

A LIST OF THE TABANIDAE (DIPTERA) IN THE SOUTH AUSTRALIAN MUSEUM, WITH DESCRIPTIONS OF NEW SPECIES.

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THE material on which the following paper is based was kindly placed at my disposal by the Board of Governors of the Public Library, Museum and Art Gallery of South Australia, with a view to having the species identified and named.

A portion of the material was submitted to Miss Ricardo on a visit to London, and that author has published the results of her examination, together with other material submitted by me.⁽¹⁾

Subsequently more material having been received from the Museum, it has been decided to issue a list of all the species represented in the collection, together with descriptions of new species and notes on some of those already described.

The list of species dealt with comprises 75, which are distributed among the following genera:

Erephopsis	12	Ectenopsis	1
Diatomineura	8	Demoplatus	1
Pelecorrhynchus	4	Silvius	11
Tabanus		38	

In addition, the collection contains a number of species which have not been identified, either because they were represented by one or more specimens not in a suitable condition for identification, or else because they are too closely allied to described species to warrant their description as new on the material available.

Sub-Family PANGONINAE.

- EREPHOPSIS GUTTATA** Don. Q., Caloundra; N.S.W., Dorrigo.
 .. **SUBMEDIA** Walk. W.A., Capel R. (W. D. Dodd). Another female labelled "Sydney, G. Masters, *S. singularis*."
 .. **QUADRIMACULA** Walk. N.S.W., Dorrigo.

(1) Ricardo, Ann. Mag. Nat. Hist. (8), xix, p. 208, 1917.

EREPHOPSIS CONCOLOR Walk. An old specimen labelled q.l., probably for Queensland.

„ **MACULIPENNIS** Macq.? S.A., Yorketown, Pt. Lincoln, Yeelanna. Specimens were identified by Miss Ricardo as this species; they do not agree too well with Macquart's description, which is a very complete one, but does not fit any species known to me. I believe there will eventually prove to be a number of allied species of this type, judging from specimens seen in various collections.

EREPHOPSIS GEMINA Walker.

Erephopsis gemina Walk., List Dipt., i, p. 138, 1848; Ric., Ann. Mag. Nat. Hist. (7), v, pp. 112, 117, 1900; and (8), xvi, pp. 24, 25, 1915; *Pangonia testacomaculata* Macq., Dipt. Exot. suppl. iv, p. 20, 1850; Ric., *loc. cit.*, p. 24; *Erephopsis doddi* Ric., *op. cit.* (8), xix, p. 211, 1917.

I think there can be little doubt that *E. doddi* Ric. is synonymous with *E. gemina* Walk. In London I compared the types without being able to detect any reason for separating them, while a study of the descriptions given by Miss Ricardo has failed to reveal any character of specific importance. In answer to my enquiry, Dr. Guy Marshall, of the Imperial Bureau of Entomology, writes: "*Erephopsis doddi* Ric. appears to me to be indistinguishable from *E. gemina* Walk., and Austen agrees." The type of *E. doddi* Ric. is in the South Australian Museum Collection.

Hab. W.A., Warren R.

EREPHOPSIS AUREOHIRTA Ric. Q., Bowen.

„ **XANTHOPILIS** Ferg. A single specimen labelled q.l.

„ **LASIOPHTHALMA** Boisd. N.S.W., Mt. Kosciusko. Specimens are in the Department of Public Health, N.S.W., from Bright, V.

EREPHOPSIS BINOTATA Latreille.

Pangonia binotata Latr., Encyclop. Method. viii, p. 703, 1811; *Pangonia macroporum* Macq. Dipt. Exot. I, i, p. 101, 1838; *Erephopsis id.* Ric., Ann. Mag. Nat. Hist. (7), v, p. 112, 117, 1900. Latreille's description leaves no doubt as to the species he had under examination, and the identity of *P. binotata* with *E. macroporum* Macq. is certain. Miss Ricardo evidently overlooked Latreille's species altogether in her revision. The species appears to be

confined to Kangaroo Island and the South Australian coast. Two females, one without locality label, not in very good preservation, appear to belong to this species.

EREPHOPSIS DIVISA Walk.? W.A., Bunbury. A single female, probably belongs to this species.

.. **GIBBULA** Walk. W.A., Warren R.

DIATOMINEURA AURIFLUA Don. S.A., Adelaide, Mt. Compass, Bull L., Meadows, Longeal, Yallmin, Lucindale, Mt. Lofty; N.S.W., Dorrigo, Sydney; T., Strahan, Launceston, Waratah, Hobart, Mt. Wellington.

.. **PATULA** Walk.? S.A. A single male doubtfully determined as this species by Miss Ricardo. The specimen is not in very good condition, and appears hardly distinct from *D. auriflua* Don.

.. **BREVIROSTRIS** Macq. N.S.W., Clarence River.

.. **MONTANA** Ric. N.S.W., Blue Mts.

.. **FULGIDA** Ferg. and Henry. N.S.W., Dorrigo.

.. **PULCHRA** Ric. Two specimens labelled S.A. Pulleine, two without locality label, and one labelled q.l. The species occurs in northern N.S.W., and Q.

.. **VIOLACEA** Macq. N.S.W., Tweed R.

DIATOMINEURA RUFICORNIS Macquart.

Diatomineura ruficornis Macq., Dipt. Exot., suppl. i, p. 26, 1846; Walk., l.c. pt. v, suppl. i, p. 142, 1854; *D. constans* Walk., Dipt. Saund. pt. i, p. 15, 1850; White, Roy. Soc. Tasmania, Papers and Proc., 1915, p. 20; Ric., Ann. Mag. Nat. Hist. (7), v, p. 113, 1900; and (8) xix, p. 208, 1917.

The above synonymy has been recorded by White, and Miss Ricardo has given her opinion that it is probably correct. In examining the specimens from Mt. Wellington referred to *D. ruficornis* Macq., by Miss Ricardo, I was struck with the difference in the palpi between these specimens and others identified as *D. constans* Walk. In *D. constans* the palpi are broad at the base and end in a long-drawn-out pointed apex; in the specimens labelled *D. ruficornis* the second joint of the palpi consists practically of the expanded basal portion. No other difference is apparent between the two forms. Miss Ricardo has the following note on the palpi of *D. ruficornis*: "Palpi with the first joint short, the second long, flattened at base, broad ending in a fine point." On examining a series of 70 specimens of *D. constans* in the Museum collection from Cradle Mountain,

Strahan, and Waratah, I find that though in the great majority of specimens the second joint of the palpus is drawn out, the degree or length of this part varies considerably, though in only three out of seventy is the extension absent, and these three do not appear to be separable by any other character. In my opinion the two names must be regarded as referring to the one species. The clothing varies considerably in different individuals, both on the thorax and abdomen, and there is a good deal of difference in size, so that the name *constans* was not a happy choice. In most specimens the first posterior cell is widely open, but in some it is narrowed at the apex, and in five out of the 70 specimens examined this cell is closed in the margin.

- PELECORRHYNCHUS FUSCONIGER** Walk. T., Burnie.
 „ **ERISTALOIDES** Walk. T., Cradle Mt.
 „ **ALBOLINEATUS** Hardy. T., Cradle Mt.
 „ **MONTANUS** Hardy, var. A. T., Cradle Mt.

Mr. Hardy has kindly verified the above identifications.

ECTENOPSIS? VICTORIENSIS Ferg. S.A. These specimens have been commented upon in describing the species in the publications of the Royal Society of Victoria.

DEMOPLATUS TRICHOCERUS Bigot. Q., Cairns.

SILVIUS NOTATUS Ric. V., Rainbow.

„ **INSULARIS** Ric. Bathurst I., type, and another female.

SILVIUS INDISTINCTUS Ricardo.

Silvius indistinctus Ric. Ann. Mag. Nat. Hist., (8), xvi, p. 262, 1915; and (8), xix, p. 217, 1917; *S. hilli* Taylor, Proc. Linn. Soc. N.S. Wales, vol. xl, pt. 4, p. 806, 1915.

I am indebted to Mr. Hill for a specimen of *S. hilli* Taylor, and for the loan of a series for comparison. The species is a very variable one in the coloration of the abdomen and in the presence or absence of the median triangular spots, but specimens in Mr. Hill's series agree exactly with specimens of *S. indistinctus* determined by Miss Ricardo. Mr. Hill has kindly verified this by comparing a specimen determined by Miss Ricardo with Taylor's type. Miss Ricardo's name has precedence by about a month. *S. insularis* Ric. is a closely allied species, smaller and with somewhat different antennae and palpi.

Hab. N.T., Bathurst I., Melville I.

SILVIUS AUSTRALIS Ric. N.Q., Cairns.

„ **ALCOCKI?** Summers. N.T., Darwin.

SILVIUS MARGINATUS? Walk. N.T., Darwin. I am indebted for the two above provisional identifications to Mr. G. F. Hill, of the Australian Institute of Tropical Medicine, Townsville.

SILVIUS IMITATOR sp. nov.

A small black species resembling *T. neocirrus* and others of the hairy-eyed group of *Tabanus*.

♀ Black. Face yellowish, grey above; densely clothed with light grey tomentum and with scanty creamy pubescence; beard creamy; palpi brownish, second joint nearly as long as proboscis, strongly curved at base, rather thick throughout, ending in a blunt point, shallowly grooved on outer surface, densely clothed with grey tomentum; antennae black, the two basal joints with some black hairs, the third joint strongly dilatate, upper border strongly convex but hardly angulate, annuli rather shorter, together about equal to basal portion; subcallus clothed with grey tomentum, not markedly tumid nor shining. Forehead very broad, slightly though distinctly narrowed to vertex, hardly twice as long as broad anteriorly; clothed with grey tomentum, with scanty black pubescence; callus nitid, reddish brown, black in places, irregularly shaped, occupying the whole of breadth anteriorly and reaching nearly to middle with an obscure extension to near ocelli; ocelli distinct; eyes with rather sparse long white pubescence. Thorax black, reddish brown at sides, with a sub-median grey stripe on each side of median area, most distinct anteriorly, clothed with erect black hairs (partly abraded); shoulders with dark brown hairs; sides with long grey pubescent tufts; scutellum similar to dorsum, posterior border with fringe of scanty grey hairs. Abdomen black, segmentations narrowly greyish, somewhat wider near lateral margins, with a median row of triangular spots, clothing abraded, but traces of grey pubescence present on lateral borders and on median spots; venter brown with grey segmentations, clothed with erect brownish hairs and decumbent creamy pubescence most marked on segmentations. Legs with femora black, tibiae reddish brown; apex of anterior pair darker, tarsi dusky, pubescence grey on femora, black elsewhere; posterior tibiae distinctly spurred. Wings hyaline, the basal portions of the longitudinal veins and the cross veins narrowly shaded light brown; costal cell and extreme base light brown; stigma brown, conspicuous; no appendix present. Long: 10 mm.

Hab. W.A., Bunbury (W. R. Mack, Jan., 1898). Type in South Australian Museum.

Described from a single female, not in very good condition, but so distinct

from all other known species as to merit description. Superficially the species resembles members of the hairy-eyed group of *Tabanus*, and most closely *T. neocirrus* Ric. I know of no described species with similar broad forehead and callus reaching eyes.

SILVIUS TEPPERI sp. nov.

A moderately large dark brown species with broad abdomen, closely resembling superficially *Ectenopsis victoriensis*.

♀ Dark brown. Face deeply depressed, densely clothed with grey tomentum and rather sparse white pubescence; beard white; palpi yellow, first joint short, subcylindrical, with white hairs, second joint long, stout, moderately strongly curved, ending in a blunt point, clothed with grey tomentum and scattered short black hairs; antennae black, first and second joints yellowish brown, with black hairs, third joint with basal portion widely expanded, upper border strongly rounded hardly angulate, annuli rather short and stout; subcallus densely clothed with grey tomentum, not shining. Forehead of moderate width slightly narrowed to vertex, clothed with grey tomentum and scattered black pubescence; callus consisting of a basal depressed quadrate portion occupying about half the width of the front followed by a thick irregularly grooved extension nearly reaching ocelli, dark chestnut in colour; ocelli present. Eyes bare. Thorax black reddish brown at sides, mostly denuded, some grey hairs, pleurae reddish brown with grey tomentum and tufts of grey pubescence; scutellum black with scanty grey hairs on posterior border. Abdomen dark brown, segmentation narrowly bordered with grey, expanding slightly at sides and in centre to form series of indistinct spots on 2-5 segments; clothing much abraded, traces of dark brown pubescence present with white pubescence on segmentations; first segment with rather longer white hairs in middle; sides of segments with tufts of white hairs. Venter lighter brown with broader segmentations, pubescence brownish on basal portions, grey on segmentations. Legs reddish brown, femoral pubescence whitish, elsewhere dark, posterior tibial spurs short but distinct. Wings hyaline, veins yellowish brown, costal cell and extreme base similarly coloured; stigma inconspicuous; no appendix. Long.: 14 mm.

Hab. S.A., Adelaide (J. G. O. Tepper).

Described from a single specimen somewhat abraded, but not closely resembling any species known to me. It presents a rather remarkable superficial remembrance to *Ectenopsis victoriensis* Ferg., but the palpi and antennae are very different.

SILVIUS GRANDIS Ric. N.W.A. Type.

SILVIUS MONTANUS Ricardo.

Silvius montanus Ric., Ann. Mag. Nat. Hist. (8), xix, p. 216, 1917.

Type from Mt. Tambourine, Queensland. I have recently received two specimens from the Queensland Museum, taken at National Park, Brisbane, by Mr. H. Hacker. One of these agrees very well with the type, the other differs in having darker palpi, less marked wings, and in the abdominal pubescence being white on the segmentations. The eyes are not bare, as stated by Miss Ricardo, but rather thinly pubescent; this is also the case in the type.

SILVIUS FRONTALIS Ric. N.T., Darwin, Stapleton, Batchelor. I am indebted to Mr. Hill for this identification.

In addition to the above there are three species of *Silvius* in the collection represented by single specimens and not in sufficiently good condition for describing. One may prove to be a female of *S. psarophanes* Taylor, which was described from the male.

Sub-Family TABANINAE.

GROUP IV. Forehead with no callus. (Group numbers are those used by Miss Ricardo.)

TABANUS ANGSTICALLUS Ric. N.T., Melville I. Type.

TABANUS LEUCOPTERUS van de Wulp.

Tabanus leucopterus van de Wulp, Tijdschr. voor Entom. xi, p. 98, 1865.

This species, which clearly belongs to Miss Ricardo's Group IV, does not appear to have been hitherto recorded from Australia, the type locality being the Aru Islands. Miss Ricardo has, however, identified a specimen in the Museum collection from Stewart River, North Queensland, as this species, and another specimen is in my collection from Kimberley, North-West Australia. Probably it will be found to have a wide distribution in the north.

GROUP VII. Abdomen with one or more stripes, usually continuous.

TABANUS CINERASCENS W. S. Macl. N.T., Darwin.

„ **RUFINOTATUS** Bigot. N.T., Melville I.; Q., Cairns.

„ **PARVICALLOSUS** Ric. Q., Mt. Tambourine.

TABANUS STRANGMANNI Ricardo.

Tabanus strangmanni Ric., Ann. Mag. Nat. Hist. (8), xiv, p. 393, 1914; and (8), xix, p. 219, 1917; *T. mastersi* Taylor, Proc. Linn. Soc. N.S. Wales, xli, pt. 4, p. 754, 1916.

Specimens of this species were identified by comparison with Miss Ricardo's type in London; subsequently specimens were received from Mr. Taylor under the name *T. mastersi*, and proved identical with those determined as *T. strangmanni*. For confirmation a specimen was resubmitted to the British Museum and was returned as *T. strangmanni*.

Hab. N.T.; Q., Cairns.

TABANUS PSEUDOARDENS Taylor. Q., Cairns.

TABANUS HERONI sp. nov.

A large species resembling *T. victoriensis* in general appearance, but abdomen reddish with median black stripe and whitish spots.

♀ Face black, densely clothed with grey tomentum, separated from cheeks by deep grooves, the latter clothed with grey tomentum and with short black pubescence; beard white, a few black hairs intermingled; palpi nearly as long as proboscis, reddish brown, clothed with rather long intermingled pale and dark hairs, second joint stout, rather strongly curved; antennae black, first and second joints clothed with rather long black hair, third joint rather strongly angulate and toothed at base, annuli about as long as rest of joint; subcallus not prominent, densely clothed with yellowish grey tomentum. Forehead of moderate width, subparallel, if anything slightly wider at vertex than anteriorly, densely clothed with greyish tomentum, brownish above except at vertex, and with short black pubescence; callus dark reddish, elongate, not quite reaching eyes anteriorly and extending to middle. Eyes apparently bare, but under the microscope short thin widely separated hairs can be made out. Thorax black, lateral margins yellowish brown, clothed with brown tomentum with indistinct traces of grey submedian tomentose lines; pubescence suberect, black, a few greyish hairs at sides and posteriorly; shoulders with black hairs; pleurae reddish brown with tufts of long hair, black anteriorly, white posteriorly; scutellum black with brown tomentum and some straggling grey hairs. Abdomen wide, dark reddish brown with a medium black stripe, clothed with black decumbent pubescence, with median apical spots of white pubescence on segments, most evident on second, third, and fourth; lateral margins with similar white spots at postero-lateral angles of segments. Venter reddish with short black pubescence. Legs reddish brown, tarsi darker. Wings with all veins suffused with brown, narrowly in basal half, more distinctly in apical half; first posterior cell widely open, no appendix present. Long.: 20 mm.; width across head, 6 mm.; wing, 18 mm.

Hab. N.S.W., Dorrigo (W. Heron).

In general appearance this species is very close to *T. victoriensis* Ric., but differs in the colouration of the abdomen. It is probably also close to *T. limbaticruris* Macq., but that species is said to have the first posterior cell closed.

TABANUS EIDSVOLDENSIS Taylor. Q., Eidsvold.

GROUP VIII. Species with median or lateral spots, or both, on abdomen, not usually forming a continuous stripe.

TABANUS VICTORIENSIS Ric. N.S.W., Dorrigo; Q., Mt. Tambourine.

GROUP IX. Species with paler bands, and sometimes spots on abdomen.

TABANUS NOTATUS Ric. Q., Cairns, Coen R. A specimen from Mary R., N.T., was doubtfully identified as this species by Miss Ricardo.

.. **MACQUARTII** Ric. N.S.W., Dorrigo; Q., Bowen. A specimen from the Wentworth Falls differs somewhat from the typical specimens, but I do not care to describe it as specifically distinct.

.. **DODDI** Taylor. Q., Cairns. Specimens from Cairns were identified by Miss Ricardo as *T. macquartii* Ric., and there is no doubt that both species were included in her series when describing the species. At the same time I agree with Mr. Taylor in separating the northern form as a distinct species.

.. **QUADRATUS** Taylor. N.T., Darwin.

.. **NEOGERMANICUS** Ric. N.T., Melville I.

.. **CLAVICALLOSUS** Ric. N.S.W., Milson I. Miss Ricardo is in error in stating that the type was in the South Australian Museum. The species was one of a number sent to the British Museum by myself and the type is in that Institution. A paratype has, however, been placed in the South Australian Museum collection.

GROUP X. Species with abdomen unicolorous or almost so, sometimes darker at apex.

TABANUS CYANEUS Wied. N.S.W., Sydney.

.. **SANGUINARIUS** Bigot. Q., Mt. Tambourine, Caloundra.

.. **AVIDUS** Bigot. Q., Bowen.

.. **NIGRITARSIS** Taylor. N.T., Darwin, Stapleton; Q., Bowen.

.. **BREVIOR** Walk. N.T.

GROUP XI. Eyes hairy (*Theriopectes*).

TABANUS CIRCUMDATUS Walk. S.A., Murray R., Meadows, W. Coast, Yeclauna, Parachilna, Mt. Lofty; N.S.W., Captain's Flat,

Blue Mts.; T., Swansea. Most of the South Australian specimens are without locality label and are too badly damaged to make an absolutely certain identification.

- TABANUS EDENTULUS?** Macq. T.; S.A., Lyndoch, Blakiston, Mt. Lofty. The South Australian specimens are somewhat narrower but appear inseparable from specimens from Tasmania, determined by White as this species. A series from Kangaroo I. are too badly damaged to identify with certainty.
- „ **ANTECEDENS** Walk. T., Cradle Mt., Waratah, Mt. Wellington.
- „ **INDEFINITUS** Taylor. N.S.W., Sydney.
- „ **HOBARTIENSIS?** White. T., Cradle Mt. A single specimen agreeing with Hobart specimens doubtfully identified as this species.

TABANUS FLINDERSI sp. nov.

Allied to *T. circumdatus*, but readily distinguished by wings with cross-veins clouded, and with very conspicuous stigma.

♀ Face reddish black in centre, clothed with grey tomentum, and with rather straggly fine creamy pubescence; cheeks reddish with similar clothing; beard creamy. Palpi yellow, second joint long, little thickened at base, ending in a long slender point, clothed with creamy pubescence, thickest at base. Antennae black, second joint reddish at base, first two joints with rather short black hairs, third joint broadly dilatate and strongly angulate at base. Subcallus reddish black, nitid, partly abraded with traces of grey tomentum at sides. Forehead moderately wide, evidently though not greatly narrowed to vertex, abraded with traces of grey tomentum and black pubescence; callus little raised, resting on subcallus, as wide as front anteriorly and triangularly prolonged to middle. Eyes clothed with moderately long and dense creamy pubescence. Thorax black with traces of grey tomentose, submedian lines; densely clothed with long erect black pubescence; with small hoary tufts above wing roots; shoulders reddish with black hair tufts; sides with hair tufts mostly creamy but with some black hairs in centre. Scutellum black with a few creamy hairs at apex. Abdomen black, becoming dark reddish brown at sides of segments, with narrow yellowish brown segmentations; thickly clothed with depressed black pubescence, creamy along segmentations, denser at sides and in middle where the

creamy hairs form a series of median spots. Ventral surface dark reddish brown or blackish with rather broad yellowish segmentations, with long erect black pubescence intermingled with semi-erect silky whitish pubescence, these two varieties only visible when viewed from different angles. Legs dark, femora black, tibiae dark reddish, the tarsi more infuscate, almost black. Wings grey, veins in middle of wing faintly suffused with brown, this much more marked along cross veins at base of discal cell and to a slight extent at fork of second longitudinal; stigma dark brown, very conspicuous; appendix present. Long.: 12 mm.; width of head, 4 mm.; wing, 11 mm.

Hab. Flinders I. Type in South Australian Museum.

Described from five specimens, all more or less damaged; in some, where extensively abraded, the abdomen appears reddish with a median black stripe. The species comes near *T. tasmaniensis* White, but the costal cell and extreme base of the wing are darkly infuscate in that species, which also differs in a number of ways, *i.e.*, size, uniformly black colour, shape of forehead and callus, shape of third antennal joint, etc. It is possible that this is *T. gregarius* Er., but the description is hardly sufficient to enable one to place that species with any degree of certainty, and it seems better to risk creating a synonym than to pin Erichson's name to a species which may not be the one originally described.

TABANUS IMPERFECTUS Walk. T., Waratah. A single specimen probably this species but too damaged for certain identification.

„ **LATIFRONS** Ferg. T., Cradle Mt.

„ **GENTILIS** Er. T., Cradle Mt.

TABANUS NEOCIRRUS Ricardo.

Tabanus neocirrus Ric., Ann. Mag. Nat. Hist. (8), xix, p. 223, 1917.

In the South Australian Museum collection there is a specimen labelled Type by Miss Ricardo. In her description Miss Ricardo states the type to be in the South Australian Museum. A complication, however, arises from the fact that Miss Ricardo further states that the type is from Swansea, Tasmania, whereas the specimen labelled type is from South Australia, and is evidently the second specimen Miss Ricardo had before her in describing the species. The South Australian specimen, whether to be regarded as the type or not, represents a very distinct species and one I have not so far seen from Tasmania, and as there are allied forms in Tasmania it is possible that Miss Ricardo was dealing with two different species. At the same time till more information can be obtained, the South Australian species must bear the name *neocirrus*.

TABANUS ACUTIPALPIS? Macq. S.A., Kangaroo I.; T., Flinders I.

TABANUS (THERIOPECTES) MERIDIONALIS sp. nov.

A moderately large species allied to *T. postponens* but without frontal callus.

♀ Face yellowish brown, clothed with grey tomentum and rather sparse white pubescence with a few black hairs entangled; beard white; palpi yellow, second joint moderately slender, ending in a long point, with short whitish pubescence longer and denser at base; subcallus yellowish brown with grey tomentum, shining where denuded; antennae reddish yellow, basal joints somewhat lighter, first subcylindrical, second short cup-shaped with the anterior dorsal angle produced in a rather long process, anterior margin with a ring of black hairs; third joint broad, strongly angulate and toothed above, a few black hairs on tooth, lower edge also slightly angulate, annuli black. Forehead moderately wide, subparallel; reddish brown where denuded, more or less densely covered with grey tomentum and scanty black pubescence, longer on vertex; no callus present. Eyes with rather short hairs not readily seen. Thorax black, with four distinct grey tomentose stripes, a submedian and sublateral on each side, also a short stripe above wing roots; with erect black hairs and scanty decumbent golden pubescence most marked posteriorly; shoulders reddish brown with long black hairs; sides clothed with grey tomentum and with tufts of long hoary white pubescence with a few dark hairs in middle. Scutellum black with grey tomentum and a fringe of golden pubescence. Abdomen brown with grey segmentations and a row of median grey triangular spots, pubescence black, grey on segmentations and median spots; venter wholly reddish, yellow with grey tomentum, and fine decumbent whitish pubescence. Legs reddish yellow, anterior tarsi and tips of other tarsal joints infuscate; pubescence white on femora, elsewhere black. Wings hyaline, veins brown, black towards tip of wing, stigma brown, conspicuous; appendix present. Long.: 12.5 mm.; width of head, 5 mm.; wing, 11 mm.

Hab. S.A., Adelaide, Kangaroo I., Coorong, Yeelanna.

In the *Annals and Magazine of Natural History*, 1917, p. 224, Miss Ricardo records the presence of *T. postponens* in South Australia, basing her determination on specimens in the South Australian Museum. Examination of this material, which is before me, shews that two distinct species have been included, one probably *T. circumdatus*, the other the present species. I am separating it from *T. postponens* as it does not agree with specimens in my own collection

from New South Wales, which were named after comparison with the type, and which have a distinct callus. Except for the absence of the callus the species agrees fairly well with Miss Ricardo's description of Walker's type. In some specimens there is an indication of a feeble callus where the tomentum has been abraded, but very different in appearance from the callus in my specimens of *T. postponens*; the antennae also are much stouter. There are five specimens before me which I regard as conspecific; in three out of the five, however, the abdomen is more reddish in colour; this seems to be the result of abrasion. In the collection is a male from Murat Bay, which probably belongs to the same species, but as it differs somewhat in the antennae and legs I cannot be sure of its identity.

TABANUS (THERIOPLECTES) ALBOHIRTIPES sp. nov.

Allied to *T. circumdatus*, but with very densely hairy eyes and a fringe of white hairs on posterior tibiae.

♀ Face black, clothed with grey tomentum and with rather straggling grey pubescence; beard white. Palpi reddish brown, second joint not greatly thickened at base ending in a long point, clothed with grey tomentum and pubescence. Antennae black, the second joint and extreme base of third dark reddish brown, third joint broad, rather strongly humped at base. Subcallus black with reddish tinge at sides, clothed with grey tomentum, but partly abraded. Forehead moderately broad, about three times as long as broad anteriorly, very slightly narrowed at vertex, densely clothed with grey tomentum and with rather long black pubescence longest at vertex; callus black, nitid, reaching eyes with an extension to middle. Eyes densely clothed with moderately long white hairs. Thorax black clothed with grey tomentum with traces of indistinct narrow lighter grey tomentose stripes; with decumbent golden pubescence in places (evidently very liable to abrasion) and numerous long erect hairs, white anteriorly but dark elsewhere; with tufts of pale creamy hairs above wing roots; shoulders pale reddish grey with brown hair tufts; sides black, with grey tomentum and dense tufts of long, hoary white hairs; scutellum black with similar erect hairs to dorsum and with a fringe of pale golden pubescence. Abdomen black, segmentations reddish brown, the lateral margins and base of second segment similarly coloured; densely covered with brownish grey tomentum and with traces of depressed golden pubescence. Venter black with light reddish brown segmentations, clothed with grey tomentum and with long erect pale creamy pubescent hairs. Legs with femora dark, tibiae yellowish brown, infusate

towards apex and tarsi dark; femora with long pale pubescence, posterior tibiae with heavy fringe of white hairs along outer side; wings whitish, veins pale brown, appendix present. Long.: 13 mm.; width of head, 5 mm.; wing, 12 mm.

Hab. S.A., Pt. Lincoln, Denial Bay.

A distinct species from any known to me, and separable from most of the described species by the posterior tibiae being fringed with white hairs. *T. robustus* Taylor has similar white hairs on the posterior tibiae, but judging from the description has distinct thoracic ornamentation; the curious meal-like tomentum on the abdomen is also characteristic. There is another species before me doubtfully identified as *T. acutipalpis* Macq., which has a white fringe of hairs, but it differs widely in general appearance, thoracic markings and size. The wings, though quite transparent, have a distinctly white appearance. Two other specimens in the collection perhaps represent a variety of this species.

♀ Face, cheeks, and subcallus yellowish brown with pale creamy tomentum and pubescence; palpi light yellow; antennae with two first joints and base of third reddish brown. Forehead yellowish brown with light creamy tomentum and dark pubescence, callus pale yellowish brown without extension. Eyes very densely hairy. Thorax similar but more evidently clothed with decumbent golden pubescence. Abdomen with moderately dense decumbent black pubescence and pale creamy pubescence along the segmentations and forming a series of median spots on the second to sixth segments. Legs as in type but posterior tibial fringe with dark hairs intermingled with the white. Wings as in type. Long.: 15 mm.

Hab. S.A. (A. P. Burgess), Mt. Pleasant, in scrub (J. G. O. Tepper, 8.11.86).

The Mt. Pleasant specimen is more abraded than the other, and in general appearance approximates closer to the type, but the black hairs predominate in the tibial fringe. Larger series may shew that these specimens are entitled to specific rank.

A specimen from Perth, Western Australia, appears to belong to the same species as the var.?, it differs in being somewhat darker, particularly the sides of the second abdominal segment.

TABANUS DIXONI Ferg. S.A., Mt. Lofty, Modbury,

.. **BASSII** Ferg. S.A., Coorong, Robe.

.. **PSEUDOBASALIS** Taylor. S.A., Yeelanna, Kangaroo I.;
W.A., Kuminin. The Yeelanna specimens were somewhat

doubtfully identified by Miss Ricardo (2) as *T. nemopunctatus* Ric., but Miss Ricardo overlooked the hairy eyes. Specimens were compared with Taylor's type in the Australian Museum.

TABANUS VETUSTUS Walk. S.A., Pt. Elliot, Coorong, Adelaide, Robe, Eucla, Kangaroo I.; T. Specimens from Kingston, Robe, Coorong and Corney Pt. possibly represent a variety, but are not in good enough condition for certain naming.

(2) Ricardo, Ann Mag. Nat. Hist. (8), xix, p. 218, 1917.