

THE TYPES OF CHILEAN SPECIES OF TABANIDAE (DIPTERA)
DESCRIBED BY DR. R. A. PHILIPPI

by

CORNELIUS B. PHILIP

U. S. Department of Health, Education, and Welfare,
Public Health Service, National Institutes of Health,
National Institute of Allergy and Infectious Diseases,
Rocky Mountain Laboratory, Hamilton, Montana
59840.

ABSTRACT

Recent discovery in Santiago of many early, unlabelled, but hardly questionable, types of Chilean Tabanidae described by Philippi in 1865 has enabled determination of several uncertain species or confirmation of correct contemporary recognition of others. "Types" were found for the following of his species: *Pangonia rufoaurea* ♂ (= *Scaptia rufa* (Macq.)), *P. collaris* ♀, *P. vittata* ♀, *P. australis* ♀ (= *S. dorsoguttata* (Macq.)), *P. chlorogaster* ♀ (= *S. latipalpis* (Macq.)), *P. subandina* ♀ (= *S. albifrons* (Macq.)); *Mycteromyia fusca* ♀ (= *M. conica* (Bigot)), *M. murina* ♂; "*Tabanus?*" *annulicornis* ♂ (= *Chaetopalpus*) (syns. *T. rubricornis* ♀, and possibly *T. melanostoma* ♂), "*T.?*" *hirtuosus* ♂ (= *Veprius*), "*T.?*" *lugens* ♀ (= *Veprius*) (prob. syn., *Dasybasis tristis* Big.); *Tabanus infumatus* ♀ (? = *Veprius*), *T. coracinus* ♂ (= *V. presbiter* Rond., syn. *Dasyapha bisulcata* End.), *T. xanthogaster* ♀; and the following now placed in *Dasybasis*: *T. andicola* ♀, *T. senilis* ♀, *T. inornata* ♀ (= *D. testaceomaculata* (Macq.)), *T. molestissima* ♀ (= *D. testaceomaculata* (Macq.) var.), *T. fulvipes* (= *D. chilensis* (Macq.)), *T. magellanica* ♀ (= *D. trita* (Walk.), syn. *Stypommia patagonica* End.), *T. paulseni* ♀, *T. gogatina* ♀ (syn. *Scaptiodes nigerrima* End.), *T. nigripennis* ♀, *T. anachoreta* ♀ (= *D. (Agelanius) meridiana* (Rond.)), and *T. acutidens* ♂ (= *D. (A.) philippi* (Rond.)).

Only pins remain for presumably pest-destroyed types of *Pangonia* (probably *Mycteromyia*) *obscuripennis* ♀ and *T.* (probably *Dasybasis*) *pullus* ♂. Of types still unaccounted for: *Pangonia atra* ♀ is recognizable as the prior name for *Scaptia leucothorax* (Ric.), a lighter variant; *Chrysops merula* ♂ (= *C. trifarius* Macq.), and *Myct. brevisrostris* ♂? and *T. nigrifrons* ♀ (= *Dasybasis*) are recognizable Chilean species; "*T.?*" *obscuratus* could have been the ♀ of *Veprius hirtuosus* (Ph.), while no specimens have been seen that could confidently be assigned to the missing *T.* (probably *Dasybasis*) *tephrodes* type ♀. A broken specimen, which is obviously the ♀ of *V. coracinus*, has apparently been misidentified as the type of "*T.?*" *obscuripennis*.

Just over one hundred years ago, in 1865, the well known naturalist, Dr. R. A. Philippi, reviewed the known species of Tabanidae in his country, and added a number of new species of his own. The specimens on which he based his rather incomplete descriptions, but which were really perspicaciously analyzed for his period, remained unlabelled as types. Many of his species remained unrecognized, or were misidentified by later workers who depended solely on his descriptions. Subsequent collecting has revealed a rich and significant speciation in the tabanid fauna of Chile.

Recently in Santiago, Dr. G. Kuschel discovered what he considered to be the major portion of the Philippi tabanid collection. It contained many probable types on distinctive pins, which Kuschel labelled by reference to

the descriptions and with occasional additional help from appropriate original name or locality labels. Dr. Kuschel placed the collection in the Santiago Natural History Museum. The probability that several of these species were referable to Neotropical *Dasybasis* (*Agelanius* of most authors), recently reviewed by Dr. Sixto Coscarón (Instituto Nacional de Microbiología, Buenos Aires) and me (1967b), was confirmed by clarifying several questionable identities. The opportunity for personal study of the Philippi collection arose in July 1964 when a limited travel grant from the American Philosophical Society enabled me to extend travel in South America to visit the Natural History Museum in Santiago (Philipp, 1964). Another personal visit was made in November 1965 and the present report on the Philippi species listed below is a result of these

studies. Reference to Philippi's "original description" in text below is abbreviated "od", and British Museum (Natural History), "BM (NH)".

Chrysops merula. No type ♂ was located but several more recent specimens in the collection reveal that *C. merula* represents the dark male to be associated with the more yellowish female of the earlier described *C. trifarius* Macquart, the only deerfly recorded in Chile. Dichromatic species with dark males are well-known in the genus. Males of this species are predominantly black including appendages, and with narrow yellow bands on the incisures of the abdomen expanded to margin wide bigeminate basal black tergal bands. Outer hyaline areas of the wings are the same as in a female which I previously found to be in agreement with Macquart's type ♀ in Paris, but the basal cells in males are more infuscated and with reduced, subapical hyaline streaks. A male from "Lag. Malleco, 1100 meters 24.i.46" (small lake in Province Malleco) was identified by Kuschel as *C. merula* Ph. The type was from near Llico in Colchagua Province. This synonymy was not recognized by Kroker (1930b), possibly because he discussed *C. merula* "♀".

Pangonia rufoaurea (= *Scaptia rufa* (Macq.)). Syntype ♂ on original white pin has no label other than Kuschel's type label; stated to be from Valparaiso in December in od. The syntype ♀ was also seen with Philippi label "*P. aureorufa* Ph." and a small label "Colchg.", also mentioned in the od, but the listed Valparaiso ♀ is missing. The dorsal hairs of the ♀ are much yellower than in the type ♂. In spite of the fact that neither Fairchild (1956) nor I found the type of *Pangonia rufa* in the Macquart collections in Europe, similarities in size and other characters amply justify Kroker's (1934) synonymy of *P. rufoaurea*. Since no specimens have come from Perú, it appears probable that Macquart's early type was sent from Lima but collected farther south.

Fairchild (1966b) discovered that the type in Vienna of *Melpia pallida* Kroker, also from Chile, really belongs in *Scaptia*. However, the body and appendages, though badly worn, are predominantly reddishbrown, and the species

is thus not to be confused with *S. rufa* above. *S. pallida* is not applicable to other of Philippi's species nor to other material seen in the Santiago collection, and no additional specimens have been seen.

P. collaris. Type ♀ from Valdivia Province. No labels except Kuschel's. Like *rufoaurea*, this distinctive species has been correctly identified in later literature and is also assigned to *Scaptia*. The palps reach beyond bases of the flagellums in the type.

P. vittata (= *Scaptia*). Type ♀ originally from Paulsen's collection without locality. No labels except Kuschel's. It has obviously become more yellowish with storage than the green referred to in the od, or than a fresh ♀ in my collection from Peñalolén, Chile, which otherwise agrees in small size, shape of snout, narrow palpi, and narrow, broken, midabdominal black line. Black on tergite 1 is not broader than the scutellum. Frontal index of type is 1:2.2.

P. australis. Also a *Scaptia*. Type ♀ from between Clanquihue (sic) and Nahuelhuapi, but with no labels except Kuschel's. Frontal index is 1:2.0. The palpi are short, broad, and not attenuated apically. In series, there is considerable variation in palpal shape. The midabdominal band is narrowly discontinuous at the incisures which appearance is often accentuated by wear. Kroker (1930a) redescribed both sexes and labelled his male in BM (NH) as "type" which he obviously considered the equivalent of allotype. No significant difference that could not be ascribed to variation in series of *australis* was revealed by comparison with my homotype of *S. dorsoguttata* (Macq.). Thus, *australis* becomes a synonym in my opinion. Fairchild (1966a), however, has raised some doubts about this and has listed other more recently described species in synonymy of *australis*.

S. dorsoguttata is related to *S. vittata* above, but averages larger, and though variable, has broader, more gradually divergent front below, shorter snout, and palpi and abdominal bands usually broader. The general color is darker, including apical annuli and femoral bases.

P. chlorogaster (= *Scaptia latipalpis* (Macq.)). Type ♀. In addition to Kuschel's there is a small label in Philippi's handwriting,

"Valdivia", as listed in the od. The type is in good condition except for missing flagellums, and agrees with my specimen compared with Macquart's type of *P.* (= *Saptia*) *latipalpis*, confirming Krober's (1934) synonymy.

P. subandina (= *Saptia albifrons* (Macq.)). Type ♀ has no labels other than Kuschel's but is stated to be from a valley in the Santiago Andes and has open cells R_5 as in the od. I have a female also from Santiago Prov. with white vestiture, which otherwise agrees closely with the type and od except that the beard of the type is buff, and thus does not agree with the described "Gesicht schwarz behaart". Krober (*op. cit.*) correctly synonymized this with *S. albifrons* (Macq.) though he had earlier related it to his *Parosca olivaceiventris*. Philippi had also noted relationship to the former but differentiated *subandina* by the open cell R_5 . However, this character is exceptionally variable among specimens that appear to be conspecific; the cells are wide open in my homotype of *subandina*, but closed and petiolate in my homotype of *albifrons*, while in another, taken at the same time, these cells are just closed at the margin on one side and narrowly open on the other as noted by Krober for a specimen in BM(NH). The color of the vestiture and legs, as well as the shapes of palpi, are also variable. Until adequate series become available to reveal possible consistent variation, *S. subandina* can be retained as a synonym of *S. albifrons*.

There are 7 syntypes of *S. albithorax* (Macq.) also from Chile in Paris Museum of which only 3 agree with the od and differ from *albifrons* in narrower fronts, shorter proboscides and black abdomens with yellow-haired incisural bands only on the sixth tergites. One of the 3 with the describer's name label has been labelled as lectotype to insure systematic perpetuation of these differences.

P. atra (= *Fidena*). A black female from the Andes of Santiago Province was originally described with closed cell R_5 and basal third of middle and entire hind tibiae outwardly white-haired. A fragmentary, unlabelled, pest-damaged specimen represented by parts of thorax and legs, one wing, and 2 basal tergites has been identified by Kuschel as remains of the type, probably on basis of the closed cell

R_5 . However, this cannot be the type because of entirely black-haired tibiae and notum, which, with the long-petiolate, closed cell R_5 , reveals the remains to represent a specimen of *Fidena morio* Wulp. I have a specimen of the latter from Chile which agrees with these fragments.

On the other hand, the od (for which no acceptable specimen was found) obviously agrees with the dark form of, and preoccupies, *Saptia leucothorax* (Ricardo), series of which have the pale tibial vestiture described by Philippi, but also varying amounts of pale hairs on the notums and cells R_5 narrowed or closed only at the wing margins, not petiolate as in *morio*. Ricardo's later name could be retained for a contrasting paler variety, though complete intergradation with dark *S. atra* is observed in series. I have a female from Vicuña, Coquimbo Province, Chile, which possesses the described ash-gray front, and almost entirely pale-haired hind tibiae and occiput, but cells R_5 are only narrowed, not closed, at the wing margins; the vestiture of the notum is mixed pale yellow and black.

Chaetopalpus Philippi. I pointed out (1960, p. 71) the doubt about the validity of this generic name used by Philippi in a peculiar provisional manner in discussion of "*T.? annulicornis* Ph.", since the describer changed his mind about actually assigning to it this, the only associated species. However, the genus was certainly validated by Borgmeier (1933) when he stated unequivocally the type to be *Tabanus annulicornis* Phil., 1865. The genus is therefore to be credited to Borgmeier. A previously unnoticed character in this whole group is a deep median sulcus which divides tergite 1 behind the scutellum.

Recent discovery of the type of the long-misidentified *Veprius presbiter* Rond. had convinced me (1965) that *Chaetopalpus* was a synonym of *Veprius*, but variation in the flagellar structure of accumulating material requires review of this opinion. Based on this former misidentification and on structural and genitalic characters, Mackerras (1955b) had placed *Veprius* as a subgenus of *Mesomyia* in the subfamily Chrysopinae, though the genus is now correctly to be reassigned to the subfamily Pangoniinae in spite of the

usually 5-annulate. chrysopinelike antennal flagellums.

"*T.?*" *annulicornis* (= *Chaetopalpus*). Type ♂; intact. No labels other than Kuschel's, but stated to be from "Illapelino". Since neither of the two apparent synonyms below were originally associated with the genus, this is here selected as the valid specific name, though *T. melanostoma* has page priority. I have a male in agreement with *annulicornis*, the genitalia of which were dissected and figured by Mackerras (1955a). I have not observed pseudoannulations in the disc-like plates of this species similar to those seen in accumulating material of *V. coracinus* below.

T. rubricornis (= *C. annulicornis*). Type ♀; intact. No labels other than Kuschel's; originally stated to be in collection of Paulsen without locality. Front moderately divergent below, index 1:2.3. Two ♀'s from Chile in close agreement have the same peculiar, paired, small shiny brown spots observed at the juncture of the front and subcallus, as also mentioned in the od. Though Philippi described this species as with darker body and wings than *V. annulicornis*, the ♀ of which he suggested this might be, comparison of the types reveals that the differences are not as marked as implied. He was obviously right in such suspected association; despite the name, the flagellar plate is brighter red in the ♂. Krober (1934) had placed this in *Veprius*.

T. melanostoma (? = *C. annulicornis*). Type ♂ from the vicinity of Santiago; intact. No labels other than Kuschel's. At first, I considered this to be a melanistic variant of *annulicornis* in which the body, appendages and vestiture are darkened, but the less heavily brown-margined wing veins and reduced stigmas raise a doubt pending study of more specimens. If this is the correct type, there are minor differences from the od. Length is a little shorter (8.5 mm. rather than "5½ lin." in the od), and the vestiture of face, palpi and proboscis have enough intermixed pale and brown hairs to not give a conspicuously black appearance, contrary to the name; short eye hairs are pale, not black, and scapes are gray with black hairs. The abdomen is more brownish than black, and incisural bands on sternites are very inconspicuous. I have seen 2 males from Papu-

do, Aconcagua, with typical *annulicornis*-like wings, in which the black of the foregoing parts is more intensified. More material is needed to decide if this form should be treated as a synonym, variety, or distinct species. This was referred to by Fraga (1937) as *Styppommia "melanosloma" (lapsus)*.

The squamae of both sexes of this complex are peculiarly pallid, and the wing veins heavily brown-margined. Notal lines are varyingly distinct, often obscured by poor preservation.

"*T.*" *coracinus* (= *Veprius presbiter* Rond.). Type ♂. No labels other than Kuschel's, but stated to be from Santiago. Intact, 11.5 mm. I have a male also from Santiago which not only agrees with this but also with the type of the prior *V. presbiter* Rond. (Phillip, 1965), though the latter lacks flagellums. I also found that the type of *Dasyapha bisulcata* End. on loan from Berlin Museum is the female of this species, which reduces both the genus and species to synonymy under *V. presbiter* (see also Fairchild, 1966a). Krober (1934) had placed *Dasyapha* as a synonym of *Chaetopalpus*. Though I (1960, p. 71) accepted *coracinus* as congeneric with *Chaetopalpus annulicornis* Phil., where Krober had placed it, I have since seen an occasional specimen in which pseudoannulations on the basal "plate" are evident in certain lights which could cause confusion with *Veprius* End. (see *hirtuosus* below) thus suggesting that differences in these genera may be subject to review as adequate material becomes available. I have seen females with variable frontal indexes of 1:1.7 to 1.9, and as small as 9 mm. The fronts are divergent below and peculiarly depressed mesally.

Other specimens, which were at one time thought to be variants, but which possess distinctive features, will be described elsewhere.

"*T.*" *obscuripennis* (? = *Veprius*). Type ♀ not located, originally in collection of Paulsen. A small, dark, headless specimen, without labels other than Kuschel's "type" label, is obviously *V. coracinus* and cannot be the true type. Contrary to the od, the thorax of this specimen lacks ornamentation, the wings are uniformly fumose without "Punktaugen", and it is doubtful if the antennae, originally on the missing head, had brown basal seg-

ments or the cheeks were gray. No Chilean specimens have been seen with the characters described including a bare black spot beneath the antennae. The antennae were likened to *Pangonia* and relationship to *Veprius* is thus assumed (but it should be noted that the flagellums were missing in Philippi's *Pangonia obscuripennis*, which should not be confused here).

"*T. ? infumatus* (? = *Veprius*). Type ♂ from central provinces without labels other than Kuschel's. Intact, though abdomen partly greased. As was described, the antennal flagellums are missing, though otherwise structurally this appears congeneric with *V. hirtuosa* (Phil.) discussed below. However, it is darker overall including vestiture, while scapes and pedicels are more swollen and with long black hairs. Though the long pile on cheeks, palpi and abdomen is described as black, it is more generally dark brown, as are the legs and their vestiture, as well as the hairs on the eyes. Notum and scutellum subshiny black. The wings are but little more yellow-tinted than in the following.

I have seen no other specimens of either sex. Precise generic assignment will depend on study of antennal structure of intact specimens.

"*T. ? hirtuosus* (= type species of *Protodasyapha* End. = *Veprius*). Syntypes "zwei Männchen" from Santiago, of which one remaining was considered type by Kuschel, probably correctly, as it is in good agreement with the ♂ and carries a label in the describer's handwriting "*T. ? hirtus* Ph." (note that Philippi used "*hirtus*" in print in comparing the size of *T. nigrifrons* with this). The other syntype appears to have been contemporarily and mistakenly assigned to *obscuratus* below. A ♂ from Renaico, Malleco Prov., Chile, in close agreement with the *V. hirtuosa* type, was found not to agree with the type in BM (NH) of "*Dasybasis*" *tristis* Bigot.

The basal flagellar annuli of *V. hirtuosa* are evident only on careful examination. Accumulation of additional specimens since Mackerras (1955a) discussed the 2 sexes of *V. coracinus* (as *Chaetopalpus*), based on material supplied by me, makes it now evident that the male of which he figured the genitalia was actually *hirtuosus* with more reddish legs and paler

vestiture. His female, on the other hand, was correct as *coracinus* (= *V. presbiter*) though occasional specimens may have the flagellums less swollen basally. He had differentiated *Chaetopalpus* from *Protodasyapha* "chiefly in the subulate, 8-annulate, 3rd antennae segment" of the latter.

Syn. "*T. ? obscuratus* (= ? *Veprius hirtuosa* (Ph.)). Syntypes "zwei ♀" from Santiago. Not located on recent search by me. A ♂ on an original white pin but without labels was considered as a type by Kuschel, but is the wrong sex and probably represents the second syntype of *hirtuosus* above. Philippi called attention to the close relation of the 2 species from the same locality, and the reassignment by Krober (1930b, 1934) appears correct when he reviewed 3 species under *Protodasyapha* (= *Veprius*). Contrary to the ♂, 2 females from Santiago Prov., which I consider as *obscuratus*, have mixed brown and pale hairs on the lower cheeks. If these are correctly assigned, it is strange that the distinctive, wide, divergent front with narrow, transverse black callosity was not mentioned in the ♂. As in the type of *hirtuosus*, the legs are more reddish than in related species.

"*T. ? lugens* (= *Veprius*). Type ♀ from near Santiago, nearly destroyed by museum pests; only the notum, mid-pair of legs and wings remain on the pin. Original reference to the "stirn" determines the sex. I have a male from Termas de Cauquenes?, Maule Prov., Chile, which matches both the remains and important features of the description, particularly the slender *Pangonia*-like antennae with basal segments yellowish and other appendages black, evenly fumose wings without intensification on the cross veins, and a pair of faint gray, incomplete notal lines. Upper facets of male eyes gradually enlarged, densely brown hirsute; postocular rim gray, swollen below at juncture with cheeks and tapered out before the vertex. Palpi tapered, nearly as long as proboscis and subshiny black with dense concolorous hairs.

I have not seen the female, but the slender, elongate pale antennal scapes and black distinctly subulate flagellums are distinctive in this black species.

I believe that *Dasybasis tristis* Big. is a sy-

nonym. It also has the distinctive pale slender scape and pedicel with black hairy body. However, the type ♂ from Chile in BM(NH) has dull reddish sides on tergite 2 which are evident but reduced on only one of 2 males from Chile that Mr. H. Oldroyd compared for me with the type of *tristis* and declared to be close.

Pangonia obscuripennis. If Kuschel is correct, the original pin of the type ♀ (the "Stirne" was described), without label and from unstated locality, was located with the specimen completely destroyed. Important features of the description appear to bear out Kroker's (1930b) assignment to *Mycteromyia*: about 14 mm., eyes bare, proboscis nearly as long as head and thorax together, palpi unusually thin and hairy, hairs of head and thoracic lines prominent, wings with prominent clouds, and a basally reddish, caudally dark abdomen with small, pale middorsal triangles. Kroker suggested relationship to his *M. edwardsi*, which is a smaller and darker species, however. I have not certainly recognized *obscuripennis* among a considerable series of Chilean *Mycteromyia* studied; it is strange that Philippi did not recognize the relationship to the genus he described for other species below, unless possibly he proposed it subsequent to his study of *obscuripennis*, and thus might have overlooked reference to closed cells R_5 here.

Mycteromyia fusca. Type ♀ from Colchagua Province; unlabelled other than by Kuschel. Intact. My homotype of the prior *M. conica* (Big.) is also in close agreement with this, confirming my previous opinion (1958) that Philippi had strangely misidentified Bigot's species in spite of the marked disparity in sizes. The smaller *M. conica* Philippi, not Bigot, was redescribed by me as *M. philippii*. A peculiarity of the genus not mentioned by Philippi is the free articulation basally of the long proboscis, as in Old World *Philoliche*. Mackerras (1955a) figured the genitalia of this species.

"*M.*" *breuvirostris*. No type was located by Kuschel or during my recent search. Originally from Valdivia. The large size ("8 lines") suggests a ♀ though sex in this genus cannot be determined by descriptions alone since ma-

les are also dichoptic. The proboscis is shorter than the notum, and the generally pallid-red coloration without prominent abdominal pattern is characteristic of this robust species. I have a female labelled "Chili", which supports distinctness of the species and confirms Kroker's (1930b) redescription.

"*M.*" *murina*. Type ♂ from vicinity of Santiago without labels other than Kuschel's. Intact except for minor pest damage to body. The proboscis is folded beneath the thorax to reach just beyond hind coxae. This differs from my more grayish homotype ♂ of *M. cinerascens* Bigot in BM(NH) in having dark brown beard, chest hairs and femora; antennae not markedly shorter than palpi, and visible cerci rounded and coarsely black-haired, not pointed apically as in *cinerascens*; snout about same length as in the latter but thicker at the base, dull brown without darker lateral bands seen in some species, and a little longer than the horizontal diameter of the eyes from side view. Palpi and antennae subequal in length (in *cinerascens*, palpi are longer than antennae). The abdomen, including the venter, is dull black, the middorsal pale triangles forming a continuous line.

T. nigripennis (= *Dasybasis* subgen. *Nubiloides*, described by Coscarón and Philip, 1967a, b). Type ♀ with no labels other than Kuschel's; stated to be from Prov. Aconcagua. Intact, and agrees with my ♀ from west of Angol. This distinctive black species has been correctly identified in contemporary literature. The combination of strongly hooked antennae and lack of frontal callosity, plus the black wings with paler cells, is unique in the Neotropical fauna. The basicostas are bare as in *Dasychela* species, which, however, have clavate frontal keels and wings with different fumosity.

T. gaganinus (= *Dasybasis* subgen. *Scaptiodes*) (see Coscarón and Philip, 1967a, b). Type ♀ from Valdivia; intact except antennae broken. No labels other than Kuschel's. I have a specimen from Cerros de Nahuelbuta, Angol, Chile, which agrees closely with the type and ♂. The small size and subshiny, enameled black body and head are distinctive in the fauna. *Scaptiodes nigerrima* End. appears to be a synonym though the subcallus of the

type (seen on loan) appears to be somewhat dulled by soiling, and the costal cells are more yellow-tinted. In a series of 9 females from various localities, only one from Rancagua, Cordillera, central Chile, shows some encroachment of sooty pollen onto the subcallus in certain lights. Krobe (1934) wrongly assigned this to the Nearctic genus *Dasyommia* (= *Hybomitra*).

T. anachoretus (= *Dasybasis* subgen. *Agelanius meridiana* (Rond.)). Type ♀ probably from Valdivia, labelled by Kuschel, and in addition "Tabanus anachoreta" apparently in the describer's handwriting plus a printed label "Chili Central, 1852-1938. Germain Co". Intact except antennae broken. I have a specimen from Rfo Bueno, Valdivia, Chile, which agrees closely with the type and od, and also with the type (seen on loan in 1954) of *Agelanius meridianus* Rond. described two years earlier from a Chilean specimen supplied by Philippi. The synonymy was not suspected until recent study of Rondani's type (Philip, 1965).

This is the type species of *Agelanius*. Stone (1944) considered this genus synonymous with the Australian *Dasybasis*, which opinion has since been accepted by many authors including the writer. However, Coscarón and Philip (1967a, b) recognized *Agelanius* as a subgenus of *Dasybasis* for a distinctive element in the Neotropical fauna.

T. acutidens (= *Dasybasis* subgen. *Agelanius philippi* (Rond.)). Type ♂ carries Philippi's handwritten label "T. acutidens Ph." and a printed one "Valdivia" (in agreement with the od), plus Kuschel's type label. Intact except for missing flagellums and a pest-hole in the chest. Kuschel believed this to be the male of the preceding species, but present availability of both sexes of both species has proved their distinctness. Though the flagellums are unfortunately broken, discovery of this type permitted separation of related forms by Coscarón and Philip (1967b).

T. andicola (= *Dasybasis*). Type ♀ from the Andes in Santiago Province but without labels other than Kuschel's. Intact, 14.5 mm., frontal index 1:1.8. Though not previously recognized, this is not uncommon in central Chile and west central Argentina. It resembles

a large dark form of the common *D. testacco-maculatus* but has wider fronts. *Agelanius venustus* Krb. was shown to be a synonym by Coscarón and Philip (1967b).

T. nigrifrons (= *Dasybasis*). No type was found on recent search by me; stated to be from between Todos los Santos reservoir and Nahuelhuapi. The description of this smallest of the *Dasybasis* species is clear and assignable to a naturally dark-fronted form of which very few specimens are available. Characteristic of the species are: length about 8 mm., front twice taller than wide, dorsum blue-black contrasting to a pale venter, and wings clear without spur veins. The species was redescribed by Coscarón and Philip (1967b).

T. pullus (= ? *Dasybasis*). Type ♂ from unknown locality has not been located on recent search but is now thought to be represented by a bare pin. Coscarón and I (1967b) were unable to associate the briefly-described characters with any form seen by us. Miscellaneous males are often difficult to assign to species in *Dasybasis sens. str.*

T. magellanicus (= *Dasybasis trita* (Walk.)). Type ♀ from the Straits of Magellan without labels other than Kuschel's. Intact but slightly moldy. When compared to my topohomotype of *D. trita* (Walk.), no significant differences were found. Another synonym is *Stypommia patagonica* End., the type species, which relegates *Stypommia* to synonymy under *Dasybasis sens. str.* Coscarón and Philip, 1967b).

T. paulseni (= *Dasybasis* subgen. *Agelanius*) (Coscarón and Philip, 1967b). Type ♀ from unknown locality with no labels other than Kuschel's. Pest damage has resulted in loss of the flagellums and palps and in a hole in the side of the thorax, but it is readily recognizable as what Krobe (1930b) misidentified as *Agelanius tephrodes* (Ph.). The abdominal pattern of large contrasting pale integumental triangles was aptly compared by Philippi with his *anachoreta* (= *meridiana*) from which it is quickly separated by the large, quadrate frontal callosity. *Archiplatius trianguliferus* End. is a synonym.

T. tephrodes (= ? *Dasybasis*). Type ♀ ("Stirne" mentioned in od) from vicinity of

Santiago; not found on recent search by me. A ♂ on heavy white pin is mistakenly labeled by Kuschel as type; no other labels. The only other types seen on similar heavy white pins were those of *collaris*, *chlorogaster* and *acutidens*; most others were on a peculiar slender type of white pin. Philippi's statement that the species occurs in the vicinity of Santiago but not Valdivia would suggest the species was familiar locally, but Coscarón and I (1967b) were unable to recognize any known form by the characters described, even with the help of his comparison of the abdomen of his *melanostoma* to this and *obscuratus*.

T. molestissimus (= *Dasybasis testaceomaculata* var.). Type ♀ with Philippi's handwritten labels "San Juan" and "*T. molestissimus* Ph.", plus Kuschel's type label; stated to be common in Valdivia Province. Intact though worn. Coscarón and Philip (1967b) treated this as a variety of *D. testaceomaculata* (Macq.) with short stout palpi and relatively narrow fronts, of which many specimens are available. Complete intergradation, however, occurs with the typical form. *T. apoecilis* Schin. is a synonym of this variety (see *senilis* below).

T. inornatus. Type ♀ from Andes in Santiago Province with no labels other than Kuschel's. Intact. This proved to be one of several synonyms of *D. testaceomaculata* (Macq.).

T. fulvipes (= *Dasybasis chilensis* (Macq.)). Type ♀ from the vicinity of Illapel with no labels other than Kuschel's. Intact. My homotype of both *T. pachnodes* Schin. and *T. chilensis* Macq. agreed closely with the above type. The wide front and callosity, and trivittate abdomen with rounded sublateral spots are distinctive of this rather common species.

T. senilis (= *Dasybasis*). Type ♀ without labels other than Kuschel's. Since the describer listed four localities in mid-Chile, he must have had several specimens originally. The type lacks some appendages and has minor pest damage but is distinctive and readily identifiable. Kroeber (1930b) misidentified this as *T. apoecilis* Schin. type of which I saw in Vienna in 1953.

T. xanthogaster. Type ♀ ("Stirn" mentioned in od) from unknown locality, now

headless; name-label in describer's hand in addition to Kuschel's. Characterization of the head in the od is unfortunately inadequate. The body now measures 11.5 mm., which with the missing head could equal the "7 lin." of the od. The species is correctly placed in *Tabanus*.

Subsequent to the study of this type, a report on 3 related, undescribed species was published (Philip, 1967). A female of each was recently forwarded by Dr. Sixto Coscarón from the following localities in Chile: *Tabanus penai*, Tarapacá Prov., Cuya (no date), coll. Etcheverry; *T. xerodes*, same data but Azapa; and *T. monotaxis*, Antofagasta Prov., Calama, 7 Dec. 59. The last 2 thus provide confirmation, including distinctive eye patterns, of species previously known only by the holotypes. The flagellums of *T. monotaxis* (missing on the holotype) are black and very similar in shape to those of *T. penai*; the callosity is smaller, more pear-shaped, and the palpi and hind-tibial fringes entirely white-haired compared to the holotype. The hind-tibial fringe of the above *T. xerodes* is likewise entirely pale, the flagellums distally black and the distinctive abdominal pattern which divided median line resembles that in the holotype.

Coenura Bigot. This genus was originally monotypic for *C. longicauda* Bigot from Chile, under which name Philippi (*op. cit.*) described and compared 3 other species which have since been transferred from Tabanidae to the family Pelecorhynchidae. Undoubted types of all 3, in various states of preservation, were also seen in Santiago Museum. The sex was unfortunately omitted in the descriptions but original labels are in the describer's handwriting on pertinent specimens. Mackerras and Fuller (1942) showed that South American species were congeneric and closely related to species of the prior *Pelecorhynchus* Macquart in Australia, for which they erected a separate family, Pelecorhynchidae. Stuardo O. (1946) used the latter genus but not the family in his catalog of Chilean Diptera. A Neotropical catalog of the family by me is in press (Fasc. N° 27, Departamento de Zoología, Secretaria da Agricultura, Sao Paulo, Brasil).

C. xanthopleura Phil. (= *Pelecorhynchus*).

Type ♀ with labels "Coenura xanthopleura Ph" and number "h. 726". Intact except for minor pest damage to one side of abdominal segments 3 and 4. Ovipositor extruded as in *P. longicauda*, but pile yellow on beard and sides of thorax, and the lateral gray spots on tergites 2 to 4 smaller. Differs from the following by lack of yellow fringe on hind margin of the scutellum, and the wings more intensely orange-yellow.

C. elegans Phil. (= *Pelecorhynchus*). Type ♂, with original label "Coenura elegans Ph., Llico p. 670" and "Coenura Big."; only the head, minus flagellums, thorax, one fore- and mid-leg each, and one damaged wing remain after pest attack. Beard and thoracic pile bright orange, which, in addition to difference in the abdominal pattern, probably convinced Philippi of distinctness of this specimen from *biguttata* below. I have a ♂ from Renaico, Malleco Prov., which agreed with the remnants closely except pile on head and thorax is more yellowish.

Variation in color of the vestiture and size of the abdominal spots was obviously not apparent to Kroeber (1930b), when he differentiated *P. albonotatus* Schiner ♂ from *P. elegans* ♂. I can detect no other critical difference in his adequate redescription of the type in Vienna Museum and agree with Mackerras and Fuller (*op. cit.*) that *albonotatus* is a synonym.

C. biguttata Phil. (= *Pelecorhynchus*). Type, probably a ♀, extensively pest-damaged, leaving only the notum, scutellum, wings and parts of pleura and first 2 tergites; with original labels "Coenura biguttata Ph. Valdivia, p. 671". The lateral pile and wings are paler yellow than in the type of the preceding *elegans*. A recent ♂ from Chiloé in the Santiago collection agreed with the description in having the atlas-gray abdominal spots confined to tergite 4, the only differentiating character from the preceding. In a considerable series of both sexes from various localities, these gray abdominal macules have varied in size, particularly dorsally, nearly to extinction on tergites 2 and 3. The type of *P. darwini* Ric. in BM(NH) is intermediate with small spots on 3 but not on 2. The beards and thoracic pile have also varied from pale yellow

to orange-rufous. Since the preceding is the commoner form with complete intergradation with this, I consider *biguttatus* to be only a variety of *elegans*, though the former has page priority, and *darwini* to be a synonym.

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