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Three new Marsh Beetles (Col.: Scirtidae) from New Guinea and Java

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A b s t r a c t : *Prionocyphon alexanderi* nov.sp. and *P. papuanus* nov.sp. from Papua-New Guinea and Irian Jaya, respectively, are described. Structure of the former resembles Palaearctic congeners while the latter shares many traits with Australian members of the genus. *Mescirtes javanicus* nov.sp. resembles the Indian type species of the genus. It possesses a deep sharply delimited subantennal groove, a new character distinguishing the genera *Mescirtes* and *Prionocyphon*.

K e y w o r d s : taxonomy, morphology, generic distinction, new species, Australasian, Palaearctic, *Prionocyphon*, *Mescirtes*.

Introduction

Marsh Beetles develop in various aquatic habitats, from spring runs and quiet edges of streams to marshes, pools, and protected lake shores. In Australia, certain Scirtidae live in wide water-filled insect burrows in large tree trunks rotting on moist forest floor (WATTS 2014). Some taxa enter deep groundwater (KLAUSNITZER & POSPISIL 1991). Larvae of the New Zealand genus *Veronatus* were collected in soft, water saturated soil (HUDSON 1934), their guts filled with black mud. Larvae of, e.g., the Australian *Chameloscyphon* and *Pachycyphon* may be terrestrial because the flightless females have fossorial ovipositors (WATTS 2011, ZWICK 2013a). The larval habitat of *Macrohelodes* (Australia) including some of the largest and often colourful species is unknown, same as of other genera. Two of the species described here belong to genus *Prionocyphon* which is one of several genera inhabiting phytotelmata, small water bodies that accumulate in plants, for example tree holes. The third is a species of *Mescirtes*, its habitat is unknown.

Before the type species of the (mainly) Asian genus *Mescirtes*, *M. gagatinus* MOTSCHULSKY, was redescribed (RUTA 2009) several species were erroneously placed in *Prionocyphon.* Indeed, the two genera and the Asian genera *Prionocara* and *Prionoscirtes* share several characters that were initially thought to be distinctive and characteristic of either the one or the other genus.

The conflicting characters concern, among other, the modified base and the serration of the antennae and clypeal lobes projecting forward on each side of the labrum (RUTA 2010, KLAUSNITZER 2011, ZWICK, in prep.). More or less incrassate hind femora and prolonged tibial spurs suggest the Asian taxa may be saltatorial. Because of its thickened

hind femur one species of *Mescirtes* was originally described in *Scirtes*, although with doubts (KLAUSNITZER 2005). Subtle details in the shape of serrate flagellar segments of *Mescirtes* (KLAUSNITZER 2011) may differ from *Prionocyphon.* Male genitalia of *Mescirtes* appear to be distinctive, but *Prionocyphon* is amazingly diverse in these structures (e.g., WATTS 2010, RUTA 2010, KLAUSNITZER 2012b, ZWICK in prep.). A previously undescribed deep antennal furrow discovered in the present new *Mescirtes* clearly distinguishes it from *Prionocyphon*, probably also in females.

Material and methods

The specimens were borrowed from Staatliches Museum für Naturkunde Stuttgart, Germany (SMNS) and the Australian National Insect Collection (ANIC, Canberra), respectively. The dry material was relaxed, the abdomen removed, cleared in cold KOH, dissected and mounted in Euparal on small plastic plates pinned with the specimens. A Wild M5A dissecting microscope and a Leica DMLS compound microscope provided with drawing tubes were used in the study. Digital photographs were taken with a Canon Eos mounted on the scopes and enhanced with Zerene Stacker software.

Lists of materials are verbatim copies of the specimen labels, backslashes separate several labels on the same pin.

Abbreviations:

BL ..... body length (= combined length of prothorax + elytra)

BW ..... maximum body width

HCW ..... head capsule width across eyes

PW ..... maximum width of pronotum

S, T ..... sternite or tergite, respectively, with corresponding ordinal number of the morphological abdominal segment

SAR ..... supraantennal ridge

SGR ..... subgenal ridge.

Measurements are in mm.

Taxonomic Part

***Prionocyphon alexanderi* nov.sp. (Figs 1-9)**

Holotype ♂: Papua New Guinea: Morobe 1000-1300m 13.10.1992 leg. A. Riedel (SMNS).

Habitus. Almost hemispherical, rounded and strongly domed, BL 3.8mm, BL/BW ~1.4, PW corresponds to 87%, HCW to 50% of BW. Punctures on head, pronotum and scutellum very fine and widely spaced, on elytra coarse and very dense, about 1 diameter apart. Head, pronotum, scutellum and antennae orange-red, legs brown, elytra black except caudal fifth orange. All of dorsal side covered with semi-erect whitish hairs (Fig. 1).

Frontoclypeus with straight front edge, no projecting lobes. Eyes large, bulging. Mandibles not studied, maxillary palpus unmodified, last segment of labial palpus inserting at right angle near middle of the transversely extended penultimate segment.

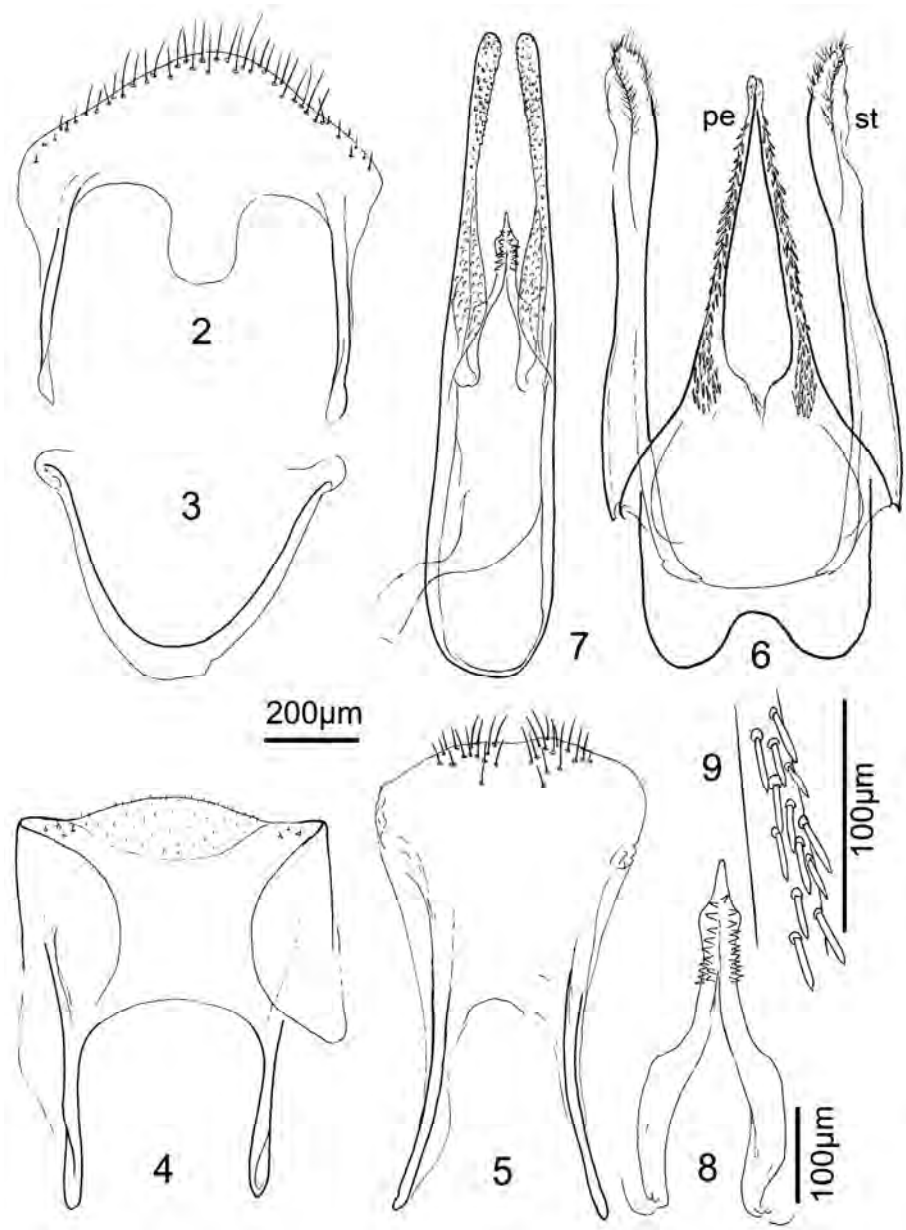
Fig. 1: *Prionocyphon alexanderi* nov.sp.: male, habitus, dorsal.

Antenna with large flat scape, the small tubular pedicel inserted on the sharp edge of the scape. Antennomere 3 minute, looking like an annulus at the base of antennomere 4. Antennomeres 4-7 strongly, 8 moderately serrate, 9-11 about tubular (Fig. 1). SAR ending where it meets the eye, not descending in front of the eye. The wide area between eye and edge of oral cavity shallowly concave. End of SGR on lower face of head slightly raised, separated from edge of oral cavity by a small gap ("buttonhole configuration", ZWICK 2013b), not connected to the edge of the oral cavity, nor to other ridges and sutures. Prosternal process and mesoventral groove not studied. Abdomen unmodified, all sternites densely covered with strong socketed hairs, no obvious sensilla except a few along the front edge of S3. Density of pilosity does not differ between sternites.

Male. T8 with wide plate, a large forward directed tongue-shaped lobe between the straight apodemes. Caudal margin triangular, setal fringe near middle very long (Fig. 2). S8 large, a wide U-shaped sclerite, no setae (Fig. 3). Apodemes of T9 closer together, connected by a sclerite arch. Plate unpigmented, very wide, its sides partly folded mediad. Caudally stand a few very fine setae on either side of a transverse soft field covered with weak microtrichia (Fig. 4). S9 long and slender, with strong concave sclerite strips supporting the caudally widening plate. A tuft of long setae on either side of midline, near caudal margin (Fig. 5).

Tegmen (Fig. 6) with bilobed wide base, the sclerotized area about as long as wide, narrowing caudally and supporting two slender caudally tapering straight parameres. Their soft tips bear some sensory pores, converge, and meet. On the outside the parameres bear numerous thick socketed spines, the mesal edge is smooth. Each spine is parallel over most of its length and apically pointed. In front, spines form an oval patch on the base of the paramere. Near the widest point of the tegmen insert exceptionally strong and long styles whose distinct sclerotized bases curve mediad. Each style is about tubular, with a weak constriction near middle. Apex gently curved outward, outer face with a soft membranous subterminal area. A fringe of long hair-like microtrichia along medial edge takes a hairpin bend at the apex and continues forward for a short distance along a low middle rib.

Penis long and slender, parallel over 2/3 of its length, the slender parameroids converge a little (Fig. 7). A basal lobe of the parameroid extends slightly mediad, over the basal arm of the trigonium. The parameroids are slightly waisted near middle and end in narrow



Figs 2-9: *Prionocyphon alexanderi* nov.sp., male terminalia: (**2**) T8; (**3**) S8; (**4**) T9; (**5**) S9; (**6**) tegmen with parameres and styli; (**7**) penis; (**8**) trigonium, enlarged; (**9**) detail of armature on paramere. 2-7 to the same scale. pe, paramere; st, stylus.

flat lobes. Along the medial face the parameroids are covered with flat rounded scales. These are directed backward on the wide basal lobes, are unordered at the narrowest point of the parameroid and point forward on the narrow caudal section. The basal arms of the trigonium converge and meet, forming a parallel sclerite with subterminal triangular expansions and ending in a slender cone (Fig. 8). Ventrally, the distal part of the trigonium bears two irregular rows of strong pointed cones giving it a serrate appearance (Fig. 9). Base of endophallus (Fig. 7) without visible armature. Soft endophallus tissue seems to fill the entire space between the trigonium and the long parameroids.

Female. Unknown.

Notes. There are several colourful *Prionocyphon* species, *P. alexanderi* resembles none of them. Details of genitalia differ clearly from all congeners. *Prionocyphon alexanderi* is more similar to the Holarctic congeners (NYHOLM 1971, YOSHITOMI 2005, KLAUSNITZER 2009) than to the Taiwanese species (RUTA 2010, YOSHITOMI 2010). The forward extension of T8 and the bilobed base of tegmen resemble *P. serricornis* (MÜLLER, 1821) and the other west-palaearctic species. No Holarctic species seems to have styles, but the "Seitenplättchen" or "Lateralgriffel" which NYHOLM (1971, 1972) described are their homologues; see ZWICK (in prep.) Styles occur in neotropical *Prionocyphon* species (KLAUSNITZER 2012b), in *P. papuanus* nov.sp., and in many Australian *Prionocyphon* (WATTS 2010, ZWICK in prep.). However, the complex structure and the strength of the styles of *P. alexanderi* (Fig. 8) are unique.

Etymology. Named for ALEXANDER RIEDEL who collected not only this specimen but many other Scirtidae (ZWICK 2014) in Irian Jaya.

***Prionocyphon papuanus* nov.sp. (Figs 10-12)**

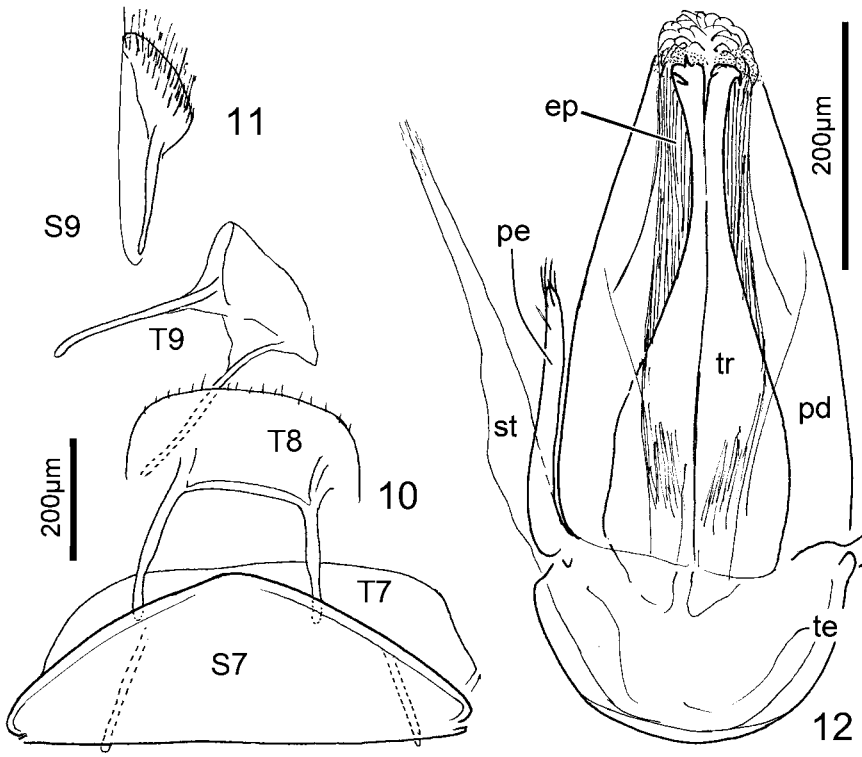
Holotype ♂: Irian Jaya: Jayawijaya Langda 27.-28.8.1992 leg. A.Riedel 2100-2300m (SMNS).

Habitus. BL 2.2mm, BL/BW ~1.5, HCW corresponds to 51% of BW. Regularly oval, fairly flat. Dorsal surface light brown, legs and antennomeres 1-3 yellowish, antennomeres 4 and 5 infuscate, more distal segments missing. Normal punctures on entire surface, those on head and pronotum equal, finer than on elytra. Pilosity semi-erect, a bit shaggy, yellowish.

The front of clypeus is straight in the middle above the labrum. On each side of the labrum the clypeus forms a rounded plate extending forward next to the flat scape which is distinctly larger. Scape flat, with sharp front edge. Pedicel small, inserted under the edge of the scape. Antennomere 3 minute, 4 (which tends to be the most slender antennal segment) only about twice as long as wide, antennomere 5 shorter and stouter, both with round cross section, neither flattened nor serrate. SAR ending where it meets the eye.

Lower face of head and thorax typical of the genus, head with small but distinct buttonhole-configuration. Prosternal process slender, about drop-shaped. Receiving mesoventral groove wide, U-shaped.

Pilosity differs between abdominal sternites. It is sparse and mainly composed of small sensilla with large insertion ring on S3. S4 bears a mixture of normal setae and sensilla. Numbers change successively on posterior sternites, S7 is densely covered by only setae. T7 is caudally wider than S7 and has two short apodemes. It bears the spiracle and is largely covered with hair-like microtrichia directed mediad on the sides, caudad along a middle strip. Near the caudal edge, much finer microtrichia are directed backward, forming



Figs 10-12: *Prionocyphon papuanus* nov.sp., male: (**10**) ventral view of abdominal tip, segments 8 and 9 protracted; (**11**) S9, half missing; (**12**) tegmen and penis, superimposed. 10, 11 to same scale. ep, endophallus; pd, parameroid; pe, paramere; st, stylus; te, tegmen; tr, trigonium.

a dense fringe along the edge. Very small true hairs with insertion rings are interspersed in this caudal region.

Male. T8 with short nearly straight stout apodemes connected by a strong basal sclerite, plate transverse, short. Caudal half and rear edge covered with microtrichia and minute socketed setae, a few longer setae along edge. S8 not developed. Apodemes of T9 more slender, converging but not connected. Plate entirely membranous, pale, hairless (Fig. 10). S9 (half missing, Fig. 11) with slender base supported by paired sclerites, caudal half tongue-shaped, medially divided, densely covered with setae.

Tegmen and pala connected, forming a single compact ovoid structure with re-enforced rounded front edge (Fig. 12). Parameres and styli originate laterally in the basal fourth at the level where trigonium and parameroids also originate. The parameres are slender sinuous rods with some apical setae, the styli are weak, long and straight processes with apical microtrichia-like frazzles. The contour of the large parameroids determines the ovoid overall shape of the genitalia. The parameroids wrap around the base of trigonium, caudally they lie along its sides. The trigonium is a flat bottle-shaped structure. The truncate narrow apex is divided, each lobe slightly extended sideways and beset with

single large conical teeth. The endophallus shines through the base of the trigonium. On each side appears a pack of dense slightly divergent folds, possibly colourless slender teeth. More distally the endophallus is exposed on either side of the narrow part of trigonium. It shows numerous very delicate parallel folds (Fig. 12 is diagrammatic in this respect !) which curve at the top where they are oriented centripetally, apparently around the terminal opening.

Female. Unknown.

Notes. The frontoclypeal lobes are shared with Australian *Prionocyphon* species (for illustrations, see WATTS 2010, ZWICK in prep.) but also with other genera, e.g., *Mescirtes*. Several of the Australian species also exhibit an intimate connection between tegmen and penis, and an armed endophallus with visible caudal opening (ZWICK, in prep.). The pattern of abdominal pilosity is close to the heterogenous pattern of many Australian species. In Table 1 of ZWICK (in prep.) the new New Guinean species would stand a few lines beneath *P. storeyi* WATTS, 2010.

Etymology. The species name is an adjective describing the origin of the beetle.

***Prionocyphon* sp.**

1♀: Irian Jaya: Iba 1300m 7.-8.IV.1993 leg. A. Riedel (SMNS).

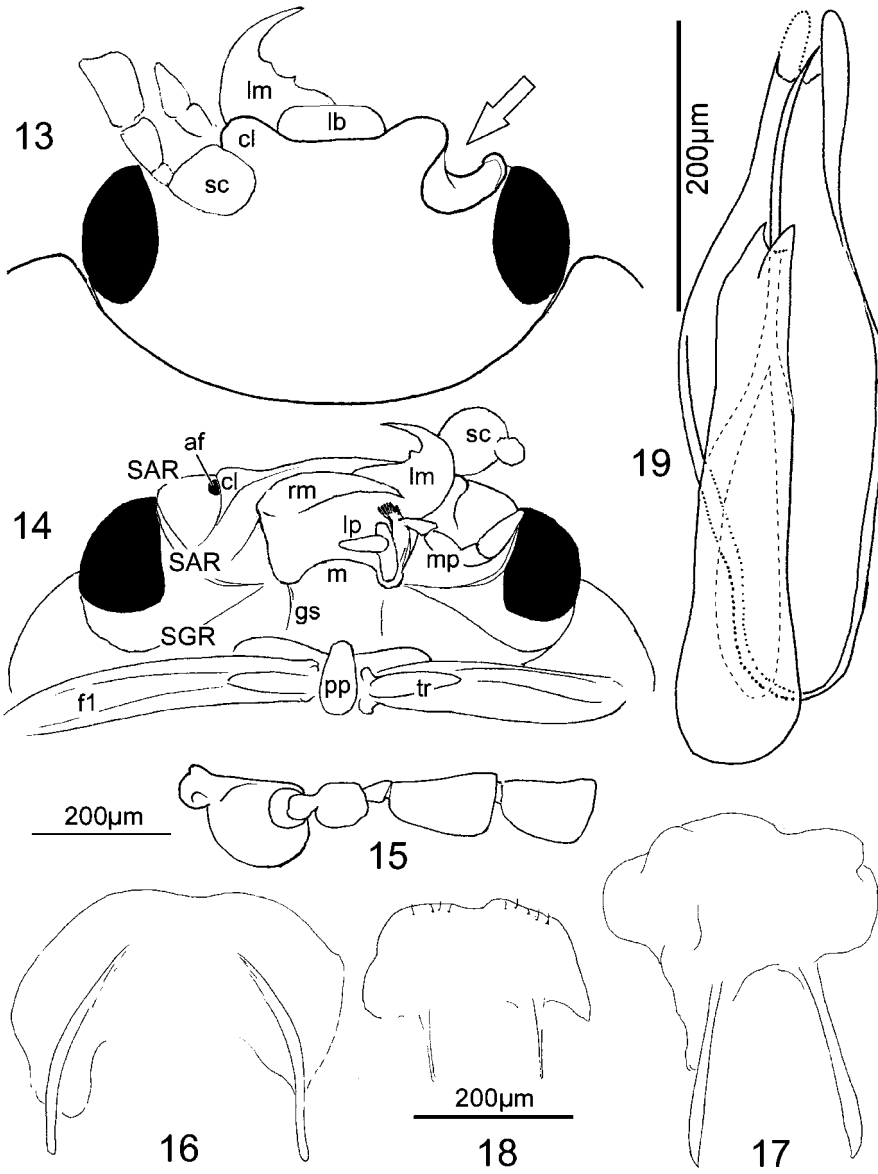
Slightly larger than *P. papuanus* sp. n., BL 2.6mm, otherwise similar, also the stout antennae (antennomeres 7-11 missing). Differs by an exceptional density of sensilla with large insertion point on all abdominal sternites. On S3 sensilla almost replace, on S4 they outnumber normal setae. They are still abundant on S5, some even occur in the anterior portion of S6. In male *P. papuanus* as well as in similar Australian species S5 and S6 are void of such sensilla. The genitalia (damaged; on pinned microslide) are unmodified, vulvar or bursellar sclerites not visible, bursella a crumpled sac without special surface structures.

***Mescirtes javanicus* nov.sp. (Figs 13-19)**

Holotype ♂: Java: Gn. Gede-Pangrango NP ca 5km SW Cipanas 14-16.Oct. 1991, C. Reid, D. Subasli \ under leaves, trees & bushes rainfor. By ravine ca. 1400-1550m (Left elytron and hind legs missing; ANIC).

Habitus. Stout and strongly domed, almost hemispherical. BL 2.2mm, BL/BW ~1.3. Head wide (Figs 13, 14), HCW corresponds to ~53% of BW. Head, pronotum, lower face and appendages light orange-brown, elytra chocolate brown, the caudal fourth abruptly light orange-brown. Colour of scutellum orange-brownish. Entire surface with fine semi-erect silvery pilosity. Punctures on elytra very fine and dense, still finer on pronotum, almost imperceptible on head, except on the projecting clypeal lobes where a few large shallow punctures occur. Clypeal fore margin straight in middle above labrum (lb) but curving forward and outward laterally, forming rounded lobes that are smaller than the neighbouring flat scape (Fig. 13, sc).

Antenna distinctly serrate (Fig. 15). Scape disc-like, with sharp outer edge, lower face flat, upper convex. Pedicel spherical, inserted on the edge of scape. Antennomere 3 minute, no more than a tranverse ring at the base of antennomere 4 which has a very narrow base and is slightly concave on the outside, widening quickly on inner side, distal



Figs 13-19: *Mescirtes javanicus*, nov.sp., male*:* (**13**) head, dorsal view, right scape removed to expose subantennal groove (arrow); (**14**) ventro-caudal view of head and part of prothorax; **(15)** base of right antenna, ventral view; (**16**) T8; 17, T9; 18, S9; 19, penis and tegmen. 13, 14 not to scale, diagrammatic; 16-18 to the same scale.

af, antennal foramen; cl, clypeal lobe; f1, front femur; gs, branch from gular suture; lb, labrum; lm, rm, left and right mandible; lp, labial palpus; m, mentum; mp, maxillary palpus; pp, prosternal process; SAR, supraantennal ridge; sc, scape; SGR, subgenal ridge; tr, trochanter.

half about parallel, half as wide as long, truncate at apex, inner corner blunt. Distal antennomeres successively less wide, the terminal one about rectangular and 3x as long as wide.

Left mandible with sharp slender tip, a small denticle near midlength, the wide molar area smooth, flat (Fig. 13). Right mandible concealed. Maxillary palpus with simple conical end segment, terminal segment of labial palpus standing at right angle near midlength of 2nd segment (Fig. 14).

Front and middle legs unmodified, hind legs missing.

Lower face. There is a deep, wide subantennal groove (Fig. 13, arrow) with smooth impunctate floor between the eye and the ventrally projecting mouthparts. The antennal foramen is in vertical position, at the top end of the groove (Fig. 14). The groove is visible only from below, the large scape hides it in front. The sharp edge of the groove is formed by the SAR which continues downward in front of the eye (Fig. 14) and forms a shallow sharp pre-ocular crest. On the lower face of the head the SAR curves mediad towards the edge of the oral cavity. The SGR runs on the underside of the head over most of its length, far from the eye. Its front end curves mediad towards the oral cavity and ends closely behind the SAR. The ends of the two ridges include a triangular area between them (Fig. 14).

Prosternal process an elongate plate with rounded front margin, widening backwards, caudally rounded (Fig. 14). Mesoventral groove a wide U-shaped depression. Mesoventral process wide, not longer than the groove in front of it, caudally distinctly incised.

Abdominal sternites unmodified, S3 without mesal longitudinal ridge. Fine pilosity present only in middle, areas above femora bare. S4 and S5 completely covered with setae, a row of setiform sensilla only along front edge. Density of pilosity increases slightly on S6 and further on S7, both lack sensilla. S7 caudally with indistinct shallow notch.

Male. Tergite 8 completely membranous and bare, short and transverse. Only the short caudally inward curved apodemes are pigmented (Fig. 16). Sternite 8 is a U-shaped very weak sclerite, hard to see (not illustrated). Apodemes of T9 longer than of T8, straight, pigmented, the bare soft plate is transparent, no defined shape (Fig. 17). At 400x, faint traces of longitudinally oriented microtrichia appear. Of S9 only the transverse distal portion and some vague shades of parallel sclerite stripes are visible. Caudal edge of plate with a few short setae (Fig. 18).

Tegmen an elongate-oval plate, caudal third much narrower than rest and divided into two short lobes, the parameres (Fig. 19; one paramere damaged). Penis slender, front end widest, gradually narrowing caudally, caudal sixth almost conical, end divided into two short sharp-tipped lobes. Between them rises a slender flagellum-like process whose end rests between the parameres. By transparency it is seen to be formed by convergent and eventually merging sclerite strips on the dorsal side of the penis tube (Fig. 19).

Female. Unknown.

Notes. The genitalia of the present species are very similar to *M. gagatinus* MOTSCHULSKY (from India or Ceylon; see RUTA 2009: figs 46-51) and *M. laosensis* YOSHITOMI et SATÔ. RUTA (2009) wondered about possible synonymy between these two uniformly dark species. *M. javanicus* differs clearly by its bicolorous body. In colouration, the new species resembles *M. rutilicollis* KLAUSNITZER, 2012a but the reddish area at the end of the elytra is several times larger, and the genitalia are clearly different.

The previously undescribed deep subantennal groove is an additional character separating *Mescirtes* from *Prionocyphon*. *Mescirtes gagatinus* apparently has a similar clypeus but RUTA (2009) mentioned no antennal groove. *Prionocyphon papuanus* and the Australian species of *Prionocyphon* with prominent clypeal lobes (ZWICK, in prep.) have no such groove, the wide space between eye and mouthparts is nearly flat.

Etymology. Named after the island of origin, an adjective.

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References

HUDSON G.V. (1934): New Zealand beetles and their larvae. An elementary introduction to the study of our native Coleoptera. — Wellington: Ferguson & Osborn, 236 pp.

KLAUSNITZER B. (2005): Eine neue Art der Gattung *Scirtes* ILLIGER, 1807 aus Thailand (Col., Scirtidae). — Entomologische Nachrichten und Berichte **49**: 185-189.

KLAUSNITZER B. (2009): Insecta: Coleoptera: Scirtidae. — Süßwasserfauna von Mitteleuropa 20/17. Heidelberg: Spektrum Akademischer Verlag, XIV + 326 pp.

KLAUSNITZER B. (2011): Beschreibung von *Prionocara* n.gen. aus der Orientalischen Region (Coleoptera, Scirtidae) (165. Beitrag zur Kenntnis der Scirtidae). — Entomologische Blätter **107**: 65-76.

KLAUSNITZER B. (2012a): Neue Arten von *Mescirtes* MOTSCHULSKY, 1863 aus Südostasien (Coleoptera: Scirtidae). — Entomologische Zeitschrift Stuttgart **122**: 69-74.

KLAUSNITZER B. (2012b): Zur Kenntnis der Gattung *Prionocyphon* L. REDTENBACHER 1858 sensu lato (Coleoptera, Scirtidae) aus Südamerika (181. Beitrag zur Kenntnis der Scirtidae). — Linzer biologische Beiträge **44** (2): 1177-1194.

KLAUSNITZER B. & P. POSPISIL (1991): Larvae of *Cyphon* sp. (Col., Helodidae) in Ground Water. — Aquatic Insects **13**: 161-165.

MÜLLER Ph.W.J. (1821): Neue Insekten, beschrieben von Ph. W. J. Müller. — Magazin der Entomologie. Herausgegeben von E. F. Germar (Halle) **4**: 184-230.

NYHOLM T. (1971): Beiträge zur Kenntnis der paläarktischen Helodiden 2. Bemerkungen über die Gattung *Prionocyphon* REDTB. Mit Beschreibung zweier neuer Arten aus dem Mittelmeergebiet Studien über die Familie Helodidae. XII. — Entomologisk Tidskrift **92**: 28-42.

NYHOLM T. (1972): Zur Morphologie und Funktion des Helodiden-Aedoeagus (Col.). — Entomologica Scandinavica **3**: 81-119.

RUTA R. (2009): Revision of Scirtidae (Insecta: Coleoptera) described by Victor Ivanovitsch Motschulsky. — Zootaxa **2210**: 26-50.

RUTA R. (2010): Two new species of *Prionocyphon* REDTENBACHER from Taiwan (Coleoptera: Scirtidae), with notes on *Prionocyphon*, *Mescirtes* MOTSCHULSKY and *Prionoscirtes* CHAMPION from East and Southeast Asia. — Zootaxa **2402**: 52-60.

WATTS C.H.S. (2010): Revision of Australian *Prionocyphon* REDTENBACHER (Scirtidae: Coleoptera). — Transactions of the Royal Society of South Australia (2010) **134**: 53-88.

WATTS C.H.S. (2011): Revision of Australian Scirtidae of the Genera *Chameloscyphon* Gen.Nov., *Daploeuros* Gen.Nov., *Dasyscyphon* Gen.Nov., *Eurycyphon* Gen.Nov., *Macrodascillus* CARTER, *Petrocyphon* Gen.Nov. and *Spaniosdascillus* Gen.Nov. (Coleoptera). — Transactions of the Royal Society of South Australia **135**: 66-110.

WATTS C.H.S. (2014): The larvae of some Australian Scirtidae (Coleoptera) with a key to known genera. — Transactions of the Royal Society of South Australia **138**: 1-91.

YOSHITOMI H. (2005): Systematic revision of the family Scirtidae of Japan, with phylogeny, morphology and bionomics (Insecta: Coleoptera, Scirtoidea). — Japanese Journal of Systematic Entomology, Monographic Series **3**: 1-212.

YOSHITOMI H. (2010): A new species of *Prionocyphon* from Taiwan (Coleoptera: Scirtidae: Scirtinae). — Acta Entomologica Musei Nationalis Pragae **50**: 529-533.

YOSHITOMI H. & M. SATÔ (2003): Scirtidae of the Oriental region, Part 3. A new species of the genus *Prionocyphon* (Coleoptera: Scirtidae) from Laos, with a world check list of the species. — Entomological Review of Japan **58**: 187-190.

ZWICK P. (2013a): Australian Marsh Beetles (Coleoptera: Scirtidae). 2. *Pachycyphon*, a new genus of presumably terrestrial Australian Scirtidae. — Zootaxa **3626**: 326-344.

ZWICK P. (2013b): Australian Marsh Beetles (Coleoptera: Scirtidae). 3. A restricted concept of genus *Cyphon*, Australian species of *Cyphon* s.str., and the new Australasian genus *Nanocyphon*. — Genus **24**: 163-189.

ZWICK P. (2014): Australian Marsh Beetles (Coleoptera: Scirtidae). 5. New species of genus *Cyphon* (s.str.), and *Papuacyphon* gen.nov. from New Guinea. — Stuttgarter Beiträge zur Naturkunde, Neue Serie **7**: 131-152.

ZWICK P. (in prep): Australian Marsh Beetles (Coleoptera: Scirtidae). 9. *Ypsiloncyphon* (*Dictyocyphon*) n. subgen., additions, mainly to *Petrocyphon* and *Prionocyphon*, and a generic key. — Zootaxa, submitted.

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