

XVII.—On some Additional Species of *Laius*, Guérin, from the Malayan Region [Coleoptera]. By G. C. CHAMPION, F.Z.S.

ABOUT a fortnight after my paper on the genus *Laius* appeared in this Magazine, (9) vii. pp. 322–343, April 1921, a very interesting series of Malayan forms was received at the British Museum from Mr. C. F. Baker, of Los Baños, Luzon, Philippines. This set includes 14 species, 12 of which were new to the collection and 9 of them undescribed. It is advisable to name these insects at once and to incorporate them with the rest in the Museum. Seven belong to the *Intybia*-group, placed by me near the end of the genus; and one has the second tarsal joint of the ♂ produced into a long claw above, as in the same sex of *Attalus*, this being the first species of *Laius* seen by me with the tarsi thus formed. The Philippine *L. baeri*, Fairm. (1898), and *L. semidepressus*, Pic (1917), and various forms from Java, Celebes, Perak, &c., named by Pic, have not yet been found in the collections examined. For facility of reference Mr. Baker's numbers are quoted in the present paper. In addition to the species of *Laius* he has also sent a new *Hapalochrus* closely related to *H. orientalis*, described in the same number of the 'Annals,' p. 346*. The Ma-

* *Hapalochrus megalops*, sp. n.—♂. Elongate, narrow, convex, shining, cinereo-pubescent, with scattered, longer, semierect hairs intermixed; bluish-green, the antennæ (the testaceous basal joints excepted), eyes, and legs black or piceous; the head and prothorax sparsely, the elytra densely, very finely punctured. Head a little broader than the prothorax, the eyes extremely large, separated by less than their own width as seen from above; antennæ long, flabellate. Prothorax transverse, rounded at the sides. Elytra long, slightly widening posteriorly. Anterior tibiæ hollowed near the apex within; anterior tarsal joint 2 extending over the base of 3 above; intermediate tibiæ widened, rounded externally, not sinuate within.

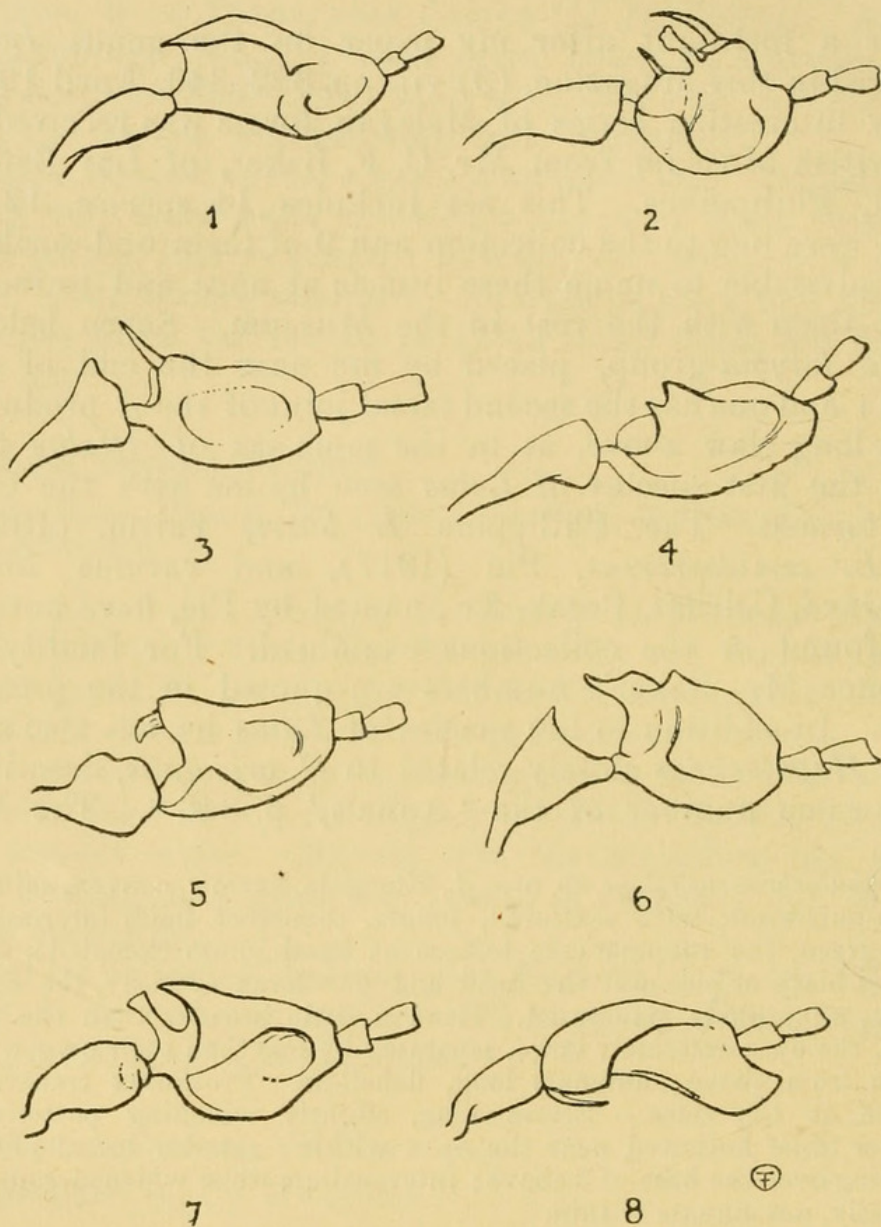
Length $3\frac{1}{2}$ mm.

Hab. SINGAPORE (Baker: No. 16161).

One male. Very like the S. Indian *H. orientalis*, Champ. [*l. c.* p. 346, no. 69 (c)], differing from it, in the ♂-sex, by the very much larger and more contiguous eyes, the pale basal joints of the antennæ, the widened, subarcuate intermediate tibiæ, and the finer puncturing of the elytra. The ♀ only of *H. orientalis* was described: the ♂, a specimen of which taken by Dr. Campbell at Yercaud, S. India, has just been presented to the British Museum by Mr. E. A. Butler, has, as anticipated, strongly flabellate antennæ; the anterior and intermediate tibiæ slender, and both hollowed near the apex within; the eyes moderately large and widely separated; and the body brilliant cyaneous above.

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layan material in the "Fry Collection," hitherto overlooked by me, has also furnished several more new species of the first-named genus.



Antennal joints 1-4, ♂, of: 1. *L. alboarcuatus*; 2. *L. pictus*; 3. *L. dentatithorax*; 4. *L. subdentatus*; 5. *L. waterstradti*; 6. *L. quadristrigatus*; 7. *L. falcifer*; 8. *L. tetrastictus*, from behind.

Revised Key to the Malayan Species of Laius with spotted Elytra (Nos. 24-29, l. c. p. 324).

*e*¹. Elytra albo- or testaceo-maculate.

aa. Anterior tarsi of ♂ simple.

*h*². Upper surface shining; tarsi longer Species 24, 25.

- i*². Upper surface wholly or in part opaque; tarsi short. [Subgen. INTYBIA, Pasc.] . . . Species 26-29 (*a-i*).
- bb*. Anterior tarsi of ♂ with joint 2 prolonged or raised over the base of 3. [Subgen. DICRANOLAIUS, n.]
- j*³. Upper surface shining; tarsi longer Species 29 (*j*).
- k*². Upper surface opaque; tarsi short Species 29 (*k-m*).

2 (*a*). *Laius submarinus*, sp. n.

♀. Smaller, less elongate, and more shining than the ♀ of the Malayan insect identified by me as *L. (Paussus) flavicornis*, F., antea p. 325, the antennal joints 1 and 2 differently shaped: bluish-green, the elytra cyaneous, the anterior margin of the head, the labrum, palpi, and the antennal joints 1-3, rufo-testaceous, the rest of the antennæ and the legs black; cinereo-pubescent, the head and prothorax densely, very finely, the elytra excessively minutely, punctate; head small, canaliculate; antennal joint 1 shorter, more curved, and more dilated outwards, and 2 relatively shorter, broader, and more rounded on its inner aspect, than in *L. flavicornis* (♀); prothorax transverse, less rounded at the sides; elytra comparatively short, parallel.

Length $3\frac{1}{4}$ mm.

♂. Antennæ (figs. 9, 9*a*) with joint 1 long, curved, compressed, broadly truncato-dilatate in its outer half externally; 2 enormously dilated, transverse, subquadrate as seen from its upper aspect, emarginate and deeply concave on its basal aspect, the strongly reflexed inner and outer margins produced into two converging blunt processes at the base above. Anterior femora hollowed at the apex beneath; anterior tibiæ curved, greatly swollen at about the middle, convex externally, sinuato-excavate at the base within; anterior tarsi simple.

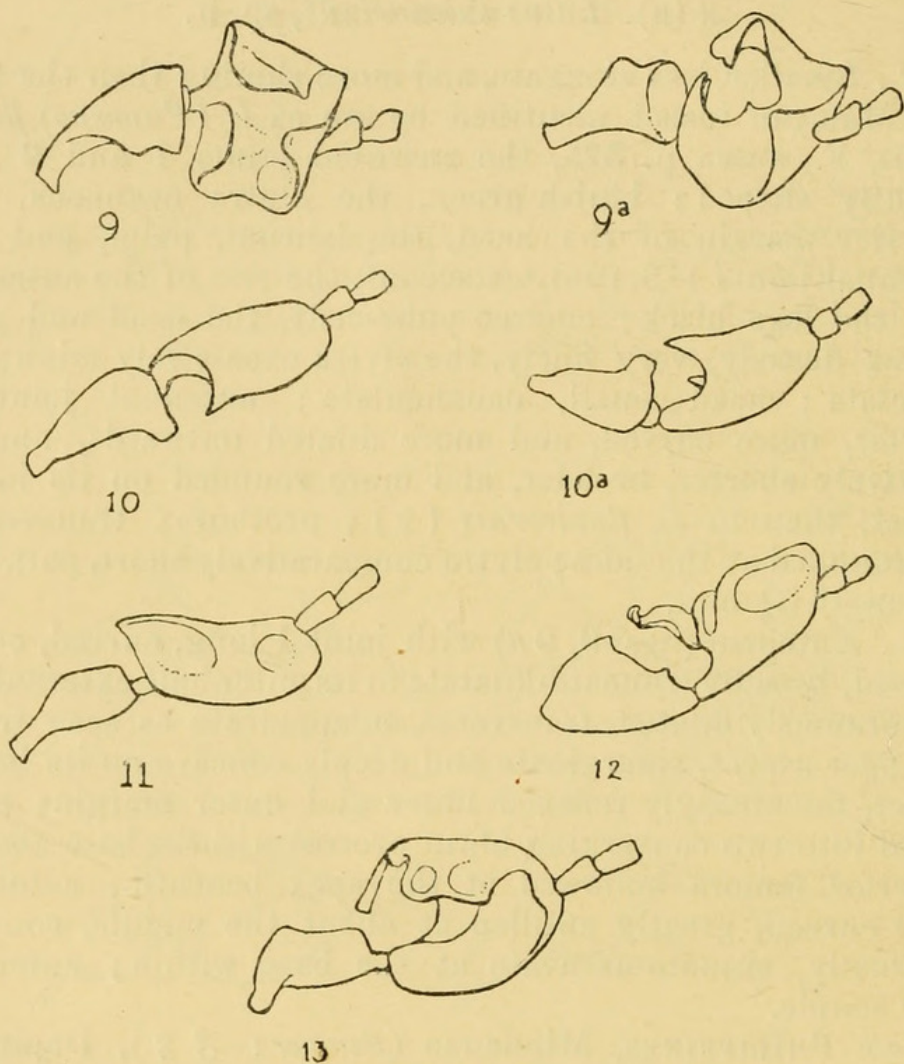
Hab. PHILIPPINES, Mindanao (*Semper*: ♂ ♀), Dapitan, Mindanao (*Baker*: No. 16160: ♀).

One ♂ and two ♀ ♀ seen; others are presumably contained in Mr. Baker's collection. Certainly distinct from *L. flavicornis*, several ♂ and ♀ specimens of which are before me.

"Lives in cracks and holes of sandstone that reach pretty far out into the sea, quite covered during the flood-tide but dry during the ebb." (*Semper*.)

6 (a). *Laius alboarcuatus*, sp. n.

♂. Moderately elongate, widened posteriorly, the head shining, the prothorax and elytra opaque, finely pubescent; nigro-piceous or black, the head, antennæ, prothorax, and



Antennal joints 1-4, ♂, of: 9, 9 a. *L. submarinus*, from different aspects; 10, 10 a. *L. alboplagiatus*, from above and behind; 11. *L. semperi*; 12. *L. flavonotatus*, from behind; 13. *L. erythrocephalus*.

legs (the infusate tibiæ excepted) testaceous or rufo-testaceous, the elytra each with a narrow, arcuate, transverse, whitish fascia (extending to the outer margin, but not reaching the suture) before the apex; the head rather sparsely, minutely, the rest of the upper surface densely, rugulose, punctate. Head triangular, about as wide as the

prothorax, canaliculate, the eyes prominent and rather large; antennæ (fig. 1) long, joint 1 strongly curved, moderately dilated outwards, 2 enormously developed, elongate, oblique, somewhat scaphiform, concave, reflexed and angularly produced at the inner basal angle, 3-10 filiform. Prothorax transverse, subcordate, the arcuate basal depression deep. Elytra moderately long, convex. Legs short; anterior tarsi simple.

♀. Antennæ wholly or in part testaceous, rather stout, tapering outwards, joint 2 thickened, elongate, subcylindrical.

Length $2\frac{1}{5}$ - $2\frac{2}{3}$ mm. (♂ ♀.)

Hab. PHILIPPINES, Mt. Makiling, Luzon [type ♂], Los Baños [♀] (*Baker*: No. 1149).

One ♂, two ♀ ♀. Not unlike the Indian *L. nodifrons* and *L. testaceiceps*; but with the elytra black and albo-unifasciate near the apex, and the puncturing much finer and denser, the tarsi short as in *Intybia*.

23 (a). *Laius rectefasciatus*, sp. n.

♀. Elongate, widened posteriorly, the head and prothorax shining, the elytra opaque, finely pubescent; piceous, the head and prothorax, the suture and the basal, apical, and lateral margins of the elytra, the four basal joints of the antennæ in part, and the bases of the femora to a greater or less extent, testaceous or rufo-testaceous, the elytra each with two straight, transverse, whitish fasciæ extending to the outer margin; the head and prothorax closely, the elytra densely, rugulosely, punctate. Head triangular, about as wide as the prothorax, canaliculate, the eyes prominent; antennæ rather stout, tapering outwards, joint 2 elongate, much thickened, subcylindrical. Prothorax about as long as broad, subcordate, unarmed at the sides, the arcuate basal depression deep. Elytra moderately elongate, rather convex. Legs short.

Length $2\frac{4}{5}$ -3 mm.

Hab. PHILIPPINES, Iligan, Mindanao (*Baker*: No. 4282).

Two ♀ ♀. The elytral markings in this insect are rather like those of the Indian *L. jucundus*, Bourg., except that the whitish fasciæ are quite straight and not connected along the suture. The surface-sculpture is dense and very fine, as in the species of the *Intybia*-group.

23 (b). *Laius variipes*, sp. n.

♀. Elongate, narrow, rather convex, widened posteriorly, the head and prothorax somewhat shining, the elytra opaque, finely pubescent; the head, prothorax, the antennal joints 1-6, femora, and tarsi testaceous or flavous, the rest of the antennæ, the palpi, and tibiæ piceous or black; the elytra piceous, with the base, outer limb, and apical margin, and the sutural region broadly and indeterminately, testaceous, and each with two large, transverse, whitish fasciæ on the outer part of the disc, the subapical one curving forwards externally; densely, minutely, the elytra rugulosely punctate. Head grooved in the middle between the eyes; antennæ long, stout, tapering towards the apex, joint 2 very stout, elongate, subcylindrical, 7-10 also elongate. Prothorax convex, elongato-cordate, rather narrow, deeply, transversely depressed before the base. Elytra long, widest towards the apex. Legs comparatively short, rather stout, the posterior tibiæ feebly curved.

Length $2\frac{1}{5}$ mm.

Hab. ASSAM, Patkai Mts. (*Doherty*).

One specimen. Very like the Philippine *L. rectefasciatus*, the antennæ and legs differently coloured, the prothorax narrower, elongate, and more narrowed behind, the whitish elytral fasciæ broader, the antennæ (♀) longer.

24. *Laius pictus*.

Laius pictus, Er. Entomographien, p. 63 (♂) (1840)¹.

Var. *Laius duplex*, Champ. Ann. & Mag. Nat. Hist. (9) vii. p. 339 (♂) (April 1921)².

♂. Antennal joint 1 curved, triangularly dilated outwards, 2 very broad, ear-shaped, rounded as seen from above, deeply excavate, the inner margin recurved and furnished with two slender appendages and a small tooth (fig. 2); head deeply foveate in the middle between the eyes; anterior tarsi simple.

Hab. JAVA^{1 2}; PHILIPPINES, Los Baños (*P. I. Baker*: ♂ : No. 1654); PALAWAN, Puerto Princesa (*Baker*: ♀ : Nos. 4283, 16753); BORNEO, Pengaron (*Doherty*: ♂); FORMOSA.

Two ♂♂ and 3 ♀♀ of this species have been sent by Mr. Baker. The elytral markings are variable in colour and shape: the outwardly-dilated ante-median patch is red and bordered with white within in the type of *L. pictus*.

and in the three examples from Palawan, uniformly reddish in those from Los Baños, and whitish in the types of *L. duplex*; the subapical spot is rounded in *L. pictus* and transverse in *L. duplex*, intermediate forms occurring.

26 (a). *Laius hexastigma*, sp. n.

♀. Moderately elongate, much widened posteriorly, opaque, finely pubescent, densely, minutely, rugulosely punctate; piceous or black, the basal half of the antennæ, the front of the head, the tarsi, and the anterior and intermediate femora and tibiæ in part, testaceous, the elytra each with three whitish spots—one, transverse, before the middle, the other two, rounded, near the apex, transversely placed, the outer one smaller than the inner. Head triangular, not wider than the prothorax, obsoletely canaliculate, the eyes not very prominent; antennæ long, tapering outwards, joint 2 elongate, much thickened, subcylindrical. Prothorax as broad as long, rounded and unarmed at the sides. Elytra rather convex, moderately long. Wings present. Legs short; anterior tarsi simple.

Length 2–2½ mm.

Hab. BORNEO, Sandakan (*Baker*: No. 16159).

Three ♀ ♀. The elytra in that insect are each albo-trimaculate, as in *L. (Intybia) guttatus*, Pasc., type ♀, from Sarawak (*Wallace*), except that the apical spots are smaller, the present species having a much smaller head, an unarmed prothorax, longer, less inflated elytra, and fully developed wings. The 4-spotted *L. borneensis*, Pic (1910), also has the front of the head testaceous.

29 (a). *Laius quadriguttatus*.

Laius quadriguttatus, Er. Entomographien, p. 64 (♂) (1840); Pic, L'Echange, xxvi. p. 83 (1910).

♂. Antennæ rufo-testaceæ, articulis ultimis 3 vel 4 nigricantibus, tertio subovato, interne cavo. [*Erichson*.]

Hab. SINGAPORE (*Baker*: ♀: No. 16157), Bintang Island [type].

A ♀ sent by Mr. Baker agrees very nearly with the description. It has the antennæ stout, rufo-testaceous, except joints 7–10 and the base of 1, 2 being much thickened, elongate, and subcylindrical; the head black (said by

Pic to be testaceous in front); the elytral spots flavous (white in the type), the anterior one transverse and reaching the outer margin, the subapical one rounded.

29 (b). *Laius dentatithorax*.

Laius dentatithorax, Pic, Mélanges exot.-entom. xxv. p. 5 (♂) (Aug. 1917).

♂. Antennal joint 1 broadly, triangularly dilated outwards, 2 broad, oval as seen from above, concave, angulate and armed with a long, curved, slender, spiniform appendage at the inner apical angle (fig. 3), 3-10 gradually tapering; head foveate and canaliculate anteriorly, the epistoma tumid and angulate on each side in front; prothorax unidentate at the sides; anterior tarsi simple.

♀. Antennæ stout, tapering outwards, joint 2 long, thickened, subcylindrical; epistoma simple; prothorax as in ♂.

Hab. PHILIPPINES, Los Baños (*P. I. Baker*: ♀ ♂: No. 266).

One ♂ and 2 ♀ ♀ sent by Mr. Baker. The ♂ cephalic structure was not mentioned in Pic's "description abrégée." *L. (Intybia) guttatus*, Pasc., also has a lateral prothoracic tooth, but it is much smaller.

29 (c). *Laius alboplagiatus*, sp. n.

♂. Elongate, narrow, rather convex, slightly widened posteriorly, subopaque, finely pubescent; black, the anterior portion of the head and the antennæ (joints 6-10 excepted) testaceous, the elytra each with two rather large transverse whitish spots—one below the base, the other near the apex, neither reaching the suture, the anterior one extending to the outer margin,—the tarsal joints 1-4 flavous; densely, finely, the elytra rugulose, punctate. Head subparallel at the sides before the eyes and then obliquely narrowed to the anterior margin, canaliculate; antennæ (figs. 10, 10a) moderately long, joint 1 curved, stout, subtriangularly dilated at the apex externally, 2 very stout, long, narrow and hollowed at the base, produced into a sharp tooth at the inner basal angle, 3-10 gradually tapering. Prothorax longer than broad, transversely depressed before the base, the sides with a short median tooth. Elytra long. Legs rather short; anterior tarsi simple.

Length $2\frac{1}{2}$ mm.

Hab. S.E. BORNEO (*German Mission, ex coll. Fry*).

One male. Very like the Philippine *L. dentatithorax* and *L. subdentatus*; the head (σ) testaceous in front, subangulate at the sides before the eyes, and then obliquely narrowed to the apex; the second antennal joint differently shaped; the prothoracic tooth smaller than in *L. dentatithorax*.

The somewhat similarly-maculate *L. quadriguttatus*, Er., has the sides of the prothorax unarmed.

29 (*d*). *Laius semperi*, sp. n.

Elongate, narrow, widened posteriorly, rather convex, subopaque, finely pubescent; black, the antennæ (except the four or five outer joints and the basal one in part) testaceous, the elytra each with two large, transverse, somewhat rounded, whitish spots on the disc (one below the base, the other towards the apex), the legs (the tarsi in part excepted) piceous; the entire surface densely, finely, rugulosely punctate. Head rather convex anteriorly, obsoletely canaliculate; antennæ long, joint 1 curved, thickened towards the apex, 2 elongate, subcylindrical, stout, 3-10 gradually tapering, each longer than broad. Prothorax convex, longer than broad, transversely depressed before the base, the sides with a prominent median tooth. Elytra long, widest near the apex. Legs rather short.

σ . Antennæ (fig. 11) with joint 1 as in φ , 2 oblique, moderately elongate, concave, scaphiform, toothed at the inner basal angle, 3-10 longer and more slender than in φ ; anterior tarsi simple.

Length 3 mm.

Hab. PHILIPPINES, Luzon (*Semper, ex coll. Fry*).

One pair, the σ immature. This is one of three closely allied Philippine forms with the sides of the prothorax more or less distinctly unidentate; it is separable from the two others by the narrower, oblique, scaphiform, second antennal joint in the σ (not unlike that of the same sex of the Bornean *L. tetrastictus*), and the smaller elytral spots.

29 (*e*). *Laius subdentatus*, sp. n.

σ . Elongate, narrow, rather convex, widened posteriorly, finely pubescent, opaque; black, the antennal joints 1-4 testaceous, the elytra each with two large, transverse, yellowish-white or flavescent spots—one ante-median, the

other subapical, neither quite reaching the suture or outer margin; the entire surface densely, minutely, rugulose punctate. Head triangular, finely canaliculate, the epistoma simple, the eyes prominent; antennæ (fig. 4) long, joint 1 triangularly dilated outwards, 2 enormously thickened, elongate-oval as seen from above, hollowed at the base and apex, bidentate within, 3-10 elongate. Prothorax elongate, feebly unidentate at the sides. Elytra moderately long. Legs short; anterior tarsi simple.

♀. Antennæ short, tapering outwards, joint 2 elongate, thickened, cylindrical.

Length $2\frac{4}{5}$ -3 mm. (♂ ♀.)

Hab. PHILIPPINES, Butuan, Davao, and Kolambugan, in Mindanao (Baker: ♂ ♀: Nos. 6699, 16155, 16156), Bohol, Luzon (Semper: ♂ ♀).

Four ♂♂, five ♀♀. This species works out as near *L. diversenotatus*, from Banguay, in Pic's table (1910) of the opaque forms with two white spots on each elytron. There are numerous similarly-coloured Malayan insects, most of which are probably peculiar to a particular island.

29 (f). *Laius subcarinatus*, sp. n.

♀. Extremely like *L. subdentatus*, differing as follows: head with a fine median carina, the eyes less prominent; antennæ a little more slender, joints 1-3 only in part testaceous; prothorax less narrowed posteriorly, the lateral tooth just traceable; elytra more convex, and more widened posteriorly, the spots yellowish or white, the post-basal one strongly transverse, the subapical one large, rounded.

Length $2\frac{2}{3}$ - $3\frac{1}{10}$ mm.

Hab. PALAWAN I. (Baker: type); TENASSERIM, Tavoy (Doherty).

Three ♀♀, one sent under the same number as a ♀ *L. subdentatus*. This is one of three forms from Palawan found by Mr. Baker. It cannot be referred to either of the two species from that island named by Pic in 1910. The allied *L. inarmatus*, Pic (1917), and *L. carinaticeps*, Pic (1910), both from Java and both described from ♂♂, are said to have the head carinate, but the carina in the latter is lateral. The Tenasserim examples (two ♀♀) have the spots smaller and wholly white. The Sumatran *L. luteonotatus*, Pic (1921), must be an allied form.

29 (g). *Laius tetrops*, sp. n.

♀. Very like *L. subdentatus*; the antennæ (the tip of joint

10 excepted) and legs (the bases of the femora excepted) testaceous, the elytra each with two very large, transversely subquadrate, yellowish spots; the head and prothorax somewhat shining, the former foveate in the middle and with the eyes less prominent, the prothorax less elongate, obsoletely unidentate laterally; the antennæ shorter, rapidly tapering outwards.

Length $2\frac{1}{2}$ mm.

Hab. PALAWAN I. (*Baker*: No. 16154).

One ♀. The testaceous antennæ, tibiæ, and tarsi, and the very large transversely-subquadrate elytral spots, distinguish this insect from its numerous allies.

29 (*h*). *Laius waterstradti*.

? *Laius waterstradti*, Pic, L'Echange, xxv. p. 83 (♂) (1910).

♂. Elongate, widened posteriorly, opaque, black, the antennæ (the apical two joints excepted), head (the base excepted), and anterior legs in part, testaceous, the elytra each with two very large, yellowish-white spots—one near the suture, just below the base, subtriangular, the other on the disc before the apex, transverse. Head triangular, rather long, sulcate down the middle in front, the sides of the epistoma thus appearing tumid, the eyes prominent; antennæ (fig. 5) long, joint 1 broadly, quadrangularly dilated (as seen in profile), 2 enormously dilated, ear-shaped, concave within, and angularly produced, reflexed, and furnished with a slender, curved appendage at the inner basal angle, 3–10 rather slender. Prothorax about as long as broad, unarmed at the sides. Elytra rather elongate. Legs short; anterior tarsi simple.

Length 3 mm.

Hab. PALAWAN I., Puerto Princesa (*Baker*: No. 4284).

One male, possibly referable to *L. waterstradti*, Pic, the only tangible characters for which, as given in a comparative table of the spotted Malayan species, are the testaceous head and the enormously large, concave second (=third of Pic) antennal joint of the male. *L. palawanus*, Pic (*l. c.*), type ♀, is said to have the head distinctly raised in front above the antennæ and the elytra rather elongate.

29 (*i*). *Laius quadristrigatus*, sp. n.

♂. Elongate, widened posteriorly, opaque, finely pubescent, densely, minutely, rugulosely punctate; nigro-piceous, the head, joints 1 and 2 of the antennæ, prothorax, and anterior femora testaceous or rufo-testaceous, the elytra

each with three large yellowish or yellowish-white spots—one on the disc below the base, transverse, the others elongate, subapical. Head triangular, barely as wide as the prothorax, flattened above anteriorly, the eyes moderately prominent; antennæ (fig. 6) long, joint 1 triangularly dilated, sharply dentate externally, 2 enormously developed, broad-oval as seen from above, concave, reflexed and angularly extended backward at the base above and there furnished with a long slender appendage. Prothorax a little broader than long, narrowed posteriorly, the sides rounded and strongly unidentate, the disc arcuately impressed before the base. Elytra moderately long, rather convex. Legs short; anterior tarsi simple.

♀. Antennæ stout, tapering outwards, joint 2 much thickened, elongate, subcylindrical; prothorax with the sides subangulate at about the middle, the tooth wanting.

Length $2\frac{9}{10}$ –3 mm. (♂ ♀.)

Hab. PHILIPPINES, Baguio, Benguet (*Baker*: No. 6070).

One pair. A remarkably distinct form of the *Intybia*-section of the genus, and easily recognizable by the rufo-testaceous head and prothorax, and the two long yellowish streaks at the apex of each elytron, the prothorax dentate laterally in ♂.

29 (j). *Laius falcifer*, sp. n.

♂. Elongate, shining, clothed with fine scattered pubescence, intermixed on the elytra with long, erect, black, bristly hairs; black, the anterior portion of the head, joints 1–4 of the antennæ (the base of 1 excepted), prothorax, anterior legs, and intermediate tibiæ testaceous, the elytra nigro-violaceous, each with two large, transverse, whitish spots—one before the middle and the other subapical, neither reaching the suture or outer margin; the head and prothorax almost smooth, the elytra densely, finely, rugulose punctate. Head a little narrower than the prothorax, transversely depressed in the middle between the eyes, the latter not very prominent; antennæ (fig. 7) moderately long, joint 1 curved, broadly dilated outwards, 2 enormously developed, somewhat ear-shaped, concave, foveate near the apex within, the reflexed inner margin very sharply, triangularly dilated at about the middle, and furnished with a long slender appendage near the base, 3–10 gradually tapering. Prothorax convex, uneven, about as long as broad, a little narrowed behind, the transverse basal depression deep. Elytra long, gradually widening to the apex. Legs long; anterior tarsal joints 1 and 2 thickened,

2 with a long, claw-like prolongation extending over 3 above, black at the tip.

♀. Antennal joint 2 very broad, simple, oblongo-quadrate; head and legs black.

Length $3\frac{1}{2}$ –4 mm. (♂ ♀.)

Hab. PHILIPPINES, Mt. Makiling, Luzon (*Baker*: No. 3035).

One pair. An elongate form, with a smooth, subquadrate, testaceous, shining prothorax and long, nigro-violaceous elytra, the latter each with two transverse white spots and the surface very finely punctured. It bears some resemblance to *L. birmanicus*, Champ., which has very different elytral markings and a longer prothorax. The long claw-like extension to the second joint of the anterior tarsi in the ♂ is a character foreign to all the species of *Laius* I have hitherto examined, but a ♂ of *L. tetrastictus* sent by Mr. Baker and two others from Perak also possess a very similar structure. *L. falcifer* must be nearly related to *L. adonis*, Pic (1921), from Sumatra.

29 (k) (29). *Laius tetrastictus*.

Laius tetrastictus, Champ. Ann. & Mag. Nat. Hist. (9) vii. p. 342 (♀) (April 1921).

♂. Antennal joint 1 moderately thickened outwards (as in ♀), 2 elongate, oblique, widened, concave, scaphiform, curved and pointed at the outer apical angle, and with the reflexed inner margin extending backward at the base and there furnished with a long, slender, curved appendage (fig. 8); anterior tarsal joint 2 extending over the base of 3 above.

Hab. N. AND W. BORNEO, Sandakan (*Baker*: ♂ ♀: No. 16158), Quop [type ♀ and ♂]; S.E. BORNEO (*German Mission, ex coll. Fry*: ♂ ♀).

A pair from Sandakan, the elytra marked as the Quop types (♂ ♀); three ♂ ♂ and four ♀ ♀ from the S.E. portion of the island.

29 (l). *Laius flavonotatus*, sp. n.

♂. Elongate, narrow, rather convex, widened posteriorly, finely pubescent, the head and prothorax moderately shining, the elytra subopaque; nigro-piceous, the anterior portion of the head, mouth-parts, the antennal joints 1, 2, and 10, the anterior legs (except the tarsal joints 2–5), the intermediate legs (except the apices of the tarsi), and the bases of the posterior tibiae and tarsi, testaceous; the elytra each with

three flavous spots—one, subtriangular, near the suture at the base, one, strongly transverse, at the middle (reaching the outer margin, but not extending to the suture), and one rounded, near the suture before the apex; densely, finely, the sides of the prothorax and the elytra rugulosely, punctate, the latter with intermixed slightly coarser punctures. Head triangular, compressed at the sides anteriorly, the central portion very narrow in front, hollowed in the middle between the eyes, the latter prominent; antennæ (fig. 12) moderately long, joint 1 curved, broad, angularly dilated near the base externally, 2 extremely large, oblong, irregularly excavate, and furnished at the base with a long, movable, rather broad, twisted appendage, 3-9 short. Prothorax convex; about as long as broad, narrowed posteriorly, and with the sides rounded anteriorly. Elytra moderately long, rounded at the sides beyond the middle. Legs rather short, not very slender; anterior tarsal joint 2 with a black claw-like extension reaching to the apex of 3 above.

Length $2\frac{4}{5}$ mm.

Hab. PERAK (*Doherty*).

One male. Near *L. tetrastictus*, and with similar anterior tarsi in ♂, the elytra each with three yellowish spots, the head much narrower in front and flavo-testaceous anteriorly, the antennæ (♂) very different, the legs partly testaceous, &c.

29 (*m*). *Laius erythrocephalus*, sp. n.

♂. Elongate, narrow, rather convex, widened posteriorly, finely pubescent, subopaque; nigro-piceous, the head, antennæ (the slightly infuscate outer joints excepted), and legs (the intermediate and posterior femora excepted) testaceous, the elytra with a rather narrow transverse fascia below the base (interrupted at the suture, but reaching the outer margin) and a transverse spot on the disc of each towards the apex, yellowish-white; the entire surface densely, finely, rugulosely punctate. Head triangular, flattened between the eyes and convex in front, obsoletely canaliculate; antennæ (fig. 13) long, joint 1 curved, moderately dilated, angulate near the base externally, 2 extremely large, broad, sublunate, deeply excavate within, and furnished with a long narrow appendage near the base above, 3-10 slender, elongate. Prothorax about as long as broad, narrowed and slightly sinuate at the sides towards the base. Elytra moderately long. Legs rather short, not very slender; anterior tarsal joint 2 raised above 3 and black at the tip.

Length $2\frac{4}{5}$ mm.

Hab. PERAK (*Doherty*).

One male, slightly immature. Near *L. quadriguttatus*, Er., and *L. diversenotatus*, Pic, the head, and the legs and antennæ in great part, testaceous, the antennal joints 3-10 long and slender, the postbasal transverse whitish fascia on the elytra rather narrow and nearly reaching the suture, the legs a little longer. The present insect cannot be referred to either of the two forms named *L. dohertyi* by Pic in 1910 [*'L'Echange'*, xxvi. p. 62 (Aug.), type from Sumbava; *l. c.* p. 84 (Nov.), type from Perak]; the characters, however, given in his table of the 4-spotted species agree with the Perak insect before me, except as regards the shape of the elytral spots.

Additions to the numbered list of species of Laius.

- | | |
|------------------------------------|---------------------------------------|
| *alboarcuatus, 6 (<i>a</i>). | *rectefasciatus, 23 (<i>a</i>). |
| *alboplagiatus, 29 (<i>c</i>). | *semperi, 29 (<i>d</i>). |
| dentatithorax, 29 (<i>b</i>). | *subcarinatus, 29 (<i>f</i>). |
| *erythrocephalus, 29 (<i>m</i>). | *subdentatus, 29 (<i>e</i>). |
| *falciifer, 29 (<i>j</i>). | *submarinus, 2 (<i>a</i>). |
| *flavonotatus, 29 (<i>l</i>). | [tetrastictus, 29 (<i>k</i>) (29).] |
| *hexastigma, 26 (<i>a</i>). | *tetrops, 29 (<i>g</i>). |
| pictus, 24. | *variipes, 23 (<i>b</i>). |
| quadriguttatus, 29 (<i>a</i>). | waterstradti, 29 (<i>h</i>). |
| *quadristrigatus, 29 (<i>i</i>). | |

Additional examples of the following species have also been detected in the Fry Collection:—

L. flavicornis, F. (No. 2). One ♂, Andaman Is.

L. malleifer, Champ. (No. 20). A pair from Yemen, Arabia (*Millingen*). Types from Punjab, and recently found (20. iii. 1921) by Dr. M. Cameron at Mossy Falls, Mussoorie.

L. birmanicus, Champ. (No. 23). Three ♂ ♂ and three ♀ ♀ taken at Carin Chebà, Karen Mts., Burma (*L. Fea*), are less elongate than the types, and the males have the second antennal joint a little narrower and less angulate. These specimens seem to come near *L. sikkimensis*, Pic (1914).

L. carinifrons, Pic (No. 30). Two ♂ ♂ found at Perak by Doherty.



Champion, G. C. 1921. "XVII.—On some additional species of *Laius*, Guérin, from the Malayan region [Coleoptera]." *The Annals and magazine of natural history; zoology, botany, and geology* 8, 193–207.

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