queensland are amongst them.

Special interest is centred in the genus *Atherimorpha,* as Professor M. Bezzi has described a fly under this name from South Africa. The genus had previously been regarded as one of those limited to Australia, having no very near ally in any genus known in other parts of the world. In conformity with the known distribution of other genera of the Brachycera, it was considered possible there might be found in South America either the same or a closely allied genus, or even that the range might extend to New Guinea and islands further north. That Professor Bezzi should have reported an allied species in South Africa is unexpected and so the matter becomes of considerable interest to students of Australian entomology. The definition of the genus given in my catalogue to the family needs certain modifications, and whilst making these the opportunity is taken of revising all the known forms from Tasmania, the type locality of the genus.

Genus ATHERIMORPHA White.

Atherimopha White, Proc. Roy. Soc. Tasmania, 1914, p. 41; Hardy *ibidem*, 1919, p. 119; Bezzi, Ann. South Afr. Mus. xxiii. 1926, p. 317.

Definition.—Eyes, bare, widely separated in both sexes but in the male may be either set closer together or sometimes contiguous. Seen in profile the antennae are inserted a little below the middle of the head, which position in relation to the eye is midway along the anterior margin. The antennal style is thick, being composed of several distinct annulations, five being clearly defined. The third segment appears to be complex, as on *A. fulva* this is shown to be divided into two annulations. The first segment is slightly longer than the second and the third is the longest, the style being about equal to the length of the three segments combined. The palpi attain from two-thirds to the full length of the strong projecting proboscis. Many of the bristly hairs on the thorax and scutellum are comparable in position to bristles occurring in other families of the *Diptera Brachycera*. The elongate abdomen tapers towards the apex. Intermediate and posterior tibiae have two spurs each. Wings with all veins complete and all separated at the wing margin, except sometimes the anal cell is closed. Male genitalia generally somewhat difficult to detect on dried specimens, the lamella of the female is often retracted so that it becomes difficult to determine the sexes when the eyes are widely separated in both.

Notes.—Professor Bezzi's remarks on the characters of the African species bring that form well within the definition of the genus given above except with regard to the antennae. This is said to be annulated, but in discussing another genus, *Arthroteles* (p. 321), he writes:—"In the Australian genus *Atherimorpha,* White, according to Mr. Hardy . . . . the antennal style shows some annulations at the base but this is not the case with the South African species *A. albipennis,* which I have described above." Professor Bezzi also indicates the possibility of the African species being blood-sucking, but this habit does not occur with the Australian species.

Distribution.—When describing *Atherimorpha vernalis,* White stated that a near ally occurred in New South Wales. This form has been taken on several occasions in scattered districts from Sydney to Brisbane, never in numbers and it is difficult to understand on what grounds White considered it distinct from the typical species. Since it has become possible to divide the forms occurring in Tasmania into three groups, the characters of which are consistent with the known distribution of each, the possible status of the mainland form requires further consideration, but this must await such times as a sufficient series of both sexes have been secured. When on a visit to Tasmania during January and February, 1924, I made an effort to find graduating forms between the lowland *Atherimorpha,* the male of which has widely separated eyes, and those of the higher mountains, on which form the eyes become set closer together. Mt. Wellington, near Hobart, was

chosen as a suitable locality for this search, and although on the adjacent Mt. Nelson district the typical form with wide-set eyes was present in abundance, on Mt. Wellington itself none were met with until 3,000 ft. elevation was reached, this being the area from which those containing close-set eyes were originally secured. The only other known area in which this second form occurs is Cradle Mt., the faunal affinities of which are more with the west coast than with the southern area of the island. On the west coast itself, in the dense, ever-wet scrub, yet another form was found, and a year later Dr. A. Jeffries Turner took this third form, but not the second, on Cradle Mt.

These three forms may represent distinct species, but for the purposes of the present paper I regard them as races, the typical one belonging to the low-lying open forests of the eastern half of the island, the second haunting similar country on the higher mountains, the third being confined to the thick, ever-damp scrub regions on the western side, reaching a rather high elevation on Cradle Mt.

A very distinctive new species also occurs in the dense western scrub, but is apparently much rarer and is evidently the form originally referred to as a light variety of *vernalis* from Cradle Mt.

ATHERIMORPHA VERNALIS White.

Atherimorpha vernalis White, Proc. Roy. Soc. Tasmania, 1914, 42; fig. 1; Hardy, *ibidem,* 1920, p. 121, Pl. xxvii. fig. 2.

Since White described this species in 1914, the name has been attached to many specimens from both the island of Tasmania and the mainland of Australia, but it is becoming apparent that the name, as now understood, covers a complex of closely allied forms, those of Tasmania being distinguished by the following characters:—

A. vernalis vernalis White.

Readily recognised by the widely separated eyes in the male; the width of the front being one-third of the length near the antennae and two-thirds near the ocelli. The colour of the body is black and ashy-grey, whilst that of the legs varies from brown to black; the wings are more or less smoky.

Habitat.—Bagdad, Sandford, Hobart and Geeveston; 11 males, 9 females. Many other specimens from Eastern Tasmania have been seen but they are not available for study at the time of writing this paper. The form extends as far north as Launceston.

A. vernalis montana n. subsp.

This form differs from the typical one by having the eyes of the male set closer together; the width of the front at its widest part does not exceed one-eighth of the length. In other respects the form agrees with the typical one.

Habitat.—Mt. Wellington and Cradle Mt.; 10 males, 11 females. Many others have been examined. Frequents open forests.

A. vernalis occidens n. subsp.

The eyes set very closely together but to a varying extent so that the front may be very narrow, linear or absent. The whole body is conspicuously darker than that of the other two forms and the wings are heavily suffused with black.

Habitat.—Strahan: People's Park, February, 1924, 12 males. Cradle Mt., 3,000 ft. (Dr. Jeffries Turner), 2 males in the Queensland Museum. Frequents dense scrub.

ATHERIMORPHA FULVA n. sp.

Atherimorpha vernalis var. Hardy, Proc. Roy. Soc. Tasmania, 1920, p. 121.

The front of the male is narrow, at its widest part not exceeding one-fifth of the length. Both sexes are of a bright yellowish colour, with the apex of the antennae and the tips of the palpi and tarsi stained black; the markings on the thorax consist of three very thin dark longitudinal stripes, very obscure, and on each are two rows of bristly hairs. These stripes are conspicuous in *A. vernalis,* but the longer and more bristly hairs, constituting part of the vestiture, are not confined in this manner. The palpi are spatulate on the female only, on the male these organs are more cylindrical, similar to those of both sexes on *A. vernalis.* In all other respects the species appear to be similar in each case except with regard to the male genitalia which are large and conspicuous, whereas on *A. vernalis* they are inconspicuous and obviously different in outline.

Habitat.—Strahan: People's Park, February, 1924; 3 males, 1 female. Cradle Mt., the specimen in the Australian Museum referred to as a variety of *A. vernalis* evidently belongs here, but it is not available for study at the time of writing this paper. Frequents dense scrub.