

A New Species Belonging to the New Agapanthiine Genus (Coleoptera, Cerambycidae, Lamiinae) from Korea

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Abstract A new species belonging to the new genus of the tribe Agapanthiini is described from South Korea under the name *Coreocalamobius parantennatus* gen. et sp. nov. This new genus is close to *Pseudocalamobius* KRAATZ, 1879 by the sexual features of tegmen and abdominal sternites 4 and 5, but can be easily distinguished from the latter by its short antennae, narrower body with effaced humeri and degenerated hind wing.

Introduction

In 1985, a peculiar agapanthiine specimen was collected by Dr. K. T. PARK of Gangwon Natural University from Chun-Cheon, Gangwon-do, Korea. This specimen was illustrated in the iconographical book entitled “The Longicorn Beetles of Korean Peninsula” (LEE, 1987) under the name of *Theophilea cylindricollis* PIC, 1895.

In 1998, the late Mr. Seung-Mo LEE, who is the author of this iconography entrusted this specimen to the first author, HASEGAWA, for further detailed study. In spite of the fact that this agapanthiine species in question could be easily distinguished from the true *Theophilea cylindricollis* distributing in Central Europe, he could not progress to the taxonomic examination because there were few specimens for study at that time.

Later, KANG (2003) reported the brief ecology of this species. He found two adults on the dead stems of *Phragmites japonica* in early spring, and suggested it as the host plant. According to this ecological information, the second and third authors separately collected many additional specimens from Gangwon-do, South Korea.

After a careful examination, we came to the conclusion that the agapanthiine in question is a new species belonging to a new genus which is close to the genus *Pseudocalamobius* KRAATZ. In the following lines, we describe this interesting new species as *Coreocalamobius parantennatus* gen. et sp. nov.

Abbreviations used in the measurements are as follows: IEL: length of inferior eye lobe measured from lateral or sub-lateral view; GL: length of gena, measured from lateral or sub-lateral view; PL: length of pronotum; PW: maximal width of pronotum; PB: basal width of pronotum; EL: length of elytra; EW: maximal width of elytra; TL: total length of body, from tip of head to elytral apices. M: arithmetic mean \pm SD.

Genus *Coreocalamobius* HASEGAWA, HAN et OH, nov.

[Korean name: Jak-eun-cho-won-ha-neul-so-sok]

Type species: *Coreocalamobius parantennatus* gen. et sp. nov.

Tribe: Agapanthiini. Gender: Masculine.

Body elongate and subcylindrical. Head broad; frons declined over 90 degrees to horizontal axis; antennal tubercles adjacent, narrowly separated; eyes small and narrow, strongly projected, coarsely faceted, deeply emarginated, with upper lobe degenerated (Fig. 2a). Antennae 11 segmented, short, slightly extending beyond elytral apices in male, but not reaching elytral apices in female; rather sparsely provided beneath with long erect setae on 3rd to 7th segments; scape slender, almost parallel-sided, extending basal 2/3 of pronotum; 3rd segment shorter than scape, almost same the length to 4th; 5th to 10th segments gradually abbreviated in length; 11th segment longer than 10th, constricted at apical fourth (Fig. 2b).

Pronotum cylindrical, base slightly broader than elytral bases, weakly constricted before base; disc simple. Elytra slender and simple, with shoulders more or less effaced. Hind wings degenerated (Fig. 2c).

Legs long and relativity thick; femora slightly thicker than tibia; tibia almost equal in length to femur, mid tibia with a groove providing with setae along dorsal side; fore and mid tarsi almost equal or shorter in length to tibia, 1st segment of fore tarsus swollen, claw about 1/3 the entire length of tibia.

Abdomen slender; 3rd sternite long, about 1/3 the entire length of abdomen; both sides of basal margins of 4th and 5th sternites in male provided with a pair of semicircular concavities (Fig. 2d).

Male genitalia. Median lobe slender, weakly curved in profile; tegmen a little shorter than median lobe, with lateral lobes very short; roof long and slender; ringed part converging, about 2/3 the entire length of tegmen.

Note. This new genus can be easily distinguished from other related genera by having characters as shown in Table 1. It is doubtless related to the genus *Pseudocalamobius* KRAATZ, 1879 in the following characters: male abdomen provided with a pair of lateral semicircular concavities along the basal margins of 4th and 5th sternites; tegmen of male genitalia slender, lateral lobes distinctly short and ringed part converging basally.

Etymology. The new generic name *Coreocalamobius* given after *Calamobius* living in Korea.

Coreocalamobius parantennatus HASEGAWA, HAN et OH, sp. nov.

[Korean name: Jak-eun-cho-won-ha-neul-so]

(Figs. 1–3)

Theophilea cylindricollis: LEE, 1987: 146, pl. 17, fig. 192 (nec PIC, 1895).

Adult. Male. Length (from tip of head to elytral apices) 4.1–7.3 mm ($M=6.3\pm 0.7$, $n=7$). Width (maximal width of elytra) 0.9–1.2 mm ($M=1.0\pm 0.1$, $n=7$).

Color reddish brown to yellowish brown; scape, apex of each segment of antennae, femora somewhat darkened; elytra reddish brown, gently getting lighter towards apices, though apices are black.

Body densely clothed with whitish brown pubescence except for 3rd to 11th antennal segments.

Head relativity large, distinctly punctured throughout; occiput convex; vertex deeply concave; frons square, moderately convex; eyes small and narrow, strongly projected, inferior eye lobe longer than gena, IEL/GL=1.25–1.40 ($M=1.33\pm 0.06$). Antennae exceeding elytral apices at 10th or 11th

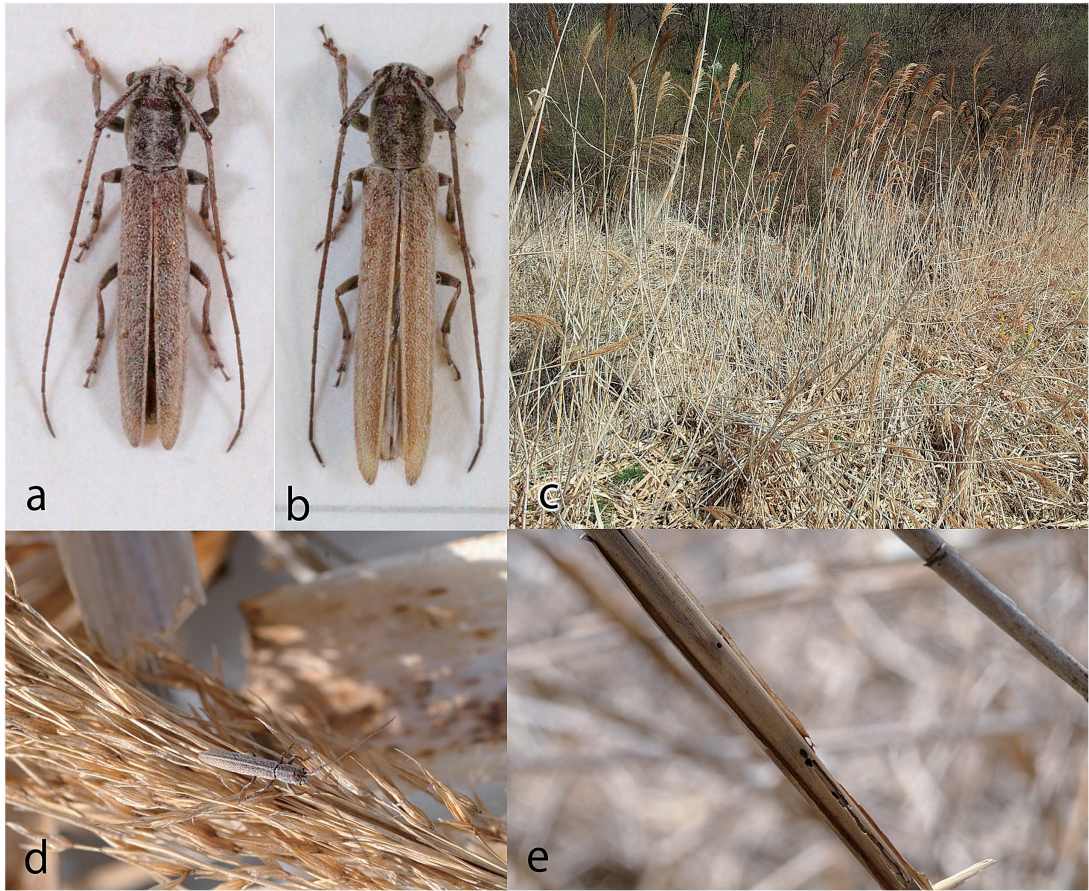


Fig. 1. *Coreocalamobius parantennatus* gen. et sp. nov. and its host plant at Gangwon-do, Korea. — a, Male; b, female; c, host plant, *Phragmites japonica*; d, adult on *P. japonica*; e, emergence holes.

segment; scape extending about basal 2/3 of pronotum; 3rd to 7th segments provided with 5 to 8 long erect setae beneath; scape/3rd=1.13–1.25 (M=1.20±0.04); apex of last segment narrowly rounded; relative lengths of segments as follows: 9.6 : 1.0 : 8.0 : 8.0 : 6.6 : 6.0 : 5.3 : 4.4 : 3.7 : 3.3 : 4.0.

Pronotum cylindrical, apical margin wider than basal margin, widest near middle, then slightly narrowed basally with weak constriction near base, PL/PB=1.21–1.45 (M=1.34±0.09), PB/PW=0.85–0.92 (M=0.89±0.04); surface densely and strongly punctured throughout, provided with a pair of long erect setae at basal fifth of lateral margins; disc weakly depressed at apical third.

Elytra slender and frail, EW/PB=1.09–1.27 (M=1.19±0.06), EL/EW=4.42–5.00 (M=4.66±0.22), EL/PL=3.85–4.61 (M=4.17±0.27), EL/TL=0.72–0.75 (M=0.73±0.01); sides almost parallel in basal 2/3 and gently narrowed to apical tenth, then arcuately attenuate towards narrowly rounded apices; disc feebly depressed at basal margin, densely punctured throughout, coarsely provided with short suberect setae on apical areas.

Legs long and relatively thick; femora weakly swollen, broadest near middle or behind middle; apical margins of mid and hind tibiae densely provided with black setae; a groove of mid tibia slanting from apical 2/5 to 1/15 on dorsal side; 1st segment of fore tarsus distinctly development.

Table 1. Diagnostic characteristics for related genera of *Coerocalamobius* gen. nov.

Characters	Genera	<i>Theophilea</i> PIC, 1895	<i>Calamobius</i> GUÉRIN-MÉNEVILLE, 1847	<i>Pseudocalamobius</i> KRAATS, 1879	<i>Coerocalamobius</i> gen. nov.
Frons declined		less than 90 degrees	less than 90 degrees	more than 90 degrees	more than 90 degrees
Length of antennae		extending to or shortly beyond elytral apices, in male.	more than 1.5 times as long as body.	more than 2.5 times as long as body.	extending to or shortly beyond elytral apices, in male.
Number of antennal segment	12		12	11	11
Relative lengths of antennal segments 3rd and 4th	3rd longer than 4th		3rd longer than 4th	4th longer than 3rd	almost same length
Upper lobe of eye	exist	exist	exist	exist	absent
Hind wing	vestigial	complete	complete	complete	vestigial
First tarsal segment of fore leg	very elongate	normal	normal	normal	swollen
	more than 2.0 times as long as 3rd.	about 1.5 times as long as 3rd.	about 1.5 times as long as 3rd.	about 1.5 times as long as 3rd.	about 1.5 times as long as 3rd.
Third tarsal segment of fore leg	not dilated	not dilated	not dilated	dilated	dilated
Length of hind leg	exceeding elytral apices.	exceeding elytral apices.	not exceeding elytral apices.	not exceeding elytral apices.	not exceeding elytral apices.
Sexual character of abdomen in male	not examined	with a pair of pubescent patches at the apical side of 4th to 6th sternites.	with a pair of pubescent patches at the basal margins of 4th and 5th sternites.	with a pair of semicircular cavities at the basal margins of 4th and 5th sternites.	with a pair of semicircular cavities at the basal margins of 4th and 5th sternites.
Tegmen of male genitalia	not examined	lateral lobes long and slender. ringed part geniculated.	lateral lobes very short and tongue-shaped. ringed part converging.	lateral lobes very short and tongue-shaped. ringed part converging.	lateral lobes very short and tongue-shaped. ringed part converging.

Abdomen with 3rd to 6th sternites rather densely punctured except for lateral margins; 7th sternite tongue-shaped, sparsely punctured in middle, coarsely provided with long setae. Eighth tergite (Fig. 3e) about 1.3 times as long as the maximal width, roundly attenuate in basal half of sides, thence convergent toward apex; apical margin truncate, coarsely provided with long setae.

Male genitalia (Fig. 3). Median lobe in lateral view slender, about 1/3 the length of abdomen, weakly curved throughout, widest at basal third, thence gently narrowed toward bluntly pointed apex; median struts accounts for half the entire length of median lobe; median foramen located in apical third; dorsal plate distinctly shorter than ventral plate, with sides roundly attenuate towards rounded apex; ventral plate parallel-sides near apex, thence rapidly attenuate toward narrowly rounded apex in dorsal view. Endophallus about twice as long as median lobe, densely provided with minute spicules on basal third. Tegmen slightly shorter than median lobe; ringed part about 2/3 the entire length of tegmen, widest at apical sixth to seventh in ventral view; roof long, parallel-sides; each lateral lobe very short, tongue-shaped or semicircular, provided with several long setae.

F e m a l e. Length (from tip of head to elytral apices) 6.4–8.3 mm ($M=7.9$ mm, $n=6$). Width (maximal width of elytra) 1.0–1.5 mm ($M=1.3$ mm).

Almost identical in general appearance to male, but different from it in the following characters: body somewhat larger and stouter; antenna not reaching elytral apex.

The ratio of body parts: IEL/GL=1.15–1.23 ($M=1.18\pm 0.03$), PL/PB=1.15–1.44 ($M=1.31\pm 0.10$), PB/PW=0.82–0.95 ($M=0.88\pm 0.05$), EW/PB=1.13–1.44 ($M=1.27\pm 0.11$), EL/EW=4.42–



Fig. 2. *Coreocalamobius parantennatus* gen. et sp. nov. — a, Head; b, last antennal segment; c, hind wing; d, abdomen in male.

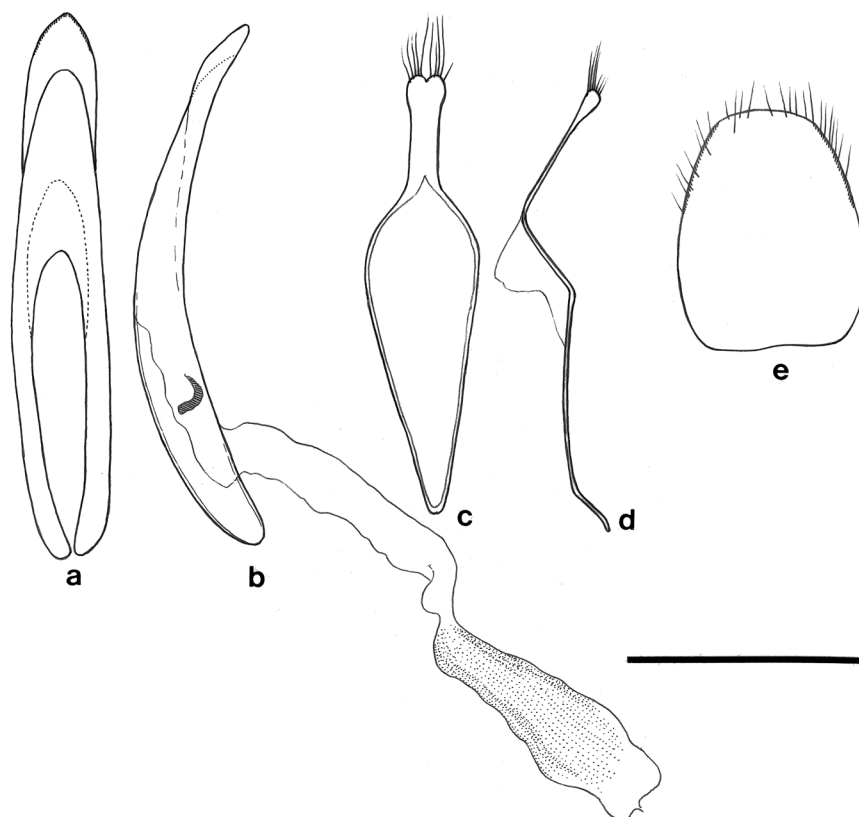


Fig. 3. Male genitalia and 8th abdominal tergite of *Coreocalamobius parantennatus* gen. et sp. nov. — a, Median lobe, dorsal view; b, median lobe, lateral view; c, tegmen, dorsal view; d, tegmen, lateral view; e, 8th abdominal tergite, dorsal view. Scale: 0.5 mm.

4.71 ($M=4.45\pm 0.14$), $EL/PL=3.85-4.91$ ($M=4.36\pm 0.34$), $EL/TL=0.71-0.76$ ($M=0.74\pm 0.02$).

Type series. Holotype: ♂, Mt. Gwangdeok-san, Cheorwon-gun, Gangwon-do, Korea, 24-IV-2012, Seung Hwan OH leg. Paratypes: 1 ♀, same data as the holotype; 4 ♂♂, 4 ♀♀, same locality as the holotype, 30-IV-2012, Seung Hwan OH leg.; 2 ♂♂, 2 ♀♀, Munhye-ri, Cheorwon-gun, Gangwon-do, Korea, 23-IV-2012, Seung Hwan OH leg.; 1 ♂, 1 ♀, same locality, 30-IV-2012, Seung Hwan OH leg.; 2 ♂♂, Mt. Myeongseong-san, Cherwon-gun, Gangwon-do, Korea, 29-IV-2012, Seung Hwan OH leg.; 1 ♀, same locality, 13-V-2012, Seung Hwan OH leg.; 1 ♂, Chun-Cheon, Gangwon-do, Korea, 22-IV-1985, K. T. PARK leg.; 2 ♂♂, 1 ♀, Mt. Gariwang-san, Jeongseon-gun, Gangwon-do, Korea, 2-V-2013, Sang Kyun KOH leg.

The holotype is preserved in the collection of the NIBR (National Institute of Biological Resources), Incheon, Korea and the paratypes are in the collections of the Toyohashi Museum of Natural History, Toyohashi, and the NAAS (National Academy of Agricultural Science), Suwon, Korea, and also in the author's private collections.

Host plants. *Phragmites japonica* STEUD.

Distribution. S. Korea.

Etymology. The new specific name, *parantennatus* is derived from a combination of Latin words, "par (equal)" and "antennatus (antenna)". The 3rd and 4th segments of antenna of the new spe-

cies are almost equal in length each other.

Biological notes. The flying period of the adults is spring from early April to mid May in the Korean Peninsula. The adults inhabit on the ears (grain) of *Phragmites japonica* STEUD., growing on the bank or shore of brooks, streams and rivers at the foot of mountains. The life cycle of the beetles well agrees with that of the host plant. *Phragmites japonica* of the perennial reed grows new canes from the roots every year, and forms the community in the same place for a long time. The adult beetles are discovered on the dead ears and canes of the host plant which grew up a year ago. They walk up and down between the ears and the canes in the daytime. The mating pairs are also found on the canes, and the emergent holes are recognized on the canes of two years old. The adults in the pupal cells in canes may emerge in early spring after passing the winter season.

Remarks. *Miscanthus sacchariflorus* (MAXIM.) reported as the host plant by KANG (2003) was a misidentification of *Phragmites japonica* STEUD.

YOON *et al.* (2001) recorded the species, "*Theophilea cylindricollis*" from Tsushima Islands, Japan, as the material of molecular analysis. It is supposed to be identified by the book of LEE (1987), and would be a misidentification of *Coeracalamobius parantennatus* gen. et sp. nov. However, we could not find the original specimen used for their study nor any specimen collected from Tsushima Islands at the present study.

Acknowledgements

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要 約

長谷川道明・韓 泰萬・吳 升煥：韓国から発見されたフサヒゲルリカミキリ族の新属新種（鞘翅目カミキリムシ科）。——韓国から特異な形態をしたフサヒゲルリカミキリ族の新属新種 *Coreocalamobius parantennatus* gen. et sp. nov. を記載した。本種は、李 承模 (1987) により *Theophilea cylindricollis* と誤認され、韓国から記録されていたものである。体形は非常に細長く、華奢で、触角は雄でも体長をわずかに越える程度、複眼上片と後翅は退化しているなど、特異な形態から本族の他の属から容易に区別されるが、雄の腹板4節と5節の基部にそれぞれ一對の半円形の窪みを持つことと雄交尾器の形態からドウボソカミキリ属 *Pseudocalamobius* に近縁であると考えられる。寄主植物はツルヨシ *Phragmites japonica* で、成虫は早春に出現し、ツルヨシの枯れた花穂や茎上に見られる。

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