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Two New Species of the Genus *Lachnothorax* Motschoulsky from the Philippines (Insecta: Coleoptera: Carabidae: Odacanthinae)

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With 5 figures

Summary

Lachnothorax philippinus **n. sp.** and *L. inornatus* **n. sp.** from the Philippine Islands Leyte and Luzon, respectively, are described and compared with the two known Oriental species of this genus. Both species are more closely related to each other than to either the extra-Philippine species *L. biguttatus* Motschoulsky and *L. tokkia* Gestro, and they are presumably derived from the same ancestor.

Zusammenfassung

Lachnothorax philippinus **n. sp.** und *L. inornatus* **n. sp.** von Leyte und Luzon (Philippinen) werden beschrieben und mit den beiden bisher aus der orientalischen Region bekannten Arten der Gattung verglichen. Die beiden neuen Arten sind näher miteinander verwandt als mit den nicht auf den Philippinen vorkommenden, aber sonst weit verbreiteten Arten *L. biguttatus* Motschoulsky und *L. tokkia* Gestro. Sie gehen daher vermutlich auf einen gemeinsamen Vorfahren zurück.

1. Introduction

Within a sample of carabid beetles collected by W. Schawaller from Staatliches Museum für Naturkunde, Stuttgart on the island of Leyte in the Philippines and kindly submitted for identification I found a small series of odacanthine beetles that superficially look rather similar to the common Oriental *Lachnothorax biguttatus* Motschoulsky, but are very different in certain characters when examined in detail. Indeed, they are in some respects more similar to certain African species of this genus than to the two Oriental species known hitherto. During comparative examination of the indeterminated odacanthine material of the Museum Frey, München, I found an additional specimen from the Philippine Island of Luzon that is rather similar to the new species mentioned above, though differs in certain respects and represents another new species. Both new species are herein described and compared with the known Oriental species *L. biguttatus* Motschoulsky and *L. tokkia* Gestro.

2. Abbreviations

CBM	Collection M. Baehr, München;
FMT	Museum G. Frey, München;
SMNS	Staatlichem Museum für Naturkunde, Stuttgart;
>	longer or greater than;
<	shorter or smaller than.

3. Measurements

Measurements have been made under a stereo microscope by use of an ocular micrometer. Length has been measured from tip of labrum to apex of elytra, therefore, measurements may slightly differ from those in the literature. For the length/width ratio of elytra length has been measured from the transverse furrow across the base near the apex of the scutellum.

4. Acknowledgments

I am greatly indebted to Dr. W. Schawaller (Stuttgart) and Dr. G. Scherer (München) for the kind loan of the samples.

5. Genus *Lachnothorax* Motschoulsky

Motschoulsky, 1862: 48; Csiki 1932: 1542; Liebke 1938: 103; Jedlicka 1963: 503.

An extensive diagnosis of the genus was given by Liebke (1938). Hence, only some important characters of the genus are mentioned. *Lachnothorax* is characterized by the following main diagnostic character states: absence of a carina medially of the eyes; entire 4th tarsomeres; rather globular pronotum and stout, rather quadrate elytra; presence of dense and elongate, erect pilosity on whole surface; presence of rows of erect setae on all odd intervals; presence of one or more light spot(s) near the apex of the elytra – the last character, however, does not prove correct for one of the new species described herein.

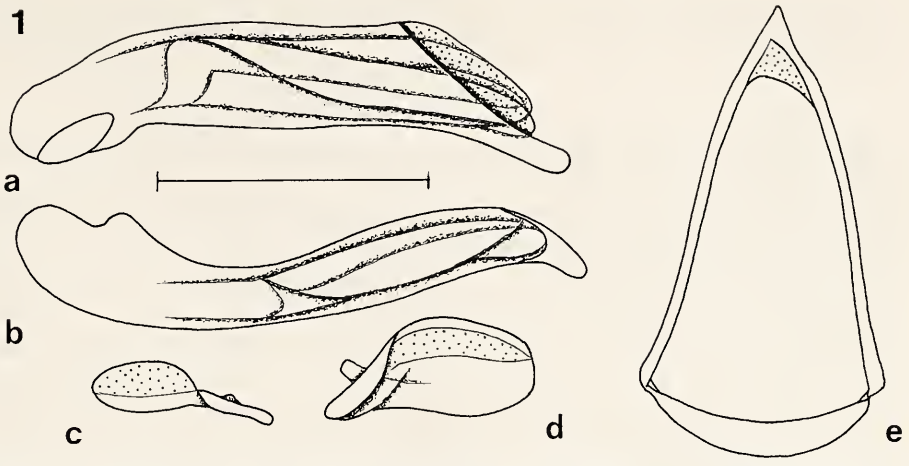
Most species, at least both known Oriental ones, are widespread and rather common and are commonly collected at light. They occur perhaps on the ground near water.

5.1. Key to the Oriental species of the genus *Lachnothorax* Motschoulsky

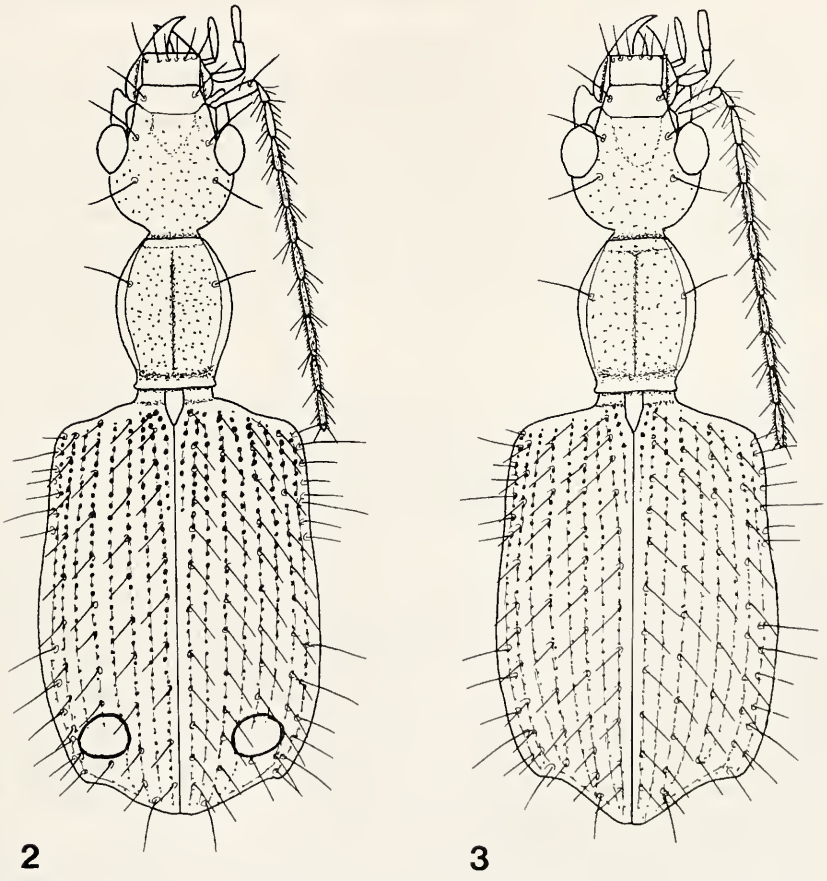
1 Puncturation of the elytra very coarse, punctures wider than the space between them, pilosity very elongate; apical elytral spot oblique, either oval or a narrow stripe; prothorax less globose, > 1.35x as long as wide; head posteriorly more triangular 2
– Puncturation of the elytra far less coarse, punctures considerably smaller than the space between them, pilosity much shorter; apical elytral spot either circular or absent; prothorax globose, <1.2x as long as wide; head posteriorly markedly convex. Philippines. . 3

2 Puncturation of the elytra coarser; elytra at apex with a narrow, oblique stripe; prothorax slightly longer. Malaysia, Sumatra, Java, Celebes, New Guinea . . . . ***tokkia*** Gestro
– Puncturation of the elytra slightly less coarse; elytra at apex with an oval spot; prothorax slightly shorter, more globose. Southern-Asia including Ceylon and the Greater Sunda Islands . . . . . ***biguttatus*** Motschoulsky

3 Elytra with a circular light spot at apex; tibiae with yellow median ring; intervals distinctly punctate; erect setae on odd intervals conspicuous, elongate; anterior third of elytra with a deep transverse impression; aedeagus slightly less curved. Leyte . . ***philippinus*** **n. sp.**



Figs 1a–e. *Lachnothorax biguttatus* Motschoulsky; ♂ genitalia. – a. Aedeagus, left side. – b. aedeagus, lower surface; – c. right paramere; – d. left parameter; – e. genital ring. – Scale: 0.5 mm.



Figs 2–3. Habitus. – 2. *Lachnothorax philippinus* n. sp.; – 3. *L. inornatus* n. sp. – Lengths: 5.75 mm; 6.25 mm.

– Elytra unspotted; tibiae unicolourous dark; intervals barely punctate; erect setae on odd intervals short, difficult to detect; anterior third of elytra with a shallow transverse impression; aedeagus more distinctly curved. Luzon . . . . . ***inornatus* n. sp.**

5.2. *Lachnothorax biguttatus* Motschoulsky (Figs 1a–e)

Lachnothorax biguttatus Motschoulsky, 1862, p. 50; Csiki 1932, p. 1542; Liebke 1938, p. 104; Jedlicka 1963, p. 503.

Examined material (c. 30). I have seen a rather large series from different parts of Thailand and single specimens form central India and from Borneo.

For comparison the ♂ genitalia of this widespread Oriental species are described and figured.

♂ genitalia (Figs 1a–e). Genital ring triangular with acute apex. Aedeagus elongate, though shorter than in related species, markedly sinuate, base >45° twisted, ventral surface gently bisinuate, apex fairly elongate, rather turned laterally. Internal sac without any sclerotized parts, with two large folds. Both parameres with the upper part little sclerotized.

5.3. *Lachnothorax philippinus* **n. sp.** (Figs 2, 4a–e)

Holotype (♂): Philippines: Leyte SW Abuyog, 28. II. 1991 river bank leg. Schawaller, Trautner & Geigenmüller (SMNS).

Paratypes: 3 ♂♂, 4 ♀♀, same data (CBM, SMNS).

Diagnosis: Distinguished from the described Oriental species by much finer puncturation and shorter pilosity of the elytra, presence of a small, circular elytral spot, short, globose prothorax, and large, posteriorly markedly convex head; and further from the closely related *L. inornatus* n. sp. by presence of the apical elytral spot, tibiae with a yellow ring, distinct erect setae on the odd intervals of the elytra, and a deep transverse depression in anterior third of elytra.

Description: Measurements. Length: 5.50–6.15 mm. Ratios: Width head/prothorax: 1.26–1.30; length/width of prothorax: 1.09–1.20; length/width of elytra: 1.40–1.56.

Colour. Black, elytra near apex with a small, circular, whitish or light yellowish spot. 1st antennomere, palpi and mandibles dark piceous. Legs black, basal third of femora and a wide central ring on tibiae light, tarsi dark piceous.

Head. Large, convex, with the large, protruding eyes situated at the widest part. Orbits rather elongate, almost 1.5x as long as lenght of eye, regularly convex. Base of head narrow, sharply incised shortly in front of base. Clypeus barely separated from frons. Frons anteriorly with a pair of deep, irregular grooves, middle of frons rather irregularly grooved. Inner border of eye not margined. Eye large, convex. Posterior supraorbital seta situated slightly behind the posterior margin of the eye. Labrum anteriorly straight. Palpi elongate, apex of terminal segment obtuse. Mandibles rather elongate, acute, anteriorly evenly curved. Antenna moderately elongate, surpassing the shoulders by about two antennomeres, median antennomeres c. 3x as long as wide. 1st–3rd antennomeres with additional setae, but without short pilosity. Dorsal surface of head without microreticulation, glossy, though coarsely and rather sparsely punctate and with long, hirsute pilosity.

Prothorax. Short, wide, globose, little longer than wide, dorsally and laterally markedly rounded. Base with a deep transverse furrow. Lateral border distinct, though obliterated near base. Median line distict, slightly impressed. One lateral

marginal seta situated near lateral border slightly behind anterior third. Surface including episterna without microreticulation, but coarsely, rather irregularly punctate, and with elongate, hirsute pilosity, fairly glossy.

Elytra. Short and wide, rather quadrate, dorsally comparatively depressed, with a deep transverse impression in anterior third. Shoulders rectangular, though obtuse, base in front of shoulders little oblique, lateral margin evenly, though rather feebly rounded, faintly sinuate in anterior third, apex oblique, distinctly excised near lateral apical angles. Lateral apical angles prominent, rounded. Striae coarsely punctate, slightly impressed, though punctures much smaller than distance between them. Puncturation weaker near apex. Intervals with fine, rather irregular puncturation. Odd intervals with numerous elongate, erect setae. All intervals with rather dense, hirsute, only slightly inclined pilosity. Surface without microreticulation, rather glossy. Winged.

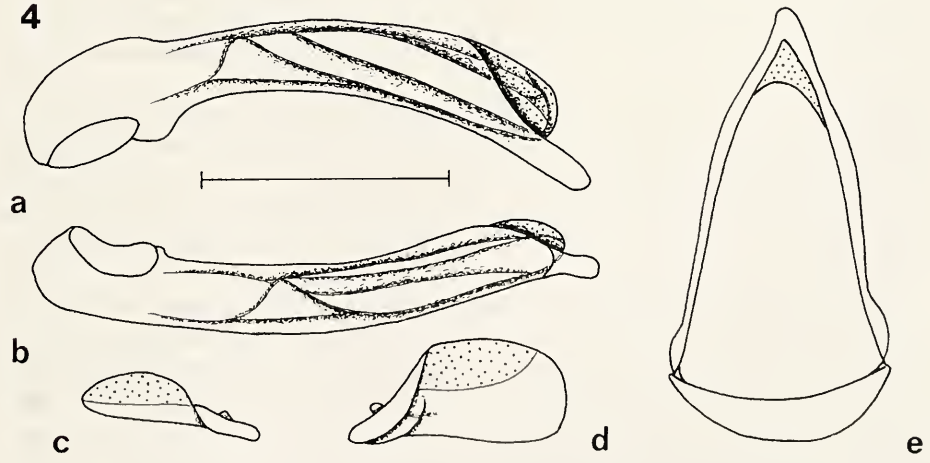
Lower surface. Whole lower surface punctate and hirsute. Metepisternum elongate, >2x as long as wide. All sternites with several tactile setae that are difficult to detect within the hirsute pilosity. Terminal sternite in male bisetose, in female 3–5 setose.

Legs. Elongate. Uper surface of tarsi with sparse, though elongate pilosity. 1st–3rd tarsomeres of ♂ anterior tarsus slightly asymmetrically clothed with adhesive hairs.

♂ gentialia (Figs 4a–e). Genital ring triangular with obtuse apex. Aedeagus very elongate, moderately sinuate, base little twisted, ventral surface evenly concave, apex fairly elongate, almost straight. Internal sac without any sclerotized parts, with two large folds. Both parameres with the upper part little sclerotized.

♀ genitalia. Stylomere 1 at base with a row of c. 7–8 elongate setae. Stylomere 2 moderately elongate, strongly curved and rather hollowed, with moderately elongate, obtuse apex, with two, rarely unilaterally one, elongate ventral ensiform setae, one large dorsal ensiform seta, and one nematiform seta originating from a groove.

Variation. Little variation noted.



Figs 4a–e. *Lachnothorax philippinus* n. sp.; ♂ genitalia. – For legend see Fig. 1. – Scale: 0.5 mm.

Distribution: Philippines: Leyte. Known only from type locality.
Habits: According to the labels collected on „river bank".

Etymology: The name refers to the ocurrence on the Philippine Islands.

Relationships: L. *philippinus* n. sp. is rather remotely related to both described Oriental species, and superficially it is even rather more similar to certain African species. This is perhaps mainly due to the far less coarse puncturation of the elytral striae in *L. philippinus* n. sp. The dense, though rather short pilosity of the elytra, however, links it to the mentioned Oriental species. *L. philippinus* is closely related to the other Philippine species *L. inornatus* n. sp. and certainly both species have been derived from a common ancestor. Further exploration will reveal the actual distribution of the new species, especially whether it is more widely distributed in the Philippine Islands or not.

5.4. *Lachnothorax inornatus* **n. sp.** (Figs 3, 5a–e)

Holotype (♂): Luzon Bangued. I. 1970 leg. P. Schmitz (FMT).

Diagnosis: Distinguished from the other described Oriental species by much finer puncturation and shorter pilosity of the elytra, unspotted elytra, short, globose prothorax, and large, posteriorly markedly convex head; and further from the closely related *L. philippinus* n. sp. by unicolourous tibiae, inconspicuous erect setae on the elytra, and the shallow transverse depression in anterior third of elytra.

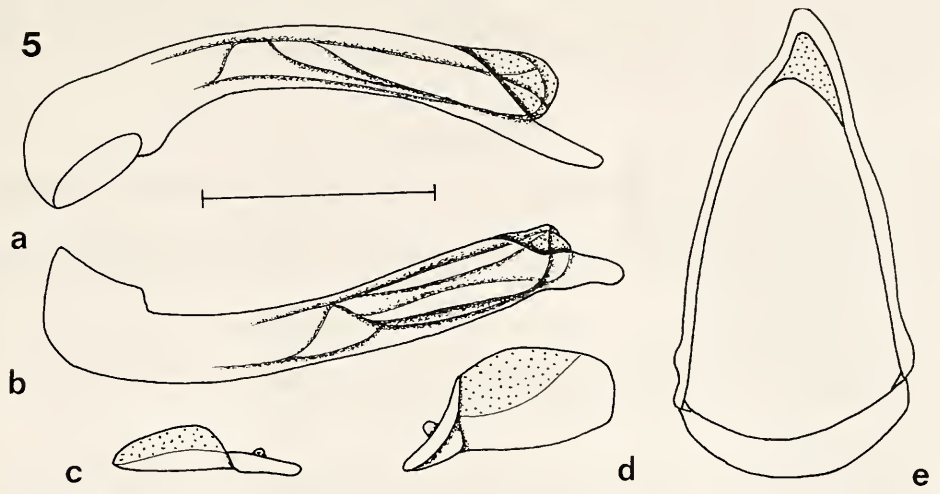
Description: Measurements. Length: 6.25 mm. Ratios: Width head/prothorax: 1.40; length/width of prothorax: 1.14; length/width of elytra: 1.57.

Colour. Uniformly black, only mouth parts, basal antennomeres, and tarsi dark piceous.

Head. Very large, convex, with the large, protruding eyes situated at the widest part. Orbits moderately elongate, c. 1.25x as long as length of eye, regularly convex. Base of head narrow, sharply incised shortly in front of base. Clypeus barely separated from frons. Frons anteriorly with a pair of deep, irregular grooves, middle of frons rather irregularly grooved. Inner border of eye not margined. Eye very large, convex. Posterior supraorbital seta situated at level of posterior margin of eye. Labrum anteriorly straight. Palpi elongate, apex of terminal segment obtuse. Mandibles rather elongate, acute, anteriorly evenly curved. Antenna moderately elongate, surpassing the shoulders by about two antennomeres, median antennomeres c. 3x as long as wide. 1st–3rd antennomeres with additional seta, but without short pilosity. Dorsal surface of head without microreticulation, glossy, though rather coarsely and fairly sparsely punctate and with long, hirsute pilosity.

Prothorax. Short, wide, globose, little longer than wide, dorsally and laterally markedly rounded. Base with a deep transverse furrow. Lateral border distinct, though obliterated near base. Median line distinct, slightly impressed. One lateral marginal seta situated near lateral border well behind anterior third. Surface including episterna without microreticulation, but moderately coarsely, rather irregularly punctate, and with elongate, hirsute pilosity, fairly glossy.

Elytra. Short and wide, rather quadrate, dorsally comparatively depressed, with a shallow transverse impression in anterior third. Shoulders distinct, base in front of



Figs 5a–e. *Lachnothorax inornatus* n. sp.; ♂ genitalia. – For legend see Fig. 1. – Scale: 0.5 mm.

shoulders little oblique, lateral margin evenly rounded, faintly sinuate in anterior third, apex very oblique, deeply excised near lateral apical angles. Lateral apical angles prominent, rounded. Striae moderately coarsely punctate, slightly impressed, punctures much smaller than distance between them. Puncturation weaker near apex. Intervals with fine, rather irregular puncturation. Odd intervals with numerous moderately elongate, erect setae that are difficult to detect within the hirsute pilosity. All intervals with rather dense, hirsute, only slightly inclined pilosity. Surface without microreticulation, glossy. Winged.

Lower surface. Whole lower surface punctate and hirsute. Metepisternum elongate, c. 2x as long as wide. All sternites with several tactile setae that are difficult to detect within the hirsute pilosity. Terminal sternite in male bisetose.

Legs. Elongate. Upper surface of tarsi with sparse, though elongate pilosity. 1st–3rd tarsomeres of ♂ anterior tarsus slightly asymmetrically clothed with adhesive hairs.

♂ genitalia (Figs 5a–e). Genital ring triangular with obtuse apex. Aedeagus very elongate, little sinuate, base twisted for almost 45°, ventral surface evenly concave, apex elongate, almost straight. Internal sac without any sclerotized parts, with two large folds. Both parameres with the upper part little sclerotized.

♀ genitalia. Unknown.

Variation. Unknown.

Distribution: Philippines: Luzon. Known only from type locality.

Habits: Unknown.

Etymology: The name refers to the absence of the elytral spot and the uniformly dark tibiae.

Relationships: *L. inornatus* n. sp. is closely related to the other Philippine species *L. philippinus* n. sp. and certainly both species are derived from a common ancestor. In some characters, however, it seems more apomorphic than *L. philippi-*

nus: in particular in the absence of the elytra spot, the reduction of the transverse depression in the anterior third of the elytra, and in the far less conspicuous erect setae on the odd intervals.

6. Literature

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