Linzer biol. Beitr.	50/1	461-536	27.7.2018
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# New oriental *Oedichirus* (Staphylinidae, Paederinae, Pinophilini)

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A b s t r a c t : New geographical records are given of described species of *Oedichirus* ERICHSON, 1839 from the *Oriental* Region, and the following thirty-seven new species are described: *O. angusticeps* nov.sp., *O. balnearius* nov.sp., *O. bowringi* nov.sp., *O. brlensis* nov.sp., *O. cardamomensis* nov.sp., *O. coorgensis* nov.sp., *O. falcifer* nov.sp., *O. formosanus* nov.sp., *O. guomindangi* nov.sp., *O. hochimin* nov.sp., *O. javanicus* nov.sp., *O. kochangensis* nov.sp., *O. lanaensis* nov.sp., *O. laoticus* nov.sp., *O. latus* nov.sp., *O. lucabosmontis* nov.sp., *O. mahanuvaraensis* nov.sp., *O. mediosiamensis* nov.sp., *O. muluensis* nov.sp., *O. mutilus* nov.sp., *O. nepalensis* nov.sp., *O. palawanensis* nov.sp., *O. patcholatkoi* nov.sp., *O. philippinus* nov.sp., *O. rufulus* nov.sp., *O. strictipennis* nov.sp., *O. shibatai* nov.sp., *O. sihanouki* nov.sp., *O. sindicus* nov.sp., *O. strictipennis* nov.sp., *O. tempestivus* nov.sp., *O. torajah* nov.sp., *O. uncifer* nov.sp., *O. vexans* nov.sp., *O. viduasinae* nov.sp. and *O. vulcanus* nov.sp.. A few other new species are recorded and included in keys but not named for want of sufficient reliable distinguishing characters.

Oedichirus schultheissi FAUVEL, O. idae SHARP and O. excellens CAMERON are designated junior synonyms of O. longipennis KRAATZ, and O. dimidiatus EPPELSHEIM a junior synonym of O. alatus NIETNER. New species are illustrated, as are for the first time, O. alatus NIETNER, O. birmanus FAUVEL, O. minor CAMERON, O. niger CAMERON, O. pendleburyi CAMERON, O. ruficeps KRAATZ and O. rufotestaceus BERNHAUER.

Identification keys are given to the species of *Oedichirus* of the *O. Alatus group*, of Borneo, of Thailand and of southern India. A check-list of the currently valid Oriental species is appended.

K e y w o r d s : Staphylinidae, Oedichirus, Oriental Region, new species.

## Introduction

This work began as one of a series of short papers intended to document my collection by recording beetles gathered in the course of my forays into the field in the last five decades, including twelve new species of *Oedichirus*. The project was then greatly expanded to describe new species found in the world's major collections. As it stands the present work, based on the study of 302 specimens, amounts to a revision of the Oriental fauna of the genus. Other specimens from Africa, Madagascar, the Papuan Region and New Caledonia were also studied, but the results are now to be published in separate papers.

The genus Oedichirus occurs in all major zoogeographic regions except the Nearctic: it

was known from the Palaearctic region (Mediterranean: 8 species, Central Asia: 1 species), the Neotropical (28 species), the Oriental (22 species), New Guinea (8 species) and Australia and New Caledonia (13 species), but with the greatest concentrations in the Afro-tropical Region (182 species) and Madagascar (108 species, all endemic) and the Comoro Islands (1 species). The present paper adds 42 new species (37 described and named herein) to the fauna of the Oriental Region, while 4 published names are removed through synonymy.

## Diagnostic characters:

Lateral border of the pronotum: FAGEL (1970) and LECOQ (1986) separated the many African and Lemurian species of *Oedichirus* into three groups according to the conformation of the lateral margin of the prothorax: whether this line is entirely or incompletely bordered (in the form of a longitudinal elevation or carina) or devoid of a border. Their group I includes micropterous species with a fully bordered margin; group II micropterous species with an incomplete border, present only anteriorly and obsolete posteriorly; group III macropterous species with an abdominal palisade fringe and entirely unbordered lateral line. FAGEL believed that group I represents the most primitive form, group II an evolutionary intermediate form and group III the most highly evolved form. This interpretation of evolutionary sequence seems unlikely, microptery and the loss of functional wings being on the contrary a derived, state. This character state had not been noted for any of the hitherto described Oriental species; I record it here for species I have examined. This lateral line is often difficult to perceive, and I have found FAGEL's correlation with wing development to be inconsistent where the Oriental fauna is concerned.

The more or less strongly transverse head has a post-ocular border extending from the base near the neck to near the lower hind margin of eye. This border is formed by a series of punctures in a furrow, the inferior margin of the furrow usually carinate and often forming a protruberent dentiform temporal angle.

The two principle types of elytra, elongate with marked humeral angles, or shorter, with obsolete angles, is usually but not always associated respectively with fully developed and functional hind wings or with microptery and flightlessness. A few species with elongate elytra are flightless, but in such species the elytra are less convex, are depressed anteriorly, and there is some reduction of the humeral angles; conversely, some species with short elytra and reduced humeral angles may be winged, but in these species the elytra are large, broad and convex.

The puncturation of abdominal tergites of all species of *Oedichirus* is either one of two distinct types: in the first the punctures are arranged in discrete transverse rows separated by impunctate areas; in the second the punctures are disposed randomly on the entire surface of the tergite; the type of puncturation is not correlated with the size of elytra or with any other discernible character. When describing species with transversally aligned punctures authors (e.g. CAMERON 1931, vol II, page 29) have made distinctions between ones with two, three or four rows of punctures; such distinctions are a matter of interpretation, according to whether the first row, which may merge with the depressions between the short longitudinal keels at the base of each tergite, or the last row, which consists usually of smaller punctures along the posterior margin of tergite, are counted.

Microsculpture: the majority of Lemurian species, all of them micropterous, and some African and New Caledonian species, have very strong reticulate microsculpture, especially on the head, that gives the integument a matt or shagreened appearance; none of the Oriental or Papuan species has such microsculpture, although a few have faint reticulation on the fore-body and many have microsculpture on parts or the whole of the abdomen. Microsculpture often occurs on the abdominal sternites, and is dense on abdominal tergite II, as can be seen when this is exposed by the unusually short elytra of some species, but these areas of microsculpture have not been recorded in the descriptions below.

Pubescence: many *Oedichirus* from all zoogeographical regions have long erect, dark or pale pubescence that is particularly conspicuous on the abdomen; other species have shorter pubescence that may be semi-erect or decumbent; yet others, for instance in New Caledonia, are almost glabrous, or they may bear very dense short erect pubescence.

HERMAN (2012) first observed and described a diagnostic character for females of this genus: the "vulvar plate". Whereas in other Staphylinidae the female genital aperture is situated at the tip of the abdomen, between the ninth tergite and sternite, in *Oedichirus* the vulva has been displaced to the anterior half of sternite IX. Examination requires prior dissection to extract the sternite from urite VIII. The electron scanning images provided by HERMAN showing the diversity of forms of the structure with great clarity give convincing evidence of the diagnostic value of the character; photographs are less satisfactory as they do not show the microsculpture of the plate in comparable detail; it is not yet known how much intra-specific variability there may be in the structure. Presumed inter-specific differences are seen not only in the vulvar plate itself but in the shape of the surrounding median gonocoxal plate. The female ninth sternite is illustrated by photographs for most species in the present paper.

Aedoeagus: the conformation of the aedoeagus in *Oedichirus* has been described elsewhere (FAGEL 1970; HERMAN 2012). The aedoeagus includes paired parameres, which are sometimes more or less fused to the median lobe and may be invisible, but usually freely articulated; they are more or less asymmetrical, usually very slender, but sometimes the left paramere is short and lamellate, or wanting; the parameres do not bear setae. The inner sac of the basal bulb/median lobe (seen extruded in Fig. 43arl) contains often numerous, heavily sclerotised struts, spines or denticles that no doubt would provide valuable diagnostic characters but have not been described. The strongly sclerotised walls of the median lobe make it impracticable to observe these structures in resting position by translucence.

Measurements of total body lengths are more reliable in this genus than in many Staphylinidae, because the abdominal segments, being devoid of laterosclerites, cannot expand or contract in diameter and telescope into one another (apart from segment IX into VIII), and so the abdomen is always fully extended.

T y p e l a b e l s: confusion in the identity of types of many insect species has been caused by museum curators who, in good faith, affixed their museum's own type labels (in the case of the NHML circular labels with coloured borders: red for holotype, yellow for paratype, etc.) to specimens previously labelled 'Type' by the original author, to many undesignated syntypes, and also to others 'in litt.' that were never described. Examples of the latter case in material from the Natural History Museum in London studied below include 'holotypes' of "Palaminus immanis Fvl." and "Oedichirus borneensis

Bnh" (both *Oedichirus wallacei* nov.sp.); 'holotypes' of "Oedichirus rufopiceus Bnh." and "Oedichirus malaccanus Fvl." (both *O. pendleburyi* CAMERON), a 'holotype' of "Oedichirus andrewesi Fvl." (*O. niger* CAMERON), and a 'holotype' of "O. elegans Cam." (*O. alatus* NIETNER). The Bernhauer collection in Chicago houses a 'Typus' of "philippinus Brh" (*O. philippinus* nov.sp.) and 'Typus' of "palawanensis Brh" which remains undescribed.

B i o n o m i c s: *Oedichirus*, like other paederines, are predators. Their gracile, long-limbed bodies are not suited to burrowing in leaf litter or soil; individuals are most commonly observed ambulating rather slowly on the surface of the ground; like many other staphylinids with strongly bi-lobed 4<sup>th</sup> tarsomeres they are also climbers, found on low herbaceous plants and sometimes, like their close relatives *Palaminus*, in the canopies of forest trees; in New Caledonian forests Geoff Monteith (personal communication) collected many specimens by spraying mossy tree trunks with pyrithrin. Fully winged species are often taken at light. Nothing is known of their preferred prey. *Oedichirus* are almost always found as single individuals, never in congregations around concentrations of a source of food, so they probably hunt other free-moving arthropods encountered in the course of their wanderings.

D is tribution of the genus in Asia: members of the genus *Oedichirus* are now known from all major areas of south and south-east Asia and the Malay Archipelago. Rather surprisingly, only four species have been found in the Philippine Republic, one on Mindoro and three on Palawan; it may be noted moreover that Palawan is not zoogeographically part of the Philippine subregion, but of Sundaland, with a fauna akin to that of Borneo. As would be expected, flightless species are localised, often on islands or in mountains, sometimes at very high altitudes; only a few alate species are now known to be geographically widespread.

Definitions of zoogeographical regions and sub-regions: I do not follow the interpretation used in Löble & SMETANA's catalogue (2004), in which Japan and the whole of China are included in the Palaearctic Region. In the present series of studies SW Arabia (Yemen) is considered to be part of the Afrotropical Region; Japan and China are included in the Oriental Region, although both have a large admixture of Palaearctic elements; Papua (New Guinea and neighbouring islands) is treated separately from both the Oriental and Australasian Regions, and New Caledonia, also treated separately, is deemed to be, albeit only marginally, part of the the latter.

## Material and methods

A few of the specimens studied in this paper were collected by the author; the rest of the material was borrowed from the museums and individuals listed below, and, with the exception of a few doubles or paratypes, has been returned to the respective collections. Measurements were made using a VMZ 1x-4x microscope with an eye-piece micrometer, and all measurements are given in millimetres. The length of fore-body is measured from the front of the clypeus to an imaginary line drawn between the hindmost point of each elytron (the length measured along median axis to the apex of suture being shorter). The length of an elytron is drawn along a line drawn from the anterior to the posterior margins half way between the suture and the lateral margin. In descriptions of details of

the aedoeagus and of abdominal sternites figured in ventral view, so the 'right' (paramere, tooth, apico-lateral angle, etc.) is that which appears on the left in the image. In the lists of material of each species given below words on labels are recorded verbatim; a forward slash (/) is used to separate text on different labels affixed to specimens; square brackets ([...]) enclose comments, not words printed on the labels.

# Acronyms of depositories:

## **Systematics**

Species are listed in alphabetical order, without regard to kinship.

## Oedichirus alatus NIETNER (Figs 1)

Oedichirus alatus NIETNER, 1857: 247

Oedichirus dimidiatus EPPELSHEIM, 1890: 280 NEW SYNONYMY

Oedichirus alatus CAMERON, 1932: 27

Oedichirus dimidiatus CAMERON, 1932: 27

Oedichirus dimidiatus BISWAS & BISWAS, 2000: 117

M a t e r i a l  $\,$  s t u d i e d :  $\,$  Type [pinned]: Ceylon Nietner / Oedichirus alatus Nietn. var. Ceylon Nietn. [DEI].

A d d i t i o n a 1 m a t e r i a 1 : 19: [BM Syntype label] / [BM type label]: Type HT / Arni Gad Mussorie Dr. Cameron 28.V.21 / Oedichirus elegans / Oedichirus alatus Nietner det. 2015 G. de Rougemont [NHML]; 13: Nilgiri Hills / 695 / Oedichirus dimidiatus Epp. / M. Cameron Bequest B.M. 1955-147 / Oedichirus alatus Niet. syn. nov. det. 2015 G. de Rougemont [NHML]; 13: India, Tamil Nadu, Nilgiri hills. 15 km SE of Kotagiri near Kunchappanai, alt. 900m / 13: 20.v.1994, 76°56′E 11°22′N, Z. Kejval lgt. / Oedichirus alatus Niet. Det. 2016 G. de Rougemont [CJN]; 13: S-INDIA, Kerala state, Kallar env., 30 km NE of Trivandrum, valley of riv. Kallar 77°05′E 8°45′N, 7-13.v.1999, Z. Kejval & M. Trysna leg. / Oedichirus cf. alatus Nietner /

Oedichirus alatus Niet. det. 2016 G. de Rougemont [CRO]; 1 $\circ$ : INDIA, Karnataka, Hassan 27.9.1991. leg. R. Schuh / Oedichirus alatus Niet. det. 2015, G. de Rougemont [NHMW]; 1 $\circ$ : INDIA, ORISSA, Deogarh, 24.x.2006, G. de Rougemont / Oedichirus dimidiatus Epp. det. 2006 G. de Rougemont / Oedichirus alatus Nietner det. 2015 G. de Rougemont 1 $\circ$ : INDIA, ORISSA, Gajapati, Taptapani, 16.x.2006, G. de Rougemont / Oedichirus alatus Nietner det. 2015 G. de Rougemont; [both in CRO]; 1 $\circ$ : PAKISTAN, Swat, Col de Karakar, 1300 m; 19.V.1983, Besuchet – Löbl / Oedichirus alatus Niet. det. 2015 G. de Rougemont [MHNG]; 1 $\circ$ : MYANMAR, Sagaing Division, Alaundaw Katthapa [sic?] NP, 21°19.113'N 94°28.518'E, 3-13.5.2003, ca. 350 m, light, leg. Boukal & Schillhammer (101) / Oedichirus alatus Nietner det. 2017 G. de Rougemont [NHMW].

D e s c r i p t i o n (of a male from Nilgiri Hills): length: 8.5 mm; length of fore-body: 3.8; length of head: 0.85; breadth of head: 1.12; length of antenna: 2; length of pronotum: 1.25; breadth of pronotum: 1; length of elytron: 1.4; breadth of elytra: 1.35 Head and prothorax red, elytra black with posterior  $2/5^{ths} - 1/3^{rd}$  red, abdominal segments III-V red, the following black; palpi and antennae testaceous, maxillary palpomeres 2-4 and antennomeres III-VII partially a little infuscate; legs testaceous, apices of pro-femora and knees of middle and hind legs sharply infuscate, the dark portion of metafemorae occupying the distal third. Body devoid of microsculpture. Pubescence long, very long on abdomen, pale, erect. Habitus: Fig. 1h.

Head strongly transverse; post-ocular border slight, consisting of a groove bordered by a feeble carina, anteriorly scarcely forming a tooth; surface glossy, very sparsely punctate, all punctures very small. Pronotum strongly elongate, the sides convergent in straight lines to base; lateral border wanting or present only as a slight elevation anteriorly; surface glossy; arcuate discal series of five small punctures behind an anterior cluster of six punctures; lateral series of two punctures, with other small punctures on lateral margins and near base. Elytra only slightly elongate, with prominent humeral angles, widest at posterior 2/3<sup>rd</sup>; puncturation fairly sparse, with juxta-sutural series of 6-7 punctures and scattered punctures on disc and lateral margins, the punctures about equal to or larger than those of discal series of pronotum. Puncturation of abdominal tergites IV-VI arranged in four discrete transverse rows, the first row contiguous with the grooves between short basal keels of anterior margin, the last, situated on posterior margins of tergites consisting of punctures as large as those of third row.

Male (ex. from Orissa): abdominal sternite VII unmodified; sternite VIII: Fig. 1s8; aedoeagus: Fig. 1arl.

Female: sternite IX: Fig. 1vp.

In one specimen (from Kallar, Kerala) the head is pitchy black with the base narrowly reddish; the aedoeagus of this specimen is larger than that of the males from Orissa, but of the same conformation, and in all other respects the specimen is identical to other exx. of *O. alatus*; I regard it as an aberrant form or individual.

In his key and descriptions (1932), CAMERON gives the colour of the head of *O. alatus* as black, an error that explains why the species was never recorded under the name *alatus* after NIETNER's original description. The specimen from Kallar mentioned above does indeed have a black head, but when CAMERON gave his redescription the red-headed type was the only known specimen. Normal examples of *O. alatus* are immediately recognisable by the colour pattern (see keys to the *O. Alatus* group and to the *Oedichirus* of Thailand and of South India, below).

O. alatus was described from Ceylon and recorded (as O. dimidiatus) from Mussoorie

(Uttarakhand) and the Nilgiri Hills (Tamil Nadu) by CAMERON, and from Meghalaya by BISWAS & BISWAS. The two records in 'Fauna of British India' are based on the specimens in the NHML listed above. '*Oedichirus elegans* Cam.' was never described, but CAMERON did not remove his determination label or affix a new one when he redetermined the specimen as *O. dimidiatus*. *O. alatus* is new to Orissa, Karnataka, Burma and Pakistan. Available data indicate that the species is confined to Ceylon, the Indian subcontinent and Burma.

Distribution: Map 2. Keys: 1, 4.

# Oedichirus angusticeps nov.sp. (Figs 49)

M a t e r i a l s t u d i e d : ♀ Holotype: MALAYSIA, Cameron Highlands, Gn. Jasar; 4.4.1990, leg. A. RIEDEL / HOLOTYPE Oedichirus angusticeps Des. 2016 G. de Rougemont [SMNS]; 1♀ paratype: MALAYA, Pahang, Cameron Hlds. X.1990, G. de Rougemont / PARATYPE Oedichirus angusticeps Des. 2016 G. de Rougemont [CRO].

A d d i t i o n a 1 m a t e r i a 1 : 1♂: MALAYSIA: Pahang, G. Batu Berinchang 24-IV.1977 / berlese sphagnum moss LEWatrous / Oedichirus angusticeps nov.sp. det. 2016 G. de Rougemont [AMNH]

D e s c r i p t i o n: length: 5.8 mm; length of fore-body: 2.7; length of head: 0.72; breadth of head: 0.75; length of antenna: 1.7; length of pronotum: 1.12; breadth of pronotum: 0.95; length of elytron: 0.85; breadth of elytra: 0.95. Body black (the paratype and male specimen are teneral, pale brown), palpi, antennae and legs dark testaceous, legs dark testaceous, the profemora infuscate in distal half, mesofemora more narrowly infuscate at distal end, metafemora narrowly infuscate at base and at distal end. Dorsal surfaces glossy, devoid of microsculpture except on abdominal tergite VIII. Pubescence irregular, on abdomen composed of short pale decumbent hairs and long darker erect setae. Habitus: Fig. 49h.

Head scarcely transverse, appearing sub-quadrate; post-ocular border well marked, consisting of an entire carina ending anteriad in a small dentiform angle at some distance from posterior margin of eve and a finely punctate groove; puncturation of disc consisting of a pair of frontal punctures between antennal tubercles, eight punctures disposed symmetrically on vertex, an arcuate transverse row of about eight punctures before base, and a dozen smaller punctures along base. Pronotum broader than head, the sides slightly rounded between widely spaced and brodly rounded anterior angles and rounded posterior angles which are more widely separated than humeral angles; puncturation coarse and fairly dense, consisting of a pair of discal series of five large punctures, an irregular cluster of about a dozen punctures before that, lateral series of five punctures each and other punctures along anterior and lateral margins; lateral border entire, in the form of a bead. Micropterous, elytra small but longer than broad, humeral angles reduced but not obsolete; puncturation very coarse and dense. Puncturation of abdominal tergites disposed randomly, coarse, though finer than that of elytra, dense on tergites III-IV where interstices are mostly narrower than diameter of punctures, becoming progressively sparser on posterior tergites, tergite VIII with only eight punctures; basal keels of anterior margins of anterior tergitess short and inconspicuous.

Male: sternite VIII (Fig. 49s8) with a large broad apical emargination; in the only available male the aedoeagus, which is evidently malformed and incompletely sclerotized, shows in lateral view a long sclerotized structure that may be the dorsal sclerite of the

median lobe bent forward or an extruded inner piece, and what appear to be two very long slender freely articulated parameroid structures (Figs 49al, )

Female: sternite IX: Fig. 49vp.

## Oedichirus astoni ROUGEMONT (Figs 2)

Oedichirus astoni ROUGEMONT, 2017a: 270.

M a t e r i a l s t u d i e d : ♂ Holotype: #3 of 2.iii.11, Wang Tong, Lantau, HK [P. Aston leg.] / HOLOTYPE Oedichirus astoni Des. 2016 G. de Rougemont [CRO].

D e s c r i p t i o n : Length: ca. 7.2 mm; length of fore-body: 3.1; length of head: 0.8; breadth of head: 1.05; length of antenna: 1.8; length of pronotum: 1.18; breadth of pronotum: 0.92; length of elytron: 1.28; breadth of elytra: 1.3. Head black, pronotum red, elytra bicolorous, the anterior two thirds black, posterior third red; abdominal segments III-V red, VI-IX black; mandibles rufous; maxillary palpi dark brown; legs rufotestaceous, from front to back the knees progressively broadly infuscate, on hind legs the proximal 4/7th of femora rufous, distal 3/7th black, proximal 4/7th of tibiae black, distal 3/7th rufous. All dorsal surfaces glossy, devoid of microsculpture; pubescence pale, very long and sparse, erect or semi-erect. Habitus: Fig. 11 Rougemont, in press; facies, colour pattern and puncturation as in Fig 5h.

Head transverse (1.2: 0.8); eyes large and protruberent; post-ocular border strong, formed of a salient carina under a series of small punctures; puncturation of disc consisting of a pair of longitudinal arcuate series of 4 setiferous punctures enclosing a single large median puncture in addition to 4-5 small punctures on inner margin of eye and other scattered smaller punctures. Labrum very short and broad, its anterior margin with four small teeth. Antennae long (2.1), segments II-IV subequal (0.22), V-XI progressively shorter, XI (0.12) obconical and truncate. Pronotum elongate (1.1: 0.92), the sides slightly concavely retracted posteriad; lateral border only present for a short distance near anterior angles; puncturation of disc consisting of a pair of arcuate longitudinal series of 4 large punctures behind a pair of small punctures, a lateral series of two large punctures, and a few scattered smaller punctures. Elytra measured at centre of each elytron short (60), as broad as long, very convex; fully winged. Abdominal tergites with three discrete rows of punctures behind basal row of short longitudinal ridges and furrows.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 11s8 Rougemont in 2017a; aedoeagus: Fig. 2arl, the process of the ventral sclerite of median lobe long, slender, curved, a little asymmetrical; parameres very slender, reaching tip of median lobe.

This species is a member of the *O. Alatus* group, very similar to *O. guomindangi* nov.sp. described below and also the other species of that group with black head and first three exposed abdominal segments red. The ventral process of the aedoeagus is simlar to that of *O. falcifer* nov.sp. but even longer; the red portion occupies less than half the area of elytra.

Map 2. Key 1.

## Oedichirus balnearius nov.sp. (Figs 30)

- M a t e r i a l s t u d i e d : ♂ Holotype: SABAH, Poring H.S., X.1990, G. de Rougemont / HOLOTYPE Oedichirus balnearius des. 2015 G. de Rougemont [CRO]; 1♂ & 1♀ paratypes: [Ibid.] / PARATYPE Oedichirus balnearius des. 2015 G. de Rougemont [CRO].
- A d d i t i o n a l m a t e r i a l : 1 $\circ$ : Borneo MALAYSIA: Sabah: Mt. Kinabalu Park, Park Headquarter 1300- /1600 6°01'N 116°32'E (am Licht), D. Bartsch & C. Hauser leg. / Oedichirus balnearius det. 2017 G. de Rougemont [SMNS].

D e s c r i p t i o n : length: 9.5 mm; length of fore-body: 4.6; length of head: 1; breadth of head: 1.32; length of antenna: 3.3; length of pronotum: 1.5; breadth of pronotum: 1.18; length of elytron: 2.05; breadth of elytra: 1.55. Body entirely black; legs testaceous, the apices of femora narrowly but sharply infuscate; palpi and antennae testaceous. Fore-body devoid of microsculpture, abdomen entirely microsculptate. Pubescence pale, moderately long, directed forward on head, erect on pronotum, decumbent on elytra and abdomen. Habitus: Fig. 30h.

Head transverse; eyes large and protruberent; anterior surface of head a little uneven, wrinkled; disc with sparse, randomly scattered umbilicate punctures and a row of smaller punctures along posterior margin; temples very short; post-ocular border in the form of a groove bordered posteriorly by a ridge forming a salient angle behind eye. Antennae long, the second and third antennomeres sub-equal, IV-VII very long, VIII-X progressively shorter. Pronotum very elongate, the sides strongly retracted from anterior to posterior angles; lateral line not bordered; puncturation coarse, dense, without evident discal series. Elytra with prominent humeral angles and rounded sides, the puncturation coarse and dense, not serially aligned. Abdomen entirely finely microsculptate, with coarse, dense, randomly disposed punctures.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 30s8, with a deep apical emargination the fundus of which is bordered by a bead, the area in front of emargination impunctate and more densely microsculptate than lateral areas; aedoeagus: Fig. 30arl, slender right paramere much longer than left.

Female: sternite IX: Fig. 30vp.

Of the known Bornean species, *O. balnearius* sp. nov. most closely resembles *O. pendleburyi* CAMERON, from which it differs most obviously by its greater size, infuscate apices of femora, and and the sexual characters.

Key 2.

## Oedichirus bicuspidatus ASSING

Oedichirus bicuspidatus ASSING, 2013: 1562.

- M a t e r i a l s t u d i e d : 1♂: INDIA Meghalaya, Khasi Hills, Dawki 500-800 m, 29.X.78, Besuchet Löbl / Oedichirus bicuspidatus Assing, det. 2015 G. de Rougemont [CRO]; 1♂: INDIA, Meghalaya, East Khasi Hillsdist., Cherrapungee, below Mawmluh, 2514'58"N 9141'52"E, 1200 m / 24.x.2004, Berlese broad-leaf litter, C. Carlton, R. Leschen, G. Cuccodoro, D. Erne, CC-017, FIELD MUS. NAT. HIST / Oedichirus bicuspidatus Assing det. 2016 G. de Rougemont [FMC].
- O. bicuspidatus was described from southern Assam. The new specimens are from the neighbouring State of Meghalaya, formerly part of Assam.

## Oedichirus birmanus FAUVEL (Figs 43)

Oedichirus birmanus FAUVEL, 1895: 217 Oedichirus birmanus CAMERON, 1932: 28

M a t e r i a l s t u d i e d : ♂ Type: Carin Asciui Ghecu 1400-1500 m L. Fea III-IV 88 / birmanus Fvl. / Ex-Typis [IRScNB].

Aditional material: 13: THAILAND, C.M., Doi Pui, III.1987, G. de Rougemont / Oedichirus birmanus Fvl. det.. 2016 G. de Rougemont [CRO]; 10: THAILAND, Doi Pui, 14.III.1982, G. de Rougemont / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [CRO]; 10: THAILAND, C. Rai, Mae Yao, 15.III.1982, G. de Rougemont / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [CRO]; 1♀: C. Rai, Mae Yao, III.1987, G. de Rougemont / Oedichirus birmanus Fvl. 2016 G. de Rougemont [CRO]; 16: MON ANGGET, CHIANG MAI, THAILAND, 28.iv.1992, T. ITO leg. / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [CRO]; 10: DOI SUTHEP, CHIANG MAI, THAI, 30.iv.1990, T. ITO / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [CIK]; 19: THAILAND: Chieng Mai, Doi Inthanon, 1250 m, 6.XI.1985, Burckhardt-Löbl / Oedichirus sp. det. G. de Rougemont 1999 / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [MHNG]; 299: THAILAND, Chieng Mai, Doi Suthep, 1400 m, 5.XI.1985, Burckhardt-Löbl / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [MNHG]; 13: Thailand, Huay Nam Dang, Mae Taeng Dist., 1400 m., 17.12.1990, P. Schwendinger / Oedichirus birmanus det. 2017 G. de Rougemont [MHNG]; 13: DOI INTHANON, CHIANG MAI, THAILAND, 26.IV.1992, T. ITO leg. / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [CIK]; 10: WIANG PAPAO, CHIANG RAI, THAILAND, 1.V.1992, T. ITO leg. / Oedichirus birmanus Fvl. det. 2016 G. de Rougemont [CIK]; 1♀: (Nr. Meo village), about 1400-1500 m, North Thailand, 21-23 May 1979, W. Suzuki leg. / Dedichirus birmanus Fvl. det. 2016 G. de Rougemont [CST].

D e s c r i p t i o n (of type): length: 8.5 mm; length of fore-body: 3.2; length of head: 0.75; breadth of head: 1.17; length of antenna: 2; length of pronotum: 1.32; breadth of pronotum: 1.17; length of elytron: 1; breadth of elytra: 1.22. Body brown, abdominal segment VIII piceous (type) or entirely or in parts piceous; all appendages uniformly testaceous. Dorsal surfaces of fore-body devoid of microsculpture; abdomen entirely but feebly microsculptate (observed in good light at x40-50 magnification), the microreticulation much more evident on tergite VIII. Pubescence pale, moderately long, erect and semi-erect. Habitus (of type): Fig. 43h.

Head moderately transverse; eyes not very large; carina of post-ocular border very marked, forming a prominent dentiform angle more than usually distant from posterior margin of eye; puncturation dense, irregular, the punctures a little finer on frons, leaving only clypeus and a transverse area at rear of vertex impunctate. Pronotum fairly large, the sides retracted in almost straight lines to narrow base; lateral line bordered only in anterior half; puncturation dense, the punctures as large as larger punctures of head; a pair of discal series of 6-8 punctures each extend from near base to  $2/3^{\rm rds}$  its length, the anterior half of discal series enclosing a double column of punctures that extends almost to anterior margin, with numerous punctures on sides and lateral margin. Elytra small, with humeral angles reduced but not entirely obsolete; disc entirely densely punctate, the interstices almost everywhere narrower than diameter of punctures, the punctures as large as those of pronotum. Puncturation of abdomen disposed randomly, dense, the punctures as large as those of elytra.

Male: sternite VII with a median keel in the shape of an inverted U enclosing an impunctate area before scarcely emarginate posterior margin; sternite VIII: Fig. 43s8, the surface with an oblique arcuate keel extending from near base at centre to the left above shallow emargination of posterior margin; aedoeagus: Figs 43arl, (inner sac everted and sclerotised structures extruded in type).

Female: sternite IX: Fig. 43vp.

V a r i a b i l i t y : the pronotum and elytra of specimens from various localities in north Thailand are slightly longer and narrower than in the type from the neighbouring Karen Hills of Burma, which slightly alters the facies, but there are no significant differences in the male sexual characters. The ventral processes of the median lobe of the specimen from Huay Nam Dang in MHNG (Fig. 43arl2) appear to be different from those of other males; I assume that they are displaced (the inner sac of this specimen is also everted), because the specimen is externally indistinguishable from other specimens from north Thailand, and the distinctive male secondary sexual characters are identical.

Key 3.

The locality of the last specimen listed above is the Meo village on Doi Pui, Chiang Mai.

## Oedichirus bowringi nov.sp. (Figs 16)

M a t e r i a l s t u d i e d : ♂ Holotype: India / Bowring 63-47\* / HOLOTYPE Oedichirus bowringi Des. 2015 G. de Rougemont [NHML].

D e s c r i p t i o n : length: 6.7 mm; length of fore-body: 3; length of head: 0.8; breadth of head: 1; length of pronotum: 1; breadth of pronotum: 0.92; length of elytron: 1.25; breadth of elytra: 1.25. Head black, pronotum red, abdominal segments segments III-VI red, the following black; legs piceous, the bases of femora and tarsi testaceous. Dorsal surfaces devoid of microsculpture. Pubescence (rubbed off fore-body of type specimen) on abdomen fairly short, pale, semi-erect. Habitus: Fig. 16h.

Head strongly transverse; post-ocular border consisting of a scarcely bordered groove, not forming a tooth anteriorly; surface glossy; puncturation limited to a pair of small frontal punctures, a pair of large punctures behind post-antennal tubercles, a few small ocular punctures, a group of five punctures on vertex disposed in the shape of a W, and a transverse series of six punctures before base. Pronotum only moderately elongate, the sides retracted in straight lines from broadest point to base; lateral line not bordered; puncturation consisting of a pair of arcuate series of five large punctures preceded by an arcuate series of four punctures near anterior margin, lateral series of two large punctures, and a number of punctures along lateral margins; no punctures in front of base. Elytra with well marked humeral angles, the sides rounded, widest a little behind middle; surface glossy; puncturation sparse, irregularly scattered. Abdominal puncturation disposed in three discrete transverse rows, devoid of a row just behind or contiguous with transverse row of basal keels.

Male: sternite VIII: Fig. 16s8; aedoeagus: Fig. 16arl

This new species has the same colour pattern as *O. longipennis* KRAATZ. and *O. lewisius* SHARP., from both of which it is distinguished exteriorly by the dark tibia, the much sparser puncturation of the elytra, and the absence of a transverse row of punctures immediately behind the row of basal keels and grooves or the abdominal tergites. The conformation of sternite VIII and of the aedoeagus is quite different from both those species.

The origin of this specimen is unknown; the data labels were added by a curator after Bowring bequeathed his collection to the British Museum. John Bowring lived and collected insects of all orders in Hong Kong from 1842 to 1864, but his collection contained specimens from other parts of China and from India acquired through exchanges with other collectors. It should be remembered that at the time of the bequest, British India also included the present States of Pakistan and Bengladesh.

## Oedichirus brlensis nov.sp. (Figs 25)

Material studied: 
Ohlotype: SABAH, Danum Valley, BRL [Borneo Rainforest Lodge], f.i.t., 14-16.II.2007, G. de Rougemont / HOLOTYPE Oedichirus brlensis des. 2015 G. de Rougemont [CRO]; 1 paratype: [Ibid.] [CRO].

D e s c r i p t i o n : length: 10.3 mm; length of fore-body: 4.2; length of head: 1.05; breadth of head: 1; length of antenna: 3.1; length of pronotum: 1.3; breadth of pronotum: 0.95; length of elytron: 1.62; breadth of elytra: 1.45. Body entirely black; legs pale testaceous, the knees sharply infuscate; palpi and antennae testaceous. Dorsal surfaces devoid of microsculpture except on anterior margins of abdominal tergites. Pubescence fine, pale, moderately long, erect. Antennae and legs very long. Habitus: Fig. 25h.

Head slightly longer than broad; temples long, retracted in almost straight lines to neck, posterior angles obsolete; post-ocular border present in the form of a fine carina that extends forwards to under the hind margin of eye, not forming a tooth or angle; centre of vertex with a cluster of five large contiguous punctures, the anterior three each bearing two setae, so apparently formed by the coalescence of two punctures; rest of disc with coarse irregular punctures, those of anterior half finer, of posterior half coarser. Pronotum very elongate, widest at anterior 1/5<sup>th</sup>, the sides concavely retracted in dorsal view, with an entire lateral border consisting of a series of small punctures above a fine irregular carina; disc, depending on interpretation, without discal series, or with an irregular double column of large and smaller punctures on either side of a longitudinal raised callosity, in front of this with three transverse rows of punctures, the sides with a lateral series of five large puncures and randomly scattered smaller punctures. Fully winged, elytra ample, convex, with pronounced humeral angles; puncturation coarse and dense, the interstices everywhere smaller than diameter of punctures. Punctures of abdomen coarse, disposed randomly.

Female: sternite IX: Fig. 25vp.

Together with *O muluensis* nov.sp., *O. wallacei* nov.sp. and *O. tempestivus* nov.sp. this new species forms a group endemic in Borneo ('Wallacei group') characterised by long temples with obsolete angles, very long antennae and legs, and concave sides of pronotum. In all these species the row of small keels behind the anterior margins of abdominal tergites are obsolescent except on tergite III, and even there is short.

Kev 2

The abdominal tergites V, VI and VIII of the holotype bear some Laboubeniales.

## Oedichirus cardamomensis nov.sp. (Figs 22)

M a t e r i a l s t u d i e d : ♂ Holotype: INDIA, Madras, N° 50, Cardamon H., 12 km Ouest de Valara Fall, 100 m, Besuchet Löbl Mussard / HOLOTYPE Oedichirus cardamomensis des. 2015 G. de Rougemont [MHNG]; 2♀♀ paratypes: INDIA, Kerala, Cardamon H., 450-500 m, Valara Fall, 46 km. S.O. de Munnar, 25.XI.72, Besuchet Löbl Mussard / PARATYPE Oedichirus cardamomensis des. 2015 G. de Rougemont [MHNG and CRO].

D e s c r i p t i o n : length: ca. 7 mm; length of fore-body: 2.8; length of head: 0.72; breadth of head: 0.82; length of antenna: 2; length of pronotum: 1; breadth of pronotum: 0.72; length of elytron: 0.9; breadth of elytra: 0.92. Head black, pronotum and elytra rufo-testaceous, abdominal segments III-VI darker, reddish-brown, segments VII-IX black; palpi, antennae and legs testaceous. Body devoid of microsculpture. Pubescence shorter and sparser on fore-body, longer and denser on abdomen, erect. Habitus: Fig. 22h.

Head strongly transverse, eyes large; post-ocular border salient, consisting of a carina ending anteriorly in a small tooth; puncturation of disc sparse, consisting of a pair of small setiferous punctures on frons, six punctures on vertex, an arcuate series of four punctures near base, and three punctures on each side in groove of post-ocular border. Pronotum strongly elongate, widest just behind anterior  $1/3^{\rm rd}$ , the sides very slightly rounded before base; lateral line entirely bordered; no discal series of punctures, with only two punctures on each side on anterior margin, a lateral series of two widely spaced punctures, three punctures on lateral margins, and a pair of punctures before base. Elytra a little shorter than pronotum, leaving a large part of abdominal segment II exposed; puncturation very sparse, consisting on each side of 3-4 juxta-sutural punctures, a lateral series of three widely spaced punctures, and two punctures bearing long setae on lateral margins. Puncturation of abdominal tergites arranged in discrete transverse rows, three in number on segments IV and V, on which there is no row adjacent to the anterior row of keels, but with such a row on segment VI.

Male: abdominal sternite VII unmodified; sternite VIII with a broad, fairly shallow apical emargination bordered by acute angles; aedoeagus: Fig. 22arl, small, simple, without visible parameres.

O. cardamomensis nov.sp. is one of three closely related species confined to south India, including O. lucabosmontis nov.sp. from the Anaimalai Hills and O. coorgensis nov.sp. from Coorg. O. cardamomensis most closely resembles O. coorgensis, from which it is distinguished by its black, smaller and more transverse head, the punctures of the last row of each abdominal tergite which are as numerous and as closely spaced as those of anterior rows, as well as the conformation of the female sternite IX.

Key 4.

# Oedichirus chapmani CAMERON (Figs 3)

Oedichirus chapmani CAMERON, 1940: 250. Oedichirus chapmani HAYASHI, 1989: 163. Oedichirus chapmani SHIBATA et al., 2013: 161.

M a t e r i a l s t u d i e d : ♀ Holotype: [BM Holotype label] / Hoa-Binh, Tonkin 93 / Oe. chapmani TYPE Cam. [NHML].

A d d i t i o n a l m a t e r i a l : 10: FooChow / Sharp Coll. 1905.313 / standing as O. dimidiatus Epp. / Oedichirus chapmani Cam. det. 2015 G. de Rougemont [NHML]; 1 ex. Taiwan: Hualien [determined from photograph by Dash Huang]; 19: Dacca / Sharp Coll.1905-313 / [on large blue handwritten label]: Oedichirus dimidiatus Epp. 7 Oedichirus chapmani Cam. det. 2015 G. de Rougemont [NHML]; 19: India / Bowring. 63.47\* / standing as O. dimidiatus Epp. / Oedichirus chapmani Cam. det. 2015 G. de Rougemont [NHML]; 10: N.W. THAILAND, Mae Hong Son Prov., Nam Tok Mae Surin N.P., N19 21.31 E97 50.02, 12.vii.2006 / BMNH(E) 2006-128, light trap on river beach, Mendel, H. & Barclay, M.V.H. / Oedichirus chapmani Cam. det. 2015 G. de Rougemont [NHML]; 1 : THAILAND, Doi Ankhang, 24.X.2010, G. de Rougemont [CRO]; 1 : [lacking head and pronotum]: MAETENG, CHIANG MAI, THAI, 12.VI.1999, H. KONISHIT/ Oedichirus chapmani Cam. det. 2016 G. de Rougemont [CIK]; 19: NE-LAOS, Hua Phan province, 25 km SE of Viengxai, Ban Kangpabang, 14.-16.V.2001, leg. D. Hauk / Oedichirus spec. cf. alatus Nietner det. M. Schülke 2006 / Sammlung M. Schülke, Berlin / Oedichirus chapmani Cam. det 2015 G. de Rougemont [CSB]; 19: LAOS centr., Bolikhamsai prov., BAN NAPE, - Kaew Nua Pass, 18.4-1.5.1998, alt. 600±100m, N 18°22.3 N 105°09.1 E (GPS), E. Jendek & O. Sauša leg. / Oedichirus chapmani Cam. det. 2016 G. de Rougemont [CIK]; 13: JAPAN Ryukyus, Nakama-gawa, IRIOMOTE Is., 30.XII.1997, I. MATOBA leg. [CRO]; 10:

TAISHO-IKE, IRIOMOTE Is., 30.XII.1997, I. MATOBA leg. [CIK]; 12: Hatsuno Sumiyô, Amami-ôshima Is., Kagoshima-Pref., 5.V.1997 (Light), M. Yoshida leg. [CIK].

Description: length: 7 mm; length of fore-body: 3.4; length of head: 0.77; breadth of head: 1.1; length of antenna: 1.8; length of pronotum: 1.25; breadth of pronotum: 1.05; length of elytron: 1.45; breadth of elytra: 1.55. Head black, pronotum red, anterior part of elytra black, posterior part red, abdominal segments III-VI red, the following black; palpi testaceous, the terminal segment slightly infuscate; first two antennomeres testacous, the following infuscate, becoming paler distally; legs entirely testaceous. Dorsal surfaces devoid of microsculpture except on and in between basal keels of tergites. Pubescence erect, sparse and shorter on fore-body, dense and very long on abdomen. Habitus: Fig. 3h.

Head strongly transverse; post-ocular border entire, in the shape of a fine carina under a punctate groove, not forming a post-ocular tooth; disc glossy, with only two small punctures on vertex and a few other scattered minute punctures. Pronotum relatively short; lateral margins not bordered; puncturation consisting of a pair of discal series of four punctures each, in front of this a pair of small punctures in a common foveate impression, and a pair of larger punctures nearer apical margin; no lateral series, the sides with only 4-5 scattered punctures, a series of four punctures on humeral angles and a single lateral puncture near base. Fully winged; elytra short, broad, convex, widest a little behind middle; puncturation sparse, consisting of a juxta-sutural series of 6-7 punctures and two irregular oblique series of ca. five punctures each. Abdominal tergites with three rows of close punctures in transverse depressions behind a row of long basal keels.

Male: sternite VII unmodified; sternite VIII: Fig. 3s8; aedoeagus: Fig. 3arl.

Female: sternite IX: Fig. 3vp.

*O. chapmani* was redescribed by HAYASHI (1989) with figures of the fore-body, aedoeagus and male 8<sup>th</sup> sternite, based on a specimen from Ishigaki Island. The figure of the male 8<sup>th</sup> sternite given by Hayashi differs somewhat from that of the other two known males; the left apicolateral tooth of the sternite may be broken.

Earlier material was determined by various curators as 'O. dimidiatus' (O. alatus NIETNER) because both species have similar bi-coloured black and red elytra; O. chapmani is easily distinguished from typical specimens O. alatus by its black head, red abdominal segment VI and broader elytra (key 1). The only similarly coloured species is O. sihanouki nov.sp. from Cambodia, from which it differs by the characters described in Key 1. O. chapmani was described from north Vietnam and recorded from Ishigaki (Ryukyu islands); new to China, Taiwan, Thailand, Laos, Bengladesh and (?) India.

Distribution: Map 2. Keys: 1, 3.

## Oedichirus coorgensis nov.sp. (Figs 23)

M a t e r i a l  $\,$  s t u d i e d :  $\circlearrowleft$  Holotype: S-INDIA, Karnataka state, Coorg distr., NE of Virajpet 75°50'E 12°13'N ca. 500 m, 4-8.vi.1999, Z. Kejval & M. Tryzna leg. / HOLOTYPE Oedichirus coorgensis des. 2016 G. de Rougemont [JCN].

D e s c r i p t i o n : length: length: 6.7 mm; length of fore-body: 3.1; length of head: 0.75; breadth of head: 0.87; length of antenna: 2; length of pronotum: 1.1; breadth of pronotum: 0.87; length of elytron: 0.9; breadth of elytra: 1. Fore-body pale reddish-brown, abdomen darker brown, mouthparts and antennae testaceous, the latter with seg-

ments III-IX somewhat infuscate, legs entirely testaceous. Dorsal surfaces glossy, devoid of microsculpture. Pubescence long, erect or semi-erect. Habitus: Fig. 23h.

Head strongly transverse, eyes large and protruberent; post-ocular border salient, consisting of a sharp carina ending anteriad in a salient tooth; puncturation of disc sparse, consisting of a pair of small setiferous punctures on anterior margin of frons, six punctures on vertex, the posterior three larger than anterior ones, an arcuate series of four punctures in occipital area, and 2-3 punctures on either side on margin of post-ocular border; antennae very long, when reflexed almost reaching half the length of elytra, with all segments strongly elongate. Pronotum strongly elongate, the sides retracted in straight lines to base; no discal series of punctures, but with only three punctures on each side on anterior margin, a lateral series of two widely spaced punctures, three punctures on lateral margins, and a pair of punctures before base. Elytra a little shorter than pronotum, leaving a large part of abdominal segment II exposed; puncturation very sparse, consisting on each elytron of four juxta-sutural punctures, a lateral series of three widely spaced punctures, and two punctures bearing very large setae on lateral margin. Puncturation of abdominal tergites arranged in discrete transverse rows: two between the anterior row of short basal keels, and a third on posterior margin of tergite, the punctures of the latter row fewer and much more widely spaced than those of anterior rows.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 23s8, with a deep narrow asymmetrical emargination; aedoeagus: Fig. 23arl, right paramere long, sinuate, fused to median lobe.

This is a sibling species of another two south Indian species, *O. cardamomensis* nov.sp. and *O. lucabosmontis* nov.sp.. Puncturation of fore-body as in *O. cardamomensis*. The puncturation of abdominal tergites III-VII differs from both the other species in that the punctures of the last row on each tergite (on posterior margin of tergite) are fewer and more widely spaced than on anterior rows. It also differs from *O. cardamomensis* in its slightly greater size and red head, concolorous with pronotum.

# Oedichirus depravatus ASSING

Key 4.

Oedichirus depravatus ASSING, 2013: 1562.

M a t e r i a l s t u d i e d : 1♀: Garo Hills, same data as holotype, but with the additional data "at large broadleaf forest" / Oedichirus deprevatus Assing det. 2016 G. de Rougemont [FMC].

## Oedichirus falcifer nov.sp. (Figs 4)

M a t e r i a l s t u d i e d : ♂ Holotype: MALAYSIA – Pahang/Johor, Endau-Rompin n. park, 100 m, Salendang 28.II – 12.III.1995, M. Strba & R. Hergovitz leg. / HOLOTYPE Oedichirus falcifer Des. 2016 G. de Rougemont [NHMW].

D e s c r i p t i o n : length: ca. 8.5 mm; length of fore-body: 3.8; length of head: 0.87; breadth of head: 1.2; length of antenna: 2.5; length of pronotum: 1.35; breadth of pronotum: 1.17; length of elytron: 1.82; breadth of elytra: 1.72. Head black, pronotum red, anterior half of elytra black, posterior half red, abdominal segments III-VI red, VII-IX black; palpi and antennae brown; legs bicolorous, all tarsi testacous, basal 2/3<sup>rds</sup> of profemora testaceous, distal third testacous; protibiae only feebly infuscate, gradually paler distally; basal half of meso- and metafemora testaceous, distal halves infuscate; meso-

and metatibiae almost entirely but lightly infuscate, the distal extremities pale. Dorsal surfaces devoid of microsculpture. Pubescence sparse (mostly rubbed off on fore-body), pale, erect and semi-erect. Habitus: Fig. 4h.

Head strongly transverse, eyes very large and prominent; post-ocular carina well marked, extending all the way under posterior margin of eye, forming a prominent angle almost contiguous with eye; puncturation sparse, consisting of only a few scattered fairly small punctures. Pronotum without a lateral border; disc sparsely punctate, with a pair of arcuate discal series of four punctures each, a group of five punctures before that, lateral series of two large punctures, and a number of smaller punctures on all margins. Elytra short, very convex, humeral angles well marked, the sides strongly rounded to posterolateral angles, the base arcuately concave; puncturation sparse, the punctures arranged in three widely separate longitudinal series of five or six punctures each, the first next to suture, the other two discal, in addition to humeral series of four punctures and a number of small punctures along lateral margins. Punctures of abdomen arranged in three discrete transverse rows on each tergite in addition to basal row of short keels.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 4s8, the left tooth of the posterior margin acute, the right tooth blunt, enclosing a comb of about 15 long stout setae; aedoeagus: Fig. 4arl.

This new species is a member of the *O. Alatus* group and is well characterised by the great extent of the red portion of the elytra and the sexual characters. The anterior process of the ventral sclerite of the median lobe is characteristic, similar to that of *O. astoni* nov.sp., but the falciform ventral process of the median lobe is shorter.

Distribution: Map 2. Key 1.

## Oedichirus formosanus nov.sp. (Figs 38)

M a t e r i a l s t u d i e d : ♀ Holotype: TAIWAN, Taipei County, Wulai, Bao-Qing, Temple, N24°51.124 E121°32.243 / 18.v.2007, 540 m, D. Martin & D.L.J. Quicke, BMNH(E) 2007-43 / HOLOTYPE Oedichirus formosanus Des, 2016 G. de Rougemont [NHML].

D e s c r i p t i o n : length: 11.5 mm; length of fore-body: 4.7; length of head: 1.18; breadth of head: 1.25; length of antenna: 2.7; length of pronotum: 1.4; breadth of pronotum: 1.2; length of elytron: 2; breadth of elytra: 1.75. Body entirely deep black, palpi, antennae and legs testaceous. Fore-body glossy, abdomen shiny but entirely covered with evident reticulate microsculpture, denser and more evident on tergites VII and VIII; very dense and evident on anterior margins of preceding tergites. Pubescence long, pale, semi-erect. Habitus: Fig. 38h.

Head not very transverse; eyes moderately large; carina of post-ocular border salient, forming a prominent tooth on temples at a distance from posterior margin of eye; punctures coarse, umbilicate, dense, irregular on entire disc, leaving the anterior part of frons impunctate. Lateral margins of pronotum strongly bordered in anterior  $2/3^{\text{rds}}$ , the surface immediately below border glossy and impunctate; puncturation of disc roughly arranged in four median parallel series, on either side with irregularly scattered punctures between these and a continuous series of punctures along lateral margin in anterior  $1/3^{\text{rd}}$ , an arcuate series of a dozen punctures enclosing bases of the median series, and six smaller punctures between this and base. Fully winged; elytra ample, strongly elongate, with pronounced humeral angles; puncturation dense, fairly homogeneous, a little sparser on

sides than near suture. Abdominal puncturation dense, about as coarse as that of elytra, punctures disposed randomly.

# Oedichirus guomindangi nov.sp. (Figs 5)

M a t e r i a l s t u d i e d : ♀ Holotype: Takao / Formosa Sautter / Chicago NHMus. M. Bernhauer Collection / Oedichirus dimidiatus Eppelsheim / Oedichirus / Brit. Mus. 1956-709 / HOLOTYPE Oedichirus guomindangi des. 2015 G. de Rougemont [NHML].

D e s c r i p t i o n : length: 8 mm; length of fore-body: 3.1; length of head: 0.87; breadth of head: 1.05; length of antenna: 2.2; length of pronotum: 1.2; breadth of pronotum: 1; length of elytron: 1.32; breadth of elytra: 1.42. Head black, pronotum red, greater half of elytra black, posterior part red; abdominal segments III-V red, the following black; palpi and antennae testaceous; legs testaceous, the infuscation of knees moderately extensive, greatest on hind legs where it occupies distal 1/3<sup>rd</sup> of femora and more than proximal half of tibiae. Dorsal surfaces devoid of microsculpture except narrowly on bases of abdominal tergites. Pubescence long on abdomen, erect. Habitus: Fig. 5h.

In colour, puncturation and other external features this new member of the *O. Alatus* group is practically indistinguishable from *O. astoni* ROUGEMONT from Hong Kong except by its slightly longer, therefore less transverse head and slightly more ample elytra. Although neither the male of this species nor the female of *O. astoni* are known, I have no hesitation in attributing the two to different, allopatric species.

Female: sternite IX: Fig. 5vp.

Distribution: Map 2. Key 1.

## Oedichirus hochimini nov.sp. (Figs 44)

M a t e r i a l s t u d i e d : ♂ Holotype: VIET NAM N (Ha Nang), 160 km NNW Hanoi, 150-200 meINE env. of Na Hang [sic], 1/14.VI.96, J. Roma & A. Napalov / J.F. Cornell Colln. 2008 Acc. Z-20, 351 FIELD MUSEUM / OEDICHIRUS det. P.N. Thomas 2012 / HOLOTYPE Oedichirus hochimini Des. G. de Rougemont 2017 [FMC].

D e s c r i p t i o n : Length: ca. 8.6 mm; length of fore-body: 4; length of head: 0.85; breadth of head: 1.1; length of antenna: 2.6; length of pronotum: 1.27; breadth of pronotum: 0.97; length of elytron: 1.75; breadth of elytra: 1.4. Body entirely black; mouthparts, antennae and legs entirely pale testaceous. Fore-body devoid of microsculpture, abdomen entirely microsculptate. Pubescence of elytra and abdomen pale, long, semi-erect. Habitus: Fig. 44h.

Head moderately transverse; post-ocular border strong and salient, forming a large post-ocular tooth; puncturation of entire disc coarse, dense and fairly homogenous, the punctures lying in individual foveate depressions. Antennae long. Pronotum long, the sides retracted in almost straight lines from widest point to base; lateral margins not bordered; puncturation dense, comparable to that of head, but with a vestige of discal series in the form of two longitudinal arcuate depressions containing about six punctures enclosing other punctures. Fully winged; elytra remarkably long, with prominent humeral angles, sides slightly rounded, widest at posterior  $2/3^{\rm rds}$ ; puncturation homogeneous, denser and a little finer than that of pronotum. Abdominal puncturation disposed randomly, coarse and dense on tergites III-VI, sparser and shallower on VII-VIII.

Male: abdominal sternite VII: Fig. 44s7; sternite VIII: Fig. 44s8, the surface of sternite

anteriad to emargination impunctate, strongly micro-reticulate; aedoeagus: Fig. 44arl, the right paramere slender and short.

O. hochimini nov.sp. has the general appearance of O. pendleburyi CAMERON, but is immediately distinguished by its much longer elytra. It shares the unusual character state of an entirely microsculptate abdomen with O. strictipennis nov.sp. from Thailand, but the facies of the two species are quite different, particularly by virtue of the shapes of the elytra.

## Oedichirus javanicus nov.sp. (Fig. 6)

M a t e r i a l s t u d i e d : ♀ Holotype: JAVA, Gunung Merapi, 11.VII.1982, G. de Rougemont / HOLOTYPE *Oedichirus javanicus* DES. 2015 G. de Rougemont [CRO].

A d d i t i o n a l m a t e r i a l : 1 o: Jangpan Kulon, W. JAVA, INDONESIA, 25.III.1993, K. ODANAKA / Oedichirus alatus NIET Det. TATEO ITO / Oedichirus javanicus Det. 2016 G. de Rougemont [CIK].

D e s c r i p t i o n : length: 7.4 mm; length of fore-body: 3.6; length of head: 0.85; breadth of head: 1.05; length of antenna: 2; length of pronotum: 1.28; breadth of pronotum: 1; length of elytron: 1.45; breadth of elytra: 1.2. Head black, very narrowly reddish at base, pronotum red, elytra bicolorous, black in anterior part, measured along suture the black part extends to more than  $2/3^{\rm rds}$  the length of elytron, red in posterior part. Palpi and antennae testaceous; legs testaceous, the knees scarcely infuscate on forelegs, infuscation progressively extensive on middle and hind legs on which the infuscation occupies about distal quarter of femora and more than proximal  $2/3^{\rm rds}$  of tibiae. Dorsal surfaces devoid of microsculpture. Pubescence very long, mostly pale, erect. Habitus: as in Fig. 5h.

Female: sternite IX: Fig. 6vp.

This member of the *O. Alatus* group is practically indistinguishable from *O. astoni* ROUGEMONT (Hong Kong) and *O. guomindangi* nov.sp. (Taiwan) except by the conformation of the female ninth sternite and vulvar plate.

Distribution: Map 2. Key 1.

#### Oedichirus kiushii SAWADA

Oedichirus kiushii SAWADA, 1964: 36. Oedichirus kiushii SHIBATA et al., 2013: 161.

M a t e r i a l s t u d i e d : 1 ex.: Akita Pref. Aikawa-Macki, 28.VII.1991, O. Nakamura E Terasawa / Oedichirus kiushii Sawada [KUM].

This species has only been recorded from Shikoku. The above record is from northern Honshu. The determination is therefore tentative, based on the written description of the type.

## Oedichirus kochangensis nov.sp. (Figs 17)

M a t e r i a l s t u d i e d : ♀ Holotype: THAILAND, Ko Chang, Westseite, 1999, leg. A. SCHULTZ & K. VOCK HÖLOTYPE Oedichirus kochangensis Des. 2016 G. de Rougemont [SMNS]; l♀ paratype: [Ibid.] / PARATYPE Oedichirus kochangensis Des. 2016 G. de Rougemont [CRO].

A d d i t i o n a l m a t e r i a l : 1♀: Cambodge, Vitalis du Salv. / nov.sp. ? / Oedichirus kochangensis Rgmt. det. 2017 G. de Rougemont [MNHN].

Description: length: 8.7 mm; length of fore-body: 3.3; length of head: 0.8; breadth of head: 1.75; length of antenna: 2.3; length of pronotum: 1.25; breadth of pronotum: 1.05; length of elytron: 1; breadth of elytra: 1.15. Head black, pronotum red, elytra black, abdominal segments III-VI red, the following black; palpi, antennae and legs testaceous, the knees narrowly infuscate. Dorsal surfaces devoid of microsculpture except on and between basal keels of abdominal tergites. Pubescence long, pale, erect. Habitus: Fig. 17h.

Head strongly transverse; carina of post-ocular border salient, ending anteriad in a dentiform angle removed from posterior margin of eye; puncturation consisting of a cicle of 8 punctures on vertex, a few small ocular punctures, a transverse row of four large punctures before base and three punctures on each side on posterior margin. Pronotum cordiform, the sides slightly rounded to narrow base; lateral margin not bordered; disc with a pair of arcuate series of six punctures each, a cluster of eight punctures before that, 3-4 large lateral punctures, and a series of small punctures along lateral margins. Elytra small, scarcely broader than pronotum, the humeral angles completely obsolete, widest at posterior  $2/3^{\rm rds}$ ; puncturation arranged in discrete transverse rows, the punctures of first row touching the row of long basal keels.

Female: sternite IX: Fig. 17vp.

This is a very distinctive species: the basic colour pattern is that of *O. longipennis*, *O. bowringi* and *O. lewisius*, but it is at once distinguished from those by its slender build and microptery.

Key 3.

# Oedichirus kuroshio HAYASHI

*Oedichirus kuroshio* HAYASHI, 1989: 161. *Oedichirus kuroshio* SHIBATA et al. 2013: 161.

M a t e r i a l s t u d i e d : 1♀: JAPAN Ryukyus, Miyako-jima Is., Tomori, 22.IV.1993, H. Onodera leg. / Oedichirus kuroshio Hayashi det. 2016 G. de Rougemont [CIK].

The fore-body, male 8<sup>th</sup> sternite and aedoeagus were illustrated by HAYASHI (1989).

This species was only known from Iriomote (Ryukyu islands), and Lanyu Island, off the southeast coast of Taiwan.

## Oedichirus lannaensis nov.sp. (Figs 45)

M a t e r i a l s t u d i e d : ♂ Holotype: THAILAND, r. Kok, Chiang Rai, III.1987, Rougemont / HOLOTYPE Oedichirus lannaensis des. 2015 G. de Rougemont [CRO].

A d d i t i o n a 1 m a t e r i a 1 : 1♀: W-THAILAND, Klong Lam NP, 50 km SW Kamphaeng Phet, 2.-5.VII.1997m leg. J. PREJSEK / Oedichirus lannaensis Rgmt. det. 2015 G. de Rougemont [SMNS]; 1♀: N-LAOS, Prov. Lg. Nam Tha, ca. 25 km SE Muang Sing, 14./15./20-22.6.1996, 900 m, leg. Schillhammer (27, 34) / Oedichirus lannaensis Rgmt. det. 2015 G. de Rougemont [NHMW]; 1♀: LAOS centr., Bolikhamsai prov., BAN NAPE − Kaew Nua Pass, 18.4. − 1.5.1998, alt. 600±100 m, N 18°22.3 E 105°09.1, (GPS), E. Jendek & O. Sauša leg. / Oedichirus lannaensis Rgmt. det. 2016 G. de Rougemont [CST]; 1♀: N-LAOS May 1999, Oudom Xai prov. NAM MIANG riv., 30km SE Muan Xai, 1200 m, Lao coll. leg. / Oedichirus lannaensis Rgmt. det. 2016 G. de Rougemont [CST]; 1♠: NE-LAOS, Hua Phan, Ban Saluei, Phou Pan, 13.5-6.7.2013, 20°12'N104°01'E, 1300-1900 m, leg. Holzschuh / Oedichirus lannaensis Rgmt. det. 2017 G. de Rougemont [NHMW].

Description: length: 8.2 mm; length of fore-body: 4; length of head: 0.95; breadth of head: 1.02; length of antenna: length of antenna: 2.7; length of pronotum: 1.25; breadth of pronotum: 1; length of elytron: 1.65; breadth of elytra: 1.14. Body black, all appendages testaceous. Fore-body devoid of microsculpture except on anterior part of elytra; abdominal tergites entirely microsculptate, the sculpture very strong on anterior margins of tergites, consisting of transverse microstriation elsewhere. Pubescence pale, erect, fairly short on fore-body, longer on abdomen. Habitus: Fig. 45h.

Head strongly transverse; eyes large and protruberent; post-ocular border pronounced, grooved and carinate, the carina forming a prominent tooth a little distance from eye; disc strongly punctate but leaving the middle of frons and a transverse area on vertex impunctate, the interstices elsewhere mostly wider than diameter of punctures. Pronotum strongly elongate; lateral margins not bordered; puncturation comparable in density to that of head, but with a discernible pair of arcuate discal series of six punctures each enclosing a pair of other punctures at their anterior end. Fully winged, elytra long and ample, with marked humeral angles, broadest at posterior 2/3<sup>rds</sup>. Puncturation of abdomen disposed randomly, comparable in coarseness and density to that of elytra.

Male: posterior margin of sternite VII: Fig. 45s7, with a small arcuate median emargination bordered on either side by a broad, blunt tooth and preceded by an impunctate, transversely micro-striate impression; sternite VIII: Fig. 45s8, with a large and deep ogival emargination preceded by a deep impression; surface of impression strongly microsculptate; aedoeagus: Figs 45 al, av.

Female: sternite: Fig. 45vp.

In its facies, colour and puncturation this new species is indistinguishable *O. pendleburyi* CAMERON; it differs by the shape of the aedoeagus and that of the male sternites VII and VIII, the emargination of the latter being deeper and with a more acute fundus. It also resembles *O. laoticus* nov.sp. but is a smaller species with quite different sexual characters.

Key 3.

#### Oedichirus laoticus nov.sp. (Figs 46)

M a t e r i a l s t u d i e d : ♂ Holotype: NE-LAOS, Hua Phan province, 25 km SE of Viengxai, Ban Kangpabang, 14.-16.V.2001, leg. D. Hauk / Oedichirus cf. niger Cameron det. M. Schülke 2006 / Sammlung M. Schülke Berlin / HOLOTYPE Oedichirus laoticus Des. 2015 G. de Rougemont [CSB].

Description: length: 12 mm; length of fore-body: 5; length of head: 1.35; breadth of head: 1.82; length of pronotum: 1.5; breadth of pronotum: 1.2; length of ely-

tron: 2; breadth of elytra: 1.78. Body black, mouthparts, antennae and legs entirely testaceous. Body shiny, dorsal surfaces of fore-body devoid of microsculpture; mcrosculpture of abdominal tergites very strong on anterior rows of keels and interstices, on rest of tergites III-VI consisting of faint transverse microstriae, much more evident on tergite VII where it consists of dense micro-punctures. Pubescence fairly long, sparse, semi-erect. Habitus: Fig. 46h.

Post-ocular carina of head very salient, forming a dentiform angle behind eyes; disc entirely covered with irregular umbilicate punctures, the interstices almost everywhere wider than diameter of punctures. Pronotum strongly elongate, the sides convergent in straight lines to base; lateral margins bordered in anterior  $1/3^{\rm rd}$ , puncturation comparable to that of head on entire disc, not forming discernible series. Elytra ample, long, fairly convex, the humeral angles prominent, the sides a little dilated posteriad from humeral angles; disc entirely, fairly homogenously punctate, the punctures about as large as those of pronotum but denser. Puncturation of abdominal tergites disposed randomly, the punctures about equal in size and density to those of elytra.

Male sternite VII unmodified; sternite VIII: Fig. 46s8; aedoeagus: Figs 46arl, all, the processes of the ventral plate very characteristic, both parameres moderately long and slender, of approximately equal length.

In external appearance, including colour and sculpture, *O. laoticus* nov.sp. closely resembles the possibly sympatric *O. lannaensis* nov.sp. but is considerably larger; the male sexual characters of the two species are very different (cf. Figs 45s8, arl). Key 3.

## Oedichirus latus nov.sp. (Figs 50)

M a t e r i a l s t u d i e d : ♂ Holotype: INDIA, N.27, Madras, Palni H. 10 km NO de Kodaikanal, 2150 m, 18-XI.72, Besuchet Löbl Mussard / HOLOTYPE Oedichirus latus des. 2015 G. de Rougemont [MHNG]; 1♀ paratype: INDIA N. 256, Madras, 10 km O. de Kodaikanal, 2300 m, 13.XI.72, Besuchet Löbl Mussard / PARATYPE Oedichirus latus des. 2015 G. de Rougemont [MHNG]; 1♀ paratype: INDIA, N.23, Madras, Palni H. au-dessus de Kodaikanal, 1200 m, 12-XI.72, Besuchet Löbl Mussard / PARATYPE Oedichirus latus des. 2015 G. de Rougemont [MHNG]; 3♀♀ paratypes: INDIA, N.26, Madras, Berijau Lake, 2150 m, 14-XI-72, Besuchet Löbl Mussard; 1 specimen with an additional label: Oedichirus [sic] Sile. det. M. Uhlig 1982 / PARATYPE Oedichirus latus des. 2015 G. de Rougemont [MHNG, 1 paratype in CRO].

A d d i t i o n a l m a t e r i a l : 200: INDIEN: Tamil Nadu, Ootacamund Pykara Mysore, 22.8.1999, leg. A Riedel / Oedichirus latus nov.sp. det. 2017 G. de Rougemont [SMNS]; 10: Tamil Nadu, Ootacamund Avalanche, 23.8.1999, leg. A. Riedel / Oedichirus latus nov.sp. det. 2017 G. de Rougemont [SMNS].

D e s c r i p t i o n : length: ca. 7 mm; length of fore-body: 2.9; length of head: 0.82; breadth of head: 1.1; length of antenna: 1.7; length of pronotum: 1.2; breadth of pronotum: 1.09; length of elytron: 0.8; breadth of elytra: 1.15. Body black, abdominal segments VII-IX rufescent, all appendages testaceous. Fore-body devoid of microsculpture, abdominal tergites covered with fine and dense reticulation which becomes strong on tergites VII-VIII making the surface dull. Fore-body glabrous, abdomen with sparse, very short pale decumbent hairs. Habitus: Fig. 50h.

Head strongly transverse, eyes moderately large; post-ocular border extending anteriad almost to posterior margin of eye where it forms a small, inconspicuous dentiform angle, and with a relatively broad gutter above the carina; puncturation very irregular, with few, much smaller punctures on frons. Pronotum short, widest at anterior angles, the sides a

little convexly rounded to base; lateral margin entirely bordered; puncturation coarse, fairly dense, punctures of variable size. Elytra very short, twice as broad as long, the sides regularly rounded from base to posterior angles, without humeral angles; puncturation about as coarse as that of pronotum, denser on sutural half of each elytron. Abdominal segments exceptionally short, the anterior margin of each without keels but with a transverse row of short longitudinal depressions, the coarse punctures behind these disposed randomly, with no more than the space of two punctures between anterior row of depressions and posterior margins; tergites VII-VIII with only a few scattered very small punctures.

Male: sternite VIII: Fig. 50s8; aedoeagus: Figs 50arl, 50av.

Female: sternite IX: 50vp.

The broad build, very short elytra, short abdominal segments and long process of the ventral blade of the aedoeagus make this species unmistakable.

Key 4.

## Oedichirus lewisius SHARP (Figs 15)

Oedichirus lewisius SHARP, 1874: 76.
Oedichirus lewisius WANG 1990: 76.
Oedichirus lewisius RATNA et al. 2002.
Oedichirus lewisius LI et al. 2010.
Oedichirus lewisius SHIBATA et al. 2013: 161.
Oedichirus lewisius MAKAROV et al. 2015.

- M a t e r i a l s t u d i e d : ♂ Holotype: 210 / Lewis / [BM type labels]: Type H.T. / Japan G. Lewis 1910-320. / Oedichirus lewisius type D. S. / Holotype Oedichirus lewisius Sharp det. R. G. Booth 2015 / NHMUK10584129. [In the original description Sharp cites "Simabara, March 1870" [NHML]
- A d d i d i o n a l m a t e r i a l: 1 ex.: Sharp Coll. 1905-313 / OEdichirus lewisius, Miyanoshita, May 1880 Lewis [NHML]; 19: Riv. KIZU, YAWATA, 22.ix.1984, T. ITO / Oedichirus lewisius SHP Det. TATEO ITO / Rougemont collection [CRO]; 1 & 1 \( \circ \) Mayuyama, Shimabara-shi, Nagasaki-ken, 10.1.1977 Shoichi Imasaka leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM]; 1 ex: Tashirobaru, Unzen-shi, Nagasaki-ken, 10.30.1979 Shoichi Imasaka leg. [KUM]; 1 $\circ$ : Koseda, Yakushima, Kagoshima-ken, VII.13.1975 M. Tao leg. [KUM]; Awa, Motobu-hantô, Ökinawa-jima, III.13.1979, S. Naomi leg. [KUM]; 1♀: Nakadôri-jima, Nagasaki-ken, VIII.15.1977, H. Ôishi leg. [KUM]; 1♀: Sugitani, Shimabara-shi, Nagasaki-ken, V.1.1978, Shoichi Imasaka leg. [KUM]; 10: Kakuyama, Ogawa, Saitama, 30.III.1993, T. Nambu leg. [KUM]; 10: HONSHU, Mt. Ifuri, Fukui Pref. / 18.v.1960, Coll. H. Sasaji [CRO]; 10: Is. Tsushima, Nagasaki, JAPAN, 17. May 2008, Koji Hosokawa leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [CIK]; 1&: YUDOMARI YAKU Is., 3.V.1984 T. ITO / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [CIK]; 1 $\bigcirc$ : SHIRAHAMA IRIOMOTE Is. 29.XII.1996, I. MATOBA leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [CIK]; 1 $\bigcirc$ : JAPAN Kyushu, Mt. Tatera, TSUSHIMA Is., 10-11.IX.2009, N. NAKAHAMA / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [CIK]; 1o: MIYANOURA YAKU Is., 30.IV.1984, T. ITO / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [CIK]; 10: Awa, Mobotu-hantô, Okinawajima, S. Naomi leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM]; 10: VIII.15.1977, Nakadôri-jima, Nagasaki-ken, H. Ôishi leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM]; 19: Sugitani, Shimabara-shi, Nagasaki-ken, Shoichi Imasaka leg., V.1.1978 / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM]; 10: Shirahama, Iriomote Jima, 21.VI.1990, H. Makihara leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM]; 10: IX.15.1996, Imari-shi, Saga-ken, H. Ôishi leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM]; 19: Yonamine, Okinawa-jima, 19.IV.1974, H. Irie leg. / Oedichirus lewisius Shp. det. 2016 G. de Rougemont [KUM].

Description: length: 7.5 mm; length of fore-body: 3.2; length of head: 0.8; breadth of head: 0.8; length of antenna: 1.9; length of pronotum: 1.12; breadth of pronotum: 0.95; length of elytron: 1.25; breadth of elytra: 1.35. Head and elytra black, pronotum red, abdominal segments III-VI red, VII-IX black; palpi, antennae and legs testaceous, apices of femora lightly and narrowly infuscate. Dorsal surfaces devoid of microsculpture. Pubescence short, sparse, pale and semi-erect on elytra, darker and erect on abdomen. Habitus: Fig. 15h.

Head moderately transverse; post-ocular carina narrow, extending to posterior margin of eye without forming an angle; puncturation sparse, consisting only of a number of very small frontal, ocular and basal punctures and half a dozen larger punctures on vertex. Pronotum broader than head, moderately elongate; lateral margins not bordered; discal series of 5-6 punctures behind a group of four punctures (or, viewed alternatively, 6-7 behind one pair of punctures), lateral series of three punctures and smaller punctures along lateral margins. Elytra only a little elongate; puncturation moderately sparse, except in scutellary area, the interstices mostly larger than diameter of punctures. Puncturation of abdomen arranged in four discrete transverse rows, the first adjacent to anterior row of keels and grooves on each tergite, the punctures of following rows larger and more closely spaced.

Male: aedoeagus: Figs. 15arl, av. Female: sternite IX: Fig. 15vp.

Variability: in some specimens, especially from the northern part of its range, the black elytra are in parts more or less extensively flushed with red.

The general appearance and the male sexual characters make *Oedichirus lewisius* SHARP very similar to the widespread *O. longipennis* KRAATZ from which it is most obviously distinguished by its smaller and less densely punctured elytra, which are about as long as the pronotum, whereas they are broader, and distinctly longer than the pronotum in *O. longipennis*. The anterior process of the ventral sclerite of the aedoeagus is larger and more salient in *O. lewisius* (cf. Figs 15arl, av, 14arl, av).

It is surprising that in his descriptions SHARP compared his *O. lewisius* and *O. idea* with the Mediterranean species *O. paederinus*, to which they bear little resemblance, instead of with the oriental species *O. longipennis* KRAATZ, the existence of which he must have been aware.

O. lewisius is widespread in Japan, and occurs in North and South Korea and Sakhalin; its range extends from the main islands of Japan southward through the Ryukus to Iriomote Island. The ranges of O. lewisius and O. longipennis overlap in southern Japan and the Ryukyus. The record of O. lewisius from Shanghai (LI et al. 2010) is clearly a misidentification of O. longipennis, as I assume are those from Guangxi (WANG 1990) and Java (RATNA et al. 2002).

# Oedichirus longipennis KRAATZ (Figs 14)

Oedichirus longipennis Kraatz, 1859: 154. Oedichirus idae Sharp, 1874: 76 nov.syn. Oedichirus schultheissi Fauvel, 1895: 217 nov.syn. Oedichirus excellens Cameron, 1925: 180 nov.syn. Oedichirus longipennis Cameron 1932: 26.

- *Oedichirus idae* SHIBATA et al. 2013: 161. *Oedichirus longipennis* SABATINELLI 2015.
- M a t e r i a l s t u d i e d : ♀ Holotype: India or. / Holotypus / Oedichirus longipennis Krz. / Coll. Kraatz / DEI Münchenberg Col. − 07524 / Oedichirus longiceps [sic] Kr. / Oedichirus longipennis Kr. det. 2017 G. de Rougemont [DEI].
- Additional material:
- India: 13: W. Almora, Kumaon, U.P., India, H.G.C. / Oedichirus sp. / Oedichirus longipennis / G.C. Champion BM 1927-409 [NHML]; 13: W. Almora Div. Kumaon U.P. Mar. 1918, HGC / C.G. Champion coll. BM 1927-409 / Oedichirus longipennis Kr. det. 2015 G. de Rougemont [NHML]; 13: Haldwani Dist. Kumaon, HGC / C.G. Champion coll. BM 1927-409 [NHML]; 19: N-INDIA: Uttaranchal state, Nainital, China Peak env. 1900-2300m, 18-19.7.2003 leg. Z. Kejva & M. Tryzna [NHMW]; 19: N-INDIA, 8/1986, Rishikesh, F. Werner / Pinophilini spec. DET. M. SCHÜLKE 19.. / Oedichirus spec. cf. longipennis Kr. det. M. Schülke 1996 / Sammlung M. Schülke Berlin / Oedichirus longipennis Kr, det. 2015 G. de Rougemont [CSB]; 19: INDIA: Him. Pr. Patikuhl Town, 28-29.v.1999, 3207.4'N 7708.8'E, 1200 m, Y. Marusik leg., FIELD MUS. NAT. HIST. / Oedichirus longipennis Kr. Det. 2016 G. de Rougemont [FMC]; 19: INDIA, 23 -24.VI.1995, Barpata Road, Assam, Werner leg. / Rougemont collection [CRO], 400 & 200: S-INDIA, Karnataka state, Coorg distr. NE of Virajpet, 75°13'E 12°13'N, ca. 500 m, 4-8.vi.1999, Z. Kejval & M. Trysna leg. / Oedichirus longipennis det. 2016 G. de Rougemont [CJN]; 1&: Shimoga [= Shivamogga], India / Oedichirus longipennis Kr. det. 2017 G. de Rougemont [MNHN]; 233: S-INDIA, Kerala state, Kallar env., 30 km NE of Trivandrum, valley of riv. Kallar 77°05'E 8°45'N, 7-13.v.1999, Z. Kejval & M. Trysna leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CJN].
- <u>Pakistan</u>: 1 ex.: Pakistan, Islamabad, 33°43'N 73°03'E, Guido Sabatinelli lgt., Oedichirus longipennis Kraatz, J. Matejiček det.
- Nepal: 19: NEPAL. Chaur, 600 m., XI.1987, P. Morvan / Oedichirus longipennis Kr. det. 1988 G. de Rougemont [CRO]; 1&: NEPAL, 500 m. Bhairabsthan, XI.1987, P. Morvan [CRO]; 1 ex.: NEPAL: 300 m, Dolalghat i.xii.1982 / Lt. Col. M.G. Allen, Brit. Mus. 1983-254 / Oedichirus longipennis Kr. det. Willers 7.99 [NHML].
- Sri Lanka: 1♀: CEYLON, Wilpattu Nat. P., 18.VII.79, G. de Rougemont / Oedichirus longipennis Kr. det. G. de Rougemont [CRO]; 1♂ & 1♀: SRI LANKA: Kandy, Peak View Motel (1800') / 7-14-I-1970 Davis & Rowe / OEDICHIRUS det. Newton 1993 / Oedichirus longipennis Kr. Det. 2006 G. de Rougemont [FMC]; 1♂: SRI LANKA: Kandy Distr., 5 mi NW Mahiyangana Hasalak Irrigation Bungalow, 30-III-9-IV-1971, P. & P. Spangler / at black light / Oedichirus longipennis Kr. Det. 2016 G. de Rougemont [FMC]; 1♀: SRI LANKA, Galle Dist., 11 mi E Udugama, Kanneliya jungle12-X-1973 / Krombein, Karunaratne, Fernando & Fernandino [FMC].
- Malaysia: 2♂♂: PENANG, 4.XI.90, Rougemont / Oedichirus longipennis Kr. det. 1990 G. de Rougemont [CRO]; 1 ex.: MALAYA, SELANGOR, F.M.S., Bukit Chinalcah July 18<sup>th</sup> 1921 / Ex. F.M.S. Museum B.M. 1955-354 [NHML]; 1♂: MALAYSIA Pahang/Johor, Endau-Rompin n. park 100m, Salendang 28.II-12.III.1995, M. Strbat & R. Hergovitz leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [NHMW]; 1♀: MALAYSIA, W. Ipoh, 5 km of Tanjong Rambutan, 13-15.IV.2000, leg. M. Snižek / Oedichirus spec. det. M. Schülke 2015 / Oedichirus longipennis det. 2015 G. de Rougemont [CSB].
- Singapore: 1 ex.: Res. W. 2/1/23 cut grass / Singapore C.J. Saunders, BM 1929-369 / Oeddichirus longipennis det. 2016 G. de Rougemont [NHML].
- China: 1♂: CHINA, Yunnan, Xishuangbanna, Jinghong, I.1993, G. de Rougemont / Oedichirus longipennis Kr. det. 1993 G. de Rougemont [CRO]; 1 ex.: Shanghai [Department of Biology, Shanghai Normal University]; 1♂: Hong Kong, Wang Tong, Lantau, 7.X.2012, at light, leg. Paul Aston [Aston collection, Hong Kong].
- Taiwan: 1ç: TAIWAN: Nantou Hsien, Hwy 14, Fengnan 700m, 22.IV.90, A. Smetana (T17) / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [AMNH].

- Thailand: 1♀: THAILAND: 10.2.1992, Ban Kiriwong, Khao Luang Nat. Park 170 m, P. Schwendinger / Oedichirus longipennis Kr. det. 2015 G. de Rougemont [MHNG]; 2♀♀: THAILAND, 240 km nw Bangkok, 110m. leg. Thielen / 25 km nw Lam Sek, Lichtfang [NHMW]; 1♀: THAILAND, Chiang M., NW Chiang Mai, Pai City, 29.4.1993, Patcholatko & Dembicky [NHMW]; 1♠: N-THAILAND, Nan, Lom Sak − Dan Sai, 17.-19.5.1993, Patcholatko & Dembicky [NHMW]; 2♀♀: THAILAND, Nan Prov., Ban Bo Klua env., 13-26.v.2002, P. Průdek leg. [NHMW]; 1♀: Nan prov. Ban Huay Kon env., 27.v-10.vi.2002, P. Průdek leg. [NHMW]; 1♀: Thailand, Khao Kai 400 m, 12.1990 / Oedichirus spec. det. M. Schülke 2015 / Sammlung M. Schülke Berlin / Oedichirus longipennis Kr. det. 2015 G. de Rougemont [CSB]; 1♂: SAN SAI, CHIANG MAI, THAI, 1.V.1990, T. & N. ITO / Oedichirus longipennis Kraatz Det. TATEO ITO 1993 [CIK]; 1♀: MON ANGGET, CHIANG MAI, THAILAND, 28.IV1992, T. & N. ITO / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK].
- Laos: 1♂: Zentral-LAOS, 70 km NE Vientiane, Ban Phabat, 18°16.1N 102°10.9E (GPS), 150 m, 27.IV-1.V.1997, leg. C. Holzschuh / Oedichirus longipennis Kr. det. 2015 G. de Rougemont [CRO]; 1♀: LAOS centr., Bolikhamsai prov., BAN NAPE, Kaew Nua Pass, 18.4-1.5.1998, alt. 600±100m, N 18°22.3 N 105°09.1 E (GPS), E. Jendek & O. Sauša leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CST]; 1♀: N-LAOS, May 1999, Oudom Xai prov., NAM MIANG riv., 30km S Muang Xai, 1200m., Lao coll. leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CST]; 2♀♀: LAOS centr., 27.IV-1.V.1997, 70 km NE Vientiane, BAN PHABAT env., 150 m, N 18°16.1, È 103°10.9, E. Jendek & O. Sauša leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK].
- Vietnam: 1♂: S-VIETNAM, 40 km NW An Khe, Buon Luoi, 620-750 m, 14°10'N 108°30'E, 28.3-12.4.1995, Patcholatko & Dembicky / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [NHMW].
- Indonesia: 6♀♀: SULAWESI TENGAH, Nr. Morowali, Ranu River Area, 27.i-20.iv.1980 / at light / M.J.D. Brendell BM 1980-280 / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [NHML, 1 ex. in CRO]; 1♀: Indonesia, Sulawesi Teng., 5Km W of Bancea (Danau Poso), 900 m, 120.32.4E 1.59.3S, 19-24.vii.1999 / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CST]; 1♀ [type of O. schueltheissi Fvl.]: N.O. Sumatra, Tebing-tinggi, Dr. Schultheissi / Schultheissi Fvl. / lewisius Shp. var. / Ex-Typis / Oedichirus longipennis Cam. New Synonymy des. 2015 G. de Rougemont [IRScNB]; 1♀ [type of O. excellens Cam.]: KL Kombuis Java-Zee, 27.I.1928 / [BM Paratype label] / Oedichirus excellens Cam. / M. Cameron Bequest 1955-147 / Oedichirus longipennis Kr. New Synonymy des. 2015 G. de Rougemont [NHML]; 1♀: C.J. Louwerens Java 84 m, Toeloengagoeng / Oe. ab. nigripennis Cam. / M. Cameron Bequest BM 1955-147 / Oedichirus longipennis Kr. det. 2015 G. de Rougemont [NHML]; 1♀: INDONESIA, E. Java, Baluran Nat. P. 50 m, Wonorejo, 24-25.2.1994, Bolm leg. [SMNS].
- Japan:
   1 ex. (Type of O. idea Sharp): Mitzuyama, Nagasaki / Oedichirus longipennis Kr. New Synonymy Des. 2016 G. de Rougemont [NHML]; 1♀: (HONSHU) Hirakawa, Yamaguchi / 1.VII.1981, K. Yano et al., at light / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [KUM]; 1♂: OKINAWA Is., Okinawa Pref., Nago C., Ooura, 26.VII.1993, M. Kimura leg. [KUM]; 1♀: SHIRAHAMA IRIOMOTE Is., 20.XII.1996, I. MATORA leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK]; 1♂: JAPAN, Ryukyus, Yaeyama Iss., MIYAKO Is., 29.II.1997, I. MATOBA leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK]; 1♂: JAPAN Ryukyus, Mt. Urabu-dake, YONAGUNI Is., 27.II.2007, I. TANAKA leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK]; 1♂: YOSHIWARA, ISHIGAKI Is., OKINAWA, 10.III.2006, Isamu TANAKA / Ordichirus longipennis Kr. det. 2016 G. de Rougemont [CIK]; 1♂: JAPAN, Ryukyus, Naha 20-100m, OKINAWA Is., 28.VI.2002002, K. KUSANO leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK]; 1♀: JAPAN, Ryukyus, Aha Kunigami, OKINAWA Is., 23.I.2008, S. IMASAKA leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK]; 1♀: Kamijijima Is., Yaeyam Iss., Okinawa Pref., 20.VI.2011, Y. Kusui Leg. / Oedichirus longipennis Kr. det. 2016 G. de Rougemont [CIK];

Description (of type): length: 7 mm; length of fore-body: 3.2; length of head: 0.75; breadth of head: 0.92; length of antenna: 1.65; length of pronotum: 1.1; breadth of pronotum: 0.9; length of elytron: 1.32; breadth of elytra: 1.3. Head black, pronotum red,

elytra black, abdominal segments III-VI red, the following black; palpi and antennae testaceous, legs testaceous, knees infuscate. Dorsal surfaces devoid of microsculpture. Pubescence pale, fairly long and dense, erect on head, pronotum and abdomen, decumbent on elytra. Habitus: Figs 14h (ex. from Laos), 14hjp (type of *O. ideae*).

Head very transverse; post-ocular groove well marked by series of small punctures, but carina feeble, not forming an angle behind eyes; puncturation sparse, consisting of a number of very small punctures on frons, 5-6 larger punctures on vertex, 4-5 ocular punctures, the posterior one large, and transverse series half a dozen punctures just before base, in addition to the very small punctures in post-ocular furrow. Pronotum strongly elongate, the sides convergent in straight lines from anterior angles to base; lateral margins not bordered; disc with a pair of series of five punctures each preceded by a pair of smaller punctures set more closely together than discal series, and near the anterior margin a series of six punctures disposed in an arc, two large lateral punctures, and the usual small punctures along lateral margins. Elytra elongate, ample, widest at posterior 1/3<sup>rd</sup>, the sides rounded between well marked humeral angles and acute posterior angles, the joint posterior margin coarctate; puncturation coarse and close, the interstices in anterior <sup>3</sup>/<sub>4</sub> almost everywhere narrower than diameter of punctures. Puncturation of abdominal tergites arranged in three discrete transverse rows and an anterior transverse row adjacent to anterior row of keels.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 14s8; aedoeagus: Figs 14arl, av.

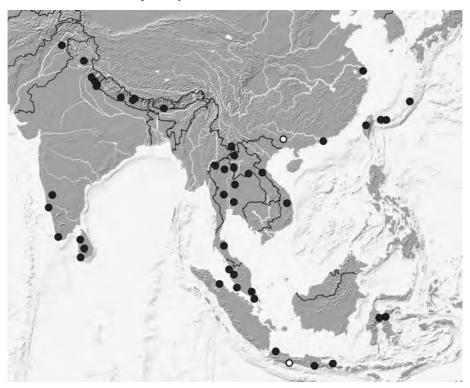
Female: sternite IX and vulvar plate (of a specimen from Japan): 14vp.

Variability: the extent of infuscation of the knees varies; in most specimens from Japan and the Ryukyu Islands (= O. idea SHARP), the legs are uniformly testaceous; elsewhere the knees are more or less extensively infuscate. In the female from Galle, Sri Lanka, the abdominal segments III-VI are very dark, almost black. The type of O. schultheissi FAUVEL does not differ in any way from typical O. longipennis; FAUVEL seems to have been unaware of KRAATZ' species, for he compared O. schultheissi to his own West Palearctic species O. walkeri. In BERNHAUER & SCHUBERT's catalogue (1912, 40: 202) the home of O. schultheissi (Sumatra) is erroneously given as Burma, probably because Fauvel's article is entitled "Staphylinides nouveaux de l'Inde et de la Birmanie". The specimen from "Kombuis" is the type of O. excellens CAMERON, but does not bear a CAMERON Type label. The specimen only differs from typical O. longipennis by being generally paler: the knees are less extensively infuscate than in typical specimens, and the centre of each elytron is broadly reddish.

- *O. longipennis* is very close to *O. lewisius* SHARP, from which it is most evidently distinguished by its more densely punctate and larger elytra (distinctly longer than pronotum), differences in shape of the emargination of male 8<sup>th</sup> sternite and of the anterior process of the ventral sclerite of the aedoeagus. The ranges of the two species overlap in southern Honshu, Kyushu and the Ryukyu Islands.
- O. longipennis is the commonest and by far the most widespread species of the genus (distribution map, below) with a range that covers the entire Oriental Region except, as far as we know, the Philippines. It was previously recorded from northern and southern India and Pakistan, and, as O. lewisius, from Java (RATNA et. al. 2002) Shanghai (LI et al. 2010) and Guangxi (WANG 1990). O. 'idae' was described from Tokunoshima Island and recorded from Honshu and Kyushu. Rather surprisingly SHARP did not consider O.

longipennis when he described O. 'idea', and CAMERON also omitted mention of Sharp's two species when he redescribed O. longipennis (1932); it is more easily understandable that later Chinese and Indonesian authors looked to the far-eastern species when they recorded O. lewisius from China and Indonesia rather to the less well known O. longipennis described from India. O. longipennis is recorded here for the first time from Nepal, Ceylon, Thailand, Laos, Vietnam, China, Taiwan, Malaysia, Singapore and Celebes.

Distribution: Map 1. Keys: 2, 3, 4.



**Map 1**: Distribution of *Oedichirus longipennis* (records from Honshu and Kyusyu omitted. Empty circles represent specimens not seen, recorded as *O. lewisius*).

## Oedichirus lucabosmontis nov.sp. (Figs 24)

M a t e r i a l s t u d i e d : ♀ Holotype: INDIA, Madras, Anaimalai H., 18 km N. de Valparai, 1250 m, 18-XI-72, Besuchet Löbl Mussard / HOLOTYPE Oedichirus lucabosmontis des. 2015 G. de Rougemont [MHNG].

Description: length: 6.3 mm; length of fore-body: 3; length of head: 0.82; breadth of head: 0.9; length of antenna: 2.32; length of pronotum: 1.17; breadth of pronotum: 0.92; length of elytron: 1; breadth of elytra: 1.25. Fore-body rufo-testaceous, abdominal segments III-VI somewhat darker, reddish-brown, segments VII-IX black. Body devoid of microsculpture except on row of keels on anterior margins of tergites.

Pubescence erect, short and sparse on fore-body longer on abdomen. Habitus: Fig. 24h

Head moderately transverse, eyes large and prominent; post-ocular border consisting of a narrow groove and fine carina ending well before posterior margin of eye; disc with only one pair of punctures before base, apart from a number of minute setiferous punctures on frons, on inner margins of eyes, and in post-ocular groove. Pronotum very convex, the sides rounded between anterior angles and narrowly bordered base; lateral margins entirely but inconspicuously bordered; disc without series of punctures, with only 2-3 lateral punctures and very small punctures along anterior and lateral margins. Micropterous, elytra broad, very short, humeral angles completely obsolete; disc with only a few, small, scattered, slightly asperate punctures. Punctures of abdominal tergites arranged in three discrete transverse rows, with no punctures adjacent to anterior row of keels and grooves.

Female: sternite: Fig. 24vp

This is a sibling species of the south Indian endemics *O. cardamomensis* nov.sp. and *O. coorgensis* nov.sp. of which it is a vicariant in the Anamalai hills. It differs from both those species in its greater size and proportionately broader fore-body, and most conspicuously by the head being impunctate but for one pair of punctures near the posterior margin. This alone distinguishes the new species from all other oriental *Oedichirus*.

Key 4.

## Oedichirus mahanuvaraensis nov.sp. (Figs 52)

M a t e r i a l s t u d i e d : ♀ Holotype: CEYLAN Central, Kandy 700 m, 14.II.1970, MUSSARD BESUCHET LÖBL / Oedichirus sp. det. G. de Rougemont 1999 / HOLOTYPE Oedichirus mahanuvaraensis Des. 2015 G. de Rougemont [MHNG]; 1♀ paratype: CEYLAN Central, Kandy 600, 22.I.70, MUSSARD BESUCHET LÖBL / PARATYPE Oedichirus mahanuvaraensis des. 2017 G. de Rougemont [CRO].

D e s c r i p t i o n : length: ca. 5.5; length of fore-body: 2.4; length of head: 0.62; breadth of head: 0.72; length of antenna: 1.5; length of pronotum: 0.95; breadth of pronotum: 0.92; length of elytron: 0.77; breadth of elytra: 0.95. Body brown, palpi testaceous, antennae infuscate, the bases of antennomeres narrowly testaceous, legs testaceous, the distal half of profemora, basal half and distal quarter of meso- and metafemora and basal half and distal quarter of meso- and metatibiae infuscate. Dorsal surfaces devoid of microsculpture. Pubescence dark, long on fore-body, short on abdomen, erect. Habitus: Fig. 52h.

Head not strongly transverse; post-ocular border well marked, ending in an acute dentiform angle removed from posterior margin of eye; puncturation consisting of about ten irregularly scattered large punctures on frons, a pair of inter-ocular punctures at a level just behind anterior margins of eyes, a transverse series of three punctures on vertex, and a transverse arcuate series of about six punctures before base, in addition to 3-4 small ocular punctures and fine punctures in groove of post-ocular border; the base has a transverse row of short keels before neck. Pronotum relatively short, the sides strongly contracted to narrow base; lateral margins bordered only on and just behind anterior angles; puncturation consisting of a pair of series of four large punctures and a smaller puncture near base on each side, a few other scattered punctures before the series and on anterior border, lateral series of two large punctures, and a number of punctures on lateral margins. Micropterous, elytra very short, strongly transverse; puncturation consisting of a

juxta-sutural series of 6-7 closely set punctures, the rest of disc with irregularly scattered larger punctures; anterior lateral margins with a number of setiferous tubercles. Sculpture of abdominal tergites consisting of the usual basal row of short keels and three discrete transverse rows of punctures.

Female: sternite IX: Fig. 52vp.

Of the other Ceylanese species, *O. mahanuvaraensis* nov.sp. most closely resembles *O. minor* Cameron from which it differs most obviously by the infuscation of the legs.

# Oedichirus mediosiamensis nov.sp. (Figs 47)

M a t e r i a 1 s t u d i e d : ♂ Holotype: THAILAND, Petchaburi, Kaeng Krachan Nat. Pk., 450 m, 19.XI.1985, Burckhardt – Löbl / HOLOTYPE Oedichirus mediosiamensis des. 2015 G. de Rougemont [MHNG]; 1♂ paratype; [Ibid.] [CRO]; 1♀ paratype: THAILAND, Petchaburi, Kaeng Krachan Nat. Pk, 450 m, 18.XI.1985 Burckhardt – Löbl / Oedichirus sp. det. G. de Rougemont 1999 / PARATYPE Oedichirus mediosiamensis des. 2015 G. de Rougemont [MHNG].

A d d i t i o n a 1 m a t e r i a 1 : 1 \times : THAILAND Prov. Kanchanaburi, 21.VII.87, Sai Yok Nat. Park, P. Schwendiger 100 m / Oedichirus mediosiamensis det. 2015 G. de Rougemont [MHNG].

Description: length: 6 mm; length of fore-body: 2.5; length of head: 0.64; breadth of head: 0.82; length of antenna: 1.8; length of pronotum: 1; breadth of pronotum: 0.9; length of elytron: 0.95; breadth of elytra: 0.87. Body piceous, palpi, antennae and legs uniformly testaceous. Fore-body devoid of microsculpture, micro-reticulation of abdominal tergites III-VII scarcely distinguishable, distinct on tergites VIII-IX. Pubescence of mixed lengths, erect. Habitus: Fig. 47h.

Head strongly transverse, eyes prominent but not very large; post-ocular carina salient, ending anteriad in a dentiform angle well removed from posterior margin of eye, groove above carina scarcely distinguishable; puncturation sparse, consisting of a few irregularly scattered small frontal punctures, a pair of very large closely-set umbilicate punctures on vertex, about eight scattered punctures on each postero-lateral area, and about five small punctures on each side on post-ocular border. Pronotum short, lateral margins entirely bordered; disc with an irregular but discernible pair of discal series of six punctures each preceded by a cluster of about ten punctures, a few small scattered lateral punctures in anterior half, a posterior lateral series of three large punctures, and 5-6 small punctures along lateral margins. Micropterous, elytra measured along suture shorter than pronotum, humeral angles much reduced but not completely obsolete; puncturation coarse and dense, especially near suture. Punctures of abdominal tergites apparently random on tergites III and IV, clearly arranged in discrete transverse rows on following tergites.

Male: sternite VII: unmodified; aedoeagus: Fig. 47arl.

Female: sternite IX (of ex. From Kanchanaburi prov.): Fig. 47vp.

This species is similar to *O. uncifer* nov.sp. from which it may be distinguished by the puncturation of the abdominal tergites, as described in Key 3.

## Oedichirus minor CAMERON (Figs 53)

Oedichirus minor CAMERON, 1914: 537. Oedichirus minor CAMERON 1932: 30.

M a t e r i a l s t u d i e d : 1ç: Ceylon, G. Lewis 1910-320 / Bogawantalawa 4,900-5,200 ft. 28.11-12.III.82 / Oedichirus minor Cam. / LECTOTYPE Oedichirus minor Cameron Des. 2015 G. de Rougemont [NHML]

A d d i t i o n a 1 m a t e r i a 1 : 1♂: CEYLON, Kandy, 10.VII.1979, G. de Rougemont [CRO]; 1♀: CEYLAN, Uva, Haputale, 1350 m, 23.I.1970, MUSSARD BESUCHET LÖBL / Oedichirus sp. det. G. de Rougemont 1999 / Oedichirus minor Cam. det. 2015 G. de Rougemont [MHNG]; 1♀: CEYLAN, Central, Hakgala, 28.I.70, 1700 − 1800 m, MUSSARD BESUCHET LÖBL [MHNG]; 1♂: CEYLAN, Central, Pidurutalagala, 29.I.70, MUSSARD BESUCHET LÖBL / Oedichirus sp. det G. de Rougemont 1999 / Oedichirus minor Cam. det. 2015 G. de Rougemont [MHNG].

D e s c r i p t i o n : length (of type): 5.4 mm; length of fore-body: 2.6; length of head: 0.75; breadth of head: 0.92; length of antenna: 1.65; length of pronotum: 0.97; breadth of pronotum: 0.87; length of elytron: 0.75; breadth of elytra: 1.1. Body black, palpi, antennae and legs uniformly testaceous. Dorsal surfaces glossy, devoid of microsculpture. Pubescence long, erect. Habitus: Fig. 53h.

Head strongly transverse, eyes large and prominent; post-ocular carina salient, ending anteriad in a large dentiform angles well removed from posterior margin of eye; puncturation of disc sparse and irregular, composed of about a dozen small punctures on frons and anterior part of vertex, and a transverse series of four larger punctures before base, and about three small punctures on either side in groove above post-ocular carina.

Pronotum cordiform, the sides retracted in almost straight lines to narrow base; lateral margins without evident borders; disc with a pair of arcuate series of four punctures each preceded by half a dozen smaller punctures, lateral series of three punctures each and small punctures along lateral margins. Micropterous, elytra very broad, short, widest just behind middle, the humeral angles completely obsolete, the posterior angles produced. Punctures of abdominal tergites arranged in three discrete transverse rows, the first very close to row of keels and furrows on anterior margin, the three median punctures of second row much larger than lateral punctures.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 53s8; aedoeagus: Fig. 53arl Female: abdominal sternite IX: Fig. 53vp.

Of the known Ceylanese species *O. minor*, owing to its black colour and microptery, most closely resembles *O. mahanuvaraensis* nov.sp. from which it can be readily distinguished by the uniformly testaceous legs. The original description was based on the specimen from Bogawantalawa listed above; since it did not bear any type label I have designated it lectotype of the species.

#### Oedichirus muluensis nov.sp. (Fig. 27)

M a t e r i a l s t u d i e d: Holotype (lacking abdominal segments V-IX): SARAWAK, 4<sup>th</sup> Division, Gn. Mulu NP / HOLOTYPE Oedichirus muluensis Des. 2015 G. de Rougemont [NHML].

D e s c r i p t i o n : length: >10 mm; length of fore-body: 5.3 mm; length of head: 1.25; breadth of head: 1.4; length of antenna: 3.7; length of pronotum: 1.5; breadth of pronotum: 1.25; length of elytron: 1.85; breadth of elytra: 1.8. Head and pronotum rufo-testaceous, elytra and visible abdominal segments testaceous, with a dark longitudinal macula on disc of each elytron. Head and pronotum devoid of microsculpture, elytra with faint traces of micro-reticulation in anterior half, abdominal tergites with microsculpture consisting of dense reticulation on anterior margins of tergites and mostly transverse microstriae on rest of surface. Pubescence sparse, pale, erect. Habitus: Fig. 27h.

Head only a little transverse; post-ocular border consisting of a carina extending anteriad

to under the posterior margin of eye, not forming an angle, surmounted by a rather broad and shallow groove bearing large punctures; puncturation of disc irregular, leaving frons and a large part of vertex impunctate. Pronotum characteristinc of the Wallacei group, the sides concave; lateral margins bordered in anterior half, the line continued posteriad by a series of four punctures smaller than those of disc; puncturation of disc arranged roughly in two median series of 7-8 punctures, a longitudinal series of three closely-set punctures behind anterior angles, and a number of scattered punctures between the median and antero-lateral series. Elytra strongly elongate, humeral angles narrow but marked, the sides dilated posteriad nearly to posterior angles; surface of elytra strongly depressed in anterior half, the surface distinctly concave in lateral view; puncturation finer than that of pronotum, the interstices in anterior half on average about as wide as diameter of punctures, larger in posterior half. Punctures of abdominal tergites disposed randomly, about as coarse as those of elytra.

Sexual characters unknown.

Key 2.

This Bornean endemic is the largest of the four members of the 'Wallacei group' and also distinctive by virtue of the depressed form of the elytra.

The data given on the label is incomplete; the specimen was obtained by the BM Gunung Mulu expedition in 1978.

## Oedichirus mutilus nov.sp. (Figs 35)

M a t e r i a l s t u d i e d : ♂ Holotype: Philippines Palawan: above St Rafael, forest edge, 4.xii.1996, I. Löbl, leaf litter #13 / HOLOTYPE: Oedichirus mutilus des. 2015 G. de Rougemont [MHNG].

D e s c r i p t i o n : length: ca. 7 mm; length of fore-body: 2.6; length of head: 0.7; breadth of head: 0.82; length of antenna: 1.45; length of pronotum: 1; breadth of pronotum: 0.85; length of elytron: 0.75; breadth of elytra: 0.8. Body brown, palpi, antennae and legs uniformly testaceous. Dorsal surfaces devoid of microsculpture except on rows of keels on anterior margins of abdominal tergites. Pubescence rather short, sparse, pale, erect or semi-erect. Habitus: Fig. 35h.

Head strongly transverse; eyes large and prominent; anterior margin of frons with a slight median indentation; post-ocular carina salient, forming a dentiform angle well behind posterior margin of eye; puncturation sparse and fine, consisting of about a dozen small punctures on frons and anterior part of vertex, a few small ocular punctures, a pair of close-set large punctures flanked by a pair of small punctures near base, and small punctures in post-ocular groove. Pronotum broad, the sides strongly and slightly concavely retracted to base; lateral margins without evident border; disc with a pair of anteriorly convergent discal series of five punctures each preceded by four punctures disposed in a chevron pattern, a lateral series of two large punctures, and small punctures along anterior and lateral margins. Micropterous, elytra short and broad, the humeral angles completely obsolete; puncturation coarse, dense near suture, sparser on sides. Keels on anterior margins of abdominal tergites long, punctures of tergites arranged in four discrete transverse rows, the punctures of first row small and round and close to but clearly separate from keels, those of following rows larger.

Male: Abdominal sternite VII unmodified; sternite VIII: Fig. 35s8, the surface before

posterior margin with a single oblique dentiform carina; aedoeagus (median lobe damaged): Fig. 35arl, the ventral plate with a pair of anterior processes, the right one slender, the left broad and curved, left paramere short and curved.

O. mutilus nov.sp., O. palawanensis nov.sp., O. philippinus nov.sp. and Oedichirus. sp. P1 are the first members of the genus recorded from the Philippine Republic. It is a smaller species than O. palawanensis and O. philippinus, about as long as Oedichirus sp. P1, but of a more slender build, with smaller and more coarsely punctate elytra.

## Oedichirus nepalensis nov.sp. (Figs 40)

Material studied: ♀ Holotype: NEPAL, ANNAPURNA HIMAL LUMLE, 17-22.06.1999, A. KUDRNA JR LGT. / HOLOTYPE Oedichirus nepalensis Des. 2015 G. de Rougemont [NHMW].

Description: length: 8.3 mm; length of fore-body: 3.5; length of head: 0.9; breadth of head: 1.02; length of antenna: 2.7; length of pronotum: 1.2; breadth of pronotum: 1; length of elytron: 1.25; breadth of elytra: 1.12. Body black, all appendages uniformly testaceous. Fore-body devoid of microsculpture, abdominal tergites entirely finely micro-reticulate. Pubescence pale, moderately long, semi-erect or decumbent. Habitus: Fig. 40h.

Head scarcely broader than its length; puncturation dense, irregular, leaving a large longitudinal impunctate area on frons, interstices larger than diameter of punctures except between a cluster of six punctures on centre of vertex; post-ocular border marked, in the shape of a groove above a carinate bead which forms a tooth a short distance behind posterior margin of eye. Puncturation of pronotum irregular, comparable to that of head, with a pair of almost parallel discal series of four punctures which are scarcely discernible as forming a series among the other punctures; sides with an entire lateral border in the form of a fine carina. Elytra narrow, elongate, with reduced but distinct humeral angles, the sides feebly rounded, almost parallel, widest about 2/3<sup>rds</sup> the distance from anterior margin, the disc flattened, depressed; puncturation coarse and dense, the interstices narrower than diameter of punctures. Abdominal puncturation disposed randomly, coarse and dense, the punctures larger than those of elytra.

Female: sternite IX: Fig. 40vp.

In colour, abdominal puncturation and habitus, in particular the shape of the elytra, this new species is comparable to *O. shibatai* nov.sp. from Taiwan, from which it differs by its less transverse and more densely punctate head, less strongly depressed elytra and the weaker lateral border of the pronotum.

## Oedichirus niger CAMERON (Figs 41)

Oedichirus niger CAMERON, 1914: 536. Oedichirus niger CAMERON 1932: 30.

M a t e r i a l s t u d i e d : ♂ Holotype: [BM Holotype label] / H.L. Andrews, Nilgiri Hills [NHML]; 1♀ syntype: [BM Paratype label] / Nilgiris / M. Cameron Bequest 1955-147 [NHML]; 8 syntypes: Ibid, [without BM type labels, including 1♂ with an additional handwritten label "Oedichirus andrewsei Fvl."] [NHML, one specimen in CRO].

Description: length: 7.2 mm; length of fore-body: 3.9; length of head: 0.95; breadth of head: 1.18; length of antenna: 2; length of pronotum: 1.3; breadth of pronotum: 1.02; length of elytron: 1.3; breadth of elytra: 1.2. Head and pronotum black, elytra

and abdomen piceous; palpi, antennae and legs testaceous, the apices of femora slightly and narrowly infuscate. Head and pronotum devoid of microsculpture, elytra with faint but distinct reticulate microsculpture, abdominal tergites more strongly and distinctly microsculptate, the sculpture consisting of mostly transverse micro-striae. Fore body without evident pubescence; abdomen with long pale decumbent pubescence. Habitus: Fig. 41h.

Head strongly transverse, eyes large and prominent; anterior margin of frons deeply indented; post-ocular carina and groove well marked, ending anteriad in a small angle behind posterior margin of eye; disc entirely fairly densely but irregularly punctate, leaving only the anterior margin of frons and a narrow transverse area on vertex impunctate. Pronotum strongly elongate, the sides slightly concave between anterior and posterior angles; lateral margins without evident border; puncturation of disc coarse, forming a pair of discal series of six punctures each, the surface between these slightly umbonate, with one or two punctures, and lateral series of four punctures in posterior half of pronotum, the surface of anterior  $1/3^{\rm rd}$  of disc (before discal series) with numerous punctures, and punctures along the lateral margin. Elytra elongate, humeral angles marked but narrow, the sides dilated to widest point about  $2/3^{\rm rds}$  from base, the surface of disc strongly depressed in anterior half; puncturation coarse and dense, the punctures on lateral margins of anterior 3/4 asperate, forming small tubercles. Puncturation of abdominal tergites coarse and dense, disposed randomly; keels and furrows of tergites III-IV short, reduced, obsolescent on following tergites.

Male: abdominal sternite VII: Fig. 41s7, with an arcuate apical emargination, the apical angles each produced into a long stout tooth; sternite VIII with a moderately large subtriangular emargination with rounded fundus, the sculpture otherwise unmodified; aedoeagus: Fig 41arl.

O. niger is a distinctive species by virtue of the shape of its elytra (sides constricted between narrow but well marked humeral angles and their broadest point, the surface strongly depressed, concave in lateral view (notwithstanding the elongate elytra, the species probably has reduced, non-functional wings); O. niger resembles O. strictipennis nov.sp. from Thailand in its build and microsculptate abdomen, but the puncturation of the fore-body is coarser and the humeral angles are obsolescent.

Key 4.

## Oedichirus palawanensis nov.sp. (Figs 36)

M a t e r i a l s t u d i e d : ♂ Holotype: PALAWAN: Central, Sabang, trail to Undergr. River, sea level, 30.XI.95, I Löbl, forest, fungi on log / HOLOTYPE Oedichirus palawanensis des. 2015 G. de Rougemont [MHNG]; 3♂ paratypes: PHILIPPINES, Central Palawan, 4 km N Port Barton, 29.xii.1996, 50 m, G. Cuccodoro, sifting moist and lush leaf litter and vegetable debris in forest above waterfalls / PARATYPE Oedichirus palawanensis des. 2015 G. de Rougemont [MHNG, 1 paratype in CRO].

Description: length: 6.2 mm; length of fore-body: 2.9; length of head: 0.8; breadth of head: 0.9; length of antenna: 2.4; length of pronotum: 1.4; breadth of pronotum: 0.92; length of elytron: 0.92; breadth of elytra: 1.05. Body black, palpi, antennae and legs uniformly testaceous. Body devoid of microsculpture. Pubescence moderately long, dark, erect. Habitus: Fig. 36h.

Head only a little transverse; post-ocular carina salient, ending anteriad under the posterior margin of eye, but forming a dentiform angle well behind eye; puncturation consist-

ing of a dozen punctures on frons, two ocular punctures, another puncture between these but further removed from eye, two very large closely set punctures in front of base, and a number of small punctures on posterior margin and in post-ocular grooves. Pronotum strongly elongate, the sides narrowed in almost straight lines to narrow base; lateral margin without evident border; puncturation of disc consisting of a pair of discal series of four punctures each, the interval between first (starting from base) puncture and the next much greater than those between the three other punctures; in front of this six smaller punctures disposed in a circle; two lateral punctures, two punctures on either side on anterior margin, a number of punctures on lateral margins, and four punctures along posterior margin. Micropterous, humeral angles completely obsolete, sides dilated in almost straightlines to the widest point 2/3<sup>ds</sup> the distance from base and then a little retracted to posterior angles. Punctures of abdominal tergites arranged in three discrete transverse rows behind row of long keels on anterior margin of each tergite.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 36s8, the surface of sternite with two divergent keels; aedoeagus: Fig. 36arl, the right paramere bent at a sharp angle; left paramere wanting.

O. palawanesis nov.sp., O. philippinus nov.sp., O. mutilus nov.sp. and O. sp. P1 are the only Oedichirus recorded from the Philippine Republic. The four species are very similar in their uniform colour, facies and pattern of puncturation; O. palawanensis nov.sp. is distinguished from the other three by its black body (brown in the other species) and the male sexual characters.

# Oedichirus patcholatkoi nov.sp. (Figs 7)

M a t e r i a l s t u d i e d : ♂ Holotype: MALAYSIA-W Perak, 25 km NE of Ipoh, 1200 m., Banjaran Titi Wangsa mts., KORBU mt., 27.i-2.ii.1999, P. Patcholatko leg. / HOLOTYPE Oedichirus patcholatkoi Des. 2016 G. de Rougemont [CIK].

D e s c r i p t i o n : length: ca. 7.3 mm; length of fore-body: 3.6; length of head: 0.8; breadth of head: 0.87; length of antenna: 3.2; length of pronotum: 1.25; breadth of pronotum: 1; length of elytron: 1.42; breadth of elytra: 1.4. Head black, pronotum red, anterior 3/5<sup>th</sup> of elytra black, posterior 2/5<sup>th</sup> red, abdominal segments III-V red, VI-IX black; antennomeres I-X brown, the apex of each segment pale, antennomere XI entirely pale; basal halves of meso- and metafemora testaceous, distal halves and entire tibiae infuscate. Dorsal surfaces devoid of microsculpture. Pubescence on abdomen pale, long, semi-erect. Habitus: Fig. 7h

Head strongly transverse; post-ocular carina well developed, forming a sharp angle behind eye; puncturation of disc sparse, consisting of some very small frontal and ocular punctures, a couple of punctures behind post-antennae tubercles, a cluster of half a dozen punctures on vertex, and an arcuate transverse row of laterally elongate punctures before base. Pronotum moderately elongate, the sides concave between anterior and posterior angles; lateral margins without evident borders; puncturation composed of a pair of arcuate discal series of five large punctures, a few scattered small punctures before this and on anterior margins, lateral series of two large punctures, and the usual small punctures on lateral margins. Elytra ample, very convex, widest 3/5th from anterior margin, the sides rounded; puncturation of disc arranged in three longitudinal series of small punctures and other small punctures on lateral margins. Punctures of abdominal tergites arranged in three discrete transverse rows behind anterior rows of short keels.

Male: sternite VII unmodified; sternite VIII: Fig. 7s8, with a deep asymmetrically rounded emargination enclosing a membranous flange and comb of pale setae, bordered on the right by a tooth, edentate on the left; aedoeagus: Fig. 7arl, the ventral plate with a truncate process.

O. patcholatkoi nov.sp. is very similar to the only other member of the O. Alatus group with entirely black tibiae, Oedichirus sp A4 from northern Thailand, from which it differs by its slightly finer elytral puncturation.

Distribution: Map 2. Keys 1, 3.

## Oedichirus pendleburyi CAMERON (Figs 31)

Oedichirus pendleburyi CAMERON, 1930a: 162. Oedichirus pendleburyi HAMMOND 1984: 203.

M a t e r i a l s t u d i e d : ♀ Holotype: [BM Holotype label] / N. BORNEO Samawang / NR. SANDAKAN Jungle 15<sup>th</sup> July 1927 / Oedichirus pendleburyi <u>TYPE</u> Cam. / M. Cameron Bequest BM 1955-147 [NHML].

m a t e r i a l :  $1 \circlearrowleft$ : Sandakan Borneo Baker / Chicago NHMuseum M. Additional Bernhauer Collection / Oedichirus pendleburyi Cam. det. 2016 G. de Rougemont [FMC]; 13: [SARAWAK] Quop 11.iv.14 / G. 81 / G. Bryant Coll. 1919-147 [NHML]; 200: Borneo, Sabah, Danum Valley 4°58'N 117°47'E, Insecticide fogging June 1999 / BMNH{E} 2005-177, H. Mendel [NHML]; 10: BORNEO, Sabah, Tawau Hills N.P., V.1998, P. Hlavac / Rougemont collection / Oedichiru's pendleburyi Cam. det. 2016 G. de Rougemont [CRO]; 1 DEPOK [Java], 27-XI.1947, C. v. Nidek / Rougemont collection / Oedichirus pendleburyi det. 2016 G. de Rougemoont [CRO]; 12: W-Sumatra: Payakumbuh, Harau-Valley, 9.-29.10.1991, leg. A. RIEDEL 1000 m / Oedichirus pendleburyi Cam. det. 2015 G. de Rougemont [SMNS]; 299: J. B. CORPORAAL, Sumatra's O. K., Medan, 20 M / Chicago NHMus. M. Bernhauer Collection / Oedichirus pendleburyi Cam. det. 2016 G. de Rougemont [FMC]; 13: West SUMATRA prov.: Kerinci Seblat N.P.; 24km NE Tapan; MUARA SAKO → E env.; 2°05'S 101°15'E; 400-550m; L. Dembicky leg.; 4-18.iii.2003 / Oedichirus pendleburyi Cam. det. 2016 G. de Rougemont [CST]; 1♂: Malaysia, Cameron Hlds, 25-30.III.1984, Rougemont [CRO]; 1♀: Doherty / Perak / Oedichirus rufopiceus Bnh. [NHML]; 10 & 2 exx. [lacking abdomen]: [Ibid, but second label reads]: "Standing as Oedichirus pendleburyi" / Oedichirus pendleburyi det. 2016 G. de Rougemont [NHML]; 10: MALAYSIA, W. JOHOR, 20 km S. of MERSING, Jemaluang, 300 m, 1-14.ii.2003, Cechovsky Petr leg. [MNHW]; 1Q: Singapore Coll. Baker / Chicago NHMus. M. Bernhauer Collection / Oedichirus pendleburyi Cam. det. 2016 G. de Rougemont [FMC]; 1&: Res. S. Jungle 12.22 / Singapore, C.J. Saunders, BM 1929-369 / Oedichirus Pendleburyi; 10: [in red ink on mounting card]: Spore / [in red ink] 890 Palaminus? / Singapore, C.J. Saunders, BM 1929-369 / Standing as O. pendleburyi; 13 [lacking head and fore-legs]: Ibid. [but without "Palaminus?"]; 10: Res. S. 17.9.22 Jungle / Singapore, C.J. Saunders, BM 1929-369 / Standing as NHML]; 400 [2 exx. lacking head, mounted in pairs on two cards]: Sharp Coll. 1905-313 / Oedichirus malaccensis Fvl. Singapore / Oedichirus pendleburyi Cam. det. 2015 G. de Rougemont [NHML]; 400 & 300: Singapour [one ex. with the additional label "malacanus" / Oedichirus pendleburyi det. 2017 G. de Rougemont [MNHN]; 23 exx.: MALAYSIA, Pahang, 50 km NE Kuala Rompin, Endau Rmpin NP, 400 m, Gg. Keriung (Kg. Tebu Hitam), 9-30.IV.2008, leg. Cechovsky / Oedichirus pendleburyi Cam. det. 2017 G. de Rougemont [NHMW, 1 ex. in CRO]; 2♀♀: W-MALAYSIA, Kelantan, 30 km NW Gua Musang, Mt. Ulu Lalat, 800-1000 m, Kampong Sungai Om, 27.5-19.6.2011, leg. Cechovsky / Oedichirus pendleburyi Ca,. det. 2017 G. de Rougemont [NHMW].

D e s c r i p t i o n : length (of type): 9.2 mm; length of fore-body: 4.2; length of head: 0.9; breadth of head: 1.12; length of antenna: 2.9; length of pronotum: 1.32; breadth of pronotum: 1.02; length of elytron: 1.7; breadth of elytra: 1.5. Body piceous, the posterior margin of elytra sometimes (type) rufescent, appendages testacous. Fore-body devoid of

microsculpture; abdominal tergites III-VI with faint transverse micro-striation, tergites VII-VIII with very dense micro-punctures. Pubescence moderately long, semi-erect. Habitus: Fig. 31h.

Head moderately transverse, eyes large and prominent; post-ocular carina and groove well marked, forming a salient dentiform angle well removed from posterior margin of eye; frons with a few scattered very small punctures; punctures of disc larger, umbilicate, but much finer than those of pronotum, sparser on vertex, denser near eyes and base.

Pronotum strongly elongate, the sides slightly concavely retracted to posterior angles; lateral margin entirely but indistinctly bordered; puncturation visibly serially aligned, including two pairs of discal series of four and five punctures and a lateral series of 5-6 punctures and an anterior cluster of at least 15 smaller punctures as wel as small punctures along lateral margins, but all more or less confused in many specimens. Macropterous, elytra very long, ample, widest a little hehind middle, humeral angles well marked, and sides rounded between these and posterior angles; puncturation about as coarse as those of pronotum but very dense, the interstices everywhere much narrower than diameter of punctures. Punctures of abdominal tergites disposed randomly, dense, as coarse as those of elytra.

Male: surface of sternite VIIwith a pair of dentiform elevations, the right one larger than the left and projecting slightly beyond the posterior margin of sternite; sternite VIII: Fig. 31s8, with a large simple emargination; aedoeagus: Fig. 31arl, av.

Female: sternite IX: Fig. 31vp

Variability: some apparently fully mature specimens are brown rather than piceous. The species is indistinguishable in facies and puncturation from *O. lannaensis* nov.sp. from Thailand and Laos.

D i s t r i b u t i o n : Borneo, Java, Sumatra, Malay peninsula, Singapore. Key 2.

## Oedichirus philippinus nov.sp. (Figs 37)

M a t e r i a l s t u d i e d : ♂ Holotype: Subaan Mindoro / PHILIPPINEN COLL. BOETTCHER DON STAUDINGER / philippinus Bnh. Typus / Chicago NHMus M. Bernhauer Collection / HOLOTYPE Oedichirus philippinus Des. 2016 G. de Rougemont [AMNH].

D e s c r i p t i o n : length: ca. 9.5 mm; length of fore-body: 3.7; length of head: 0.95; breadth of head: 1.05; length of antenna: 2.7; length of pronotum: 1.32; breadth of pronotum: 1.1; length of elytron: 1.2; breadth of elytra: 1.2. Body dark brown, all appendages testacsous. Dorsal surfaces devoid of microsculpture. Pubescence (mostly rubbed off) short, semi-erect. Habitus: Fig. 37h.

Head moderately transverse; post-ocular carina extending anteriad to below posterior margin of eye, forming an angle at some distance from eye; puncturation consisting of seven large punctures disposed in a transverse ellipse on anterior part of vertex, leaving the frons and posterior part of vertex impunctate, a couple of ocular punctures, a pair of punctures further removed from eyes, and four small punctures disposed in a transverse arc before base, as well as the usual small punctures in post-ocular groove. Pronotum strongly elongate, broader than head, the sides strongly retracted to narrow base; lateral margins without evident border; puncturation of disc consisting of a pair of discal series of seven punctures each, 5-6 punctures before this, several irregularly disposed lateral

punctures, and smaller punctures along lateral and posterior margins. Micropterous, humeral angles completely obsolete; puncturation of disc moderately coarse and dense, denser in anterior ¼ where the interstices tend to form transverse wrinkles, sparser on rest of disc where the interstices are mostly wider than diameter of punctures. Punctures of abdominal tergites arranged in three discrete transverse rows behind the anterior row of long keels on each tergite.

Male: sernite VII unmodified; sternite VIII: Fig. 37s8, the surface of sternite with two divergent, asymmetrical dentiform keels which are shorter than those of *O. palawanensis* and do not extend beyond the level of the postero-lateral margins of sternite, the right keel bearing 4-5 short stout pale setae on its inner margin, the posterior margin of sternite with a small triangular emargination between the keels; aedoeagus: not illustrated; the specimen is somewhat teneral and the structures of the aedoeagus possibly deformed and difficult to interpret.

This species is very similar to the three species now known from Palawan. It is of a comparable size to *O. palawanensis* nov.sp. from which it is distinguished by its brown colour, its pronotal discal series of seven instead of four punctures, and the male sexual characters; it is considerably larger than the other two species, *O. mutilus* nov.sp. and *O.* sp. P1.

The specimen bears BERNHAUER's type label but no description was published. Four species of *Oedichirus* are now known from the Philippine Republic, but the other three are confined to Palawan, which is part of the Sunda subregion. *O. philippinus* is therefore the only species known from the Philippine subregion.

#### Oedichirus ruficeps KRAATZ (Figs 18)

Oedichirus ruficeps KRAATZ, 1859: 155. Oedichirus ruficeps CAMERON 1932: 28.

M a t e r i a l s t u d i e d : ♀ Holotype: 107 / India or. / Holotypus / Oedichirus ruficeps Kr. / Coll. Kraatz / DEI Münchenberg Col – 07523 [DEI].

D e s c r i p t i o n : length: ca. 7.8 mm; length of fore-body: 2.25 length of head: 0.75; breadth of head: 0.97; length of pronotum: 1.15; breadth of pronotum: 0.92; length of elytron: 0.85; breadth of elytra: 0.9. Head, pronotum and abdominal segments IV-VI rufo-testaceous, segments III and VII-IX black; legs testaceous. Head, pronotum and elytra shiny but with very faint microsculpture; abdomen devoid of microsculpture except on and between basal keels of abdominal tergites. No evident pubescence (probably rubbed off). Habitus: Fig. 18h.

Head strongly transverse; post-ocular border strong, consisting of a carina forming a salient acute angle close to posterior margin of eye, preceded by a fine shallow groove bearing a few minute, scarcely perceptible punctures; puncturation of disc consisting only of two transverse rows of punctures on vertex, the first of three, the second of five punctures, a single shallow puncture on each side near margin of eye, and a transverse row of six smaller punctures before base. Pronotum averagely elongate, the sides convergent in straight lines to base; lateral margin finely bordered in anterior half; puncturation of disc consisting of a pair of arcuate discal series of six punctures each, an irregular cluster of a few punctures before these, lateral series of two punctures and another puncture near base, and a number of smaller punctures along lateral margins. Micropterous, elytra broader than long, the humeral angles completely obsolete; punctures of disc smaller than those of pronotal discal series, denser and finer near suture,

sparser and coarser on sides. Punctures on abdominal tergites arranged in three discrete transverse rows behind anterior row of keels on tergites IV and V, the punctures of the last row (on posterior margin) sparser and much more widely spaced than those of preceding rows.

Female: sternite IX: Fig. 18vp.

The type specimen, which had been mounted on a point, became detached from the mount during the shipment to Oxford, and was broken into several parts; these have been glued back together on a card. The specimen lacks the antennae and three legs; none of these appendages was found in the box, so were probably lost before despatch. The provenance of this specimen is uncertain, but probably the Indian subcontinent.

## Oedichirus rufotestaceus BERNHAUER (Figs 19)

*Oedichirus rufotestaceus* BERNHAUER, 1902: 39. *Oedichirus rufotestaceus* CAMERON, 1932: 29.

M a t e r i a l s t u d i e d : ♀ Type (lacking head and prothorax): Nalanda / rufotestaceus Bh. Det. Bernhauer / rufotestaceus Bernh. Type Ceylon. Horn / Chicago NHMuseum M. Bernhauer collection [FMC].

A d d i t i o n a l m a t e r i a l : 1\(\tilde{1}\): CEYLAN, Northern, Murumkan, 5.II.70, MUSSARD BESUCHET LÖBL / Oedichirus rufotestaceus Bnh. det. 2016 G. de Rougemont [MHNG]; 1\(\tilde{1}\): CEYLAN, Southern, Yala Nat.-Park, 24.I.70, MUSSARD BESUCHET LÖBL / Oedichirus rufotestaceus Bnh. det. 2016 G. de Rougemont [CRO].

D e s c r i p t i o n (of ex. from Yala): length: ca. 7.5; length of fore-body: 2.9; length of head: 0.85; breadth of head: 0.97; length of antenna: 1.7; length of pronotum: 1.45; breadth of pronotum: 1; length of elytron: 0.92; breadth of elytra: 1.2. Body reddish-brown except abdominal segments VII-IX black, palpi, antennae and legs uniformly testacous. All dorsal surfaces with dense but faint micro-reticulation in ex. from Yala, imperceptible or non-existant in ex. from Murumkan (observed in good light at x40-50 magnification). Pubescence moderately long, pale, semi-erect. Habitus: Fig. 19h.

Head moderately transverse, eyes large but not particularly prominent; post-ocular carina fine, forming a small dentiform angle close to posterior margin of eye; puncturaiton of disc sparse, consisting of a number of very small punctures on frons, half a dozen large punctures on vertex, and numerous small punctures near base. Pronotum relatively short, the sides retracted in almost straight lines between broadly rounded anterior and posterior angles; lateral margins not visibly bordered; puncturation of disc serially aligned; the series may be describbed as a pair of discal series of 5-6 punctures preceded by a group of four punctures disposed in a square, or alternatively, because the two lateral punctures of each group are aligned aproximately with discal series, as a pair of discal series of 6-7 punctures extending anteriad almost to anterior margin; in addition there are a number of scattered punctures between the discal series and those of lateral margins. Micropterous, elytra short and broad, the humeral angles completely obsolete; punctures arranged in three slightly divergent series of ca. 5 puntures on disc and the usual series of smaller punctures along lateral margins. Punctures of abdominal tergites arranged in four discrete transverse rows, the first row consisting of small round punctures adjacent to basal keels of tergites, the punctures of following rows larger.

Female: sternite IX: Fig. 19vp.

Variability: the variation in microsculpture has been noted above. Apart from the colour of abdominal segments III, the differences between *O. rufotestaceus* and *O. ruficeps* given by CAMERON (1932) – relative breadth of head, puncturation of the abdomen – are largely illusory (see remark on puncturation of abdomen in 'diagnostic characters' above) or based on variable characters. These two species and the very similar *O. rufulus* nov.sp. described below may be separated as follows:

- 1 Abdominal segment III black; last row of punctures on abdominal tergites (on posterior margin) widely and irregularly spaced; vulvar plate: Fig. 18vp......ruficeps KRAATZ

#### Oedichirus rufulus nov.sp. (Figs 20)

- M a t e r i a l s t u d i e d : ♂ Holotype: S-INDIEN 16.XI.1993. Tamil Nadu, Nilgiri hills, 15 km SE Kotagiri (3) Kunchappanai 900 m / 76°56'E 11°22'N, Boukal & Kejval / HOLOTYPE Oedichirus rufulus des. 2016 G. de Rougemont [NHMW].
- A d d i t i o n a 1 m a t e r i a 1:1 $\varphi$ : S-INDIEN 16.XI.1993. Tamil Nadu, Nilgiri hills, 15 km SE Kotagiri (3) Kunchappanai 900 m / 76°56'E 11°22'N, Boukal & Kejval / Oedichirus rufulus nov.sp. det. 2016 G. de Rougemont [CRO].

Description: length: 6.5 mm; length of fore-body: 2.7; length of head: 0.75; breadth of head: 0.95; length of antenna: 1.8; length of pronotum: 1.05; breadth of pronotum: 0.9; length of elytron: 0.82; breadth of elytra: 1. Fore-body and abdominal segments III-VI rufo-testaceous, segments VII-IX black, all appendages uniformly testaceous. Dorsal surfaces devoid of microsculpture except for faint micropunctures on abdominal tergites VII-VIII. Pubescence moderately long, pale, erect and semi-erect. Habitus: Fig. 20h.

Head strongly transverse, eyes strongly protruberent; post-ocular carina salient, forming a prominent dentiform angle removed from posterior margin of eye; puncturation sparse, consisting of a group of ca. 8 punctures on anterior part of frons and two transverse rows of punctures before base. Pronotum short; lateral margins not or indistinctly bordered; disc with a pair of series of 6-7 punctures preceded by a cluster of 8-9 punctures, a lateral series of four punctures in basal half that curves away from discal series anteriad, and the usual punctures along lateral margins. Micropterous, elytra short and broad; puncturation dense near suture, sparser on sides. Punctures of abdominal tergites arranged in three discrete rows behind anterior row of keels on each tergite.

Male: aedoeaegus: Fig. 20arl. Female: sternite IX: Fig. 20vp.

Variability: the elytra of the female recorded above are more sparsely punctate than those of the holotype, its abdominal segment VII is infuscate but not deep black, and segments VIII-IX are concolorous with segments III-VI. In view of the different puncturation of the elytra the possibility must remain that the specimens belong to different species,

although this seems unlikely considering the distributions of specimens of this group. Keys: above and 4.

## Oedichirus segmentatus nov.sp. (Figs 51)

- M a t e r i a l s t u d i e d : ♂ Holotype: S-INDIEN 16.XI.1993. Tamil Nadu, Nilgiri hills, 15 km SE Kotagiri (3) Kunchappanai 900 m / 76°56'E 11°22'N, Boukal & Kejval / HOLOTYPE Oedichirus segmentatus Des. 2015 G. de Rougemont [NHMW]; 3♀♀ paratypes: [Ibid.] [NHMW, one paratype in CRO]; 1♀ paratype: INDIA, No. 37, Madras, Nilgiri 16 km E. de Coonoor, 900 m, 19-XI.72, Besuchet Löbl Mussard / PARATYPE Oedichirus segmentatus des. 2015 G. de Rougemont [MHNG]; 1♀ paratype: INDIA, No. 26. Madras, Nilgiri, 1400 m, 22-XI.72, Besuchet Löbl Mussard / PARATYPE Oedichirus segmentatus des. 2015 G. de Rougemont [MHNG]; 1♀ paratype: INDIA, Madras, Nilgiri, No. 38. 7 km E. de Coonoor, 1350 m, 19-XI.72, Besuchet Löbl Mussard / PARATYPE Oedichirus segmentatus des. 2015 G. de Rougemont [CRO].
- A d d i t i o n a 1 m a t e r i a 1 : 1 \(\times\): INDE: Tamil Nadu, Coonoor 600 m, 16.I. 1972, R. Mussard / Odichirus segmentatus Rgmt.? det. 2015 G. de Rougemont / Body and appendages stained black by chemical? [MHNG].

Description: length: 4.2 mm; length of fore-body: 2.2; length of head: 0.51; breadth of head: 0.7; length of antenna: 1.6; length of pronotum: 0.8; breadth of pronotum: 0.8; length of elytron: 0.62; breadth of elytra: 0.8. Fore-body reddish-brown, head sometimes darker, abdomen black, the posterior margins of segments III-VI reddish-brown; palpi and antennae testaceous; femora testaceous, their apices broadly infuscate, tibiae dark brown, their bases and apices narrowly testaceous, tarsi testaceous. Dorsal surfaces devoid of microsculpture. Pubescence long, pale, erect. Habitus: Fig. 51h.

Head rather narrow, the surface coarsely and densely punctured; post-ocular border entire, very marked, in the shape of a salient carina; posterior angles marked, but not forming a tooth. Pronotum fairly densely punctate, with a distinct pair of discal series of 5-6 large punctures not enclosing other punctures; punctures on sides of disc numerous, but interstices everywhere wider than diameter of punctures; sides with no evident lateral border. Micropterous, elytra very short, broadest a little behind middle, humeral angles obsolete, the puncturation dense, homogenous, interstices mostly narrower than diameter of punctures. Punctures of abdominal segments arranged in four discrete transverse rows (including the one on anterior margins of tergites which in most species takes the form of short longitudinal keels and furrows, but in this new species consists only of slightly elongate punctures)

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 51s8; aedoeagus: Fig. 51all. Female: sternite IX: Fig. 51vp.

The combination of small size, colour pattern and abdominal puncturation makes this species readily recognisable.

Key 4.

#### Oedichirus shibatai nov.sp. (Figs 39)

M a t e r i a l s t u d i e d : ♂ Holotype: (Near TENGCHIH), Kaohsiung Hsien, TAIWAN, Aug. 13<sup>th</sup> 1978, Y. Shibata leg. / HOLOTYPE Oedichirus shibatai Des. 2016 G. de Rougemont [CST]; 1♀ paratype: Ibid. [CST]; 1♂ paratype: Tengchih, Chiayi Hsien TAIWAN, 13<sup>th</sup> August 1978, W. Suzuki leg. / PARATYPE Oedichirus shibatai Des. 2016 G. de Rougemont [CRO]; 1♀ paratype: TENGHIH [sic] near Liukwei, Kaohsiung, TAIWAN, 3<sup>rd</sup> May 1983, A. Saito leg. / PARATYPE Oedichirus shibatai Des. 2016 G. de Rougemont [CST].

Description: length: 8 mm; length of fore-body: 3.4; length of head: 0.92; breadth of head: 1.75; length of antenna: 2.32; length of pronotum: 1.25; breadth of pronotum: 1; length of elytron: 1.2; breadth of elytra: 1.1. Body black; appendages testaceous. Dorsal surfaces devoid of microsculpture except narrowly on anterior margins of abdominal tergites. Pubescence short, pale, erect. Habitus: Fig. 39h.

Head moderately transverse; post-ocular carina salient, forming a dentiform angle at posterior margin of eye; disc entirely but irregularly punctate, leaving only a small space of a couple of missing punctures on vertex. Pronotum strongly elongate, the sides slightly concave between anterior and posterior angles; lateral margins entirely bordered by a fine sharp carina; puncturation coarse and dense, with pair of discal series of seven punctures made a indistinct by the density of surrounding punctures and the presence of a few punctures between the series. Elytra elongate, but hind wings reduced and nonfunctional; humeral angels reduced but not completely obsolete, the sides dilated to a point <sup>3</sup>/<sub>4</sub> from base; puncturation coarse and farly homogeneous; four punctures on lateral margins behind humeral angles asperate, forming small tubercles. Punctures of abdominal tergites coarser than that of elytra and dense, disposed randomly; keels of anterior margins of tergites short, becoming obsolete after tergite IV.

Male: sternite VI with a large symmetrical apical emargination; sternite VII with a large ogival impunctate area; sternite VIII (Fig. 39s8) with a rather narrow, deep emargination, the area anterior to this depressed and impunctate; aedoeagus: Fig. 39arl

Female: sternite IX: Fig. 39vp.

## Oedichirus sihanouki nov.sp. (Figs 8)

M a t e r i a l s t u d i e d : ♂ Holotype: CAM.: Waza, 19-III.-1972, J. A. Grewell / At black light / CAMBODIA / HOLOTYPE Oedichirus sihanouki Des. 2017 G. de Rougemont [FMC].

D e s c r i p t i o n : length: ca. 7.6 mm; length of fore-body: 2.1; length of head: 0.62; breadth of head: 0.89; length of antenna: 1.7; length of elytron: 1.15; breadth of elytra: 1.25. Head black, pronotum red, anterior 3/4<sup>ths</sup> of elytra black, posterior 1/4<sup>th</sup> red, abdominal segment III-VI red, VII-IX black; mouthparts, antennae and legs entirely testaceous. Body devoid of microsculpture except around basal keels of abdominal tergites. Pubescence of elytra and abdomen fairly sparse, fine, pale, moderately long, erect. Habitus: Fig. 8h.

Head slightly narrower then pronotum; eyes very large; post-ocular border well marked by a punctate groove and carina which does not form a tooth behind the eye; disc of head sparsely punctate, with a circle of ca. ten punctures in anterior half of head, the anterior punctures very fine, the posterior ones larger, a series of about six small punctures extending from antennal tubercle along inner margin of eye, and three setiferous punctures arising from the post-ocular grooves. Pronotum short and broad; lateral margins not bordered; disc with a pair of discal series of six punctures each, two pairs of punctures above this, five punctures on anterior and anterior lateral margin, and a single puncture on posterior lateral margin. Fully winged, elytra short and broad, with a juxta-sutural series of about eight punctures and numerous punctures in anterior 2/3<sup>rds</sup>, more sparsely punctate laterally. Abdominal puncturation arranged in three discrete transverse rows.

Male: sternite VII unmodified; sternite VIII (Fig. 8s8) with an asymmetrical posterior margin, a membranous flange and a comb of setae; aedoeagus: Fig. 8arl, the right paramere free, long and sinuate.

O. sihanouki nov.sp. is the only oriental species with the same colour pattern as O. chapmani Cam. (bicolorous elytra, with four red abdominal segments), but is a smaller insect, with pronotal discal series of six instead of four punctures, less extensive red portion of elytra and denser puncturation of the elytra.

Distribution: Map 2. Key 1

Waza is not a locality, but the acronym of the World Association of Zoos and Aqariums, which has conducted research in the Cardamom Hills of western Cambodia.

## Oedichirus sindicus nov.sp. (Figs 21)

M a t e r i a l s t u d i e d : ♀ Holotype: C.I.E. COLL NO. 16954 / on light Malir City 8.10.59 coll. N-SHAFI / Col. 95-59 / Pres by Com. Inst. Ent. BM 1960-2 / Oedichirus sp. R. D. POPE det. 1990 / standing as Oedichirus rufotestaceus / HOLOTYPE Oedichirus sindicus Des. 2015 G. de Rougemont [NHML]; 1♂ paratype: [Ibid., but without Pope's determination label] / PARATYPE Oedichirus sindicus Des. 2016 G. de Rougemont [NHML]; 1♀ paratype: [Ibid., but "Oedichirus rufotestaceus Bnh. R. D. POPE det. 1990"] / PARATYPE: Oedichirus sindicus Des. 2015 G. de Rougemont [CRO].

Description: length: 7 mm; length of fore-body: 3.4; length of head: 0.85; breadth of head: 1.4; length of antenna: 1.9; length of pronotum: 1.3; breadth of pronotum: 1.02; length of elytron: 1.5; breadth of elytra: 1.4. Fore-body and abdominal segments III-V rufo-testaceous, segments VI-IX black; palpi, antennae and legs uniformly testaceous.

Fore-body and abdominal segments III-V rufo-testaceous, segments VI-IX black, appendages testaceous. Dorsal surfaces devoid of microsculpture except on anterior margins of abdominal tergites. Pubescence sparse, short, semi-erect or decumbent. Habitus: Fig. 21h.

Head strongly transverse; eyes large and protuberant, the sides of head retracted in a slight curve directly to neck, with no angles; post-ocular border carinate, without a groove or punctures, and not forming and angle or tooth; vertex with a single large puncture at centre flanked on each sided by to columns of two punctures each, these punctures equidistant from centre and margins of eyes; occipital area with two transverse arcuate rows of six punctures each. Pronotum sparsely and irregularly punctate leaving large irregular impunctate areas; lateral margins not bordered. Fully winged, elytra ample, with prominent humeral angles, broadest behind middle; puncturation fairly homogeneous; interstices mostly wider than diameter of punctures. Puncturation of abdominal segments arranged in discrete transverse rows.

Male: abdominal sternites unmodified; aedoeagus: Figs 21arl, av.

Female: sternite IX: Fig. 21vp, the vulvar plate displaced to left of sternite, the sclerite behind it strongly microsculptate.

O. sindicus nov.sp. has the same general colour pattern as O. rufotestaceus BERNHAUER and O. depravatus ASSING, but O. sindicus is a macropterous species with therefore a quite different facies.

Malir City is a suburb of Karachi, Sind, Pakistan.

#### Oedichirus strictipennis nov.sp. (Figs 42)

M a t e r i a l s t u d i e d : ♀ Holotype: THAILAND: NE Bankok, Khao Yai Nat. Park, 750-850 m, 26.XI-3.XII.85, Burckhardt-Löbl / HOLOTYPE Oedichirus strictipennis des. 2015 G. de Rougemont [MHNG]; l♀ paratype: THAILAND, 24.12.92, Nakhon Ratchasima Prov., Khao Yai N. P., 1250 m, Schwendigen [sic] / PARATYPE Oedichirus strictipennis des. 2015 G. de Rougemont [CRO].

A d d i t i o n a l m a t e r i a l : 1 $\circ$ : VIETNAM, Ha Ga District, Lung Cu 1600 m, 5.V.2011, O. TOMINAGA / Oedichirus strictipennis nov.sp. det. 1016 G. de Rougemont [CIK].

D e s c r i p t i o n : length: 8 mm; length of fore-body: 3.5; length of head: 1; breadth of head: 1.05; length of antenna: 2; length of pronotum: 1.38; breadth of pronotum: 1.12; length of elytron: 1.1; breadth of elytra: 1. Body black, palpi, antennae and legs testaceous, the knees sharply infuscate. Fore-body devoid of microsculpture, abdomen entirely microsculptate. Pubescence of varying length, dark and pale, erect and semi-erect. Habitus: Fig. 42h.

Head scarcely transverse, temples as long as eye, forming marked posterior angles; post ocular border forming a strong dentiform angle well behind posterior margin of eye, and another slight prominence on posterior angle; puncturation coarse, very dense on entire surface of disc. Pronotum strongly elongate, the sides concavely retracted to distinct posterior angles before base; lateral margins bordered in anterior half; puncturation comparable to that of head, coarse and dense on entire surface. Elytra distinctly elongate, of characteristic shape, with obsolete humeral angles and surface strongly depressed in anterior half; puncturation comparable to that of head and pronotum, coarse and dense on entire surface; lateral margins with a conspicuous series of half a dozen large black setae in addition to the finer, paler setae of rest of surface. Keels and grooves of anterior margins of abdominal tergites long; puncturation disposed randomly, coarse and dense, comparable to albeit slightly sparser than that of fore-body.

Female: sternite IX: Fig. 42vp.

The shape of the elytra of this new species differs from that of all other species known from continental SE Asia; in this it is comparable to the South Indian *O. niger* CAMERON (Fig. 41) from which it differs by the finer and denser puncturation of the fore-body, and in the obsolete humeral angles (reduced but distinct in *O. niger*). The entirely microsculptate abdomen is also distinctive.

Key 3.

#### Oedichirus tempestivus nov.sp. (Figs 28)

M a t e r i a l s t u d i e d : ♂ Holotype: E. MALAYSIA, Sarawak, Gn. Matang, 20 Km E Kuching, 850 m, 25.V.1994, submontane for. #10, Löbl & Burkhardt [MHNG].

Description: length: ca. 8 mm; length of fore-body: 3.5; length of head: 0.9; breadth of head: 0.92; length of antenna: 3; length of pronotum: 1.12; breadth of pronotum: 0.75; length of elytron: 1.42; breadth of elytra: 1.32. Body uniformely reddishbrown, mouthparts, legs and antennae pale testaceous (specimen slightly teneral). Microsculpture limited to anterior margins of abdominal tergites. Pubescence long, erect or semi-erect, sparse on fore-body, dense on abdomen. Habitus: Fig. 28h.

Head scarcely transverse, eyes large and very prominent; temples long, retracted in straight lines to neck, without posterior angles; post-ocular carina not very conspicuous, entire, not forming a dentiform angle behind eye; punctures irregularly scattered, Prono-

tum strongly elongate, the sides concavely retracted to base; lateral margin entirely bordered in the form of a punctate groove; puncturation of disc irregular, not forming discal series, denser near centre, sparser laterally and leaving larger impunctate areas near anterior angles. Elytra large, ample, with marked humeral angles, the sides dilated postriad to 1/5<sup>th</sup> the distance from posterior angles; surface a little convex; puncturation homogeneous, finer and denser than that of pronotum. Anterior margins of abdominal tergites without discernibls keels, but with elongate depressions; punctures of tergites disposed randomly, rather sparse, the interstices in parts wider than the diameter of punctures.

Male: abdominal sternite VII: 28s7; sternite VIII: Fig. 28s8; aedoeagus: Fig. 28arl (the median lobe is collapsed and deformed, but the characteristically shaped process of the ventral plate is visible).

This member of the 'Wallacei group' differs from *O. wallacei* nov.sp. in its slightly smaller size, uniformly paler colour, shorter, pronotum which is more uniformly punctured, without a raised mid-line, shorter elytra which are more markedly dilated posteriad, and broader emargination of the male sternite VIII. The aedoeagi of the two species differ markedly.

Key 2.

## Oedichirus torajah nov.sp. (Figs 33)

M a t e r i a l s t u d i e d : ♂ Holotype: S. CELEBES, Tator, Rante Pao, 15.VII. 1982, G. de Rougemont / HOLOTYPE Oedichirus torajah des. 2015 G. de Rougemont [CRO].

Description: length: 7.6 mm; length of fore-body: 3.3; length of head: 0.85; breadth of head: 1.02; length of antenna: 2; length of pronotum: 1.25; breadth of pronotum: 1.1; length of elytron: 1.05; breadth of elytra: 1.25. Body deep black, all appendages testaceous, apices of femora lightly infuscate. Dorsal surfaces glossy, devoid of microsculpture. Pubescence erect, moderately short on fore-body, longer and denser on abdomen. Habitus: Fig. 33h.

Head strongly transverse; eyes large; post-ocular border consisting of an entire, not very salient carina which forms a distinct but very small tooth some distance behind eye, and a series of punctures in an interrupted groove above the carina; puncturation of disc consisting of half a dozen irregularly disposed punctures of different sizes at the level of the anterior half of eyes, four very small ocular punctures, and a transverse series of four large contiguous punctures before base. Pronotum elongate, the sides retracted in almost straight lines to posterior margin, without an evident lateral border; puncturation of disc consisting of a pair of discal series of five punctures each, six other punctures arranged in a rough circle in from of this, and a few scattered lateral punctures. Micropterous, humeral angles completely obsolete, the sides of elytra from base to postero-lateral angles, widest a little behind middle; puncturation coarse, sparse, irregular. Abdominal punctures arranged in discrete transverse rows; keels and grooves on anterior margins of tergites long.

Male abdominal sternite VII unmodified; sternite VIII: Fig. 33s8; aedoeagus: Fig. 33arl.

This and the widespread *O. longipennis* KRAATZ are the only species of *Oedichirus* so far known from Celebes, a sub-region notable for its high rate of endemicity. Staphylinidae in CRO labelled 'Rante Pao' were collected in various localities in the

hills in a radius of 40 km around Rante Pao in the course of thirteen short visits to Torajaland (Tanah Torajah, abbreviated 'Tator') between 1975 and 1983.

## Oedichirus uncifer nov.sp. (Figs 48)

- M a t e r i a l s t u d i e d : ♂ Holotype: THAILAND, 24.12.92., Nakhon Rachasima Prov. Kao Yai N.P., 1020m, Schwendingen [sic] / HOLOTYPE Oedichirus uncifer des. 2015 G. de Rougemont [MHNG]; 1♂ paratype: THAILAND: NE Bankok, Khao Yai Nat. Park, Khao Khieo. 1150 m, Burckhardt Löbl 28.XI.85 / PARATYPE Oedichirus uncifer des. 2015 G. de Rougemont [CRO].
- A d d i t i o n a l m a t e r i a l : 19: THAILAND, 24.12.92, Nakhon Ratchasima Prov. Khao Yai N. P., 1020 m, Schwendigen [sic] / Oedichirus uncifer n.sp. det. 2015 G. de Rougemont [MHNG].

Description: length: 6.5 mm; length of fore-body: 2.9; length of head: 0.97; breadth of head: 0.92; length of antenna: 2.3; length of pronotum: 1.15; breadth of pronotum: 0.95; length of elytron: 0.77; breadth of elytra: 0.95. Body piceous, palpi, antennae and legs testaceous, knees lightly and indistinctly infuscate. Dorsal surfaces devoid of microsculpture. Pubescence pale on fore-body, darker on abdomen, moderately long, erect. Habitus: Fig. 48h.

Head scarcely transverse; post-ocular carina salient, ending anteriad in a very marked dentiform angle well removed from eye; puncturation fairly dense, confused, with small punctures on frons and large punctures posteriad leaving only a small transverse impunctate are on vertex. Pronotum moderately elongate; lateral margins entirely bordered with a fine carina adjacent to a series of small punctures; discal series of 5-6 punctures enclosing a small impunctate surface, the anterior and lateral parts with numerous, confused large punctures. Micropterous, elytra short, depressed, humeral angles completely obsolete; puncturation coarse and dense. Puncturation of abdominal tergites arranged randomly, the punctures almost as large as those of elytra.

Male: sternite VII unmodified; sternite VIII (Fig. 48s8) with a simple symmetrical apical emargination, without combs or spines; aedoeagus (Fig. 48arl) with a small hooked anterior process of the ventral plate of the median lobe.

O. uncifer nov.sp. is most similar to O. mediosiamensis nov.sp. and O. birmanus FAUVEL from which it may be distinguished by the characters given in the Key. In addition the pronotum is shorter and less densely punctate, with shorter discal series than in O. birmanus, and with quite different male sexual characters.

Key 3.

## Oedichirus vexans nov.sp. (Figs 9)

M a t e r i a l s t u d i e d : ♂ Holotype: S-THAIL. Betong 1993, Gunung Cang dun vill., Yala dist. 26.3-22.4 leg. Horak & Strned / HOLOTYPE Oedichirus vexans Des. 2016 G. de Rougemont [NHMW]; 1♀ paratype: [Ibid] / PARATYPE: Oedichirus vexans Des. 2016 G. de Rougemont [CRO].

Description: length: 10 mm; length of fore-body: 4.8; length of head: 0.82; breadth of head: 1.2; length of antenna: 2.5; length of pronotum: 1.5; breadth of pronotum: 1.17; length of elytron: 1.75; breadth of elytra: 1.72. Head black, pronotum red, abdominal segments III-V red, the following black; tibiae entirely dark (♂) or almost so, with only the distal extremities testaceous (♀). Dorsal surfaces devoid of microsculpture except very narrowly on basal keels of abdominal tergites. Pubescence pale, long, especially on abdomen, erect. Habitus: Fig. 9h.

Male: male sternite VIII: Fig. 9s8; aedoeagus lost: the specimen had been neatly mounted and dissected, with the aedoeagus glued to the bottom right of the mounting card, but this had become detached and lost before I received the material.

Female: sternite IX: Fig. 9vp.

This is one of the largest members of the *O. Alatus* group, comparable in size, proportions of the elytra and dark tibiae with sp. A3.

Distribution: Map 2. Keys 1, 3.

## Oedichirus viduasinae nov.sp. (Figs 32)

M a t e r i a l s t u d i e d : ♂ Holotype: SABAH, Poring H.S., X.1990, G. de Rougemont / HOLOTYPE Oedichirus viduasinae des. 2015 G. de Rougemont [CRO]; 2♀♀ paratypes: SABAH, Mt. Kinabalu, 1500 m, 25.IV.1987, Burckhardt — Löbl / PARATYPE Oedichirus viduasinae des. 2015 G. de Rougemont [MHNG]; 1♀ paratype: BORNEO SABAH Kinabalu Nat. Pk. HQ 1560-1660m 24.IV.87, A. Smetana / Oedichirus det. Lee Herman / PARATYPE Oedichirus viduasinae des. 2016 G. de Rougemont [AMNH].

Description: length: 6.8 mm; length of fore-body: 3.1; length of head: 0.85; breadth of head: 1; length of antenna: 2.1; length of pronotum: 1.2; breadth of pronotum: 1; length of elytron: 0.95; breadth of elytra: 1.12. Body entirely black, palpi testaceous, the last two segments of maxillary palpi brown; antennae and legs testaceous, the knees broadly and sharply infuscate. Dorsal surfaces devoid of microsculpture. Pubescence erect, short and sparse on head and pronotum, long and denser on elytra and abdomen. Habitus: Fig. 32h.

Head moderately transverse; eyes large and very prominent; post-ocular border entire, consisting of a row of punctures above a carina which forms a salient tooth behind eye; frons with only five small punctures, disc from level of antennal tubercles to base with many randomly disposed large punctures, the interstices mostly greater than diameter of punctures. Pronotum fairly short, broader than head anteriorly; lateral margins not bordered; punctures numerous, set in foveate impressions; discal series of four punctures, the anterior three in a common groove, punctures on rest of disc disposed randomly. Micropterous, humeral angles completely obsolete; puncturation comparable to that of head but less coarse, dense near suture, sparser laterally. Puncturation of abdomen arranged in discrete transverse rows, the punctures coarse, the row of basal keels of tergites separate from first row of punctures.

Male: sternite VII unmodified; posterior margin of sternite VIII (Fig. 32s8) asymmetrically sinuate, with a pale membranous flange; aedoeagus: Fig. 32arl, the right paramere slender, extending beyond apex of median lobe; left paramere stouter and curved.

Female: sternite IX: Fig. 32vp.

O. viduasinae nov. sp, is readily distinguished from all other Bornean species because it is the only micropterous one, and the only one with abdominal punctures arranged in transverse rows. Key 2.

#### Oedichirus vulcanus nov.sp. (Figs 34)

M a t e r i a l s t u d i e d : ♂ Holotype: F.C. DRESCHER, G. Tankoeban Prahoe 4000-5000 Voet Preanger Java, VI.1936 / M. Cameron Bequest BM 1955-147 / HOLOTYPE Oedichirus vulcanus Des. 2015 G. de Rougemont [NHML].

A d d i t i o n a l m a t e r i a l : 19: G. Tankoeban Prahoe 4000-5000 Voet Preanger Java, I.1937 / sp. n. / M. Cameron Bequest BM 1955-147 / Oedichirus vulcanus Rgmt. det. 2016 G. de Rougemont [NHML]; 19: INDONESIA: W Java, Gede-Pangrango Nat. P. near Headquarrters, 1550m forest litter, lg. Schuh 23.8.1994 / Oedichirus vulcanus Rgmt. det. 2015 G. de Rougemont [NHMW].

D e s c r i p t i o n : length: 6.8-7.5 mm; length of fore-body: 3.2; length of head: 1; breadth of head: 1.22; length of antenna: 2.2; length of pronotum: 1.4; breadth of pronotum: 1.25; length of elytron: 1.08; breadth of elytra: 1.35. Body deep black, palpi brown, antennae reddish-brown, legs piceous, apices of metatibiae and all tarsi testaceous. Body devoid of microsculpture except on row of basal keels of abdominal tergites, where it is very evident. Pubescence mixed, dark and pale, short and moderately long. Habitus: Fig. 34h.

Head strongly transverse; carina of post-oular border strongly salient, forming a dentiform angle immediately hehind eye; puncturation fairly sparse, consisting of a pair of frontal punctures, a transverse row of six punctures between antennal tubercles, a pair of inter-ocular punctures behind that, a row of three closely set larger punctures on vertex, a row of four punctures before base, a few ocular punctures and the usual small punctures in post-ocular groove. Pronotum relatively short, broader than head; lateral margins bordered in anterior half; puncturation consisting of a pair of arcuate series of six punctures each, a transverse row of small punctures before than, a pair of punctures behind anterior margin, two lateral punctures in anterior half, and numerous punctures on anterior amgles and lateral margins. Micropterous, elytra small, humeral angles completely obsolete; disc with a transverse row of six punctures behind anterior margins, on each elytron with a sutural series of six closely-set punctures, three lateral series of respectively three, five and four punctures, and small punctures near lateral margins. Abdominal tergite III without a basal row of keels and grooves, the keels on following tergites long, punctures arranged in three discrete rows, without a row adjacent to keels and groves.

Male: abdominal sternite VIII: Fig. 34s8, the posterior margin with a pair of combs of red spines enclosed by a pair of combs of larger, darker spines, these two combs disposed in an asymmetrical inverted V pattern; aedoeagus: Figs 34arl, 34av, the right paramere slender and sinuate, left paramere wanting.

#### Oedichirus wallacei ROUGEMONT (Figs 29)

Oedichirus wallacei ROUGEMONT 2017: 236

- M a t e r i a l s t u d i e d : ♂ Holotype: Borneo, Wallace, 1859 / HOLOTYPE Oedichirus wallacei des. 2015 G. de Rougemont [OUMNH]; 1♀ paratype: Wallace, Borneo, 1859 / PARATYPE Oedichirus wallacei des. 2015 G. de Rougemont [OUMNH]; 1♂ paratype: (BM Holotype label) / Sarawak / Sarawak Wallace / Sharp Coll. 1905-313 / Palaminus immanis Fv. / Sar. Wallace / PARATYPE Oedichirus wallacei Des. 2015 G. de Rougemont [NHML]; 1♀ paratype: Sar. Wallace / Sharp Coll. 1905-313 / standing as Oedichirus immanis Fvl. / PARATYPE Oedichirus wallacei Des. 2015 G. de Rougemont [CRO]; 1♀: (BM Holotype label) / Borneo / Sharp Coll. 1905-313 / Oedichirus borneensis Bnh. M. Bernhauer det. Typ. / PARATYPE Oedichirus wallacei Des. 2015 G. de Rougemont [NHML].
- A d d i t i o n a l m a t e r i a l : 299 (mounted on the same card): Borneo / Oedichirus borneensis Bernh. / Oedichirus wallacei nov.sp. det. 2015 G. de Rougemont [NHML]; 1 ex. (lacking head and prothorax): SAR. 1383 [Wallace] / Oedichirus wallacei nov.sp. det. 2016 G. de Rougemont [OUMNH].

D e s c r i p t i o n : Length: 9 mm; length of fore-body: 4.1; length of head: 1; breadth of head: 1.1; length of antenna: 3.3; length of pronotum: 1.35; breadth of pronotum: 0.95; length of elytron: 1.62; breadth of elytra: 1.45. Body reddish brown, sutural and posterior margins of elytra pale, yellowish-brown; mouthparts, antennae and legs pale testaceous. Body devoid of microsculpture except on anterior margins of abdominal tergites. Pubescence sparse, pale, long, erect. Habitus: Fig. 29h.

Head almost as long as broad, the temples long, narrowed in scarcely curved lines to neck, posterior angles obsolete; post-ocular border simple, consisting of a shallow groove, not forming a ridge or forming a salient angle; puncturation coarse, random, a little irregular, without discal series. Pronotum very long, broadest at one fifth of its length behind anterior margin, the sides thereafter concavely narrowed to base; lateral border represented by a seires of punctures in a groove extending from widest point to base; puncturation similar to that of head, without discal series. Elytra large, the puncturation similar to that of pronotum but denser and more regular. Punctures of abdomen disposed randomly, about as coarse as those of elytra, sparser on posterior half of tergites VI-VII, reduced to a few very small punctures of tergite VIII.

Male: abdominal sternite VII unmodified; sternite VIII: Fig. 29s8; aedoeagus: Fig. 29arl Female: sternite IX: Fig. 29vp.

This species most closely resembles *O. tempestivus* nov.sp. from which it can be distinguished, as from all other Bornean species, by the characters used in Key 2.

The specimens collected by Wallace are from south-western Sarawak (former First Division), the only part of Borneo visited by Wallace on his three sojourns on the island. The holotype and associated paratype were found amongst undetermined *Paederus* spp. in the Hope/Westwood collection of Staphylinidae in the OUMNH; they have now been moved to a cabinet housing the museum's collection of type specimens.

## **Unnamed species**

## Oedichirus sp. A1 (Fig. 10)

M a t e r i a l  $\,$  s t u d i e d : 1  $\circlearrowleft$  : THAILAND, Nan prov., Ban Huay Kon env., 27.v - 10.vi.1002, P. Průdek leg. [NHMW].

Length: ca. 10 mm; length of fore-body: 4.6; length of head: 0.82; breadth of head: 1.22; llength of antenna: 2.7; length of pronotum: 1.3; breadth of pronotum: 1.2; length of elytron: 1.5; breadth of elytra: 1.52. Head black, pronotum red, elytra with a little more than basal half black, the distal part red, abdominal segments III-V red, the following black; legs largely infuscate, leaving the basal halves of femora and distal halves (protibiae) and distal thirds (meso- and metatibiae) testaceous.

Female: sternite IX: Fig. 10vp.

This large member of the *O. Alatus* group is comparable to *O. vexans* nov.sp. but its elytra are smaller and more coarsely punctate.

Distribution: Map 2. Keys 1, 3.

#### Oedichirus sp. A3 (Fig. 11)

M a t e r i a l s t u d i e d : 2♀♀: MALAYSIA, Pahang distr., 30KM NE RAUB, LATA LEMBIK, 3.56N - 101.38E, 200-400m, 22.IV.-1.V.2002, E. Jendek &. O. Sausa leg. / Oedichirus sp. A3 det. 2016 G. de Rougemont [CST and CRO].

Description: Length: 9.5 mm; length of fore-body: 4.8; length of head: 1.75; breadth of head: 1.42; length of antenna: 2.7; length of pronotum: 1.57; breadth of probotum: 1.4; length of elytron: 1.75; breadth of elytra: 1.85. Head black, pronotum red, elytra black with the posterior third red red, abdominal segments III-VI red, the following black; infuscate ares of legs deep black, very broad, leaving only basal halves of femora, apices of tibiae and tarsi pale testaceous. Dorsal surfaces devoid of microsculpture. Pubescence sparse, pale, moderately long, semi-erect.

Female: sternite IX: Fig. 11vp, the orifice of the vulvar plate circular, very deep.

Together with *O. vexans* sp. n. this new species is distinguished from other members of the *O. Alatus* group by its large size, large elytra and the extensive infuscation of the legs. The conformation of the female sternite IX and vulvar plate clearly differentiates it from *O. vexans*.

Distribution: Map 2. Key 1.

#### Oedichirus sp. A4 (Fig. 12)

M a t e r i a l s t u d i e d: 1♂: N-THAILAND, Chiang M., Soppong – Pai, 1.-8.6.1993, 1800m, Patcholatko & Dembicky / Oedichirus sp. A4 det. 2015 G. de Rougemont [NHMW]; 1♀: LAOS, Viang Chan prov., Ban Pa Kho resort, 50 km NE Vientiane, 90 m, 9-14.VI.2007, M STRBA leg. / Oedichirus sp. A4? det. 2015 G. de Rougemont [SMNS].

Description: length: 8.3 mm; length of fore-body: 3.8; length of head: 0.85; breadth of head: 1.15; length of antenna: 2.5; length of pronotum: 1.15; breadth of pronotum: 0.92; length of elytron1.5; breadth of elytra: 1.45. Colour pattern as in *O. patcholatkoi* nov.sp.(Fig. 7h).

Male sternite VIII: Fig. 12s8; aedoeagus lost (as in the type of *O. vexans* nov.sp., which came from the same source, the aedoeagus, which had been glued to the bottom right of the mounting card, had become detached and lost before shipment to Oxford).

Female: sternite IX (vulvar plate detached from median gonocoxal plate): 12vp.

By virtue of the entirely infuscate meso- and metatibiae this medium-sized member of the O. Alatus group is most similar to O. patcholatkoi nov.sp. from which it is distinguished by the coarser puncturation of its elytra.

Distribution: Map 2. Keys 1, 3.

## Oedichirus sp. A5 (Fig. 13)

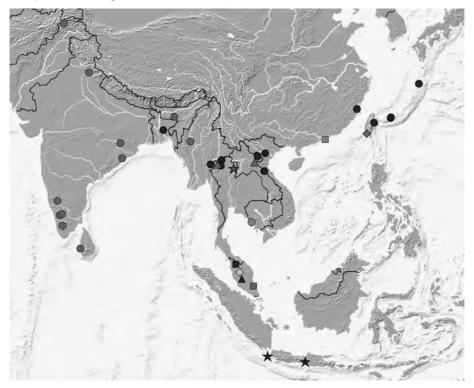
M a t e r i a l s t u d i e d : 1 ex. [lacking abdomen]: S-THAIL. Betong 1993, Gunung Cang dun vill., Yala dist., 25.3.- 22.4., leg. Horak & Strned / Oedichirus sp. A5 det. 2016 G. de Rougemont [NHMW].

Description: length of fore-body: 2.9; length of head: 0.65; breadth of head: 0.92; length of antenna: 1.75; length of pronotum: 1.85; breadth of pronotum: 1.95; length of elytron: 1.25; breadth of elytra: 1.45. Head black, pronotum red, slightly more than anterior half of elytra black, the black colour abruptly extended posteriad on lateral margins, rest of elytra red; legs entirely testaceous. Habitus: Fig. 13h.

Male and female sexual characters unknown.

## Distribution: Map 2. Keys 1, 3.

This species is, with *O. sihanouki* nov.sp., the smallest known member of the *O. Alatus* group; *O. sihanouki*, which has four red abdominal segments, is clearly distinguished from *O.* sp. A5 by its much more densely punctate elytra and the greater extent of the black portion of the elytra; the specimen was found in association with the two types of *O. vexans* nov.sp., the largest member of the group. It is distinguished from all known members of the group with only the first three visible abdominal segments red by its uniformly testaceous legs (N.B. in the key this species has been inserted among the species with the first three abdominal segments red, but since the abdomen is unknown, it may be more comparable to *O. sihanouki*).



Map 2: Distribution of the O. Alatus group. Red circles: O. alatus; blue circles: O. chapmani; green circle: O. sihanouki; blue square: O. vexans and sp. A5; red square: O. falcifer; green lozenge: O. patcholatkoi; red lozenge: O. guomindangi; green square: O. astoni; blue stars: O. javanicus; red star: sp. A1; blue triangle: sp. A3; red triangles: sp. A4.

## Oedichirus sp. J1

Material studied: 1♂: YOSHIWARA, ISHIGAKI Is., 18.X.1983, S. UENO leg. / Oedichirus n.sp. J1 det. 2016 G. de Rougemont [CIK].

This insect is of the same colour as *O. kiushii* SAWADA but is smaller and clearly belongs to a different species. The genital segment was dissected but no aedoeagus found.

#### Oedichirus sp. P1

M a t e r i a l s t u d i e d : 1 \oplus: Binaluan, Palawan / PHILIPPINEN COLL. BOETTCHER DON. STAUDINGER / palawanensis Bhr. Typus / Chicago NHMus. M. Bernhauer Coll. / Oedichirus nov.sp. P1 det. 2016 G. de Rougemont [AMNH].

This specimen bears Bernhauer's determination label but was not described. It is distinct from the other three species now known from the Philippines but will not be described here for lack of sufficient distinguishing characters. Superfical differences with *O. palawanensis* nov.sp., *O. philippinus* nov.sp. and *O. mutilus* nov.sp. are mentioned in the descriptions of those species, above.

## Key 1: species of the O. alatus-group

This group is composed of species with red pronotum, elytra black in anterior portion, red in posterior portion, first three or four exposed abdominal segments red, the following black; the species are fully winged, but elytra are short, broad and convex; punctures of abdomen arranged in discrete transverse rows. Species treated after dichotomy 4 can only be determined with certainty by the sexual characters.

on	only be determined with certainty by the sexual characters.			
1	Head red; first three exposed abdominal segments red; habitus: Fig. 1h alatus NIETNER			
-	Head black (including one aberrant ex. of <i>O. alatus</i> )2			
2	First four exposed abdominal segments red; legs uniformly testaceous			
-	First three exposed abdominal segments red			
3	Length of fore-body: 3.4 mm; elytra larger, more sparsely punctate, red portion occupying almost half of their length (Fig. 3h); male sternite VII: Fig. 3s8; aedoeagus: Fig. 3arl			
-	Length of fore-body: 2.1 mm; elytra proportionately smaller, more densely punctate, the red portion occupying at most one quarter of their length (Fig. 8h); male sternite VIII: Fig. 8s8; aedoeagus: Fig. 8arlsihanouki nov.sp.			
4	Small species, fore-body 2.9 mm long; legs uniformly testaceous. Habitus: Fig. 13h. S. Thailand			
-	Larger species, fore-body 3.6 – 4.6 mm long; knees and most of tibiae infuscate 5			
5	Red portion of elytra occupying posterior half; male sternite VIII: Fig. 4s8; aedoeagus: Fig. 4arl. Malay peninsula			
-	Red portion occupying less than one half of elytra; sexual characters otherwise6			
6	Smaller species, fore-body < 4 mm long			
-	Larger species, fore-body > 4 mm long			
7	Tibiae entirely dark8			
-	Distal extremities of tibiae testaceous; vulvar plates and distribution otherwise9			
8	Elytral puncturation denser and coarser; male 8th sternite: Fig. 12s8; vulvar plate: Fig. 12vp. NW Thailand			
-	Elytral puncturation finer and sparser; aedoeagus: Fig. 7arl. Malay peninsula			
9	Aedoeagus: Fig. 2arl. Hong Kong			
-	Species from outside mainland China			
10	Vulvar plate: Fig. 5vp. Taiwan			
-	Vulvar plate: Fig. 6vp. Javajavanicus nov.sp.			
11	Elytra smaller (1.5x1.5) and more coarsely punctate; vulvar plate: Fig. 10vp. N. Thailand			
-	Elytra larger (1.7x1.7) and more finely punctate			

12	Male sternite VIII: Fig. 9s8; vulvar plate: Fig. 9vp. S. Thailand					
-	vuivai piate. Fig. 11vp. iviaiay peninsula					
	Key 2: Bornean species of Oedichirus					
	In this and the keys that follow, species in brackets are ones not recorded from the territory in question but that are likely to occur there.					
1	Micropterous: elytra shorter than pronotum, humeral angles obsolete; punctures of abdominal tergites arranged in transverse rows; body entirely black; habitus: Fig. 32h; aedoeagus: Fig. 32arl					
-	Macropterous: elytra large, at least as long as pronotum, humeral angles pronounced2					
2	Body black or brown; punctures of abdominal tergites disposed randomly3					
-	Body bicolorous, head, elytra and abdominal segments VII-IX black, pronotum and abdominal segments III-VI red; punctures of abdominal tergites arranged in transverse rows. Habitus: Fig. 14h					
3	Temples short, with well marked posterior angles; antennae and legs shorter; sides of pronotum sub-rectilinear					
-	Temples longer, posterior angles obsolescent; antennae and legs very long and slender; sides of pronotum concave ('Wallacei group')					
4	Larger species, fore-body 4.6 mm; body black; apices of femora more markedly infuscate; habitus: Fig. 30h; aedoeagus: Fig 30arl; vulvar plate: Fig. 30vpbalnearius nov.sp.					
-	Smaller species, fore-body ca. 3.8 mm; body dark brown; apices of femora scarcely infuscate; habitus: Fig. 31h; aedoeagus: Fig. 31 arl; vulvar plate: Fig, 31vp					
5	Larger, length of fore-body 5.2 mm; elytra of characteristic shape, depressed in anterior half; habitus: Fig. 27h					
-	Smaller, length of fore-body 3.5-4.5 mm; disc of elytra convex or flat6					
6	Smaller, fore-body $\leq$ 4 mm, brown or rufo-testaceous; knees concolorous, testaceous7					
-	Larger, fore-body > 4 mm, black; knees infuscate; disc of elytra convex; habitus: Fig. 25h; vulvar plate: Fig. 25vp					
7	Body brown, lateral and hind margins of elytra paler; disc of elytra more convex; habitus: Fig. 29h; male 8th sternite: Fig. 29s8; aedoeagus: Fig. 29arlwallacei nov.sp.					
-	Body uniformly pale brown; disc of elytra flat; habitus: Fig. 28h; male 8th sternite: Fig. 28s8; aedoeagus: Fig. 28arl					
	Key 3: species of <i>Oedichirus</i> known from Thailand					
1	Elytra bicolorous, black and red, head black					
_	Elytra unicolorous, black or brown					
2	First four exposed abdominal segments red; legs entirely testaceous					
-	First three exposed abdominal segments red; knees and most of tibiae infuscate (see also key to <i>O. Alatus</i> group)					
3	Length of fore-body: 3.4 mm; elytra larger, more sparsely punctate, red portion occupying almost half of their length (Fig. 3h); male sternite VII: Fig. 3s8; aedoeagus: Fig. 3arl					
-	Length of fore-body: 2.1 mm; elytra proportionately smaller, more densely punctate, the red portion only occupying one quarter of their length (Fig. 8h); male sternite VIII: Fig. 8s8; aedoeagus: Fig. 8arl(sihanouki nov.sp.)					

4	Habitus: Fig. 9h; male sternite VIII: Fig. 9s8; aedoeagus: Fig. 9arl; vulvar plate: Fig. 9vp
_	9vp
5	Male sternite VIII: Fig. 12s8: vulvar plate: Fig; 12vpsp. A4
_	Vulvar plate: Fig. 10vpsp. A1
6	Bicolorous species, head, elytra and abdominal segments 7-8 black, pronotum and abdominal segments 3-6 red; punctures of tergites arranged in transverse rows
-	Unicolorous black or brown species; punctures of abdominal tergites disposed randomly8
7	Elytra large, as long as pronotum, densely punctuate with prominent humeral angles; habitus: Fig. 14h; aedoeagus: Fig. 14arllongipennis KRAATZ
-	Elytra small, much shorter than pronotum, sparsely punctuate, humeral angles obsolete; habitus: Fig. 17h
8	Fully winged species, elytra elongate, ample, convex, humeral angles prominent; body black, legs entirely testaceous9
-	Micropterous species, humeral angles obsolescent
9	Smaller species, length of fore-body: 4 mm; habitus: Fig. 45h; aedoeagus: Fig. 45arl
-	Larger species, fore-body: 5 mm; habitus: Fig. 46h; aedoeagus: Fig. 46arl
10	Elytra elongate, of characteristic shape (Fig. 42h); body black, knees broadly and deeply infuscate; abdomen entirely microsculptatestrictipennis nov.sp.
-	Elytra small, as long as broad or transverse; knees unicolorous, testaceous; abdomen not entirely microsculptate
11	lamellate processes (Figs 43 arl,); male 8th sternite: Fig. 43s8)birmanus FAUVEL
-	Smaller species, $\leq 8$ mm; ventral sclerite of aedoeagus with a single process12
12	Habitus: Fig. 47h; puncturation of tergites V-VII finer, sparser and clearly arranged in transverse rows; aedoeagus: Fig. 48arl
-	Habitus: Fig. 48h; puncturation of tergites V-VII coarse, dense and disposed randomly aedoeagus: Fig. 48arl
	Key 4: species of <i>Oedichirus</i> known from southern India
1	Elytra elongate, humeral angles marked
-	Elytra transverse, humeral angles obsolete
2	Bicolorous, thorax red, elytra black; elytra broad, sides evenly rounded; habitus: Fig. 14h; aedoeagus: Figs 14arllongipennis Kraatz
-	Unicolorous, thorax and elytra black; sides of elytra constricted between humeral angles and middle; habitus: Fig.; 41h; aedoeagus: Fig. 41arlniger CAMERON
3	Pronotum without series of discal punctures and/or other punctures on centre of disc, but only a few lateral punctures (Figs 22h, 23h, 24h); puncturation of head sparse, or consisting of only two punctures
-	Pronotum with discal series and/or other punctures on centre of disc; head strongly and more densely punctuate
4	Smaller species with narrower fore-body; head with sparse punctures5
-	Larger species with broader fore-body; head with only one pair of punctures near posterior margin; habitus: Fig. 24h; vulvar plate: Fig. 24vp. Anaimalai Hills
	lucabosmontis nov.sp.

5	Head black, smaller and more transverse: punctures on last row of each abdominal tergite as numerous and closely spaced as on anterior rows; habitus: Fig. 22h; aedoeagus: Fig. 22arl. Cardamon Hills	
-	Head rufo-testaceous, concolorous with pronotum and elytra, larger and less transverse (Fig. 23h); punctures on last row of each abdominal tergite fewer and more widely spaced than on anterior rows; male sternite VIII: Fig. 23s8; aedoeagus: Fig. 23arl. Coorg	
6	Head red	
-	Head brown or black9	
7	Elytra bicolorous, black and red; aedoeagus: Fig. 1arl	
-	Elytra uniformly reddish-testaceous, concolorous with head and pronotum8	
8	Abdominal segment III black; last row of punctures on abdominal tergites (on posterior margin) widely and irregularly spaced; vulvar plate: Fig. 18vpruficeps KRAATZ	
-	Abdominal segment III rufo-testaceous; last row of punctures on abdominal tergites as closely and regularly spaced as those of preceding rows; vulvar plate: Fig. 20vp	
9	Elytra bicolorous, black and red; aedoeagus: Fig. 1arl	
-	Elytra unicolorous, black or brown	
10	Larger species, fore-body ca. 3 mm long; body entirely black, legs entirely testaceous; habitus: Fig. 50h; aedoeagus: Fig. 50arl; vulvar plate: Fig. 50vp	
-	Small species, fore-body ca. 2 mm long; head and pronotum dark brown, elytra rufous, abdominal tergites black, the posterior ¼ of tergites III-VI rufous; legs dark testaceous, apical halves of femora and tibiae slightly infuscate habitus: Fig. 51h; aedoeagus: Fig. 51arl; vulvar plate: Fig. 51vpsegmentatus nov.sp.	

# Check-list of the species of Oedichirus of the Oriental Region

(junior synonyms are indented in small type.)

abbreviatus Assing	Yunnan
alatus Nietner dimidiatus Eppelsheim	Ceylon, Pakistan, India, Burma
angusticeps ROUGEMONT	Malay peninsula
astoni ROUGEMONT	Hong Kong
balnearius ROUGEMONT	Borneo
bicuspidatus Assing	Assam, Meghalaya
birmanus FAUVEL	Burma, Thailand
bowringi ROUGEMONT	India
brlensis Rougemont	Borneo
cardamomensis ROUGEMONT	S. India: Cardamon Hills
chapmani CAMERON	Widespread in subtropical E Asia
coorgensis ROUGEMONT	S. India: Coorg
damingensis L1	Guangxi
depravatus Assing	Meghalaya
falcifer ROUGEMONT	Malay peninsula
flammaeus Koch	Zhejiang

formosanus ROUGEMONT	. Taiwan
guomindangi ROUGEMONT	. Taiwan
hochimini ROUGEMONT	. Vietnam
javanicus Rougemont	. Java
kiushii SAWADA	. Japan
kochangensis ROUGEMONT	. Thailand, Cambodia
kuroshio Hayashi	. Ryukyu Islands, Taiwan
latexisus Assing	. Yunnan
lannaensis ROUGEMONT	. Thailand, Laos
laoticus Rougemont	. Laos
latus ROUGEMONT	.S. India
lewisius Sharp	. Japan, Korea, Sakhalin
longipennis KRAATZ excellens CAMERON idae SHARP schultheissi FAUVEL	. Widespread
lucabosmontis ROUGEMONT	.S. India: Anaimalai Hills
mahanuvaraensis ROUGEMONT	. Ceylon
nepalensis Rougemont	. Nepal
minor CAMERON	. Ceylon
muluensis Rougemont	. Borneo
mutilus Rougemont	. Palawan
niger Cameron`	.S. India
palawanensis ROUGEMONT	. Palawan
patcholatkoi ROUGEMONT	. Malay peninsula
pendleburyi CAMERON	. Sunda Islands, Malay peninsula, Singapore
pengzhongi Li	. Hainan
philippinus ROUGEMONT	. Mindoro
ruficeps Kraatz	. India
rufotestaceus Bernhauer	. Ceylon
rufulus Rougemont	.S. India
schuelkei Assing	. Yunnan
segmentatus ROUGEMONT	.S. India
shibatai ROUGEMONT	. Taiwan
sihanouki Rougemont	. Cambodia
sindicus Rougemont	. Pakistan
strictipennis ROUGEMONT	. Thailand
tempestivus ROUGEMONT	. Borneo

torajah ROUGEMONT	Celebes
uncifer ROUGEMONT	Thailand
vexans ROUGEMONT	Thailand
viduasinae ROUGEMONT	Borneo
vulcanus ROUGEMONT	Java
wallacei ROUGEMONT	Borneo

## Acknowledgements

My sincere thanks go to the many colleagues who have assisted me in this study: Lutz Behne (DEI), Roger Booth (NHML), Giulio Cuccodoro (MHNG), Yvonnick Gérard (IRScNB), Matthias Hartmann (NME), Munetoshi Maruyama (KUM), Crystal Maier and Alfred Newton (FMC), Wolfgang Schawaller (SMNS), Harald Schillhammer (NHMW) and Azadeh Taghavian (MNHN) for the loan of specimens in their care; Tateo Ito, Jiri Janák, Michael Schülke and Yasutoshi Shibata for the loan of material from their private collections, and to many of these for allowing me to retain doubles of some species in my collection; Lee Herman and Joachim Willers for sending me photographs of type specimens; Munetoshi Maruyama also for permission to reproduce his photographs and drawings; Thomas Théry and Marc Tronquet for searching the collections of the Paris museum on my behalf for specimens for this study; Volker Assing for producing the two maps and Darren Mann for arranging my photographs into plates.

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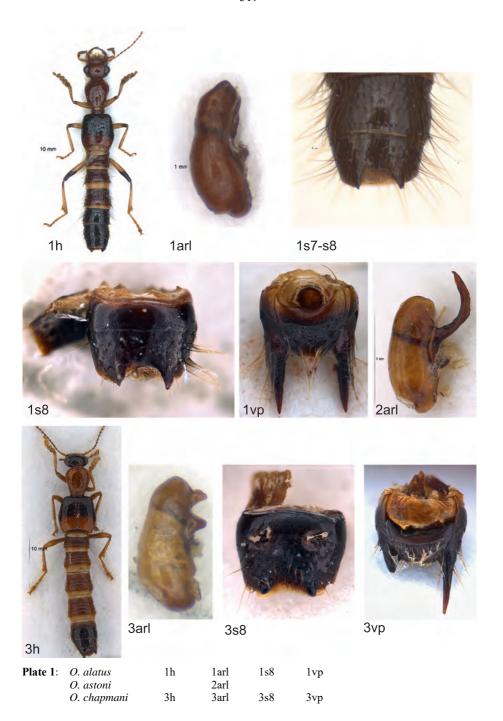
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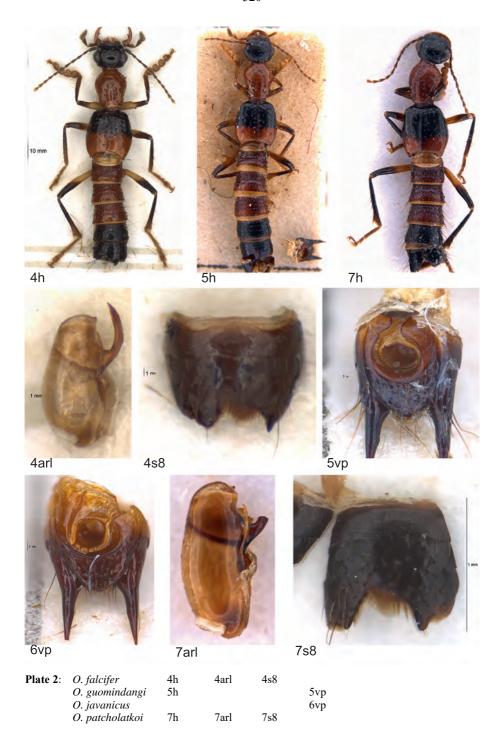
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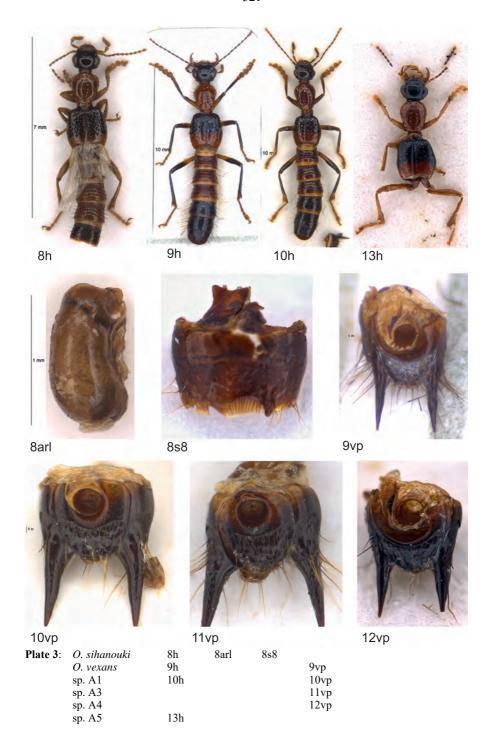
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#### Illustrations

h: habitus; all: aedoeagus in left lateral view; arl: aedoeagus in right lateral view; av: aedoeagus in ventral view; s7: male sternite VII; s8: male sternite VIII; vp: female sternite IX and vulvar plawte.







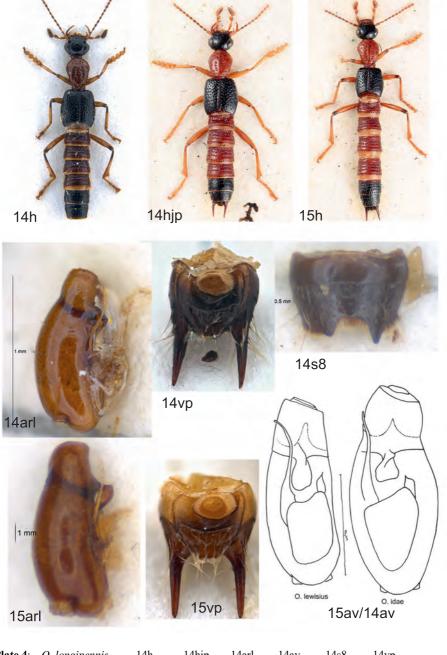


 Plate 4:
 O. longipennis
 14h
 14hjp
 14arl
 14av
 14s8
 14vp

 O. lewisius
 15h
 15arl
 15av
 15vp

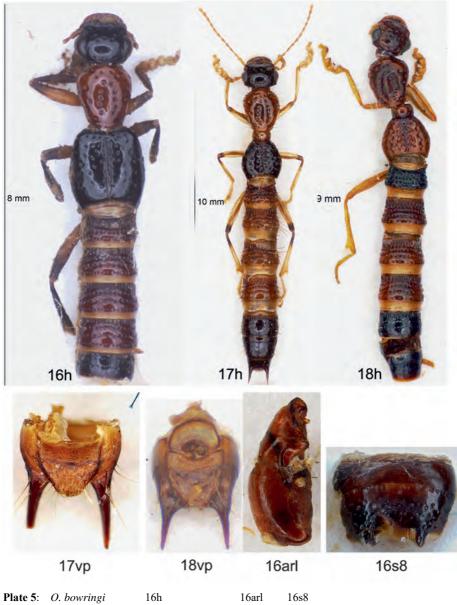


 Plate 5:
 O. bowringi
 16h
 16arl
 16s8

 O. kochangensis
 17h
 17vp

 O. ruficeps
 18h
 18vp

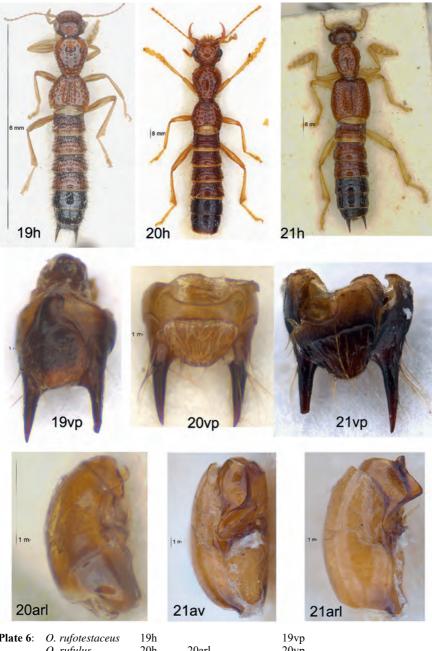


Plate 6: O. rufotestaceus O. rufulus O. sindicus 19vp 20vp 21vp 19h 20h 20arl 21arl 21h 21av

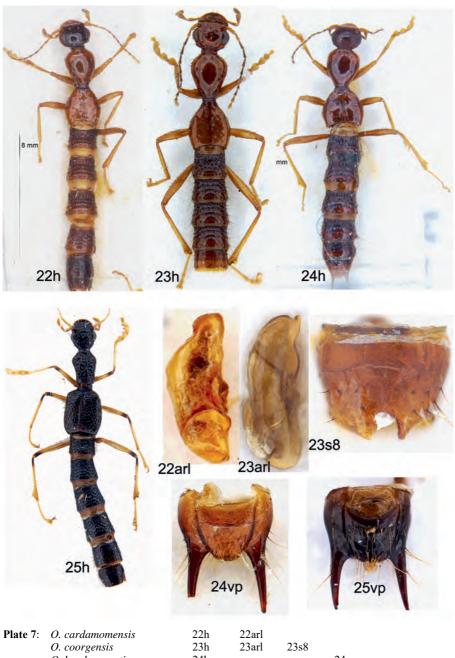


Plate 7: O. cardamomensis O. coorgensis O. lucabosmontis O. brlensis 22h 23h 24h 25h 24vp 25vp

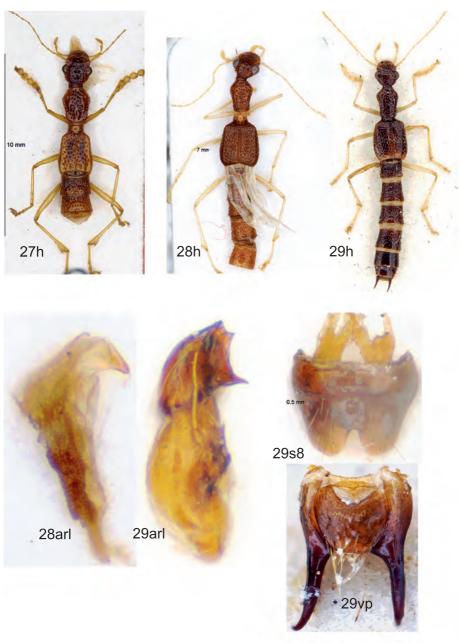


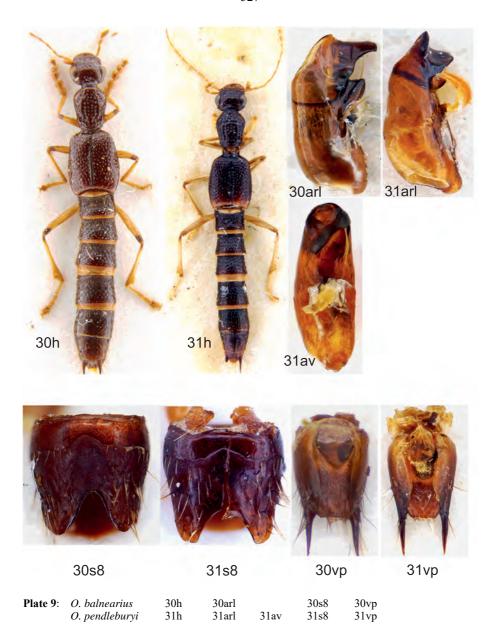
Plate 8: O. muluensis O. tempestivus O. wallacei

27h 28h 29h

28arl 29arl

29s8

29vp



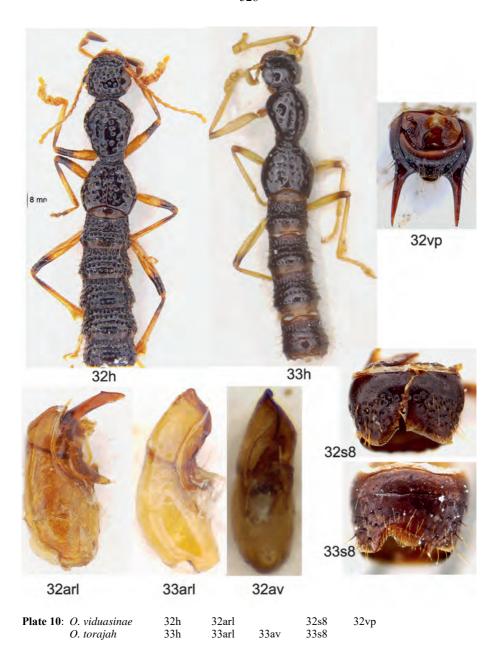
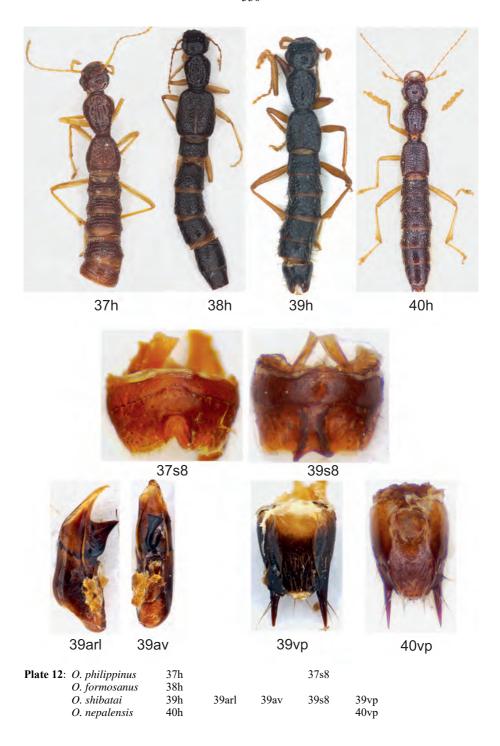




 Plate 11: O. vulcanus
 34h
 34arl

 O. mutilus35h
 35arl
 35s8

 O. palawanensis
 36h
 36arl
 36s8





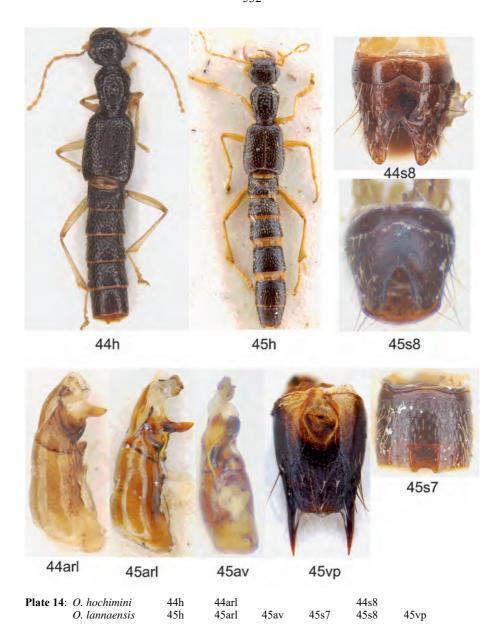






 Plate 15: O. laoticus
 46h
 46arl
 46s8

 O. mediosiamensis
 47h
 47arl
 47vp

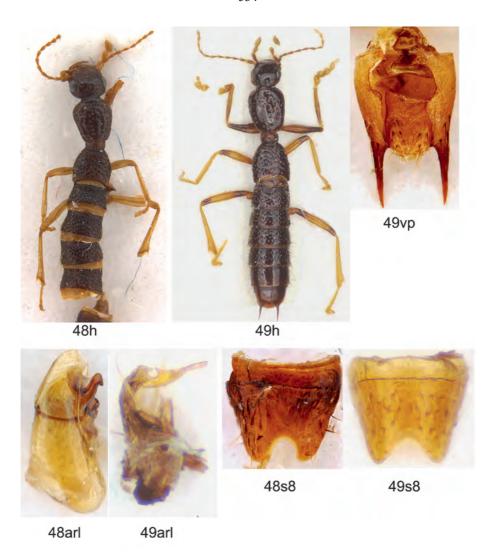


 Plate 16: O. uncifer
 48h
 48arl
 48s8

 O. angusticeps
 49h
 49arl
 49s8
 49vp

