A new genus of the tribe Doryctini (Hymenoptera, Braconidae, Doryctinae)

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A new doryctine genus Cryptontsira gen. n. is described and illustrated. Two species are included in this genus: widely distributed pan-tropical Doryctes parvus Muesebeck (type species) and Australian D. laemosacci Nixon.

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Introduction

During revision of the Asian genera of subfamily Doryctinae the holotype and additional material of Doryctes parvus Muesebeck, originally described from Puerto Rico (Muesebeck, 1941) and later recorded in several tropical or subtropical countries of the Old and New World (Shenefelt & Marsh, 1976; Belokobylskij et al., 2004) were studied. The careful examination of this species revealed several apomorphic characters which distinctly separate this taxon from related genera Doryctes Haliday (Muesebeck, 1941) and Ontsira Cameron (Belokobylskij, 1998). The Australian Doryctes laemosacci Nixon also shows its relation with D. parvus and additionally supports their distinct position as members of a new genus. A new genus Cryptontsira gen. n. is respectively described for these two species illustrated below.

Doryctes parvus Muesebeck was originally described as a parasitoid of Dinoderus minutus (F.) (Bostrichidae), one from the most destructive and widespread insect bostrichids pest on felled culms and finished bamboo products (Muesebeck, 1941). In China, this species was reared from another widespread pest of bamboo stems in almost all bamboo-growing countries, D. japonicus Lesne, and in India, from Sinoxylon sp, infesting cotton stalks. Australian D. laemosacci was reared from Laemosaccus sp. (Curculionidae).

The nomenclature for wing venation is as defined by Belokobylskij & Tobias (1998). Following abbreviations for morphological structures are used: POL – postocellar line; OOL – ocular-ocellar line; Od – maximum diameter of lateral ocellus. The following acronyms are used: BMHN – The Natural History Museum (London, U.K.); MUNJ – Majo University (Nagoya, Japan); USNM – American Natural History Museum (Washington, U.S.A); ZISP – Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia); ZJUH – Zhejiang University (Hangzhou, China).

Taxonomic part

Cryptontsira gen. n.

Type species. Doryctes parvus Muesebeck, 1941.

Etymology. From “cryptos” (Greek for “secret”) and the generic name Ontsira, because this genus is superficially similar to the genus Ontsira. Gender is feminine.

Diagnosis. This new genus differs from Ontsira Cameron by the reduction of the tubercle in basoventral corner of hind coxa, the densely setose eyes, the more or less distinctly reduced notauli in distal half of mesoscutum and sometimes developed here median furrow, and the arising of the radial vein more or less distinctly before middle of pterostigma.

Description. Head weakly transverse (Figs 2, 14). Ocelli arranged in triangle with base 1.1-1.3 times its sides. Frons rather distinctly concave and without median keel. Eyes distinctly, shortly and rather densely setose. Occipital carina complete dorsally, joining below with hypostomal carina or sometimes shortly interrupted. Malar suture very shallow or indistinct. Clypeus with short or very short ventral flange. Hypoclypeal depression rather small (Figs 1, 13). Postgenal bridge rather wide or narrow. Palpi more or less short; maxillary palpi 6-segmented, labial palpi 4-segmented; third segment of labial palpi not shortened. Scapus
rather wide, more or less long, without apical lobe and basal constriction, dorsally longer than ventrally. First flagellar segment subcylindrical, almost straight or weakly curved, longer than or almost equal to second segment. Apical segment pointed apically.


Mesosoma (Figs 8, 19). Neck of pronotum short. Pronotum dorsally more or less distinctly convex or flat. Propleural lobe distinct. Mesonotum highly and almost perpendicularly elevated convex or flat. Propleural lobe distinct. Mesonotum covered entirely.

Legs. Fore tibia with long and dense or short and sparse spines arranged in narrow longitudinal row or in almost single line. Hind coxa without basoventral corner and tooth (Figs 4, 15). Hind femur wide and without dorsal protuberance (Figs 3, 17). Hind basitarsus wide and short, 0.6 times as long as second-fifth segments combined.

Metasoma (Figs 12, 20). First tergite not petiolate, wide and short, with distinct but not large dorsosoe, with small or very small spiracular tubercles in basal 0.3 and dorsal carinae at least in basal 0.3-0.5; acrosternite about 0.2 times as long as tergite. Second tergite without areas and furrows, with separated laterotergites, spiracles situated on crisp closely to base of tergite. Second suture usually absent or fine. Following tergites without separate laterotergites, rarely third tergite basally with crisp. Ovipositor straight, shorter than metasoma.

A key to species of the genus Cryptontsira gen. n.

1. Posterior longitudinal furrow of mesoscutum deep and almost smooth. Second radial abscessa 0.3-0.6 times as long as third abscessa, 1.3-1.5 times longer than first radiomedial vein. Second radiomedial cell 2.7-3.0 times longer than its maximum width, 1.6-1.7 times longer than brachial cell. Hind tibia dorsally with setae 0.2-0.35 times as long as width of hind tibia. Length of first tergite 0.7-0.75 times its apical width. Second tergite basally short or sometimes long rugulose-striate or striate, smooth on rest part. Body length 1.4-2.5 mm. – Hawaii, Australia, Indonesia, Vietnam, Japan, China, India, Puerto Rico, Cuba, Panama.
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Cryptontsira parva (Muesebeck, 1941), comb. nov.

(Figs 1-12)


Ontisira parva Belokobylskij, 1998: 474; Belokobylskij et al., 2004: 72.

Description. Female. Body length 1.4-2.5 mm; fore wing length 1.2-2.0 mm. Head width 1.4-1.45 times its median length, 1.0-1.1 times as wide as mesoscutum. Head behind eyes (dorsal view) very weakly convex or subparallel anteriorly, roundly narrowed posteriorly. Transverse diameter of eye

Figs 1-12. Cryptonitsa parva (Muesebeck) (holotype). 1, head, dorsal view; 2, head, front view; 3, hind femur; 4, hind coxa; 5, six basal segments of antenna; 6, hind tibia; 7, mesonotum, dorsal view; 8, mesosoma, lateral; view; 9, propodeum, dorsal view; 10, fore wing; 11, hind wing; 12, metasoma, dorsal view.
1.1-1.2 times longer than temple. Ocellar triangle situated before middle of head (dorsal view), its anterior ocellus situated before middle level of eyes. Ocelli small or medium-sized, POL 1.0-1.5 times longer than Oc, 0.45-0.55 times OOL. Eye with very shallow or almost indistinct emargination opposite antennal socket, 1.3-1.4 times as high as broad. Malar space height 0.3-0.35 times height of eye, 0.7-0.75 times basal width of mandible. Face with shallow elongate depressions above clypeus; width of face equal to height of eye and 1.3-1.4 times height of face and clypeus combined. Diameter of antennal socket 1.5-2.0 times distance between sockets and 1.1-1.4 times distance between socket and eye. Malar suture shallow or very shallow. Clypeus weakly convex, with short lower flange. Clypeal suture distinct and completely lateral, shallow or almost absent above. Hypoclypeal depression round, its width 0.75-0.9 times distance from edge of depression to eye, 0.3-0.4 times width of face. Occipital carina below fused with hypostomal carina upper base of mandible or rarely shortly interrupted. Length of maxillary palpi 0.8-0.9 times head height.

Antennae rather thick, almost filiform, 18-24-segmented, 0.8 times as long as body. Scapus 1.4-1.6 times longer than its maximum width. First flagellar segment 2.7-3.0 times longer than its apical width, almost as long as second segment. Penultimate segment 2.0-2.5 times longer than wide, 0.6-0.8 times as long as first flagellar segment, 0.8-0.9 times as long as apical segment; the latter pointed apically.

Mesosoma. Length 1.7-1.75 times its height. Pronotum with more or less distinct or fine prontal carina submedially (dorsal view). Mesoscutum 1.2 times as wide as long. Median lobe of mesoscutum weakly protruding forwards. Notauli anteriorly deep, crenulate and partly with granulation or punctuation, posteriorly very shallow or sometimes almost indistinct. Prescutellar depression rather shallow, long, with 3-6 distinct carinae, almost entirely finely rugulate or almost smooth, 0.35-0.45 times as long as scutellum. Scutellum weakly convex and with fine or indistinct lateral carinae. Subalar depression distinct, wide, coarsely rugose. Sternauli straight, almost smooth or finely crenulate, connected with prepectal carina anteriorly, running along anterior 0.55-0.6 of lower part of mesopleuron. Metapleural flange rather long or medium length, more or less narrow, rounded apically. Propodeum almost without or with very short and wide lateral tubercles.

Wings. Fore wing 2.5-2.7 times longer than maximum width. Radial vein arising distinctly before middle of pterostigma (inner basal part of pterostigma 0.55-0.65 times its inner apical part). Radial cell weakly shortened; metacarpus almost as long as pterostigma. First radial abscissa 0.65-0.8 times as long as maximum width of pterostigma. Second radial abscissa 2.3-2.6 times longer than first abscissa, 0.5-0.6 times as long as the straight third abscissa, 1.3-1.5 times longer than first radiomedial vein. Second radiomedial cell 2.7-3.0 times longer than its maximum width, 1.6-1.7 times longer than brachial cell. First medial abscissa weakly or rather distinctly S-shaped. Mediocubital vein weakly curved distally or almost straight. Recurrent vein 2.8-4.0 times longer than second abscissa of medial vein. Distance from nervulus to basal vein 0.4-1.0 times nervulus length. Parallel vein arising from posterior 0.25-0.3 of distal margin of brachial cell. Hind wing 4.0-4.6 times longer than maximum width. First costal abscissa 0.6-0.8 times as long as second abscissa. First abscissa of mediocubital vein 1.4-1.8 times longer than second abscissa. Mediocubital cell large, not or weakly widened toward apex, 6.3-6.5 times longer than wide, 0.35-0.4 times as long as wing. Recurrent vein weakly curved, oblique, antefurcal or interstitial, unsclerotised.

Legs. Hind femur 2.4-2.9 times longer than wide. Hind tibia distinctly widened. Hind tarsus almost as long as hind tibia. Second segment of hind tarsus 0.5 times as long as basitarsus, almost as long as narrow fifth segment (without pretarsus).

Metasoma 0.85-0.9 times as long as head and mesosoma combined. First tergite more or less distinctly and almost linearly and weakly curvedly widened from base to apex. Maximum width of first tergite 1.8-2.0 times its minimum width; length 0.7-0.75 times its apical width. Combined length of second and third tergites 0.75-0.85 times basal width of second tergite, 0.5-0.7 times their maximum width. Third tergite without transverse furrow. Ovipositor sheath 0.5-0.7 times as long as metasoma, 0.65-0.85 times as long as mesosoma, 0.3-0.4 times as long as fore wing.

Sculpture and pubescence. Vertex and temple smooth; frons mostly smooth, shortly or widely rugose or rugose-striate medioanteriorly; face medially or almost entirely widely distinctly and densely transversely striate, usually reticulate-coriaceous to smooth laterally. Sides of pronotum finely or distinctly rugulose with granulation or punctuation partly, sometimes finely granulate upper, almost smooth medially and lower. Mesoscutum entirely densely granulate-coriaceous or reticulate-coriaceous, finely or very finely punctulate posteriorly, medioposteriorly without rugosity. Scutellum almost smooth or very finely and sparsely punctate. Mesopleuron mostly smooth. Metapleuron widely or only in anterior half smooth, rugulose narrow marginally or in posterior 0.3-0.5. Propodeum with areas distinctly delineated by carinae, finely rugulo-
granulate or densely rugulose, sometimes partly smooth; basolateral areas rather small, finely granulate-coriaceous or distinctly and densely punctulate with rugosity along carinae; areola long and wide, 1.5-1.7 times longer than wide, dorsal carina more or less distinct. Hind coxae and femur almost entirely smooth, sometimes coxa dorsally striate. First tergite densely striate with rugosity between striae, mediobasally almost smooth or with subtransverse striation; dorsal carina distinct in basal half or almost entirely, but fine in posterior half, weakly convergent. Second tergite basally shortly or sometimes long rugulose-striate or striate, smooth on the rest part. Remaining tergites smooth. Vertex with more or less dense, short or very short and semi-erect setae, anteriorly glabrous on narrow (laterally) and more or less wide (medially) areas. Mesoscutum entirely with dense, very short and semi-erect pale setae. Hind tibia dorsally with short, rather dense and semi-erect setae, length of these setae 0.2-0.35 times maximum width of hind tibia.

Colour. Head mostly or only ventrally yellowish brown or dark reddish brown, sometimes dorsally pale reddish brown or reddish brown. Mesosoma reddish brown, dark reddish brown to black, prontum ventrally and sometimes mesoscutum antero-laterally rather narrow yellow, mesopleuron reddish brown, rarely pale reddish brown with infuscate dorso-posterior half; sometimes metathorax and propodeum dark reddish brown. Metasoma dark reddish brown, second segment reddish brown; rarely metasoma pale reddish brown with wide transverse brown stripes in posterior half and with faintly infuscate first tergite. Antennae pale brown to brown or brown to dark brown, 2-3 basal segments yellow or pale yellow. Palpi pale yellow. Legs pale yellow or brownish yellow, all tibiae pale yellow basally, fifth tarsal segments infuscate. Ovipositor sheath pale brown with more or less dense, short or very short and semi-erect setae, anteriorly with short, rather dense and semi-erect setae, length of these setae 0.2-0.35 times maximum width of hind tibia.


Description. Female. Body length 4.7 mm; fore wing length 4.4 mm. Head width 1.4 times its median length, 1.1 times as wide as mesoscutum. Frons rather distinctly concave. Head behind eyes (dorsal view) weakly convex anteriorly and posteriorly weakly-roundly narrowed. Transverse diameter of eye 1.4 times longer than temple. Ocellar triangle situated before middle of head (dorsal view), its anterior ocellus situated distinctly before middle level of eyes, but rather far from the level of anterior margin of eye. Ocelli small, in triangle with base 1.3 times its sides. POL almost twice longer than Od, 0.8 times OOL. Eye with very shallow emargination opposite antennal socket, 1.3 times as high as broad. Malar space height 0.3 times height of eye, 0.65 times basal width of mandible. Face along eyes with fine carinae, with small depressions above clypeus; width of face 0.85 times height of eye and 1.1 times height of face and clypeus combined. Diameter of antennal socket 1.5 times distance between sockets and 1.8 times distance between socket and eye. Malar suture absent. Clypeus with short and thick lower flange. Clypeal suture distinct and complete. Hypoclypeal depression round, its width 1.1 times distance from edge of depression to eye, 0.5 times width of face. Occipital carina below fused with hypostomal carina distinctly far from base of mandible.

Antennae rather thick, filiform, more than 15 segmented (missing apically). Scapus 1.7 times longer than its maximum width, almost 3.0 times longer than pedical. First flagellar segment 4.0 times longer than apical width, 1.15 times longer than second tergite. Fourteen-fifteen segments of antenna 1.5 times longer than their width.

Mesosoma. Length 1.6 times its height. Pronotum very weakly convex dorsally (lateral view)
and with fine pronotal carina; anterior margin of pronotum with deep and wide median emargination (dorsal view). Mesoscutum 1.2 times as wide as median length. Median lobe of mesoscutum rather distinctly protruding forward, rounded anteriorly, with rather distinct and narrow median furrow. Notauli deep in anterior half, very shallow to almost indistinct in posterior half,

Figs 13-22. Cryptontsira laemosacci (Nixon) (holotype). 13, head, dorsal view; 14, head, front view; 15, hind coxa; 16, five basal segments of antenna; 17, hind femur; 18, hind tibia; 19, mesosoma, lateral; view; 20, metasoma, dorsal view; 21, fore wing; 22, hind wing (apical half missing).
rather narrow, densely and distinctly crenulate, but finely punctate in posterior half. Prescutellar depression rather deep, wide, with several carinae and fine reticulation between it, 0.4 times as long as scutellum. Scutellum weakly convex and without lateral carinae. Metanotum (dorsal view) with 2 lateral carinae weakly convergent and fused posteriorly with distinct tubercle, without median carinae; with very small metanotal tooth (lateral view). Subalar depression shallow, wide, coarsely rugose-striate. Sternauli shallow, rather wide, almost straight, finely and very narrowly crenulate, running along anterior 0.6 of lower part of mesopleuron. Metapleural flange rather long, wide, rounded apically. Propodeum without lateral tubercles.

Wings. Fore wing 2.7 times longer than its maximum width. Radial vein arising from basal 0.4 of pterostigma. Radial cell almost not shortened; metacarpus 1.15 times longer than pterostigma. First radial abscissa 0.45 times as long as maximum width of pterostigma. Second radial abscissa 1.7 times longer than first abscissa, 0.2 times as long as the straight third abscissa, 0.7 times as long as first radiomedial vein. Second radiomedial cell 1.5 times longer than its maximum width, 0.75 times as long as brachial cell. First medial abscissa entirely straight. Mediocubital vein weakly S-shaped. Recurrent vein weakly antefurcal, 6.5 times longer than second abscissa of medial vein. Nervulus weakly curved and strongly directed towards apex of wing; distance from nervulus to basal vein 0.85 times nervulus length. Parallel vein arising from posterior 0.3 of distal margin of brachial cell. Hind wing missing in apical half. First costal abscissa 0.7 times as long as second abscissa. First abscissa of mediocubital vein almost as long as second abscissa. Mediocubital cell large, widened toward apex, 6.2 times longer than wide. Recurrent vein almost straight, antefurcal, distinctly pigmented, but unseclerised.

Legs. Fore tibia with several strong spines arranged in a single line. Hind coxa without anteroventral tubercle and without dorsal tooth, short and broad, 1.15 times longer than maximum width. Hind femur almost 3.0 times longer than wide. Hind tibia more or less thickened towards apex. Hind basitarsus 0.3 times as long as hind tibia, 1.7 times longer than second segment.

Metasoma almost as long as mesosoma. First tergite with distinct dorsore, with small spiracular tubercles in basal 0.3, with almost complete and distinctly convergent posteriorly dorsal keels, distinctly and almost linearly widened from base to apex. Length of first tergite 0.9 times as long as its apical width. Second tergite without baso-median area; length of tergite 0.5 times its basal width, equal to length of third tergite. Combined length of second and third tergites 0.9 times basal width of second tergite, 0.8 times their maximum width. Second suture complete and rather fine. Third tergite without transverse furrow. Ovipositor rather short, its sheaths (ventral view) 0.3 times as long as body, 0.7 times as long as metasoma, 0.6 times as long as mesosoma, 0.3 times as long as fore wing.

Sculpture and pubescence. Vertex rather distinctly and sparsely punctate; frons finely rugulate, partly smooth; face densely and rather coarsely rugose-punctate, only punctuate to smooth laterally; temple smooth. Sides of pronotum rather finely rugulose-punctate, smooth narrowly upper and widely below, with transverse striae on median depression. Mesoscutum very finely punctulate, without granulation between punctulae, without rugosity in medioposterior half. Scutellum smooth, with very fine punctuation. Mesopleuron smooth. Propodeum with large and almost smooth basolateral areas distinctly delineated by high carinae, areola not delineated; with basal carina in anterior 0.2 of propodeum; distal half of propodeum almost entirely and densely coarsely rugose-recticate. Hind coxae and femur smooth. First tergite densely and coarsely rugulose-striate, with rather distinct ground sculpture, smooth in small medio-apical area. Remaining tergites smooth. Vertex with rather dense, short and almost erect setae. Mesoscutum entirely with dense, short and semi-erect or erect pale setae. Mesopleuron widely glabrous mediolaterally. Hind tibia dorsally with rather long, more or less dense and semi-erect setae, length of these setae 1.0-1.2 times maximum width of hind tibia.

Colour. Head and mesosoma brownish yellow; metasoma dark reddish brown in basal 0.7 and almost black in apical 0.3. Scape and pedicel light reddish brown, flagellum black. Palpi brownish yellow. Fore and middle legs brownish yellow or yellow, hind leg black, with yellow basal half of coxa, median part of femur and apico-inner 0.4 of tibia, hind femur pale basally. Ovipositor sheath black, brown basally. Fore wing distinctly entirely infuscate. Pterostigma dark brown, faintly pale anteriorly.

Diagnosis. This species is similar to C. parva (Muesebeck); the differences between these taxa are indicated in the key.

Host. Laemosaccus sp. (Curculionidae).

Distribution. Australia.

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