

## A Taxonomic Study of the Genus *Latipalpus* (Coleoptera, Scarabaeidae), II

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**Abstract** This is the second part of the study of the rhizotrogine genus, *Latipalpus*. Three known species, *Latipalpus maxillatus* (BRENSKE), *L. latipalpis* (MOSER) and *L. truncatipalpis* MOSER, are redescribed and a new species, *L. elegans* T. ITOH is described from northern Borneo.

It has been rather difficult to grasp the exact and detailed characteristics of the hitherto known species of the genus *Latipalpus* through the original accounts, because they are briefly described and accompanied with neither photographs nor illustrations. In this second part of my study, I am going to redescribe the three known species and to describe a new species under the name of *L. elegans* T. ITOH, sp. nov.

### *Latipalpus maxillatus* (BRENSKE, 1892)

(Figs. 1, 5a, 6a, 7a–b, 8a, 9a)

*Holotrichia maxillata* BRENSKE, 1892, Berl. ent. Z., **37**: 183.

*Latipalpus maxillatus*: MOSER, 1921, Stett. ent. Ztg., **82**: 64.

*Description.* Length: 16.2–18.2 mm.

Male. Head and pronotum dark blackish brown, antennae, maxillary palpi, scutellum and legs dark reddish to reddish brown, elytra and ventral surface light brown, pygidium dark brown; dorsal surface completely opaque and glabrous though the pronotum is sometimes haired; ventral surface opaque and densely haired, though the abdomen is bluntly shining and glabrous, and the femora are shining.

Head conspicuously elevated, rugosely scattered with moderately coarse punctures; clypeus transverse, CW/CL 2.9–3.7 (A 3.2, n=7), densely and coarsely punctate, fronto-clypeal suture weakly to moderately biarcuate; frons with 1–6 setae in each latero-marginal portion; eyes not so prominent, IN/HW 0.60–0.65 (A 0.63, n=7), antennal club as long as 7 preceding segments together; terminal segment of maxillary palpus becoming wider towards the middle, and thence subparallel-sided apicad, with bluntly truncate apex; occipital area densely with very long, forwardly recumbent hairs, which often extend beyond the vertex.

Pronotum transverse, PL/PW 0.61–0.64 (A 0.63, n=7); anterior margin rimmed,

lateral margins straight in anterior halves, more or less emarginate in posterior halves; anterior angles obtuse, posterior ones subrectangular; posterior margin with wide transverse ridge from posterior angle to ante-scutellar area, the ridge being irregularly deformed (seemingly serrate) by a row of elliptical punctures and vanished before the median line; disc coarsely and densely punctate, often with a few setae in antero-central portion, rarely almost glabrous or on the contrary haired on the whole area.

Elytra inconspicuously costate; sutural costa gradually widened in basal 1/3 and thence subparallel-sided apicad; 2nd costa very weakly raised, gradually widened apicad, obviously wider than 1st interval in posterior half of elytron, and close to sutural one near apex; 3rd costa distinctly narrower than 2nd and wider than 2nd interval; 4th and 5th costae greatly reduced; epipleuron well recognized to the level of 2nd sternite, reaching the level of 4th sternite; marginal membrane extending to sutural angle. Scutellum with fine punctures. Pygidium slightly convex, with coarse punctures, which are as coarse as or slightly coarser than those on pronotum. Prosternum with a pair of moderately sharp post-coxal processes.

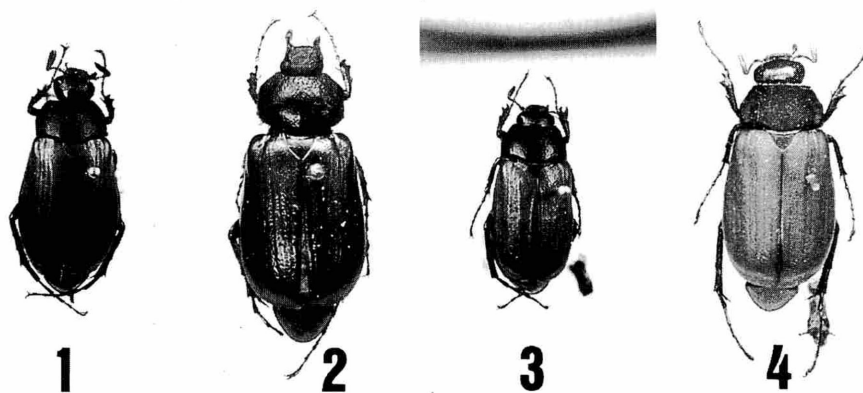
Legs slender, FW/FL 0.27–0.31 (A 0.29, n=7). Femora densely covered with long hairs; metafemora with rather long hairs along upper margin, which are often as long as half the width of metafemur, and also with a row of short setae on surface, which are up to 1/3 times the width of metafemur; profemora coarsely punctate, meso- and metafemora sparsely and more finely so. Protibia tridentate, with 1st denticle nearer to base than to apex (at basal 0.44–0.50 (A 0.47)). Longer one of metatibial spurs as long as 1st metatarsal segment, which is a little longer than the 2nd. Each claw strongly curved apicad, with small, sharp denticle near base; all the denticles of outer and inner claws of the same size in 4 anterior legs, though the former is somewhat smaller than the latter in the posterior legs.

Male genitalia flattened; each paramere forming a gradually narrowed, roundly pointed projection, which extends to the ventral surface so as to contact with each other; internal sac with arms slender or moderately stout, straight and not forming conspicuous tubercle at apex.

Female. Body slightly more robust, CW/CL 3.0–3.1 (A 3.1, n=2), eyes not prominent, IN/HW 0.65–0.67 (A 0.66, n=2), antennal club shorter than 7 preceding segments together, occiput with short, recumbent hairs, which do not reach the vertex. Pronotum as wide as that in male, PL/PW 0.62–0.63 (A 0.63, n=2); anterior and posterior angles subrectangular; disc with obviously coarser punctures than those in male, the punctures seemingly larger than their real size because of noticeably elliptical concavities of their surroundings, and becoming denser and coarser near sides. Femora stouter, FW/FL 0.32–0.33 (A 0.33, n=2). Metafemoral hairs along upper margin about 1/3 times the width of metafemur, metafemoral setae on surface about 1/4–1/3 times the width of metafemur. Protibia tridentate, with 1st denticle slightly nearer to base than to apex (at basal 0.46–0.50 (A 0.48)).

*Distribution.* Java.

*Specimens examined.* 1 ♂ (type), with 3 labels inscribed “Java FRUHST. H.”, “H.



Figs. 1-4. *Latipalpus* spp. — 1, *L. maxillatus* (BRENSKE), ♂; 2, *L. latipalpis* (MOSER), ♂; 3, *L. truncatipalpis* MOSER, ♂; 4, *L. elegans* T. ITOH, sp. nov., ♂.

*maxillata* Type BRSK.", "coll. BRENSKE"; 3 ♂♂, "Java FRUHST. H.", "coll. BRENSKE"; 2 ♂♂, 2 ♀♀, "Java orient. Montes Tengger 4000' 1890 H. FRUHSTORFER."; 1 ♂, "Coll. NONFRIED. Java".

*Remarks.* BRENSKE (1893) recorded a geographical variant of this species from Borneo, but the specimen which he identified with *H. maxillata* var. actually belongs to another unknown species.

### *Latipalpus latipalpis* (MOSER)

(Figs. 2, 5b, 6b, 7c, 8b, 9b)

*Holotrichia latipalpis* MOSER, 1912, Annl. Soc. ent. Belg., **56**: 422.

*Latipalpus latipalpis*: MOSER, 1921, Stett. ent. Ztg., **82**: 64.

*Description.* Length: 20.5 mm.

Male. Head, pronotum and scutellum dark reddish brown, antennae, maxillary palpi, elytra, pygidium, ventral surface and legs reddish brown; dorsal and ventral surfaces moderately shining.

Head noticeably elevated and irregularly bituberculate, with coarse and rugose punctures; clypeus transverse, rugosely and coarsely punctate, CL/CW 3.3, fronto-clypeal suture biarcuate; eyes not prominent, IN/HW 0.68; vertex gently ridged; antennal club shorter than 7 preceding segments together; terminal segment of maxillary palpus extremely swollen, rice-grain-shaped, flattened on the dorsal side, with truncate apex; occipital area densely with very long, forwardly recumbent hairs, which extend beyond vertex.

Pronotum transverse and moderately convex, PL/PW 0.67, anterior and lateral margins and anterior portion of disc with long hairs; anterior angles obtuse, posterior ones subrectangular; posterior margin irregularly with elliptical punctures, and hardly

forming irregularly deformed transverse ridge; disc rather shining, glabrous except for anterior portion, somewhat rugosely and partly very coarsely punctate in antero-central portion, where the surroundings of some punctures are noticeably concave.

Elytra inconspicuously costate, sutural costa gradually widened in basal 3/10, widest near the middle and slightly narrowed apicad; 2nd costa conspicuously raised and wide, gradually widened apicad, as wide as 2nd interval, and close to sutural one near apex; 3rd costa obviously narrower than 2nd and parallel to it, gradually widened towards the middle and thence subparallel-sided apicad; 4th and 5th costae absent; epipleuron well recognized to the level between 3rd and 4th sternites; marginal membrane inconspicuous. Scutellum with coarse and sparse punctures except for an area along median line. Pygidium slightly convex, smooth, covered with coarse and somewhat dense punctures, which are slightly coarser than those on pronotum. Prosternum with a pair of rather blunt post-coxal processes. Metasternum, mesepimeron, metepisternum and metacoxa noticeably densely with long yellowish hairs.

Legs moderately slender, FW/FL 0.28, with moderately elongate protarsi. Femora very densely covered with long hairs, metafemora with noticeably long hairs in whole area, which are sometimes as long as the width of metafemur; pro- and mesofemora densely punctate, metafemora more sparsely so. Protibia tridentate, with 1st denticle distinct, situated approximately at the middle of protibia (at basal 0.48). Longer one of metatibial spurs slightly longer than 1st metatarsal segment, which is approximately as long as the 2nd. Each claw gently curved apicad, with small, sharp denticle near the middle; all the denticles of outer claw and of inner claw being of the same size.

Male genitalia rather flattened; parameres thick, calliper-shaped, tapering and bent downwards apicad, with apices blunt and in contact with each other; internal sac with arms thick, weakly bent near apices, each apex not possessing an obvious tubercle.

Female. Unknown.

*Distribution.* Java.

*Specimen examined.* 1 ♂ (type), with 2 labels inscribed "Java Tjikorai", "*Holotrichia Latipalpis* Mos Type".

*Remarks.* This species is rather easily separated from other members of the genus by the terminal segment of the maxillary palpus extremely swollen, the ventral surface densely with long hairs, and the dorsal surface moderately shining.

### *Latipalpus truncatipalpis* MOSER, 1921

(Figs. 3, 5c, 6c, 7d, 8c, 9c)

*Latipalpus truncatipalpis* MOSER, 1921, Stett. ent. Ztg., **82**: 65.

*Description.* Length: 15.0 mm.

Male. Head, pronotum, scutellum, tibiae and tarsi dark reddish brown, femora reddish brown, antennae, maxillary palpi, elytra, pygidium and ventral surface light

brown; dorsal surface opaque and glabrous; ventral surface opaque and haired, though the abdomen is glabrous in almost whole area and the femora are shining.

Head slightly elevated, sparsely with fine punctures; clypeus transverse, sparsely and coarsely punctate, the punctures slightly denser and coarser than those in frons, CW/CL 3.4, fronto-clypeal suture biarcuate; eyes not prominent, IN/HW 0.63; vertex gently raised; antennal club obviously shorter than 7 preceding segments together; terminal segment of maxillary palpus swollen towards middle, thence feebly narrowed apicad, with sharply truncate apex; occipital area densely with short, yellowish and forwardly recumbent hairs, which do not reach the vertex.

Pronotum transverse and moderately convex, PL/PW 0.59; anterior margin rimmed and glabrous; lateral margins straight in anterior and posterior halves, respectively; anterior angles subrectangular, posterior ones obtuse; posterior margin with elliptical punctures except for an area near the median line, partly with very obscure ridges; disc entirely glabrous, smooth, sparsely and coarsely punctate in central area, a little more densely so near sides.

Elytra inconspicuously costate; sutural costa gradually widened in basal 1/3 and thence subparallel-sided apicad; 2nd costa weakly though obviously raised, widest and obviously wider than 1st interval at the middle, narrowed both basad and apicad; 3rd one gradually widened, obviously narrower than 2nd, becoming as wide as 2nd interval in the middle; 4th and 5th costae absent; epipleuron well recognized to the level of 1st sternite, reaching the level of 2nd sternite; marginal membrane extending to sutural angle. Scutellum sparsely and coarsely punctate. Pygidium slightly convex, covered with coarse punctures, which are coarser than those on pronotum. Prosternum with a pair of sharp post-coxal processes. Metasternum somewhat convex.

Legs moderately stout, FW/FL 0.34. Femora densely covered with long hairs; metafemora with rather long hairs along upper margin, which are shorter than half the width of metafemur, and also with a row of short setae on surface, which are up to 1/6 times the width of metafemur; profemora coarsely punctate, meso- and metafemora more finely so. Protibia tridentate, with 1st denticle distinct situated nearer to apex than to base (at basal 0.58). Longer one of metatibial spurs longer than 1st metatarsal segment, which is longer than the 2nd. Each claw strongly curved apicad, with or without a very minute denticle near base in 4 anterior legs, hardly with even trace of denticle in posterior legs though the base is rather angulate.

Male genitalia somewhat flattened; each paramere forming a gradually narrowed projection, which extends to the ventral surface so as to contact with each other; internal sac with arms slender, weakly bent near apices, each apex with conspicuous mushroom-shaped tubercle.

Female. Unknown.

*Distribution.* Southern Borneo.

*Specimen examined.* 1 ♂ (type), with 2 labels inscribed "Borneo Mahakam", "*Latipalpus truncatipalpis* Mos. Type".

*Latipalpus elegans* T. ITOH, sp. nov.

(Figs. 4, 5d, 6d, 7e–f, 8d, 9d)

*Description.* Length: 17.9–22.1 mm.

Male. Head and pronotum dark blackish brown, antennae, maxillary palpi, scutellum, tibiae and tarsi dark reddish brown, femora reddish brown, elytra, pygidium and ventral surface light brown; dorsal surface opaque and glabrous; ventral surface opaque and densely haired though the abdomen is glabrous.

Head almost flattened, densely with moderately fine punctures; clypeus transverse, smooth, densely and finely punctate, CW/CL 3.6–4.5 (A 4.0, n=4), fronto-clypeal suture arcuate or biarcuate; eyes rather prominent, IN/HW 0.55–0.59 (A 0.57, n=4); vertex gently ridged; antennal club slightly shorter than 7 preceding segments together; terminal segment of maxillary palpus swollen towards middle, thence slightly narrowed apicad, with bluntly truncate apex; occipital area densely with forwardly recumbent hairs, which reach or sometimes extend beyond the vertex.

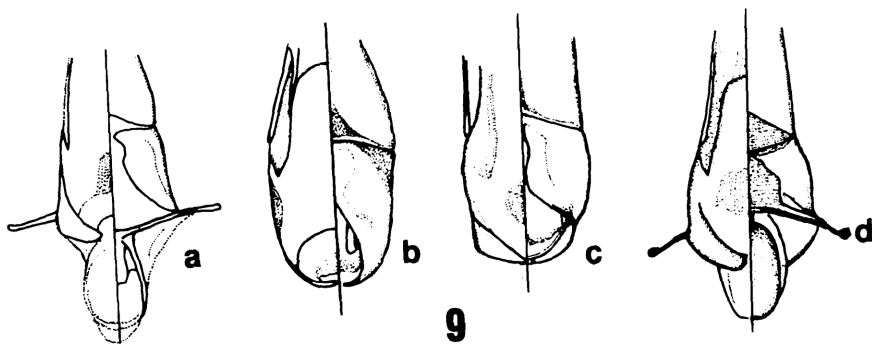
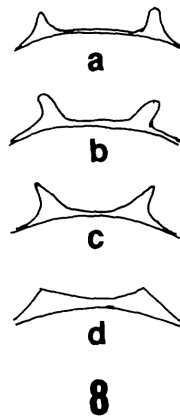
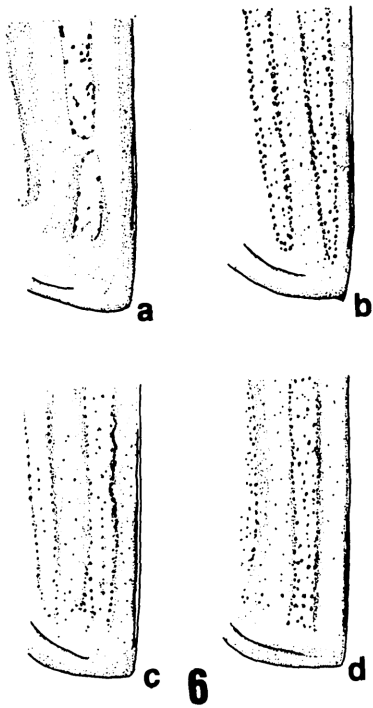
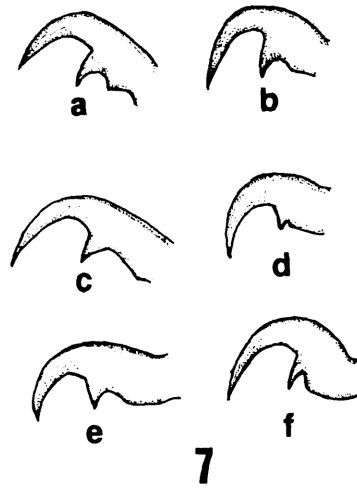
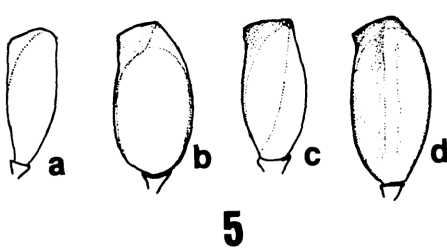
Pronotum transverse, PL/PW 0.61–0.63 (A 0.62, n=4); anterior margin rimmed and glabrous; lateral margins straight in anterior halves, straight or weakly emarginate in posterior halves; anterior angles obtuse, posterior ones subrectangular; posterior margin with conspicuous or inconspicuous transverse ridge, which becomes irregularly deformed (seemingly serrate) by a row of elliptical punctures; disc glabrous, smooth, sparsely and finely punctate in central area and slightly more densely so near sides.

Elytra inconspicuously costate, sutural costa gradually widened in basal 2/9 and thence subparallel-sided apicad; 2nd costa weakly raised, slightly widened apicad and wider than 1st interval in posterior half of elytron; 3rd costa narrower than 2nd, approximately as wide as 2nd interval; 4th and 5th costae greatly reduced; epipleuron well recognized to the level of 1st sternite, reaching the level of 2nd to 3rd sternites; marginal membrane extending to sutural angle. Scutellum moderately sparsely and finely punctate. Pygidium slightly convex, slightly rugose and somewhat densely with coarse punctures, which are coarser than those on pronotum. Prosternum with shallowly M-shaped, transverse post-coxal process, which is seemingly bidentate.

Legs slender, FW/FL 0.32–0.35 (A 0.34, n=4). Femora densely covered with long hairs; metafemora with rather long hairs along upper margin, which are sometimes up to 2/5 times the width of metafemur, and also with a row of setae on surface, which are up to about 1/3–1/2 times the width of metafemur; profemora coarsely and densely punctate, mesofemora finely and densely so, metafemora finely and sparsely

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Figs. 5–9. — 5, Terminal segment of maxillary palpus; a: *L. maxillatus*; b: *L. latipalpis*; c: *L. truncatipalpis*; d: *L. elegans* sp. nov. — 6, Apical portion of elytron; a: *L. maxillatus*; b: *L. latipalpis*; c: *L. truncatipalpis*; d: *L. elegans* sp. nov. — 7, Inner claw of fore leg; a: *L. maxillatus*, ♂; b: ditto, ♀; c: *L. latipalpis*, ♂; d: *L. truncatipalpis*, ♂; e: *L. elegans* sp. nov., ♂; f: ditto, ♀. — 8, Prosternal process; a: *L. maxillatus*; b: *L. latipalpis*; c: *L. truncatipalpis*; d: *L. elegans* sp. nov. — 9, Male genitalia (right half: dorsal side; left half: ventral side); a: *L. maxillatus*; b: *L. latipalpis*; c: *L. truncatipalpis*; d: *L. elegans* sp. nov.



so. Protibia tridentate, with 1st denticle approximately at the middle (at basal 0.48–0.54 (A 0.51)). Longer one of metatibial spurs as long as 1st metatarsal segment, which is as long as the 2nd or slightly longer than it. Each claw strongly curved apicad, with a small denticle near base; all the denticles of outer and inner claws of the same size in 4 anterior legs, though the former is somewhat smaller than the latter in the posterior legs.

Male genitalia flattened; each paramere forming a gradually narrowed, roundly pointed projection, which extends to the ventral surface so as to contact with each other; internal sac with arms slender, gently arcuate, weakly bent near apices, each apex possessing an inconspicuous, mushroom-shaped tubercle.

Female. Body larger and more robust than in male. CW/CL 3.2–3.8 (A 3.5, n=9), eyes not prominent, IN/HW 0.62–0.64 (A 0.63, n=5), antennal club as long as or slightly longer than 6 preceding segments together, occiput with short, forwardly recumbent hairs, which neither reach the vertex nor extend beyond it. Pronotum as wide as that in male, PL/PW 0.62–0.64 (A 0.63, n=9). Abdomen uniformly swollen. Femora stouter, FW/FL 0.37–0.40 (A 0.38, n=9); metafemoral hairs along upper margin up to about 1/3–3/7 times the width of metafemur, metafemoral setae on surface up to about 1/4–2/5 times the width of metafemur. Protibia tridentate, with 1st denticle approximately at the middle (at basal 0.48–0.55 (A 0.52)). Longer one of metatibial spurs slightly longer than 1st metatarsal segment, which is as long as the 2nd. Denticles of outer claws slightly smaller than those of inner claws in posterior legs.

*Distribution.* Northern Borneo.

Holotype: ♂, near Keningau, N. Borneo, 19~25-III-1989, M. ITOH leg. Paratypes: 1 ♂, 6 ♀♀, same data as for the holotype; 1 ♀, same locality, 18-III-1989, M. ITOH leg.; 1 ♂, same locality, 1-V-1988, M. YAGI leg.; 1 ♂, same locality, IV-1994; 2 ♀♀, Trus Madi Mts., near Keningau, Sabah, Malaysia, 17~30-IV-1993. The holo- and 1 paratypes are deposited in MNHA, 2 paratypes in ZMHU, and 9 paratypes in the author's collection.

*Remarks.* This new species is closely allied to *L. occidentalis* T. ITOH from western Borneo, but is separated from the latter by the dorsal surface almost opaque, the terminal segment of maxillary palpus more slender, the apices of parameres of the male genitalia roundly pointed and the eyes a little more prominent in male.

## 要 約

伊藤 武：スンダ列島のクロコガネ *Latipalpus* 属の分類学的研究，II。—— 従来よりジャワ島およびボルネオ島から知られていた *Latipalpus* 属4種のうち，3種，*L. maxillatus* (BRENSKE), *L. latipalpis* (MOSER) と *L. truncatipalpis* MOSER を再記載し，ボルネオ島北部より1新種，*L. elegans* を記載した。

## Reference (Additional)

ITO, T., 1998. A taxonomic study of the genus *Latipalpus* (Coleoptera, Scarabaeidae), I. *Elytra*, Tokyo, 26: 353–357.