

Contribution to the Knowledge of the Genus *Clidicus* (Coleoptera, Scydmaenidae), with Descriptions of Four New Species from Vietnam and Laos

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Abstract Four new species of the genus *Clidicus* Laporte (Coleoptera, Scydmaenidae) are described from Vietnam and Laos: *C. bellator* sp. nov., *C. rufescens* sp. nov., *C. aliquantulus* sp. nov., and *C. omoios* sp. nov. General morphology of the genus is discussed, and the mouthparts and male and female genitalia of the new species are illustrated. An identification key to all the species of *Clidicus* of the region is provided.

Key words: Coleoptera, Scydmaenidae, *Clidicus*, new species, taxonomy, Vietnam, Laos.

Introduction

The members of the genus *Clidicus* are the only South Asiatic representatives of the subfamily Mastiginae. This group contains ninety described species classified into eleven genera of three tribes (Newton & Franz, 1998; O’Keefe, 2002). The genus *Clidicus* belongs to the tribe Clidicini, together with *Papusus* Casey (nine species in the southwestern USA), *Leptochromus* Motschulsky (five species in Mexico, Colombia and Brazil), and *Palaeoleptochromus* O’Keefe (one extinct species from Canadian amber). Twelve extant species of *Clidicus* have been described from Malaysia, Indonesia, Sri Lanka, India, Vietnam and Australia; one extinct species is known from Baltic amber (Newton & Franz, 1998; O’Keefe & Monteith, 2000). In spite of unusual body size (up to 10 mm), which attracted attention of numerous entomologists within last 170 years, detailed descriptions of the morphology were published only very recently. Besuchet (1971) revised all species from Sri Lanka and

provided detailed illustrations of male and female copulatory organs. O’Keefe and Monteith (2000) described the first Australian species and provided detailed descriptions of the adult and larval morphology. They also gave some data concerning the habitat of *Clidicus abbotensis* O’Keefe and prepared a catalogue and key to all known *Clidicus* species.

Only two species of *Clidicus* are known from the Asiatic mainland: *C. tonkinensis* Lhoste (1937a, b) from Vietnam, and *C. mysorensis* Lhoste (1939), from India. In the present paper four new species of *Clidicus* from Vietnam and Laos are described. The mouthparts and copulatory organs of each new species are illustrated.

The depositories of the studied material and their abbreviations are as follows:

IEBR	Institute of Ecology and Biological Resources, Hanoi
NHM	Natural History Museum, Vienna
NSMT	National Science Museum, Tokyo
PCPJ	Private collection of P. Jałoszyński
PCPH	Private collection of P. Hlaváč

Taxonomy

Genus *Clidicus* Laporte

Clidicus Laporte, 1832: 396. Type species: *Clidicus grandis* Laporte, 1832, by monotypy.

Erineus Walker, 1858: 205. Type species: *Erineus monstrosus* Walker, 1858 (by monotypy).
Synonymized by Pascoe (1863).

Members of the genus *Clidicus* can be distinguished by having large body size (3–10 mm), antenna bent between antennomeres I and II, very long first antennomere, at least 4× longer than wide, transverse vertex with round or subtriangular posterior impression, and very convex pronotum with rounded sides and a transversal row of foveae demarcating narrow posterior collar. More detailed set of characteristics includes: head large, wider than long, with relatively small eyes and very long, rounded tempora; vertex with a deep or shallow impression; large, curved mandibles with subapical teeth and prostheca; maxillary palpi long, with elongate, subtriangular segment III, widest near apex, palpomere IV large, subconical; antennae without club, with very long first segment having a deep notch at apex; pronotum with very convex, nearly hemispherical central part and posterior depression forming a collar behind a transverse row of foveae; elytra entire, with distinct striae composed of large pits; legs long. Setae on body surface long, suberect to erect. Aedeagus strongly sclerotized, dark, elongate, usually curved dorsoventrally, with symmetrical or slightly asymmetrical parameres without apical setae, base and internal sides of parameres fused with aedeagus, parameres much longer than median lobe. Internal armature of aedeagus relatively simple, usually developed only as an elongate duct of various shape, its apical part protruding from the apex of median lobe. Internal armature of aedeagus connected by a thin duct with relatively large and well sclerotized vesiculus seminis. Its shape provides a good feature for species determination (Besuchet, 1971). Female spermatheca well sclerotized, globular or elongate, with accessory gland. Spermatheca with long, thin and some-

times very entangled duct, bursa copulatrix in some cases well developed, elongate. Larva of *Clidicus* campodeiform, with elongate body and long legs, nine abdominal segments visible in dorsal view, urogomphi present, mandibles conspicuous (O’Keefe & Monteith, 2000).

Four new species of *Clidicus* have been collected in Vietnam and Laos. They can be distinguished from *Clidicus tonkinensis* Lhoste, the only *Clidicus* known from the region up to now, by a different morphology and the shape of aedeagus, as shown in the following key:

Key to Species of *Clidicus* of Vietnam and Laos

1. Body size 5 mm, parameres with deeply emarginate sides near apex of aedeagus accompanied with triangular broadening on external edge.....*C. tonkinensis* Lhoste
- Body size below 4.5 mm, parameres without deep emargination and triangular broadening near apex.2
2. Body size over 4 mm, body dark brown.3
- Body size below 4 mm, body reddish-brown.4
3. Apex of each elytron with sharp tooth-like projection.*C. bellator* sp. nov.
- Apex of each elytron with sharp internal angle, but without projection.*C. omoios* sp. nov.
4. Body size over 3.5 mm, anterior margin of vertex flat or very slightly depressed.....*C. rufescens* sp. nov.
- Body size below 3.5 mm, anterior margin of vertex with distinct depression.....*C. aliquantulus* sp. nov.

Clidicus bellator sp. nov.

(Figs. 1; 2A–M; 6A, E)

Diagnosis. This species is characteristic by having relatively large body size, dark brown coloration, and tooth-like projections of elytral apices.

Description. Body elongate, dark brown, appendices slightly brighter, setation relatively

sparse, long, erect, setae on head and pronotum as dark as body coloration, setae on elytra slightly brighter than background.

Male (Fig. 1). Body length 4.25–4.4 mm (mean 4.33 mm). Head length 0.72–0.77 mm (mean 0.75 mm), width 1.05–1.1 mm (mean 1.07 mm), head widest near middle; dorsal surface of head with very fine and sparse punctation, glossy, with sparse, long, erect setae; vertex strongly transverse, over twice as wide as long, with relatively shallow, broad, subtriangular median depression at posterior margin, flat or very slightly concave at anterior margin, supraantennal area slightly raised; tempora very long, rounded, occiput sharply constricted from vertex, less than half as wide as head; clypeus separated from frons by a distinct ridge. Eyes small, circular, finely faceted. Antenna (Fig. 2G) distinctly longer than combined length of head and pronotum, length 2.62–2.7 mm (mean 2.66 mm), bent between antennomeres I and II; surface with moderately long basic suberect setation distinctly decreasing in length in apical antennomeres and with very long, sparse erect setae; segment I very long, slightly more than 4× longer than wide, with deep, longitudinal notch on external apical margin; II 1.5× longer than wide; III–IV 1.5× as long as wide, nearly equal in length, slightly wider than II; V slightly longer than adjacent antennomeres; VI equal in size to IV; VII–X 1.5× longer than wide, nearly equal in size, slightly wider than VI; XI subconical, slightly asymmetrical, with rounded sides, very slightly longer than X.

Labrum (Fig. 2A) subrectangular in dorsal view, more than twice as wide as long, apical margin almost straight, with very small emargination in middle, sides rounded, apical margin with a single row of five pairs of long, erect setae. Mandible (Fig. 2B) subtriangular, with broad base, recurved, pointed apex and two complexes of subapical teeth; distal complex composed of two teeth located ventrally, proximal dorsal complex with three teeth; in external lateral view (Fig. 2C) mandible strongly narrowed towards middle, then strongly broadened towards

apex, apical tooth located ventrally; prostheca with short setae from base to nearly middle of mandible. Maxilla (Fig. 2D) with small triangular stipes bearing a single, long seta, elongate palpifer with two long setae on external margin, elongate galea and long lacinia with concave internal edge. Maxillary palpus large, palpomere I very small, 1.5× as long as wide; II elongate, 4× as long as wide at apex, curved, with narrow base, broadened towards apex, covered with relatively sparse, suberect setae and additionally with several long erect setae; IV subtriangular, with broad base, nearly straight internal edge, pointed apex, and strongly curved, convex external edge, covered only with very short and relatively dense recumbent to suberect setation. Labium (Fig. 2E) elongate, with dark, strongly sclerotized, rectangular mentum nearly 3× wider than long; in lateral view (Fig. 2F) distal part between bases of palpomeres with a dense patch of long erect setae; labial palpomere I short and broad, slightly longer than wide, with seta on internal apical part; II elongate, 2.5× longer than I, slightly broadened from base to truncate apex, 3× longer than wide at apex, with three setae in distal part; III elongate, half as long as II, slender, length 4× width of base, with pointed apex.

Pronotum length 1.05–1.1 mm (mean 1.07 mm), maximal width 1.1–1.12 mm (mean 1.11 mm), width at base: 0.75–0.85 mm (mean 0.8 mm), minimally wider than long, widest near anterior fourth, with rounded anterior and side margins, moderately convex, discal part distinctly demarcated from posterior collar by transverse groove with a row of 8–10 small pits, three larger pits located on each side of pronotum in broad posterior constriction; surface glossy, with very fine and sparse punctation, with sparse, long erect setae.

Elytra entire and elongate, fused along suture, length 2.4–2.45 mm (mean 2.44 mm), combined maximal width 1.5–1.6 mm (mean 1.58 mm), elytral index (length/combined maximal width): 1.53–1.6; widest just anterior to middle, convex; surface between striae glossy, with sparse and relatively fine punctation; setation long, erect, di-

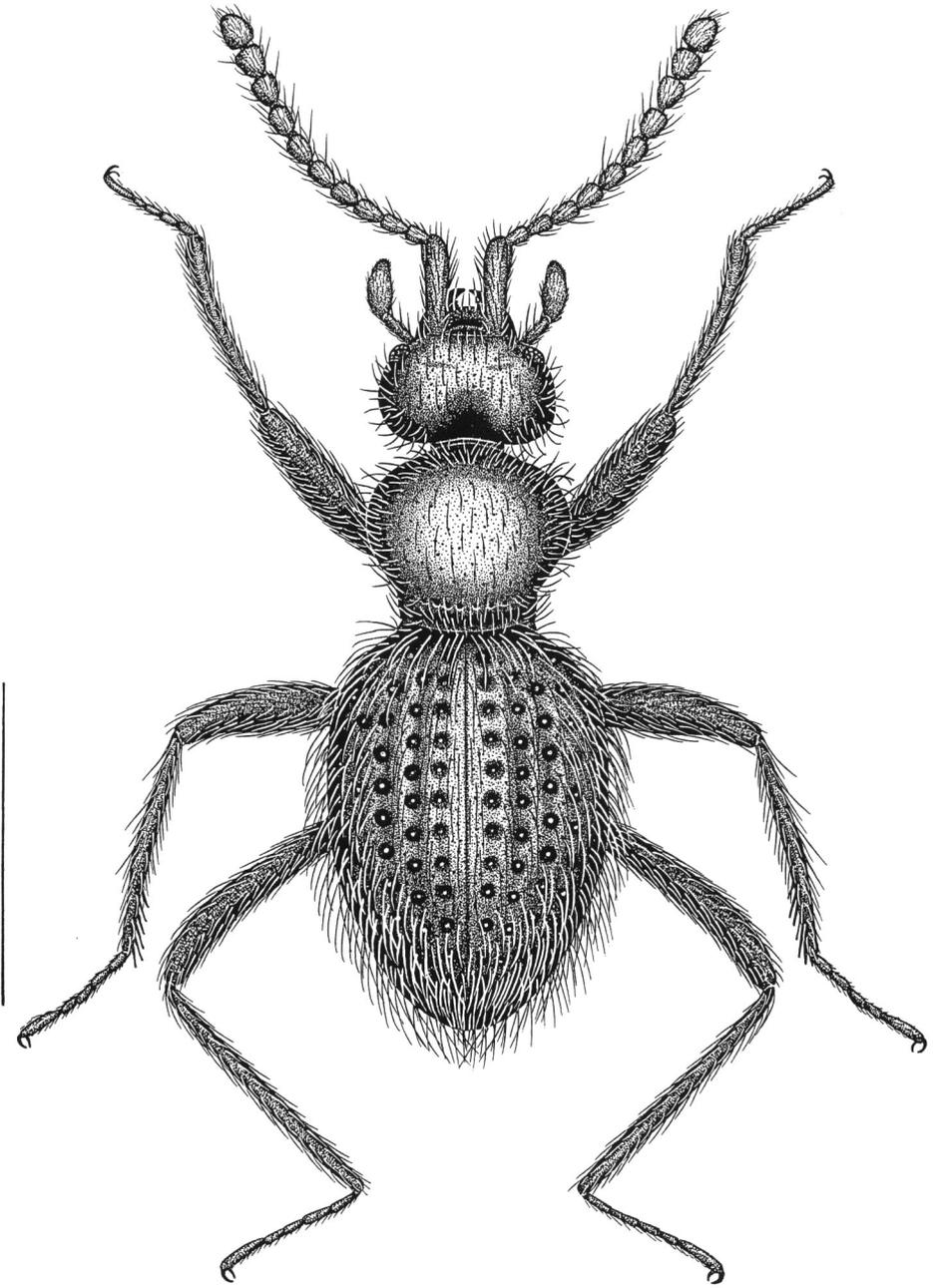


Fig. 1. *Clidicus bellator* sp. nov.; habitus. Scale: 2 mm.

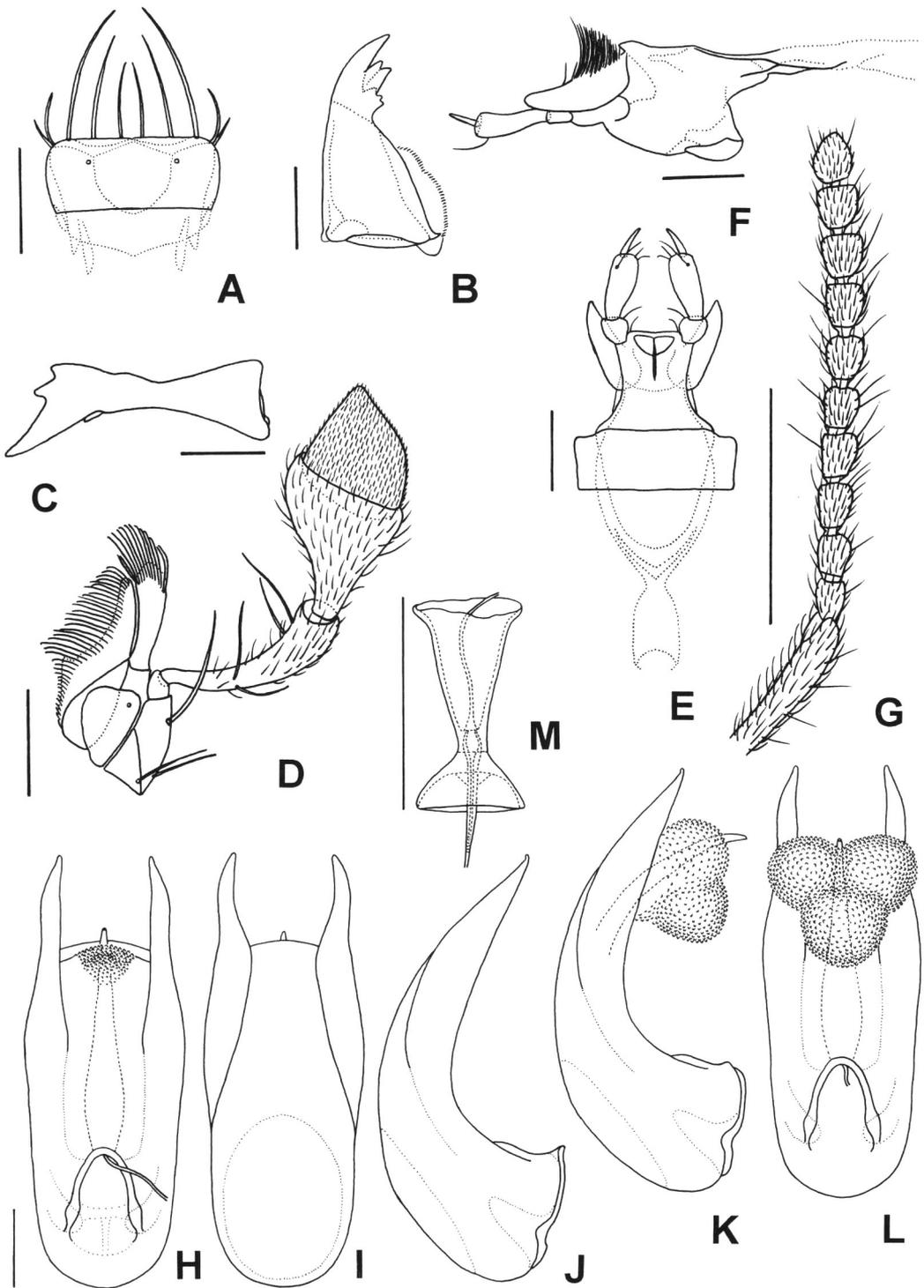


Fig. 2. *Clidicus bellator* sp. nov.; labrum, dorsal view (A); left mandible in dorsal (B) and external lateral (C) views; left maxilla, ventral view (D); labium, in ventral (E) and lateral (F) views; left antenna, dorsal view (G); aedeagus in ventral (H), dorsal (I) and lateral (J) views; aedeagus with extruded internal sac in lateral (K) and ventral (L) views; vesiculus seminis (M). Scale: 0.2 mm for A–F and H–M; 1 mm for G.

rected backwards; each elytron with six longitudinal rows of large pits; second row shortened anteriorly; individual punctations in rows distinctly decreasing in size and depth towards apices of elytra, particularly in three dorsal striae; base without basal depression and basal pits; humeri moderately distinct; apex near suture projecting as a small, sharp tooth; adsutural area between apex of each elytron notched; adsutural area distinctly raised near apices. Hind wings entirely reduced. Scutellum hardly visible, very small.

Legs relatively long, with moderately dense, recumbent to suberect setation and additional, sparse long erect setae on external margin of femora, protarsi with slightly longer and more erect setae. Procoxae subconical, large, slightly longer than wide, contiguous; mesocoxae nearly globular, slightly larger than procoxae, narrowly separated; metacoxae slightly smaller than mesocoxae, subconical, separated wider than mesocoxae. Protrochanters small, subtriangular, slightly longer than wide; mesotrochanters larger than protrochanters, $1.5\times$ longer than wide; metatrochanters yet longer, nearly twice as long as wide. Femora long; profemora thickest and shortest; metafemora longest and most slender; profemora slightly clavate, widest near distal third, distinctly curved; mesofemora curved, widest near distal third; metafemora slightly and regularly thickening from base to apex. Tibiae long, slender, pro- and mesotibiae slightly curved; metatibia almost straight, distinctly longer than mesotibia and much longer than protibia; mesotibiae with dense setose patch on distal third of internal edge. Tarsi long, slender, pro- and mesotarsi thicker than metatarsus; pro- and mesotarsomere I less than twice as long as wide at apex, metatarsomere I nearly $3\times$ longer than wide; tarsomeres II–IV decreasing in length and width; V as long as two preceding segments.

Ventral surface of head glossy, with setose sides of postgenae, with two remarkably long setae located in central area of ventral side of each postgena. Basisternal area of prosternum finely and densely punctate, with dense, yellow-

ish setation. Mesosternum with relatively narrow carina separating coxae, with slightly coarse, dense punctation and sparse, very short setation. Metasternum slightly raised above metacoxae and depressed beneath mesocoxae; episterna elongate, subtriangular, widest posteriorly; metasternum with sparse, short setation. Six abdominal sternites visible, sternites I–IV equal in length, relatively narrow; V $1.5\times$ longer than the preceding segment; VI twice longer than V, subtriangular, apical margin rounded; sternites I–V with very fine punctation, sternite VI with relatively dense and large, uneven, slightly irregular punctation; all sternites with moderately long and dense, thin, recumbent to suberect setation.

Male genitalia (Fig. 2H–J): Aedeagus strongly sclerotized, dark, elongate, length 1.1 mm, moderately curved dorso-ventrally, base rounded, ventral foramen relatively large, subtriangular, with a collar slightly expanded externally near base; area at each side of collar with elongate impression; ventral wall concave, with subrectangular impression; dorsal wall rounded; in dorsal view, base with lightly sclerotized, oval area; apex truncate, lightly sclerotized in ventral part, with uneven surface densely covered with very small, triangular grains. Internal duct of aedeagus broadened in proximal part, narrowing distally, distal part slightly protruding from apex of median lobe; in erect condition (Fig. 2K, L), internal apical part of internal duct protruding ventrally from aedeagus, weakly sclerotized ventral area of median lobe extruded, forming a structure composed of three spherical vesicles densely covered with small, triangular grains. Parameres symmetrical, much longer than aedeagus, strongly sclerotized, slender, recurved, with pointed apices; in lateral view, tips curved, base and each internal edge fused with aedeagus. Vesiculus seminis (Fig. 2M) bright in color, with short basal funnel and very long distal funnel, space between funnels very short, internal duct broadened between funnels.

Female. Minimally smaller than male, most distinctly different in the elytral index, lower than for males: 1.46–1.56, and by having slightly

shorter antennae (2.45–2.55 mm, mean 2.48 mm). Body length 4.15–4.37 mm (mean 4.24 mm), head length 0.72–0.77 mm (mean 0.74 mm), head width 1.05–1.12 mm (mean 1.09 mm), pronotum length 0.97–1.07 mm (mean 1.02 mm), maximum pronotal width 1.05–1.12 mm (mean 1.08 mm), pronotum width at base 0.8–0.85 mm (mean 0.82 mm), elytra length 2.37–2.45 mm (mean 2.4 mm), elytra combined maximum width 2.45–2.55 mm (mean 2.48 mm).

Female genitalia (Fig. 6A): Valvifers elongate; coxites only slightly longer than wide, rounded, with setose margin; bursa copulatrix reduced to a very short, circular structure between valvifers; ductus spermathecae very thin in proximal part, thickened in distal part, very long and entangled in a complicated way around base of spermatheca. Spermatheca (Fig. 6E) with large, ovoid distal chamber and smaller, subtriangular proximal chamber gradually narrowing toward base, not demarcated from the spermathecal duct. Accessory gland with a relatively flat circular distal disc and very long duct with base inserted between chambers of spermatheca.

Distribution. South Vietnam.

Holotype, ♂, S. Vietnam, Lam Dong Prov., Dam B'ri waterfall, near Bao Loc, ca. 800 m alt., 3. v. 2000, S. Nomura leg., deposited in coll. NSMT. Paratypes: 2♂♂, 5♀♀, same data as holotype; 1♂, same data as holotype except for ca. 900 m alt., 1. v. 2000; 1♂, same data as holotype, except for 1. vi. 2002. Paratypes deposited in IEBR, NSMT, PCPJ and PCPH.

Etymology. The Latin word “bellator” means “warrior”. The name loosely refers to sharp strong mandibles.

Remarks. This species closely resembles *C. omoios* sp. nov., but can be easily distinguished by having sharp, tooth-like, protruded elytral apices separated by the adsutural notch, whereas the latter species possesses the elytra without apical teeth. Moreover, *C. bellator* has distinctly longer elytra. Elytral index is also useful for a discrimination: 1.53–1.6 and 1.65–1.67 for males; 1.46–1.56 and 1.55–1.61 for females of *C. bellator* and *C. omoios*, respectively.

Clidicus rufescens sp. nov.

(Figs. 3A–K; 6B, F)

Diagnosis. This species is characteristic by having relatively small body size, reddish-brown body coloration, and flat anterior margin of vertex.

Description. Body elongate, reddish-brown, legs and antennae of the same color as body, maxillary palpi slightly brighter, setation relatively sparse, long and erect, setae on elytra slightly brighter than background.

Male. Body length 3.55–3.72 mm (mean 3.65 mm). Head length 0.57–0.62 mm (mean 0.63 mm), width 0.87–0.92 mm (mean 0.9 mm), head widest near middle; dorsal surface with very fine and sparse punctation, glossy, with sparse, long, erect setae; vertex strongly transverse, over twice as wide as long, with a relatively shallow, broad, subtriangular median depression at posterior margin, flat at anterior margin, supraantennal area slightly raised; tempora very long, rounded, occiput sharply constricted from vertex, less than half as wide as head; clypeus separated from frons by a distinct ridge. Eyes small, circular, finely faceted. Antenna (Fig. 3G) distinctly longer than combined length of head and pronotum, length 2.2–2.25 mm (mean 2.22 mm), bent between antennomeres I and II; surface with moderately long basic suberect setation distinctly decreasing in length in apical antennomeres, and with very long, sparse erect setae, segment I very long, slightly more than 4× longer than wide, with a deep, longitudinal notch on external apical margin; II 1.5× longer than wide; III–IV nearly equal in length, slightly wider than II, 1.5× as long as wide; V slightly longer than adjacent antennomeres; VI–VII equal in size to IV; VIII–IX very slightly shorter than VII, 1.2–1.3× longer than wide, last segment as long as X, subconical, slightly asymmetrical.

Labrum (Fig. 3A) trapezoidal, more than twice as wide as long, with apical margin slightly emarginate in middle; sides rounded, strongly narrowed towards base; apical margin with a row of five pairs of long, erect setae. Mandible (Fig.

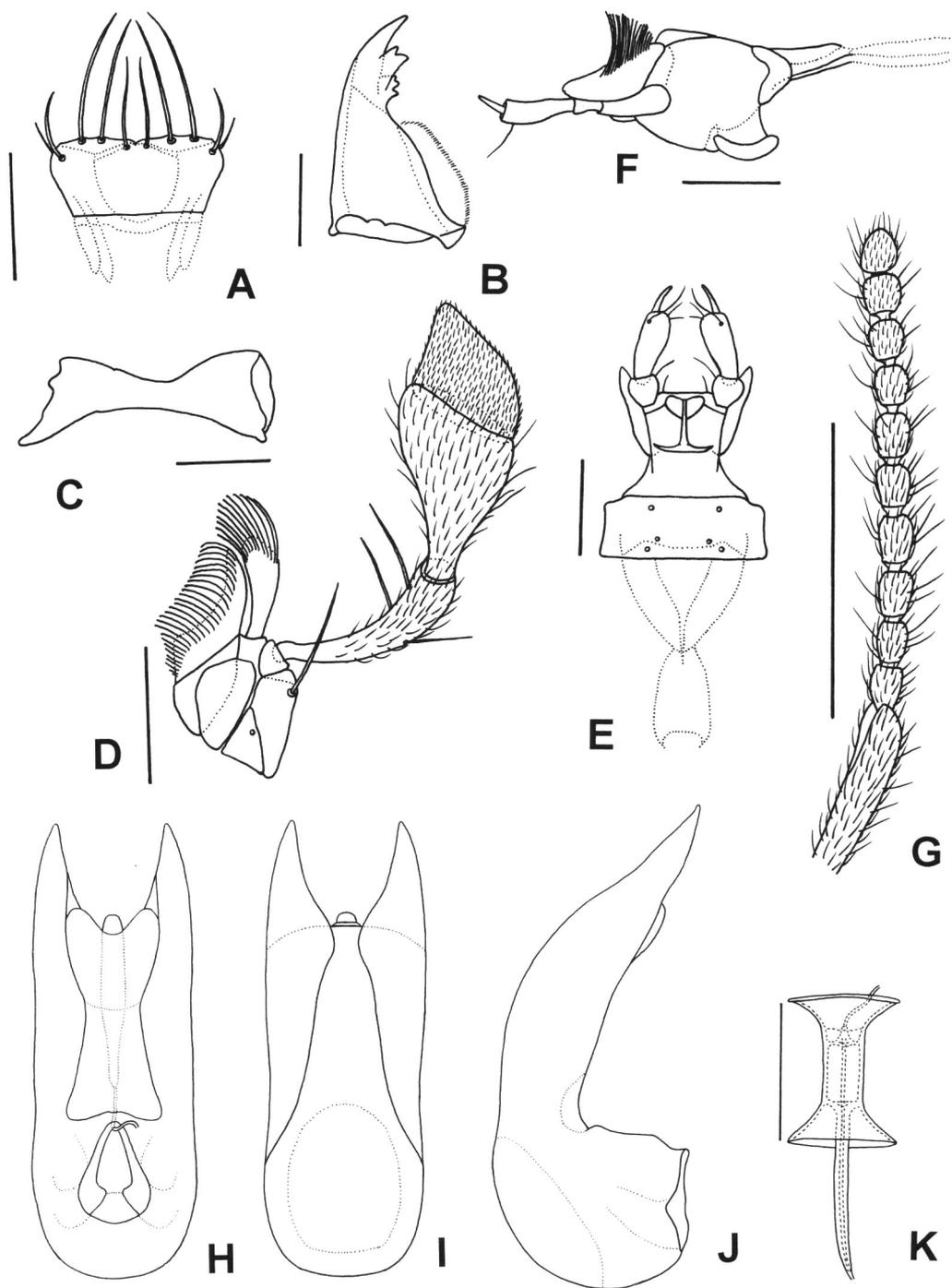


Fig. 3. *Clidicus rufescens* sp. nov.; labrum, dorsal view (A); left mandible in dorsal (B) and external lateral (C) views; left maxilla, ventral view (D); labium, in ventral (E) and lateral (F) views; left antenna, dorsal view (G); aedeagus in ventral (H), dorsal (I) and lateral (J) views; vesiculus seminis (K). Scale: 0.2 mm for A–F and H–K; 1 mm for G.

3B) subtriangular, with broad base, recurved, pointed apex and two complexes of subapical teeth; distal complex composed of two teeth located ventrally; proximal dorsal complex with three teeth; in external lateral view (Fig. 3C), mandible strongly narrowed towards middle, then strongly broadened towards apex, apical tooth located ventrally; prosthema with short setae from base to beyond middle of the mandible. Maxilla (Fig. 3D) with small triangular stipes, elongate palpifer with a long seta in distal part of external margin, elongate galea and long lacinia with concave internal edge. Maxillary palpus large; palpomere I very small, subtriangular; II elongate, $4\times$ as long as wide at apex, curved, with narrow base, broadened towards apex, with relatively sparse, suberect setae and additionally with several long erect setae; IV subtriangular, with broad base, very slightly concave internal edge, pointed apex, and strongly curved, convex external edge, with very short and relatively dense recumbent to suberect setae. Labium (Fig. 3E) elongate, with dark, strongly sclerotized, rectangular mentum nearly $3\times$ wider than long; labial palpomere I short and broad, slightly longer than wide, with a seta on internal apical part; II elongate, $2.5\times$ longer than I, slightly broadened from base to truncate apex, $3\times$ longer than wide at apex, with three setae in distal part; III elongate, half as long as II, slender, length $4\times$ width of base, with pointed apex; in lateral view (Fig. 3F), distal part between bases of palpomeres with a dense patch of long erect setae.

Pronotum length 0.82–0.87 mm (mean 0.85 mm), maximal width 0.87–0.95 mm (mean 0.92 mm), width at base: 0.6–0.62 mm (mean 0.61 mm), slightly wider than long, widest near anterior third, with rounded anterior and lateral margins, moderately convex, discal part distinctly demarcated from posterior collar by transverse groove with a row of 10–12 small pits, three larger pits located on each side of pronotum in broad posterior constriction; surface glossy, with very fine and sparse punctation, with sparse, long erect setae.

Elytra entire and elongate, not fused along

suture, length 2.07–2.15 mm (mean 2.08 mm), combined maximal width 1.25–1.3 mm (mean 1.28 mm), elytral index: 1.65–1.66, widest near middle, convex, very slightly broadened from indistinct humeri to middle; apex with adsutural notch, sharp, but without tooth-like projection; each elytron with six longitudinal rows of large pits; second row shortened anteriorly; individual punctures in rows distinctly decreasing in size and depth towards apex, particularly in three dorsal striae; base with neither basal depression nor basal pits; humeri moderately distinct; adsutural area very slightly raised near apices of elytra; surface between striae glossy, with sparse and relatively fine punctation; setation long, erect, directed backwards. Hind wings entirely reduced. Scutellum hardly visible, very small.

Legs relatively long, with moderately dense, recumbent to suberect setae, and additional, sparse long erect setae on external margin of femora, protarsi with slightly longer and more erect setae. Procoxae subconical, large, slightly longer than wide, contiguous; mesocoxae nearly globular, slightly larger than procoxae, narrowly separated; metacoxae slightly smaller than mesocoxae, subconical, separated wider than mesocoxae. Trochanters small, subtriangular, subequal in size, $1.5\times$ as long as wide. Femora long; profemora thickest and shortest; metafemora longest and most slender; profemora slightly clavate, widest near distal third, distinctly curved; mesofemora curved, widest near distal third; metafemora slightly and regularly thickening from base to apex. Tibiae long, slender, pro- and mesotibiae slightly curved, metatibia almost straight, distinctly longer than mesotibiae and much longer than protibiae; mesotibiae with a dense setose patch at distal third of internal edge. Tarsi long, slender, pro- and mesotarsi thicker than metatarsi; pro- and mesotarsomeres I less than twice as long as wide at apex, metatarsomere I nearly $3\times$ longer than wide; tarsomeres II–IV decreasing in length and width, V as long as two preceding segments combined.

Ventral surface of head glossy; postgenae setose, except for area adjacent to gular suture. Ba-

sisternal area of prosternum finely and densely punctate, with dense, yellowish setation. Mesosternum with a relatively narrow carina separating coxae, with slightly coarse, dense punctation and sparse, very short setation. Metasternum slightly raised above metacoxae and depressed beneath mesocoxae; episterna elongate, subtriangular, widest posteriorly; surface with short sparse setation. Six abdominal sternites visible, sternites I–V subequal in length, relatively narrow, VI 2.5× longer than V, triangular, rounded posteriorly; surface with moderately long and dense, thin, recumbent to suberect setation; segment I–V with very fine punctation; VI with distinct, moderately dense, uneven, slightly irregular punctation.

Male genitalia (Fig. 3H–J): Aedeagus strongly sclerotized, dark, elongate, length 0.8 mm, curved at nearly right angle; base rounded; ventral foramen relatively large, subtriangular, with a collar slightly expanded externally and internally near base; area at each side of the collar with an elongate impression; ventral wall concave, with elongate impression; dorsal wall convex; in dorsal view base with a lightly sclerotized oval area; apex broadly emarginate, lightly sclerotized in ventral part. Internal duct of aedeagus broadened in proximal part, slightly narrowed distally, relatively broad distal part slightly protruding from apex of aedeagus. Parameres symmetrical, much longer than median lobe, strongly sclerotized, broad, narrowed towards pointed apices; in lateral view, tips only slightly curved, base and internal edge fused with aedeagus. Vesiculus seminis (Fig. 3K) bright in color, with very short basal and distal funnels similar in shape; space between funnels long; internal duct relatively thin, without swelling between funnels.

Female. Minimally smaller than male, pronotum with more regularly rounded sides; elytra broader, distinctly broadened from humeri to middle; elytral index: 1.5–1.53, distinctly lower than for males; antennae shorter (2–2.1 mm, mean 2.06 mm). Body length 3.45–3.67 mm (mean 3.63 mm), head length 0.57–0.6 mm (mean 0.62 mm), head width 0.9–1 mm (mean

0.96 mm), pronotum length 0.85–0.9 mm (mean 0.87 mm), maximum pronotal width 0.85–0.9 mm (mean 0.87 mm), pronotum width at base: 0.6–0.62 mm (mean 0.61 mm), elytra length 1.95–2.1 mm (mean 2.06 mm), combined maximum width of elytra: 1.3–1.37 mm (mean 1.33 mm).

Female genitalia (Fig. 6B): Valvifers elongate; coxites 1.5× longer than wide, rounded, with setose margin; bursa copulatrix reduced to a very small, circular structure between valvifers; ductus spermathecae very thin, not thickened in distal part, long, but with loose loops, not entangled around base of spermatheca. Spermatheca (Fig. 6F) nearly globular; proximal chamber reduced to a swelling of distal part of ductus spermathecae. Accessory gland with very flat circular distal disc and very long duct with base inserted between chambers of spermatheca.

Distribution. Vietnam.

Holotype, ♂, C. Vietnam, Thua Thien Hue Prov., Do Quyen, 1,100 m alt., near Bach Ma, 26. vii. 2001, S. Nomura leg., deposited in NSMT. Paratypes: 5♂♂, 4♀♀, same data as holotype; 2♂♂, 1♀, same data except for 24. vii. 2001; 1♂, 1♀, same data, except for 25. vii. 2001; 3♂♂, same data, except for 27. vii. 2001; 3♀♀, Thua Thien Prov., Mt. Bach Ma, 1,300 m alt., 11. vi. 2002, S. Nomura leg. Paratypes are deposited in IEBR, NSMT, PCPJ and PCPH.

Etymology. The new name refers to the body coloration of this species.

Remarks. This species is slightly similar to *C. aliquantulus* sp. nov., but can be easily distinguished by larger body size and flat anterior margin of vertex.

Clidicus aliquantulus sp. nov.

(Figs. 4A–K; 6C, H)

Diagnosis. The smallest known species of *Clidicus*, easily recognized by very small body size and distinctly depressed anterior margin of vertex.

Description. Body elongate, reddish-brown, legs and antennae of the same color as body,

maxillary palpi slightly brighter, setation relatively sparse, long and erect, setae on elytra slightly brighter than background.

Male. Body length 3.02–3.2 mm (mean 3.12 mm). Head length 0.5–0.52 mm (mean 0.51 mm), width 0.72–0.75 mm (mean 0.74 mm), head widest near middle; dorsal surface with very fine and sparse punctation, glossy, with sparse, long, erect setae; vertex strongly transverse, more than twice as wide as long, with a relatively shallow, broad, subtriangular median depression at posterior margin, and with a distinct, subtriangular depression at anterior margin, supraantennal area slightly raised; tempora very long, rounded; occiput sharply constricted from vertex, less than half as wide as head; clypeus separated from frons by a distinct ridge. Eyes small, circular, finely faceted. Antenna (Fig. 4G) longer than combined length of head and pronotum, length 1.9 mm, bent between antennomeres I and II; surface with moderately long basic suberect setation distinctly decreasing in length in apical antennomeres, and with very long, sparse erect seta, segment I very long, slightly over 4× longer than wide, with a deep, longitudinal notch on external apical margin; II 1.5× longer than wide; III very slightly larger than II; IV distinctly longer than adjacent antennomeres, 1.5× as long as wide; V–VII subquadrate; VIII–IX slightly wider than long; X slightly longer than IX, subquadrate; XI subconical, slightly asymmetrical slightly longer than X.

Labrum (Fig. 4A) trapezoidal, more than twice as wide as long, with apical margin slightly emarginate in middle; sides rounded, strongly narrowed towards base; apical margin with a row of five pairs of long, erect setae. Mandible (Fig. 4B) subtriangular, with broad base, recurved, pointed apex and two complexes of subapical teeth; distal complex composed of two teeth located ventrally, proximal dorsal complex with three teeth; in external lateral view (Fig. 4C), mandible strongly narrowed towards middle, then strongly broadened towards apex, apical tooth located ventrally; prosthema with short setae from base of mandible to near base of proximal teeth

complex. Maxilla (Fig. 4D) with small triangular stipes, elongate palpifer with two long setae on external margin, elongate galea and long lacinia with concave internal edge. Maxillary palpus large; palpomere I very small, subtriangular; II elongate, 4× as long as wide at apex, curved, with narrow base, broadened towards apex, covered with relatively sparse, suberect setae and additionally with several long erect setae; IV subtriangular, with broad base, very slightly concave internal edge, pointed apex and strongly curved convex external edge, with very short and relatively dense recumbent to suberect setation. Labium (Fig. 4E) elongate, with dark, strongly sclerotized, rectangular mentum nearly 3× wider than long; labial palpomere I short and broad, slightly longer than wide, with seta on internal apical part; II elongate, 2.5× longer than I, slightly broadened from base to truncate apex, 3× longer than wide at apex, with three setae in distal part; III elongate, half as long as II, slender, length 4× width of base, with pointed apex; in lateral view (Fig. 4F), distal part between bases of palpomeres with a dense patch of long erect setae.

Pronotum length 0.71–0.75 mm (mean 0.74 mm), maximal width 0.8–0.82 mm (mean 0.81 mm), width at base: 0.55–0.57 mm (mean 0.56 mm), slightly wider than long, widest near anterior third, with rounded anterior and lateral margins, moderately convex; discal part distinctly demarcated from posterior collar by transverse groove with a row of six small pits; three larger pits located on each side of pronotum in broad posterior constriction; surface glossy, with very fine and sparse punctation, with sparse, long erect setae.

Elytra entire, elongate, not fused along suture, length 1.75–1.85 mm (mean 1.8 mm), combined maximal width 1.07–1.1 mm (mean 1.08 mm), elytral index: 1.63–1.68, widest near middle, convex, very slightly broadened from indistinct humeri to middle; apex with adsutural notch, sharp, but without tooth-like projection; each elytron with six longitudinal rows of large pits; second row shortened anteriorly; individual

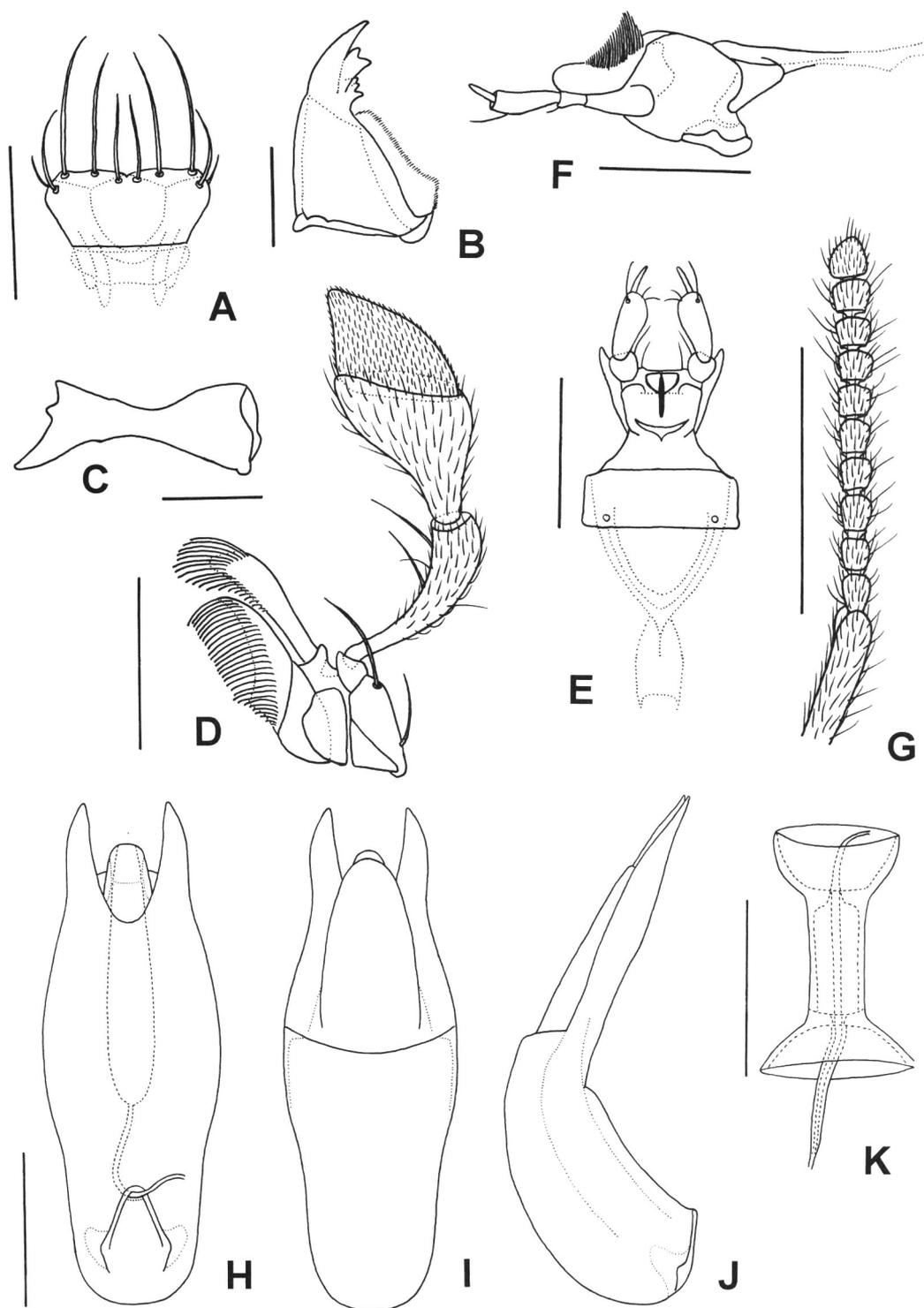


Fig. 4. *Clidicus aliquantulus* sp. nov.; labrum, dorsal view (A); left mandible in dorsal (B) and external lateral (C) views; left maxilla, ventral view (D); labium, in ventral (E) and lateral (F) views; left antenna, dorsal view (G); aedeagus in ventral (H), dorsal (I) and lateral (J) views; vesiculus seminis (K). Scale: 0.2 mm for A–F and H–K; 1 mm for G.

punctations in rows distinctly decreasing in size and depth towards apex, particularly in three dorsal striae; base with neither basal depression nor basal pits; adsutural area not raised near apices of elytra; sculpture between striae composed of sparse, small grains; setation long, erect, directed backwards. Hind wings entirely reduced. Scutellum hardly visible, very small.

Legs relatively long, with moderately dense, recumbent to suberect setation, and additional, sparse long erect setae on external margin of femora, protarsi with slightly longer and more erect setae. Procoxae subconical, large, twice longer than wide, contiguous; mesocoxae nearly globular, slightly larger than procoxae, narrowly separated; metacoxae slightly smaller than mesocoxae, subconical, separated wider than mesocoxae. Trochanters small, subtriangular, subequal in size, $1.5\times$ as long as wide. Femora long, profemora thickest and shortest, metafemora longest and most slender; profemora slightly clavate, widest near distal third, distinctly curved; mesofemora curved, widest near distal third; metafemora slightly and regularly thickening from base to apex. Tibiae long, slender, pro- and mesotibiae slightly curved, metatibiae almost straight, distinctly longer than mesotibiae and much longer than protibiae; mesotibiae with a dense setose patch at distal $\frac{1}{4}$ – $\frac{1}{5}$ of internal edge. Tarsi long, slender, pro- and mesotarsi thicker than metatarsi; pro- and mesotarsomeres I less than twice as long as wide at apex, metatarsomere I nearly $3\times$ longer than wide; tarsomeres II–IV decreasing in length and width, V as long as two preceding segments.

Ventral surface of head glossy; postgenae setose, except for internal parts, with single long seta in central part of each subgena. Basisternal area of prosternum finely and densely punctate, with dense, yellowish setation. Mesosternum with a relatively narrow carina separating coxae, with slightly coarse, dense punctation and sparse, very short setation. Metasternum slightly raised above metacoxae and depressed beneath mesocoxae, episterna elongate, subtriangular, widest posteriorly, metasternum with short sparse seta-

tion. Six abdominal sternites visible, sternites I–V subequal in length, narrow; VI $2.5\times$ longer than V; sculpture on sternites composed of small grains, most distinct on last segment; all sternites with moderately long and dense, thin, recumbent to suberect setation.

Male genitalia (Fig. 4H–J): Aedeagus strongly sclerotized, dark, elongate, length 0.65 mm, widest near middle, curved at an obtuse angle; base rounded; ventral foramen relatively large, subtriangular, with a collar slightly expanded externally near base; area at each side of the collar with an elongate impression; ventral wall flat, without impression; dorsal wall convex, with a transverse division near middle; basal part narrowed towards base; distal part relatively narrow, with rounded sides and apex; oval area in basal part of dorsal wall of aedeagus indistinct. Internal duct of aedeagus relatively broad, slightly narrowed distally; relatively broad distal part protruding from apex of aedeagus. Parameres symmetrical, exceeding aedeagus, strongly sclerotized, broad, narrowed towards pointed apices; in lateral view, tips not curved, base and internal edge of each paramere fused with median lobe. Vesiculus seminis (Fig. 4K) bright in color, basal funnel very short and broad, nearly conical, distal funnel short, with regularly rounded external walls, space between funnels long; internal duct relatively thin, without swelling between funnels.

Female. Minimally smaller than male, pronotum slightly more convex; elytra broader, elytral index: 1.55–1.61, distinctly lower than for males; antennae shorter (1.77–1.82 mm, mean 1.8 mm). Body length 2.99–3.12 mm (mean 3.06 mm), head length 0.5–0.55 mm (mean 0.52 mm), head width 0.8 mm, pronotum length 0.72–0.75 mm (mean 0.74 mm), maximum pronotal width 0.8–0.82 mm (mean 0.81 mm), pronotum width at base: 0.57 mm, elytra length 1.7–1.75 mm (mean 1.72 mm), combined maximum width of elytra: 1.15–1.2 mm (mean 1.17 mm).

Female genitalia (Fig 6C): Valvifers elongate; coxites over $1.5\times$ longer than wide, rounded, with setose margin; bursa copulatrix unrecognizable; ductus spermathecae very thin, not thick-

ened in distal part, with loose loops, not entangled around base of spermatheca. Spermatheca (Fig. 6H) composed of a single ovoid chamber with a basal opening, distinctly separated from ductus spermathecae. Accessory gland with relatively flat, slightly irregular, circular disc and very long duct inserted near base of spermatheca.

Distribution. Vietnam.

Holotype, ♂, *C.* Vietnam, Thua Thien Hue Prov., Tri Sao, 400 m alt., near Bach Ma, 9. vi. 2002, S. Nomura leg., deposited in NSMT. Paratypes: 1 ♂, same data as holotype; 1 ♀, same data, except for 9. vi. 2002; 1 ♀, same data, except for 500 m alt., 26. vii. 2001. Paratypes are deposited in IEBR, NSMT, and PCPJ.

Etymology. The Latin adjective “aliquantulus” means “little, small, diminutive”, and reflects the small size of this species.

Remarks. This is the smallest known *Clidicus*, somewhat similar to *C. rufescens* sp. nov., but easily recognizable by its small body size and concave anterior margin of the vertex.

Clidicus omoios sp. nov.

(Figs. 5A–K, 6C, G)

Diagnosis. Relatively large body size, dark coloration and lack of elytral apical teeth distinguish this species from its congeners from Vietnam.

Description. Body elongate, dark brown, appendages slightly brighter; setation relatively sparse, long and erect; setae on head and pronotum as dark as body coloration; setae on elytra slightly brighter than background.

Male. Body length 4.25–4.4 mm (mean 4.37 mm). Head length 0.62–0.67 mm (mean 0.64 mm), width 1–1.07 mm (mean 1.03 mm), head widest behind middle, with indistinct median longitudinal groove; dorsal surface with very fine and sparse punctation, glossy, with sparse, long, erect setae; vertex strongly transverse, more than twice as wide as long, with a relatively shallow, broad, subtriangular median depression at posterior margin, flat or very slightly depressed at anterior margin, supraantennal area slightly raised;

tempora very long, rounded, occiput sharply constricted from vertex, less than half as wide as head; clypeus separated from frons by a distinct ridge. Eyes small, circular, finely faceted. Antenna (Fig. 5G) distinctly longer than combined length of head and pronotum, length 2.35–2.45 mm (mean 2.38 mm), bent between antennomeres I and II; surface with moderately long basic suberect setation distinctly decreasing in length in apical antennomeres, and with very long, sparse erect setae, segment I very long, slightly more than 4× longer than wide, with deep, longitudinal notch on external apical margin; II 1.5× longer than wide; III–IV nearly equal in length, slightly wider than II, 1.5× as long as wide; V slightly longer than adjacent antennomeres; VI equal in size to IV; VII slightly wider than VI, 1.5× longer than wide; VIII–X slightly increasing in size, slightly longer than wide, XI not longer than X, subconical, slightly asymmetrical.

Labrum (Fig. 5A) trapezoidal, more than twice as wide as long, with apical margin slightly emarginate in middle; sides roundly narrowed towards base; apical margin with a row of five pairs of long, erect setae. Mandible (Fig. 5B) subtriangular, with broad base, recurved, pointed apex and two complexes of subapical teeth; distal complex composed of one small, pointed tooth and one broad, rounded tooth located ventrally, proximal dorsal complex with three small teeth; in external lateral view (Fig. 5C), mandible strongly narrowed towards middle, then strongly broadened towards apex, apical tooth located ventrally; prosthema with short setae from base of mandible to near base of the proximal teeth complex. Maxilla (Fig. 5D) with small triangular stipes with a long seta on external margin near base, elongate palpifer with a long seta on distal part of external margin, elongate galea and long lacinia with concave internal edges. Maxillary palpus large; palpomere I very small, subtriangular; II elongate, 4× as long as wide at apex, curved, with narrow base, broadening towards apex, with relatively sparse, suberect setae and additionally with several long erect setae; IV

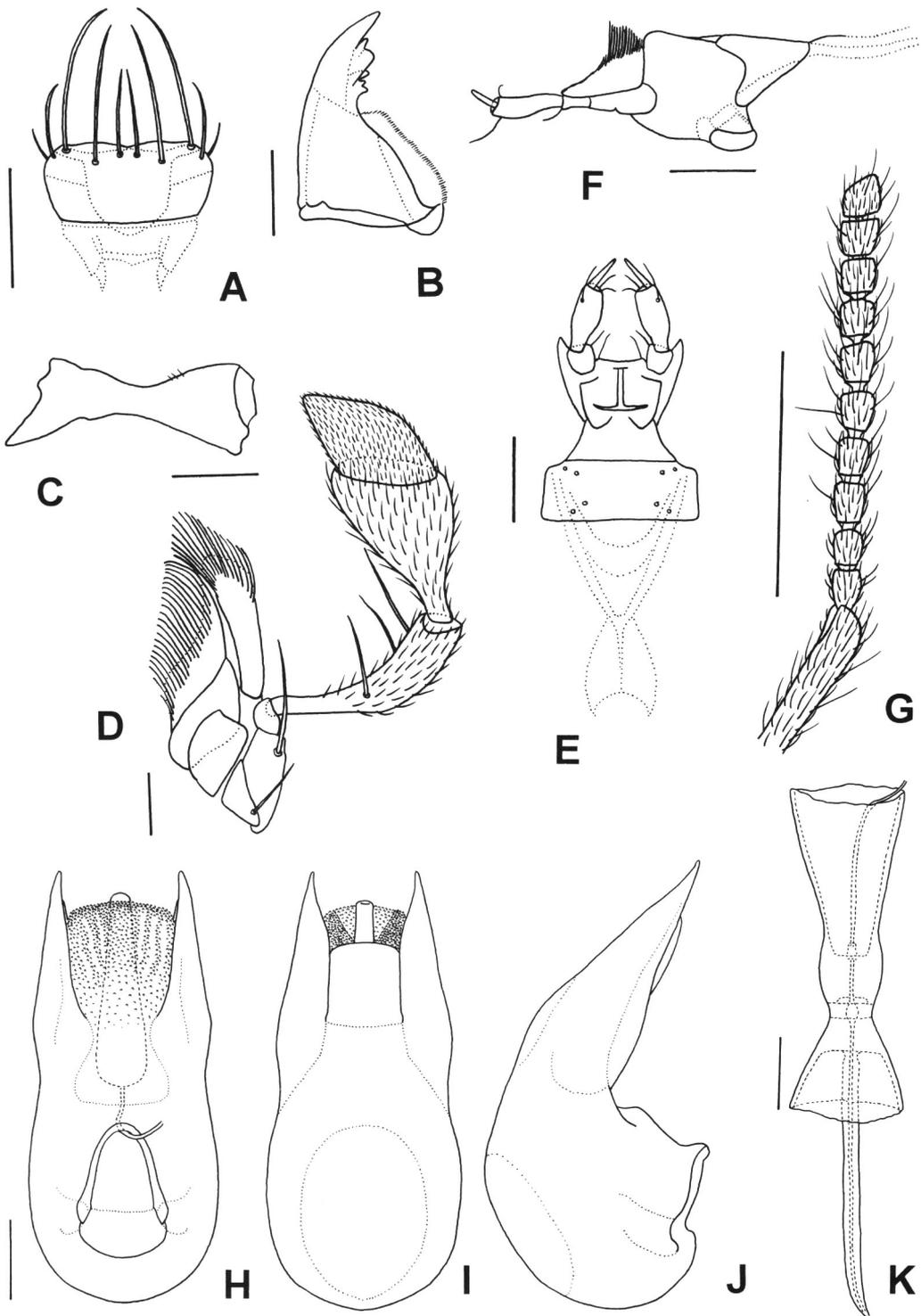


Fig. 5. *Clidicus omoios* sp. nov.; labrum, dorsal view (A); left mandible in dorsal (B) and external lateral (C) views; left maxilla, ventral view (D); labium, in ventral (E) and lateral (F) views; left antenna, dorsal view (G); aedeagus in ventral (H), dorsal (I) and lateral (J) views; vesiculus seminis (K). Scale: 0.2 mm for A–F and H–K; 1 mm for G.

subtriangular, with broad base, almost straight internal edge, pointed apex, and strongly curved, convex external edge, with very short and relatively dense recumbent to suberect setation. Labium (Fig. 5E) elongate, with dark, strongly sclerotized, rectangular mentum nearly $3\times$ wider than long; labial palpomere I short and broad, slightly longer than wide, with a seta on internal apical part; II elongate, $2.5\times$ longer than I, slightly broadening from base to truncate apex, $3\times$ longer than wide at apex, with three setae in distal part; III elongate, half as long as II, slender, length $4\times$ width of base, with pointed apex; in lateral view (Fig. 5F), distal part between bases of palpomeres with a dense patch of long erect setae.

Pronotum length 1–1.05 mm (mean 1.03 mm), maximal width 1.05–1.1 mm (mean 1.08 mm), width at base: 0.72–0.82 mm (mean 0.76 mm), minimally wider than long, widest near anterior third, with rounded anterior and lateral margins, moderately convex; discal part distinctly demarcated from posterior collar by transverse groove with a row of 8–12 small pits; in some individuals some pits fused together; three larger pits located on each side in broad posterior constriction; surface glossy, with very fine and sparse punctation, with sparse, long erect setae.

Elytra entire, elongate, fused along suture, length 2.55–2.6 mm (mean 2.57 mm), combined maximal width 1.52–1.57 mm (mean 1.54 mm), elytral index: 1.65–1.67, widest near middle, convex, each elytron with six longitudinal rows of moderately large pits, second row shortened anteriorly; individual punctures in rows distinctly decreasing in size and depth towards apex of elytra, particularly in three dorsal striae; base with neither basal depression nor basal pits; humeri moderately distinct; apex of each elytron sharp, but without a tooth, adsutural area between apices notched; adsutural area very distinctly raised near apices of elytra; surface between striae slightly uneven, with sparse punctation; individual punctures with slightly raised anterior margin; setation long, erect, directed backwards. Hind wings entirely reduced. Scutellum hardly

visible, very small.

Legs relatively long, with moderately dense, recumbent to suberect setation, and additional, sparse long erect setae on external margin of femora, with slightly longer and more erect setae on protarsi. Procoxae subconical, large, slightly longer than wide, contiguous; mesocoxae nearly globular, slightly larger than procoxae, narrowly separated; metacoxae slightly smaller than mesocoxae, subconical, separated wider than mesocoxae. Protrochanters small, subtriangular, slightly longer than wide; mesotrochanters larger than protrochanters, $1.5\times$ longer than wide; metatrochanters yet longer, nearly twice as long as wide. Femora long, profemora thickest and shortest, metafemora longest and most slender; profemora slightly clavate, widest near distal third, distinctly curved; mesofemora curved, widest near distal third; metafemora slightly and regularly thickening from base to apex. Tibiae long, slender, pro- and mesotibiae slightly curved, metatibia straight, distinctly longer than mesotibiae and much longer than protibiae; mesotibiae with a dense setose patch at distal third of internal edge. Tarsi long, slender, pro- and mesotarsi thicker than metatarsi; pro- and mesotarsomeres I less than twice as long as wide at apex; metatarsomere I nearly $3\times$ longer than wide; tarsomeres II–IV decreasing in length and width, V as long as two preceding segments.

Ventral surface of head glossy, with setose sides of postgenae. Basisternal area of prosternum finely and densely punctate, with dense, yellowish setation. Mesosternum with relatively narrow carina separating coxae, with slightly coarse, dense punctation and very short sparse setation. Metasternum slightly raised above metacoxae and depressed beneath mesocoxae; episterna elongate, subtriangular, widest posteriorly; metasternum with short sparse setation. Six abdominal sternites visible, sternites I–V subequal in length, narrow, VI nearly twice as long as V, triangular, apical margin rounded; segments I–V with very fine punctation; VI with relatively dense and large, uneven, slightly irregular punctation; surface with moderately long and dense,

thin, recumbent to suberect setation.

Male genitalia (Fig. 5H–J): Aedeagus strongly sclerotized, dark, relatively stout, length 1.07 mm, strongly curved, angle between basal and apical part nearly right, widest near middle of basal part, distal part relatively narrow, with truncate apex; basal part voluminous, with rounded base; ventral foramen relatively large, subtriangular, with a collar slightly expanded externally near base; area at each side of the collar with elongate impression; ventral wall slightly concave near foramen, dorsal wall convex; apical part lightly sclerotized, covered with very small, subtriangular grains, in ventral view with slant, longitudinal wrinkles; oval area in basal part of dorsal wall distinct only in wet condition. Internal duct of aedeagus relatively short and broad, narrowed distally, moderately broad distal part protruding from apex of aedeagus. Parameres

symmetrical, exceeding median lobe, strongly sclerotized, very broad at base, narrowed towards pointed apices; tips very slightly curved in lateral view; base and internal edge of each paramere fused with aedeagus. Vesiculus seminis (Fig. 5K) bright in color, with relatively long basal and very long distal funnel; area between funnels relatively long, broadened, with convex, rounded, thick walls. Internal duct very thin, with very small broadening between funnels.

Female. Minimally smaller than male, head slightly broader, elytra broader, elytral index: 1.55–1.61, distinctly lower than for males; antennae shorter (2.2–2.3 mm, mean 2.23 mm). Body length 4.22–4.3 mm (mean 4.35 mm), head length 1.06–0.67 mm (mean 0.65 mm), head width 1.1–1.12 mm (mean 1.1 mm), pronotum length 1.02 mm, maximum pronotal width 1.1–1.12 mm (mean 1.11 mm), pronotum width at

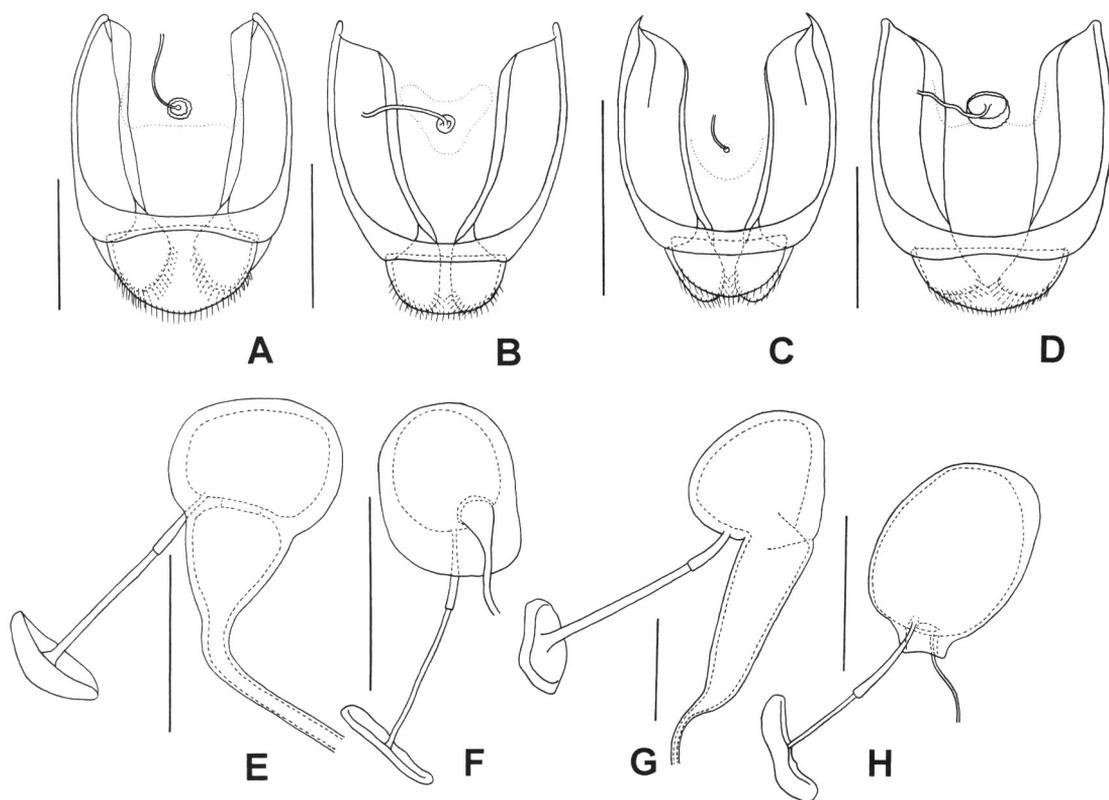


Fig. 6. Female genital segment in dorsal view (A–D) and spermatheca (E–H); *C. bellator* sp. nov. (A, E); *C. rufescens* sp. nov. (B, F); *C. aliquantulus* sp. nov. (C, H); *C. omoios* sp. nov. (D, G). Scale: 0.25 mm for A–D, 0.1 mm for E–H.

base: 0.72–0.8 mm (mean 0.76 mm), elytra length 2.5–2.52 mm (mean 2.6 mm), combined maximum width of elytra: 1.55–1.62 mm (mean 1.6 mm).

Female genitalia (Fig. 6D): Valvifers elongate; coxites subrectangular, 1.5× longer than wide, rounded, with setose margin; bursa copulatrix reduced to relatively large, slightly irregular subcircular structure between valvifers; ductus spermathecae very thin, not thickened in distal part, not entangled around base of spermatheca, with very loose loops. Spermatheca (Fig. 6G) with large, ovoid distal chamber and elongate, subtriangular proximal chamber gradually narrowing basally, not delimited from spermathecal duct. Accessory gland with relatively flat, slightly irregular distal disc and very long duct inserted near constriction between chambers of spermatheca.

Distribution. Laos, Vietnam.

Holotype, ♂, S. Laos, Champasak Prov., Bolaven Plateau, Route No. 23 Pakse-Paksong, Banitou env., 900 m alt., 10–18. iv. 1999, Jendek & Šauša leg., deposited in NMH. Paratypes: 3♂♂, 2♀♀, same data as holotype; 2♂♂, 1♀, same data, except for 800 m alt., and additional locality data: 15°10.4'E 106°058'N (GPS); 3♂♂, same data as holotype, except for "Štrba leg."; 1♀, S. Laos, Sekong Prov., Bolaven Pl., N slope, ca. 10 km N Mg. Tha Theng, 500–700 m, 29–30. v. 1996, Schillhammer leg.; 1♀, Vietnam, Gialai-Kontum Prov., Ngoc Linh Mts., Dak Pek, 1,100–2,200 m alt., 15°03'N 107°46'–50'E, 22–30. i. 1997, L. & R. Businsky leg. Paratypes deposited in NSMT, NMH, PCPJ and PCPH.

Etymology. The name means "similar", after Greek word "ὅμοιος" ("omoios"), to emphasize the similarity between this species and *C. bellator* sp. nov.

Remarks. This species is very similar to *C. bellator* sp. nov. Differences are noticeable mostly in the shape of the apices of elytra and the length of elytra. Elytral index, aedeagus and spermatheca allow for unambiguous discrimination between the two species; see remarks at the description of *C. bellator*. *Clidicus omoios* repre-

sents the first species of the genus known from Laos.

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