A new genus and four new species of Saldidae (Heteroptera)

by

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1. A new genus from South America

Pseudosaldula gen. nov.

Characteristics: membrane with five cells, the most lateral cell about one half the length of the adjacent one (fig. 1D). All remaining generic characters are typical of the Saldinae (sensu COBBEN 1959), in which it must be placed, i. e. larval organ present, base of penis-filum coiled (fig. 9), median sclerotized structure of endosoma not paired (fig. 13), apicolateral sclerotized structure of endosoma present, female subgenital plate lengthened caudad, head with a more or less clearly defined postclypeus (compare with structures of Chiloxanthinae as depicted in COBBEN 1960 a and b). The absence of the accessory glands of the ductus ejaculatorius has not yet been verified.

The new genus belongs to the tribe Chartoscirtini Cb. on the basis of the shape of the median endosomal structure, penis-filum and larval organ.

Type species: *Acanthia rogeri* Kirkaldy, 1899.

Discussion on the genus. As pointed out above the new genus belongs to the Saldinae notwithstanding the fact that it has five membranal cells, a character which until now was restricted to the Chiloxanthinae. In summarizing the characters of the two subfamilies in 1959 I have considered the differences in the venation of the membrane to be of only a secondary importance, as an intermediate condition was to be exspected as theoretically possible. However, the appearance of the wing in *Pseudosaldula* shows clearly that the trend towards reduction of the cells is following a different path in the Chiloxanthinae and Saldinae. In the former group the genus *Chiloxanthus* always shows a clear tendency towards reduction of the fourth cell (see numbering in fig. 1B); in some species of *Pentacora* an acuteangled confluence of the longitudinal veins of the same cell has appeared already (this diminution of the fourth cell is not directly correlated with reduction of the fore wing!). In the hypothetical evolved Chiloxanthinae the arrangements of the cells should be as numbered in fig. 1C. The example of *Pseudosaldula* on the contrary indicates that obviously the four-cell condition in Saldinae (fig. 1E) has resulted from loss of the fifth cell. Though anomaly in the venation of the membrane in individual saldids is of frequent occurrence, the outline of the four cells in the Saldinae is very constant (about 80% of the described species from all geographic regions have been studied by the author). *Pseudosaldula* therefore represents an interesting relict-group, apparently restricted to South-America.

There are other characters that illustrate fundamental differences between the two subfamilies in question. In the Chiloxanthinae the fracture of the fore wing is very long and extends up to the ridge of the R + M (fig. 1A, s). In the Saldinae the fracture is short (fig. 1D, E) and disappears with progressive reduction of the fore wing (fig. 1F).

All adult saldids (except probably the aberrant *Aepophilus*) are characterized by the presence in both sexes of a remarkable pair of invaginated abdominal glands*), the nature and disposition of which is unique in Heteroptera. This gland is situated in the intersegmental membrane, just bordering the upper part of the hind margin of the seventh sternite. If living bugs are picked up with a forceps the glands become visible as protrusable vesicles. Its base is included by a slight excavation of the sternite and on the other side by an isolated narrow-shaped black sclerite (fig. 2 sk). This striking sclerite is present in all of the approximately 135 species of Saldinae (including *Pseudosaldula* !), but is absent in all 15 species of Chiloxanthinae, studied by the present author.

Discussion on the type species. The only specimen of *rogeri*

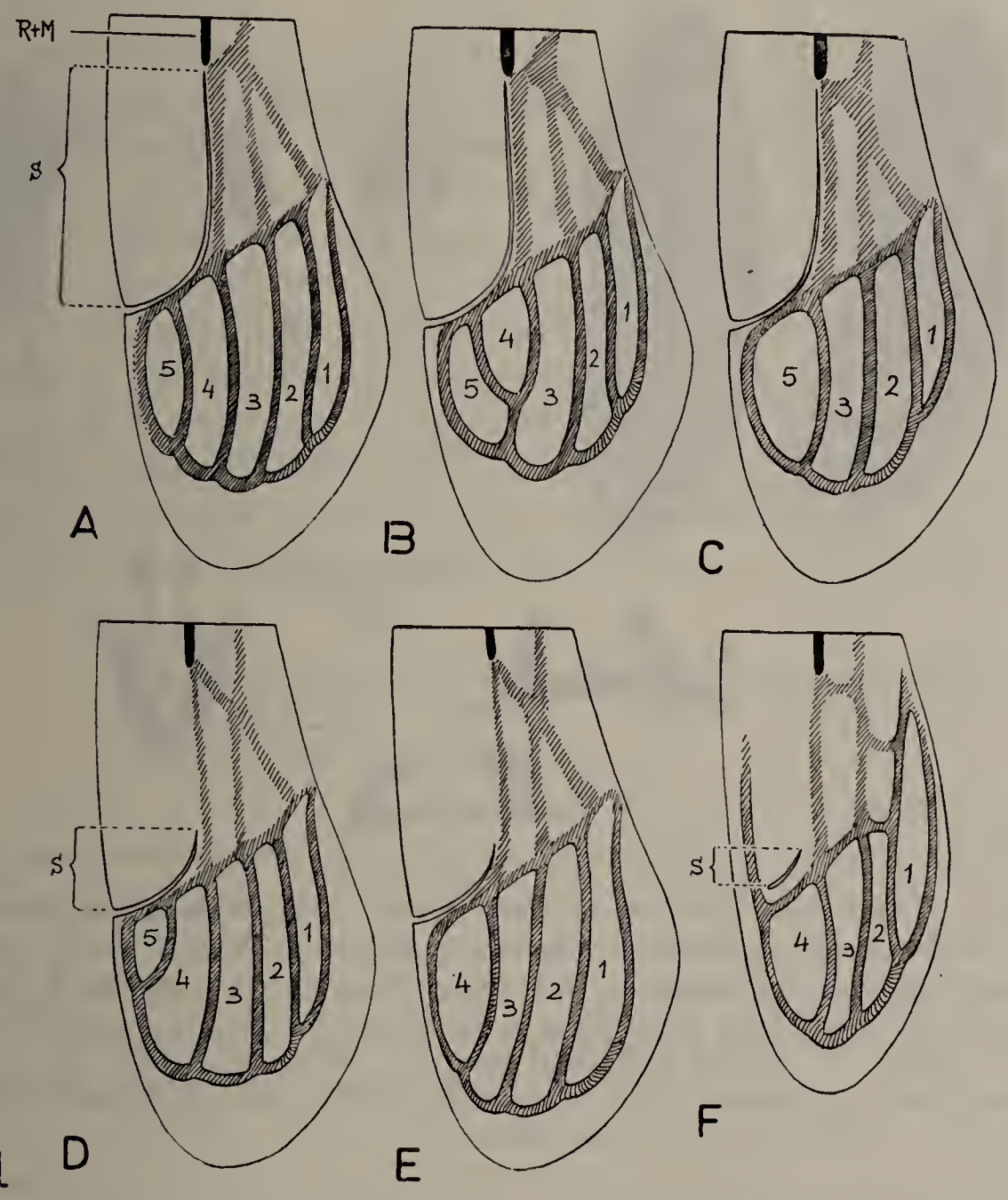


Fig. 1 A—F. Inner view of the apical half of the fore wing, schematic; R + M, ridge of the R + M vein; S, fracture. A, B and C, Chiloxanthinae: A, *Pentacora*; B, *Chiloxanthus*; C, hypothetical evolved member of the subfamily. D, E and F, Saldinae: D, *Pseudosaldula*; E, *Saldula*; F, *Salda*, semibrachypterous.

*) Dr. Carayon (Paris) informs me that he too studied this gland in saldids several years ago. Jointly with professor Drake (Washington), he has a paper in preparation on the subject. Therefore I confine myself here to pointing out the taxonomic significance. Dr. Miyamoto (Fukuoka) appears to be the fourth independent discoverer of the glands in question; in a recent letter he informed me that he noticed them in the females of *Saldoida armata*.

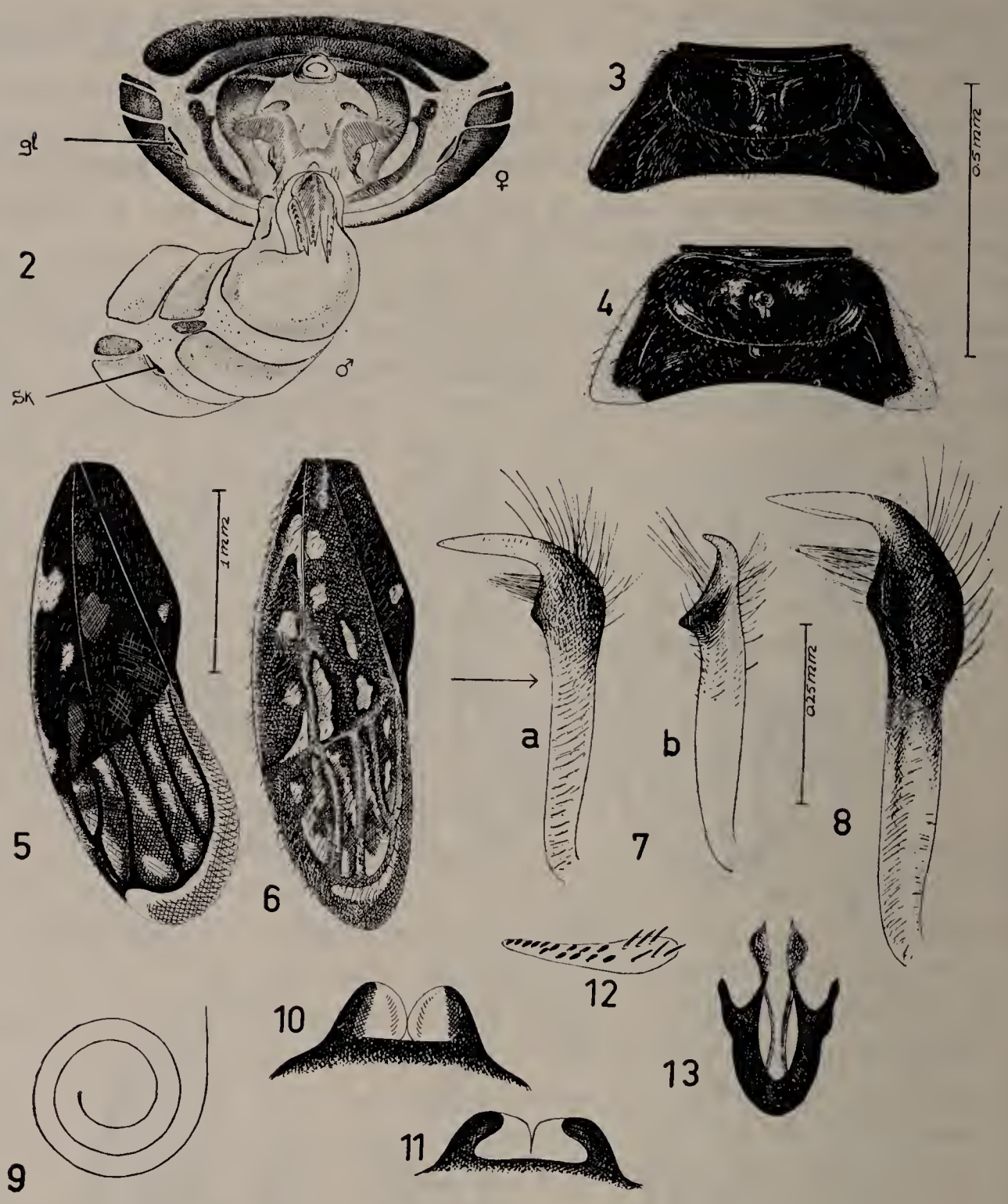


Fig. 2. Apices of abdomina of *Saldula saltatoria* L., in copula, showing the position of the protrusible gland (gl) and the black narrow sclerite (sk). Figs. 3, 5, 7, 9, 11, 12, 13. *Pseudosaldula rogeri* Kirk. 3, pronotum; 5, left hemielytron; 7, left paramere, b innerside, as observed in the direction of the arrow in a; 9, base of penisfilum; 11, parandria; 12 coupling plate of male; 13, median endosomal structure, front view. Figs. 4, 6, 8, 9, 10. *Pseudosaldula* spec. 4, pronotum; 6, left hemielytron; 8, left paramere; 9, base of penisfilum; 10, parandria.

Kirk., present in the British Museum (Nat. Hist.), is a ♀ from Chile and it bears the British Museum "type" label. As regards the data on the label (Mendoza, leg. REED, 1870) it is from the type locality. The specimen matches entirely the description that KIRKALDY has given of it. KIRDALDY described *rogeri* as belonging tho the "subgenus" *Chiloxanthus*; in the text too he stressed the presence of the five cells; "..... quatrième aréole presque aussi longue que la troisième, beaucoup plus longue que la cinquième". However, he did not select a type-specimen, nor did he indicate in his paper the sex and quantity of his type-sample. Therefore, I selected the above mentioned female in the

British Museum as lectotype and placed an appropriate label to that effect on the specimen. The female of *araucanica* Kirk. in the British Museum, indicated with the B.M. "type" label, appears to be synonymous with *rogeri*. However, it is certain that this is not the specimen, which KIRKALDY used for his description of *araucanica*, for he opens that description with: "Appartenant aus *Acanthia* typiques". Moreover his diagnosis points clearly to another, not *Pseudosaldula*-like species.

Further material of *P. rogeri* studied by the present author: 5 ♂, 1 ♀, Chile, Chile Chico, leg. C. H. ANDRÉAS, 22—24.II.1938 (identified by C. J. DRAKE as *araucanica* Kirk.), in Coll. Rijksmuseum Nat. Hist., Leiden; 7 ♂, 2 ♀, Chile, Banos Morales, leg. G. H. SCHWABE, 16.XII.1940, in Coll. Deutsches Entom. Institut, Berlin.

Additional South American species appear to belong to the new genus *Pseudosaldula*, which in such characters as parameres, parandria, the presence of a larval organ form a homogeneous group (these characters are depicted for *rogeri* (fig. 3, 5, 7, 9, 11—13) and an unidentified species (fig. 4, 6, 8—10). In other characters such as wing reduction, shape of pronotum and hairyness they show as much diversity as do members of the genus *Saldula*. DRAKE (1955) transferred the older species: *andensis* Dist., *araucanica* Kirk. (not *auraucanica* !), *rogeri* Kirk. (not Distant !) and *sola* Drake & Carvalho (not only Drake !) to the genus *Pentacora*. At the same time he described five new species of *Pentacora* from South America. Most of these species probably belong to *Pseudosaldula*, but I have found it impossible from the DRAKE-descriptions alone to identify members of the group, without having seen the original material, on which the descriptions are based.

2. One new species from the Society Islands

Saldula tahitiensis sp. nov.

Description (for measurements see Table I).

Small, short-haired, semibrachypterous (terminology COBBEN 1960), mainly black-coloured, with striking C-shaped light colour-marking on the fore wing.

Head: Black, shining, rather smooth, covered by inconspicuous short brownish pubescence; praeocellar spot circular, yellowish-brown; post-, anteclypeus, labrum and maxillar plate yellowish or fuscous, gula brownish bordered; rostrum light brownish, extending between the hind coxae.

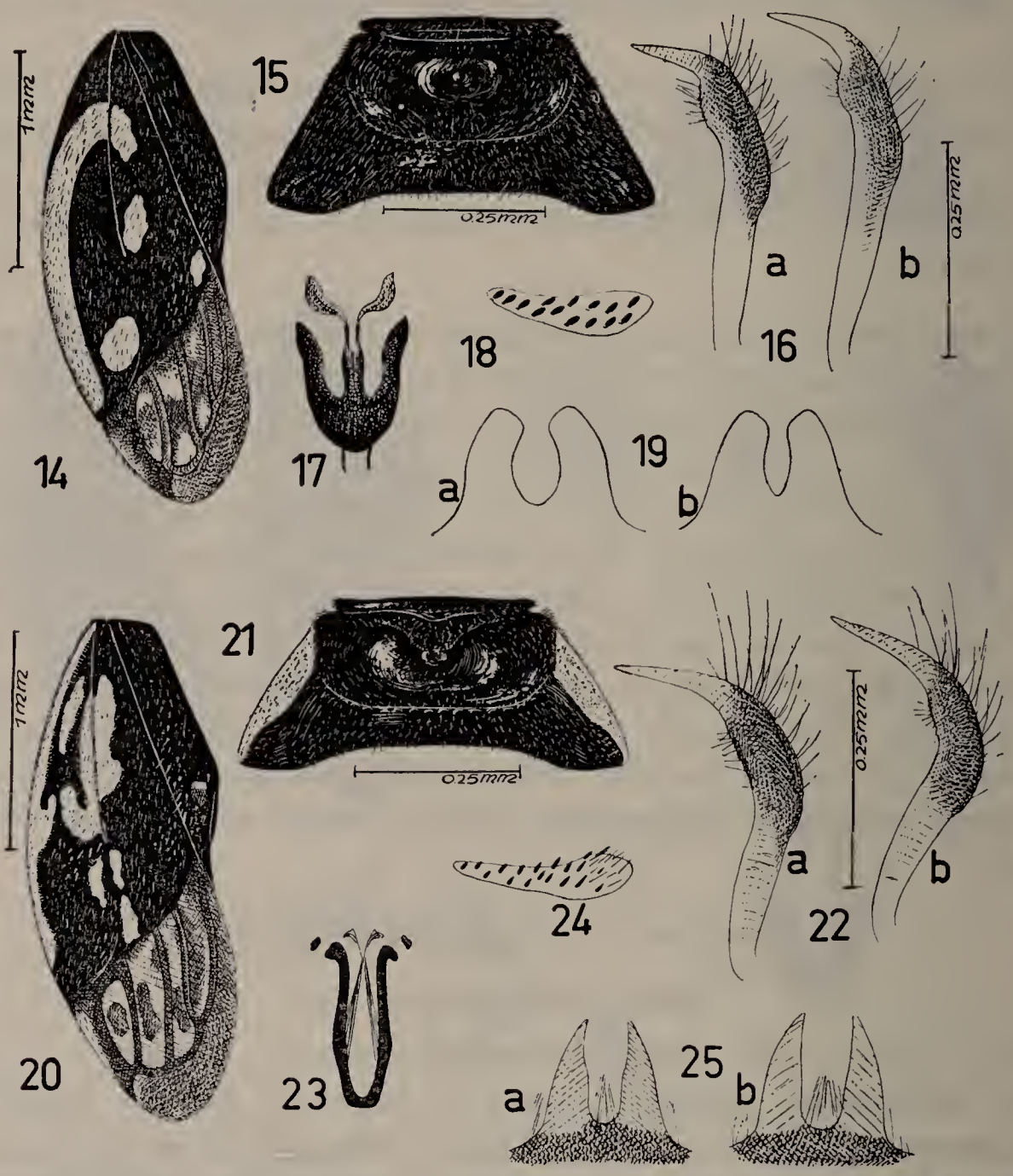
Thorax: Pronotum (fig. 15) and scutellum deep black, shining, rather smooth, densely covered by short decumbent brown hairs; sides of pronotum straight, fore-side scarcely broader than the collar; thorax ventrally, including the acetabulae, entirely black.

Wings : Hemielytra somewhat reduced (semibrachypterous), covered by a dense fine decumbent brownish pubescence, clavus and endocorium with some scattered thick golden hairs; dull black with yellowish-brown typical marking (fig. 14); base of exocorium and a stripe, adjoining the R + M ridge laterally, shining black; clavus without subapical light spot; membrane light brownish with vague brownish spots; hind wing extending to the middle of the second lateral cell of the membrane of the fore wing.

Extremities: Antennae unicolourous brown, short brown haired, segment 1 with a few erect dark semi-long bristles.

Legs yellowish brown, coxae black, last segment of tarsi darkened apically, dark spines on hind tibiae about as long as the diameter of tibiae.

Genital and other structures: Parandria of male dark brownish,



Figs. 14—19. *Saldula tahitiensis* sp.n. 14, left hemielytron; 15, pronotum; 16, left paramere of two individuals a and b; 17, median endosomal structure; 18, coupling plate of male; 19, parandria of two individuals a and b. Figs. 20—25. *Saldula parvula* sp.n. 20, left hemielytron; 21, pronotum; 22, left paramere of two individuals a and b; 23, median endosomal structure; 24, coupling plate of male; 25, parandria of two individuals a and b.

shaped as figured (fig. 19); subgenital plate of female truncated at apex, basally black, apical half brownish; paramere, median structure of endosoma and coupling plate of male as depicted (figs. 16, 17, 18); larval organ (see COBBEN 1957) must be present, as one can derive from the rudiments left in the adult.

Holotype (♂), length 3.10 mm, width 1.60 mm.
Allotype (♀), length 3.38 mm, width 1.75 mm.
Mean length of 4 ♂: 3.26 mm (max. 3.48; min. 3.10).
Mean width of 4 ♂: 1.63 mm (max. 1.70; min. 1.60).
Mean length of 6 ♀: 3.67 mm (max. 3.92; min. 3.38).
Mean width of 6 ♀: 1.91 mm (max. 2.10; min. 1.75).

Material. Holotype (♂) and Allotype (♀), Tahiti, Vairao, Society Islands, Haomi River, 600—700 ft, 30.III.1934, leg. E. C. ZIMMERMAN. Paratypes 2 ♂, 2 ♀, data as type; 1 ♂, 3 ♀, Raiatea, Society Islands, Temehani Plateau, 1500—2000 ft, margin of pool, 5.X.1934, leg. E. C. ZIMMERMAN. Types and paratypes in R. Usinger collection; paratypes in the Bishop Museum, Honolulu, and in Cobben collection.

S. tahitiensis can at once be distinguished from the known species of the polynesian islands by its striking and apparently constant wing-design.

3. Three new species from New Zealand

Saldula parvula sp. nov.

Description (for measurements see Table I).

Small, short-haired, semibrachypterous, mainly dark-coloured with broadly light-margined pronotum.

Head: Shortly haired, black, shining, smooth; frons medially with weak longitudinal sulcus, anteclypeus with two long setae; light praeocellar spot broadly touching the eye, frontal trichobothria implanted in light spot; sclerites of mouth-parts light-coloured, exclusive of the mand. plate, which is blackish; gula bordered broadly with white; rostrum light brownish, extending to the hind coxae.

Thorax: Pronotum (fig. 21) covered by short light hairs, shining, smooth, black, lateral margins somewhat convex and broadly margined with flavous brown; dome rather flat with the central impression broad and open in front; scutellum black, apical half with cross-striation; acetabula 1 broadly pale-coloured, 2 and 3 narrowly light-margined.

Wings: Hemielytra somewhat reduced (semibrachypterous), densely covered by short brown hairs, which are more gold-coloured on clavus and endocorium; dull black with light brown design (fig. 20), the black parts mainly covered by a leaden hue; clavus black crape with leaden hue on base and apex, with subapical light spot; membrane light brownish with brown fuscous spots; hind wing extending to the half of the membrane of the fore wing.

Extremities: Antennae unicolourous brown, segments 3 and 4 dark brownish; segment 1 ventrally with a dark brown spot; all segments short brown haired, segment 1 moreover with some longer dark spiny hairs, segment 2 halfway on the innerside with some semi-long brown hairs.

Legs pale brownish, coxae mainly blackish; ventral side of femora black striped, flat side with some vague brown spots; base and apex of tibiae and apex of last tarsal segment darker; covered with short brown hairs; dark spines of hind tibiae about as long as the diameter of the tibiae.

Genital and other structures: subgenital plate of female truncated distally, apical half light coloured. Parandria, paramere, median endosomal structure and coupling plate of male as depicted (figs. 25, 22, 23, 24); larval organ must be present, as one can derive from the rudiments, left in the adult.

Holotype (♂), length 3.27 mm, width 1.50 mm.
Allotype (♀), length 3.13 mm, width 1.45 mm.
Length of 5 ♂: 3.02—3.28 mm; width 1.50—1.60 mm.

Material. Holotype (♂), S. Karori, New Zealand, 13.I.1924, leg. T. Cockcroft. Allotype (♀), Whaka, St. Forest, Rotorva, New Zealand, sulphur pool, 21.I.1959, leg. T. E. Woodward. Paratypes 3 ♂, Hult, New Zealand, 5.VI.1920, leg. J. Anson; 1 ♂, data as allotype. Holotype and paratypes in British Museum (Nat. Hist.), Allotype and 1 paratype in the Dominion Museum, Wellington, New Zealand.

See also discussion on p. 106.

Saldula trivialis sp. nov.

Description (for measurements see Table I).

Rather stout, moderately slender, dark-coloured, short haired, macropterous.

Head: Relatively small, black, moderately shining, finely punctured on vertex, covered with inconspicuous short pale hairs; frons medially with longitudinal sulcus; praeocellar spot and sclerites of mouthparts yellowish brown; mand. plate, midpart of postclypeus and base of anteclypeus often blackish.

Thorax: Pronotum black, rather shining, finely punctured regularly covered with inconspicuous short silver hairs; lateral margins straight or weakly convex, black, ventrally-posteriorly often with a small pale spot; dome rather flat with circular impression in the centre; all acetabulae pale margined; rostrum dark brownish, extending between hind coxae.

Wings: Hemielytra fully developed, sometimes very slightly reduced (submacropterous); covered with inconspicuous short silver hairs; dull black with only a small number of light spots, mainly on the endocorium (eunomy of wing-pigment fig. 26a-f), clavus in dark variants without subapical spot; membrane brown with some paler spots between the veins.

Extremities: Antennae dark brownish, innerside of segment 1 testaceous, in ♀ often totally black; segment 2 with light apex; all segments shortly brownish pilose, in addition segment 1 with about four black stout hairs and segment 2 with two semi-long dark hairs half-way on the innerside.

Legs, coxae black, trochanters brownish, femora black with light longitudinal stripe along the above side; tibiae ferrugineous with longitudinal black stripe on the upperside, running from the base till $^5/_6$ of the length of the tibiae; tarsal segments dark, second joint pale with dark base.

Genital and other structures: Subgenital plate of female truncated distally, brownish, apex on both sides of the median line light bordered. Parandria, paramere, penisfilum, median structure of endosoma and coupling plate of male as depicted (figs. 31, 35, 28, 32, 29); larval organ present.

Holotype (♂), length 5.51 mm, width 2.40 mm.
Allotype (♀), length 5.61 mm, width 2.58 mm.
Mean length of 8 ♂: 5.16 mm (max. 5.52; min. 5.00)
Mean width of 8 ♂: 2.27 mm (max. 2.40; min. 2,19)
Mean length of 9 ♀: 5.75 mm (max. 6.10; min. 5.58)
Mean width of 9 ♀: 2.65 mm (max. 2.81; min. 2.45)

Material. Holotype (♂), Allotype (♀), S. Karori, New Zealand, 13.I.1924, leg. H. Hamilton & T. Cockroft, in British Museum (Nat. Hist.). Paratypes: 1 ♂, 5 ♀ same data as type; 1 ♀ Westport, XI-XII.1901, leg. J. J. Walker; 3 ♂, Orepukie, 10.I.1912, leg. G. Howes; 1 ♀, Lake Rotoroa, 1.I.

Table I. (Measurements in mm)

SPECIES	SEX	Total length	Total width	HEAD					PRONOTUM			ANTENNA				LEG 3		
				width	vertex at level of ocelli	frons at narrowest width	ocellus width	distance between ocellus	length	width of collar	width at the base	1	2	3	4	tibia	2 ta	3 ta
SALDULA TAHITIENSIS n. sp.	♂	3.10	1.60	0.92	0.34	0.28	0.06	0.05	0.50	0.60	1.18	0 35	0.63	0.45	0.50	1.73	0.30	0.29
	♂	3.20	1.63	0.93	0.34	0.28	0.06	0.05	0.53	0.58	1.18	0.30	0.66	0.49		1.73	0.25	0.30
	♀	3.38	1.75	0.95	0.38	0.33	0.05	0.06	0.51	0.60	1.25	0.33	0.68	0.45		1.60	0.25	0.29
	♀	3.72	1.85	0.96	0.40	0.35	0.05	0.07	0.58	0.64	1.36	0.36	0.73	0.50	0.50	1.78	0.28	0.32
SALDULA PARVULA n. sp.	♂	3.27	1.50	0.97	0.38	0.28	0.05	0.05	0.46	0.62	1.26	0.28	0.65	0.45	0.50	1.70	0.30	0.38
	♂	3.20	1.60	0.97	0.35	0.28	0.05	0.05	0.45		1.20	0 28				1.70	0.29	0.37
	♀	3.13	1.45	0.89	0.35	0.30	0.05	0.05	0.43	0.58	1.10	0.25	0.55			1.44	0.25	0.30
SALDULA TRIVIALIS n. sp.	♂	5.50	2.40	1.22	0.48	0.39	0.07	0.05	0.68	0.79	1.80	0.45	1.13	0.69	0.63	2.70	0.48	0.50
	♂	5.30	2.30	1.21	0.48	0.39	0.08	0.05	0.67		1.77	0.43	1.10	0.63		2.48	0.48	0.43
	♀	5.60	2.58	1.26	0.52	0.43	0.07	0.05	0.70	0.83	1.94	0.40	1.15	0.63	0.65	2.79	0.53	0.43
	♀	5.73	2.70	1.30	0.53	0.43	0.08	0.05	0.71	0.88	2.08	0.43	1.23	0.69	0 65	2.80	0.50	0.53
SALDULA MACULI-PENNIS n. sp.	♂	4.34	1.76	1.09	0.42	0.30	0.07	0.05	0.50	0.68	1.50	0.34	0 84	0.61	0.58	2.26	0.38	0.40
	♂	4.60	2.02	1.13	0.42	0.30	0.07	0.04	0.55	0.73	1.63	0.38	0 90	0 63	0.60	2.30	0.43	0.40
	♀	5.52	2.38	1.20	0.45	0.38	0.07	0.05	0.64	0.80	1.81	0.43	1.05	0.73	0.65	2.88	0.46	0.44
	♀	4.90	2.32	1.13	0.45	0.38	0.06	0.05	0.60	0.78	1.63	0.39	0.88	0.60		2.68	0.45	0.45
	♀	4.47	2.21	1.10	0.44	0.38	0.07	0.03	0.55	0.73	1.55	0.39	0 93	0 63		2.54	0.43	0.43

1920, 1 ♂ idem, IV.1920, leg. J. G. MYERS; 1 ♂, Creek. Island Bay, 8.I.1921, leg. WALTON; 2 ♀, E. L. Tampo, 7.III.1922, leg. E. H. ATKINSON. Holotype and allotype in British Museum (Nat. Hist.); paratypes idem and in author's coll.

See also discussion on p. 106.

Saldula maculipennis sp. nov.

Description (for measurements see Table I).

Median sized, variably darkcoloured, short haired, rather slender (macropterous) or more broadly oval-shaped (submacropterous).

Head: Relatively small, black, rather shining and smooth, densely covered with short pale hairs; frons medially with slight longitudinal sulcus; light praeocellar spot broadly touching the eye; sclerites of mouthparts yellowish-brown, mand. plate and sometimes also the midpart of postclypeus and base of anteclypeus blackish.

Thorax: Pronotum black; lateral margin straight, mostly dorsally narrowly lightish, ventrally with a broad pale zone; rather smooth and shining, densely covered with short pale hairs; dome rather flat with circular impression in the centre; first acetabula whitish; rostrum brownish, extending between the hind coxae.

Wings: Hemielytra fully developed or somewhat reduced, dull, densely covered with short yellowish golden hairs, with vague pale markings on exo- and endocorium, clavus in light variants with subbasal spot in addition to the subapical one (eunomy of wing pigment, fig. 27a-j); membrane with clear brown markings.

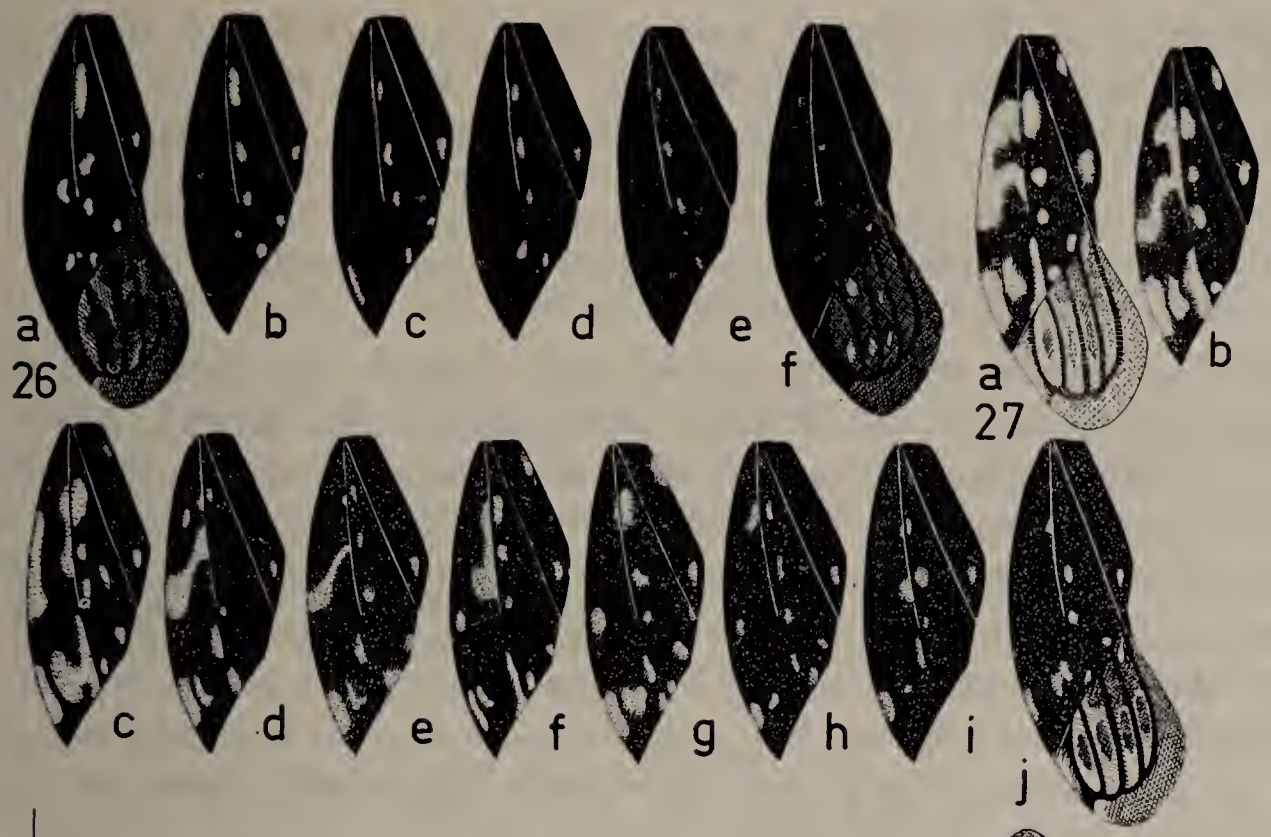
Extremities. Antennae black, segment 1 dorsally entirely or partly yellowish brown, segment 2 apically light; all segments short light pilose, segment 1 with some dark spiny hairs, segment 2 with some semi-long dark hairs half-way on the innerside.

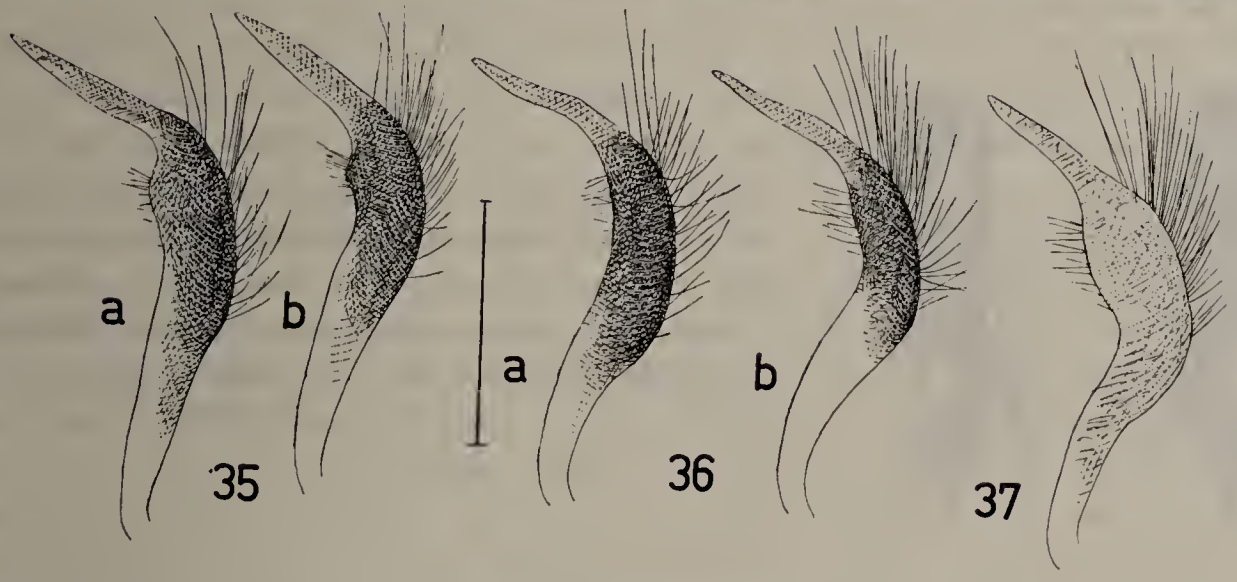
Legs, coxae dark brownish, apex lighter; trochanters light, femora light brownish, dorsally and ventrally with black longitudinal stripe on apical half, flat sides with brown spots (♂) or extended darker (♀) apically; tibiae light brownish, base and apex darker; tarsi brown, segment 2 yellowish brown; legs densely covered with very short pale hairs, dark spines on hind tibiae shorter than diameter of tibiae.

Genital and other structures: subgenital plate of female truncated distally, whitish, base narrowly black or brown. Parandria, paramere, penisfilum, median structure of endosoma, coupling plate of male as depicted (figs. 30, 36, 28, 34, 29); larval organ present.

Holotype (♂), length 4.29 mm, width 1.76 mm.
Allotype (♀), length 4.48 mm, width 2.21 mm.
Mean length of 5 ♂: 4.33 mm (max. 4.60; min. 4.12).
Mean width of 5 ♂: 1.92 mm (max. 2.10; min. 1.76).
Mean length of 16 ♀: 4.91 mm (max. 5.30; min. 4.41).
Mean width of 16 ♀: 2.26 mm (max. 2.51; min. 2.09).

Material. Holotype (♂), Allotype (♀), S. Karori, New Zealand, 13.I. 1924, leg. H. HAMILTON & T. COCKCROFT, in British Museum (Nat. Hist.). Paratypes: 4 ♂, 9 ♀, same data as type; 2 ♀, Westport, XI—XII.1901, leg. J. J.





Figs. 26, 28, 29, 31, 32, 35. *Saldula trivialis* sp.n. 26a—f, left hemielytron, showing eunomy of dark marking; 28, base of penisfilum; 29, coupling plate of male; 31, parandria; 32, median endosomal structure, a, front view, b, lateral view; 35, left paramere of two individuals a and b. Figs. 27, 28, 29, 30, 33, 34, 36. *Saldula maculipennis* sp.n. 27a—j, left hemielytron, showing eunomy of dark marking; 28, base of penisfilum; 29, coupling plate of male; 30, parandria; 33, side view of aedeagus, not expanded; 34, median endosomal structure, front view; 36, left paramere of two individuals a and b. Fig. 37. *Saldula australis* B. White, left paramere.

WALKER; 1 ♀, Waitati, 7.XII.1919; 2 ♂, Makara, 9.XI.1920; 1 ♀ Creek. Island Bay, 8.I.1921, leg. WALTON; 3 ♀, Ohahune, 1923, leg. T. R. HARRIS; 2 ♀, Wainin State, Forest, 11.XI.1923, leg. T. COCKCROFT; 1 ♂, 1 ♀, Pakuratahi R., 22.I.1924, leg. T. COCKCROFT; 1 ♂, 1 ♀ York Bay, 1.III.1924, leg. J.

G. MYERS; 2 ♀, Mt. Egmont, western slope, 28.III.1958, leg. R. A. CUMBER. Holotype and allotype in British Museum (Nat. Hist.); paratypes idem, the Ent. Divn. coll., D.S.I.R., Nelson and in author's coll.

Discussion on the New Zealand species

Seven species are now known from New Zealand, viz. *Saldula australis* (B. White), 1876; *butleri* (B. White), 1878; *laelaps* (B. White), 1878; *stoneri* Drake & Hoberlandt, 1950 and the above described three species. Besides *stoneri*, the description of which is based on one female, the types and males of the type series of the WHITE species (in Brit. Mus., Nat. Hist.) have been studied by the present author. Notwithstanding the exterior diversity of the New Zealand species, all the species (the male of *stoneri* is not yet known) have a same type of median endosomal structure (fig. 32, 34); only *S. laelaps* deviates in some characters from the rest. The status of the group will be more fully treated elsewhere in a phylogenetic study of the superfamily.

The species *S. australis* White can externally be confused with *S. maculipennis* n.sp., but it differs in the shape of the paramere (fig. 37). *S. parvula* n.sp. looks like a smaller edition of *S. butleri* White. The new species *trivialis* and *maculipennis* closely resemble each other and only the availability of a satisfactory sample has made accurate separation possible. As they apparently occur in the same localities, they probably represent sibling species, of which several examples are known in the world-wide genus *Saldula.*

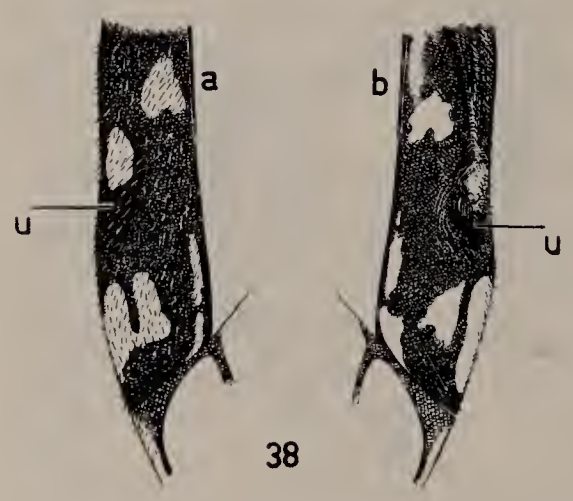


Fig. 38. *Saldula trivialis* sp.n. Part of the exocorium of female. a, dorsal view; b, ventral view. It shows the structure U, to which the male grasping plate is attached during copulation. The evolution of this key-lock-mechanism in the Leptopodoidea will be discussed elsewhere.

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Van den Brande, J., & A. Gillard, Algemene Insektenleer. Uitgeverij Vyncke, Gent, tweede uitgave 1960, 384 blz., 453 fig. Prijs 350 Belg. Fr.

Zoals uit de inleiding blijkt, is dit Belgische leerboek bedoeld voor studenten aan Universiteit en Landbouwhogeschool en als naslagwerk voor leraren. Het is te vergelijken met het lang geleden verschenen boek van OUDEMANS. Er wordt een gedegen algemeen-anatomisch overzicht gegeven, dat een 70-tal bladzijden beslaat, terwijl in een tweede gedeelte alle orden met vrijwel al de daartoe behorende inheemse insektenfamilies kort worden besproken. Het derde gedeelte bevat een determinatietabel om tot de orden te komen, waarna een grote tabel volgt waarmee men tot op de inheemse families kan determineren. Zeer te waarderen zijn de vele goede afbeeldingen van de architekt M. VAN CAENEGHEM.

In het kort enkele opmerkingen ter oriëntatie voor gegadigden voor dit boek. Fysiologische gegevens ontbreken veelal: de schrijvers volstaan voornamelijk met het beschrijven van de bouw van organen, maar ze gaan slechts oppervlakkig in op de taak, terwijl experimenteel werk in het algemeen buiten beschouwing blijft. Zo kon ik niets vinden over het vervellingshormoon, de neurosecretie, de corpora allata, om enkele voorbeelden te noemen. De determinatietabel voor de orden moet eveneens uitsluitsel geven over de larven en poppen, maar dit is zeer zeker te hoog gegrepen. De beginneling moet dan b.v. thoracaalpoten constateren aan een vlinderpop. Literatuuropgaven ontbreken geheel. Het zou zeker aanbeveling verdienen bij de orden enkele algemene werken te noemen, zodat degenen, die zich verder in een onderwerp willen verdiepen, daartoe ook in staat gesteld worden. Tenslotte komt de Noord-Nederlander vele woorden tegen in een voor hem verrassend-nieuwe betekenis (lekkend-zuigende monddelen, medelijdend zenuwstelsel e.d.). Ook voor studenten, die hun kennis over insekten uit het boek moeten putten, is de tekst echter begrijpelijk, met uitzondering dan van „imaginale botten", waar ze niet zo licht op het idee komen dit te lezen in de betekenis van uitbotten = uitgroeien.

Uit het bovenstaande zal echter duidelijk geworden zijn, dat ik dit boek, binnen de aangegeven grenzen, zeer zeker kan aanbevelen. — V. S. v. D. G.

Tentoonstelling. Van 30 juni tot 15 augustus zal in Breda de tentoonstelling „Nú..... Breda 1961" worden gehouden als manifestatie van vrije tijdsbesteding. Er is in principe ook een mogelijkheid om entomologische liefhebberij in te zenden. Wie hiervoor gevoelt kan zich in verbinding stellen met het Bureau, Park Valkenberg, Breda. — G. L. VAN EYNDHOVEN.