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The genus *Fuscatelia* Nikitsky & Belov, 1982, stat. nov. with descriptions of two new species (Coleoptera: Melandryidae: Melandryinae)

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Abstract: *Fuscatelia* Nikitsky & Belov, 1982, described as a subgenus of *Lederia* Reitter, 1879 and endemic to Chile, is formally elevated to genus rank. *Fuscatelia oviformis* (Fairmaire & Germain, 1863) is redescribed and illustrated, while *F. cupula* sp. nov. and *F. metallica* sp. nov. are newly described.

Keywords: False darkling beetles - Orchesiini - *Lederia* - Chile - Neotropical realm.

INTRODUCTION

Based on specimens originating from Chiloe Island, Chile, the monospecific genus *Stauropus* Faimaire & Germain, 1863 was described as an intermediate genus between *Eustrophus* Illiger, 1802 (now placed in the Tetratomidae) and *Orchesia* Latreille, 1807. However, *Stauropus* Fairmaire & Germain, 1863 happened to be an invalid junior homonym of *Stauropus* Germar, 1812 (Lepidoptera: Notodontidae). It was synonymized with *Lederia* Reitter, 1879 by Nikitsky & Belov (1982) and its only species, *Stauropus oviformis* Faimaire & Germain, 1863 transferred to its own newly established subgenus, *Fuscatelia* Nikitsky & Belov, 1982. No additional taxonomic work has been published on *Fuscatelia* since. The study of unidentified Melandryidae deposited in the natural history museums of Basel (NMB) and Geneva (MHNG), Switzerland revealed specimens of *Fuscatelia*, including undescribed species. In this work, *Fuscatelia* is elevated to genus rank based on the criteria proposed by Nikitsky (1994) for *Lederina* Nikitsky & Belov, 1982. *Fuscatelia oviformis* (Faimaire & Germain, 1863) is redescribed, illustrated, and two new species are described.

MATERIAL AND METHODS

This work is based on the examination of 89 specimens held in the Muséum d'histoire naturelle de Genève, Switzerland (MHNG) and in the Naturhistorisches Museum Basel, Switzerland (NMB). In addition, the Muséum national d'Histoire naturelle of Paris, France (MNHN) was visited to search for the type material of Fairmaire and Germain.

A Leica DFC425 camera in conjunction with a Leica M205–C compound microscope was used to take the photographs. They were stacked with Zerene Stacker (version 1.04) and processed with GIMP (version 2.10.30.). Primary type labels are reproduced verbatim, with vertical bars representing changes of lines.

TAXONOMY

Fuscatelia Nikitsky & Belov, 1982, stat. nov.

Type species: *Stauropus oviformis* Fairmaire & Germain, 1863: 228.

Stauropus Fairmaire & Germain, 1863: 227 (praeoccupied).
Lederia (*Fuscatelia*) Nikitsky & Belov, 1982: 113.

Diagnosis: This genus can be differentiated from *Orchesia* Latreille, 1807, *Hylobia* Broun, 1880 and *Microscapha* LeConte, 1866 by the lack of a scutellar shield. It can be easily distinguished from the rest of the Orchesiini genera by the following combination of characters: distinct antennal club formed of three antennomeres, lateral margins of pronotum completely edged, suture dividing metanepisterna and metaventrite

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complete (sometimes weakly indicated), metacoxae directed antero-laterally and not narrowing anteriorly, and length of longest metatarsal spur slightly exceeding metatarsomere I.

Comments: *Fuscatelia* seems to be treated as a genus by Nikitsky & Pollock (2011). However, there is no trace of the formal elevation of this taxon from subgenus to genus rank, unlike that done for *Lederina* Nikitsky & Belov, 1982 (Nikitsky, 1994) or *Paralederia* Nikitsky & Belov, 1982 (Nikitsky, 2008). The actual subdivision of Orchesiini into genera is based on the presence/absence and size of suture dividing the metaventrite and the metanepisterna, the direction and form of the metacoxae, as well as the presence or absence of scutellum, and of wings. In this study, *Fuscatelia* is explicitly elevated to genus rank to accommodate the generic subdivision of the Orchesiini.

Distribution and natural history: The actual available information suggests that this genus is endemic to Chile. As many other Orchesiini, it is found in decaying plant material and litter of forest floors.

Fuscatelia cupula sp. nov.

Figs 1-5, 16

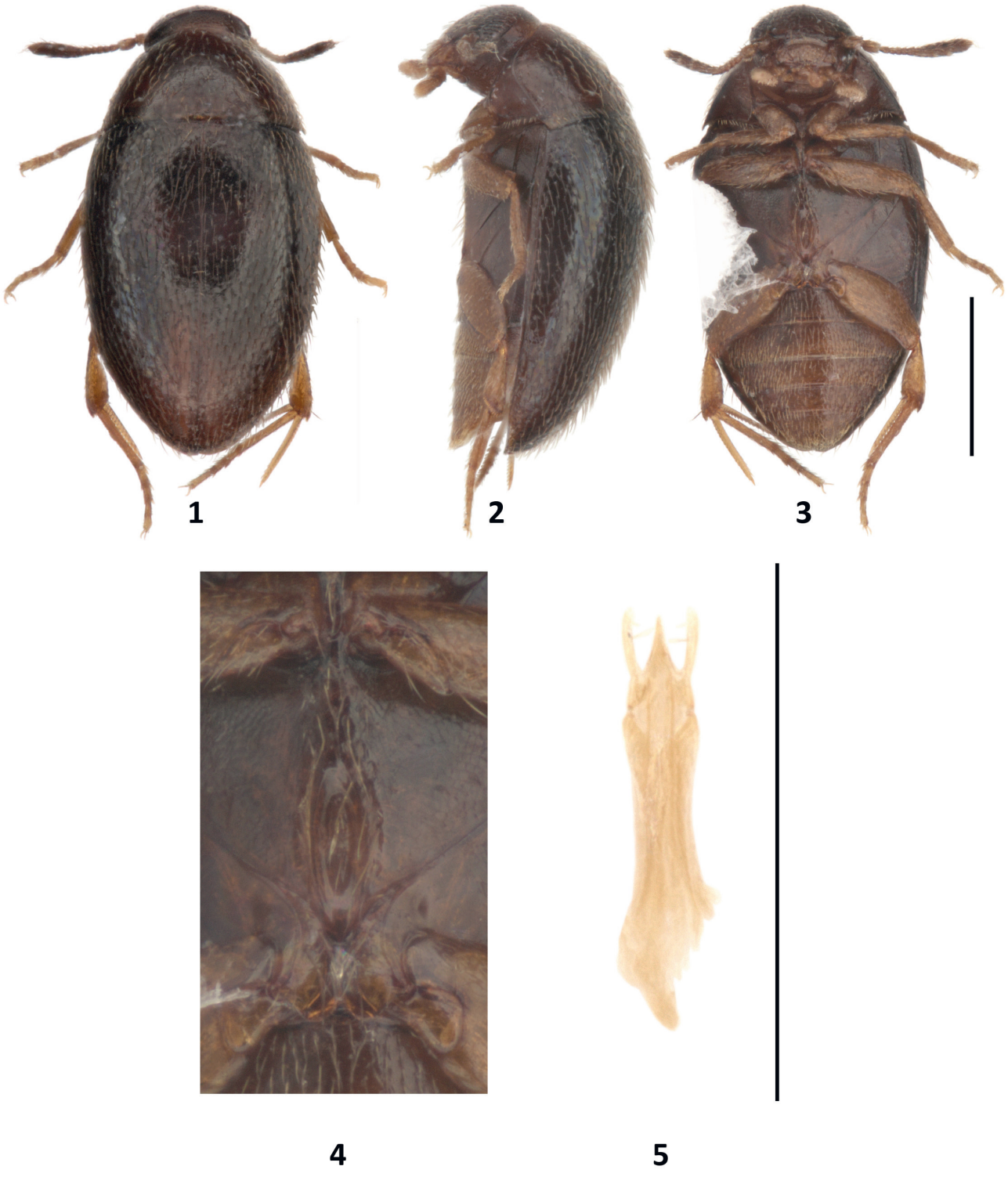
Type material: Holotype: 1♂; "CHILE: X Reg[ion]. Prov[ince]. Malleco | P[arque]N[acional] Nahuelbuta, 1100 m | 14-17.XII.1990, forest | litter, Agosti & | Burckhardt #9a" / "MHNG-ENTO-0120796" / "HOLOTYPE | *Fuscatelia cupula* sp. nov. | det. COSANDEY, 2023" (housed in MHNG).

Paratypes (52): 7♂, 6♀, 2 of sex unknown; MHNG-ENTO-0120797 - MHNG-ENTO-0120811; same data as holotype. – 4♂, 2♀, 3 of sex unknown; MHNG; Chile, X Reg., Prov. Chiloé, Cucao, 30 km SW Castro, PN Chiloé, 30 m, temp. rain forest, 4-6.I.1991, Agosti & Burckhardt #29a. – 1♀; MHNG; Chile, X Reg., Prov. Osorno, PN Puyehue, Aguas Calientes, 400-500 m, 31.XII.1990-1.I.1991, Agosti & Burckhardt, #25a. – 2♂, 1♀; MHNG; Chile, IX Region, Malleco prov., PN Nahuelbuta, 23.XII.1992, 1100 m, 37°50'S, 73°00'W, leg. D. Burckhardt, #30b, sifting of moss on stone and dead wood, and of veg. debris in *Araucaria-Nothofagus dombeyi* forest along creek with river, #30b. – 4♂, 7♀; MHNG; Chile, IX Region, Malleco prov., PN Nahuelbuta, Piedra del Aguila, 1300 m, 24.XII.1992, 37°48'S, 73°02'W, leg. D. Burckhardt, #31b, sifting of moss on rocks and tree trunks and of vegetational debris #31b. – 1♂, 3♀; MHNG; Chile, X Region, Chiloé prov., PN Chiloé, 30 km SW Castro near Cucao, 28.xii.1992-1.i.1993, 42°37'S, 74°08'W, 10-70 m, D. Burckhardt, #34b, sifting of moss on forest floor, trees and dead trunks and vegetational debris #34b. – 1♂; MHNG; Chile, X Region, Llanquihue prov., PN de Alerce Andino, Laguna Triangulo, 550 m, 05-06.I.1993, sclerophyll rain forest, D. Burckhardt, # 38b, 41°40'S, 72°35'W, sifting of moss on tree trunks and forest floor and of vegetational debris #38b. – 1♂, 1 undet.; MHNG; Chile, Chiloé prov., Chiloé NP, Cucao, 42°37'S, 74°08'W, 50 m, 13.i.1994, leg. D. Burckhardt, #55a, Temperate rain forest sifting of vegetational debris and moss on tree trunks & forest floor #55a. – 1♂, 2 of sex unknown; MHNG; Chile, X Reg., Osorno prov., PN Puyehue, sector Mirador Los Malines, 01-03.ii.1996, 700 m, leg. D. Burckhardt, #72a, open *Nothofagus nitida* scrub, intergrading into sclerophyll rain forest, sifting of moss and vegetational debris #72a. – 1♂; MHNG; Chile, 40 km W Angol Nahuelbuta Nat. Pk., 9.XII.84-17.II.85, S. & J. Peck, 12-1500 m, FITS *Nothofagus-Araucaria* For. – 1♂; MHNG; Chile, X Region, Province Chiloé, Parque Nacional Chiloé, Rancho Grande, 400 m, 8.II.1996, degraded open *Tepualia*/*Fitzroya* scrub on peat bog; a) sifting of moss and vegetational debris; leg. D. Burckhardt; 79a. – 1♀; NMB; Chile, Reg. X, Prov. Chiloé, Isla de Chiloé, Piruquina, 19.II.1983, T. Cekalovic.

Diagnosis: Individuals of this species are generally smaller (1.30-1.60 mm) than the other *Fuscatelia* species (> 1.50 mm) and do not exhibit a metallic sheen. Males are easy to identify thanks to the shape of their metaventral depression, which is oval and shining, while it is lineiform in *F. oviformis* and has a medial ridge in *F. metallica*.

Etymology: The name of this species refers to the cup-shaped (Latin "*cupula*") of the metaventral depression of male specimens.

Description: Length: 1.30-1.60 mm; width: 0.70-0.86 mm; depth: 0.53-0.65 mm. Body (Figs 1-3) oval in dorsal view, equally rounded anteriorly and posteriorly, 1.8 times longer than wide, widest around middle; convex in lateral view. Body dark brown to black, posterior margin of pronotum and often apical third of elytra reddish; ventral side mostly brownish; legs, antennae, palpi reddish to yellowish. Head with strong punctation becoming slightly rough anteriorly, surface with weak microreticulation. Antennae (Fig. 16) short, slightly exceeding posterior margin of pronotum; antennal club distinct; relative length of antennomeres: 13-10-4-4-4-4-4-4-6-6-16. Antennomeres I, II, and XI elongate; antennomeres III, IV as long as wide; antennomeres VI, VII, VIII, IX, and X transverse. Distal article of maxillary palpi 1.3 times longer than wide, widest at base; internal margin straight to concave; external margin rounded; apex pointed. Pronotum 0.45 times longer than wide, widest at base; surface covered with weak transverse microreticulation, sometimes evanescent, and shallow to indistinct punctation; pronotonal lateral margins edged from posterior angle to half of eye (in lateral view). Elytra 1.4 times longer than wide, widest in anterior third; with strong but sparse punctation, surface smooth and shining,



Figs 1-5. *Fuscatelia cupula* sp. nov. Habitus in (1) dorsal, (2) lateral, and (3) ventral views. (4) Metaventral medial area of male. (5) Aedeagus. Scale bars = 0.50 mm.

lacking metallic reflection. Metaventrite covered with homogeneous transverse microreticulation, pubescent and weakly punctate on lateral sides. Metanepistera pubescent. Legs with metatarsal spurs unequal in length, longest exceeding length of metatarsomere I, reaching ca basal third of metatarsomere II; shorter spur as long as 0.9 times metatarsomere I; relative length of metatarsomeres: 25-6-6-7. Abdomen ventral surface shining, with distinct microreticulation, punctation shallow, bearing dense pubescence.
Male: Anterior third of metaventrite with strong medial punctation. Posterior 2/3 of metaventrite occupied by a medial oval depression (Fig. 4) circled by a row of hairs, 4 times longer than wide, widest at middle; margins not edged; inner area of depression shallow and shining, with punctation and erected hairs at least in anterior part. Protarsi and mesotarsi not distinctly enlarged. Aedeagus (Fig. 5) small, 0.36 mm long, weakly sclerotized; parameres thin, straight but curved at apex, longer than median lobe; median lobe triangular; phallobase straight, as long as 2/3 of total aedeagal length.
Female: Metaventrite with a medial linear groove on posterior ¾ of metaventrite, surrounded by punctate and pubescent area.

Distribution and natural history: This species was found in central Chile, in the regions of Araucanía and of Los Lagos, sometimes in company of its congener *F. oviformis*. The specimens were caught in *Nothofagus* forests by sifting forest floor samples, debris of vegetation and mosses, often in contact with decaying wood.

Comments: The aedeagus of the male is small and less sclerotized than in *F. oviformis* and therefore more similar to the aedeagus of *F. metallica*. Specimens of the latter species are larger with a completely dark body exhibiting a metallic sheen.

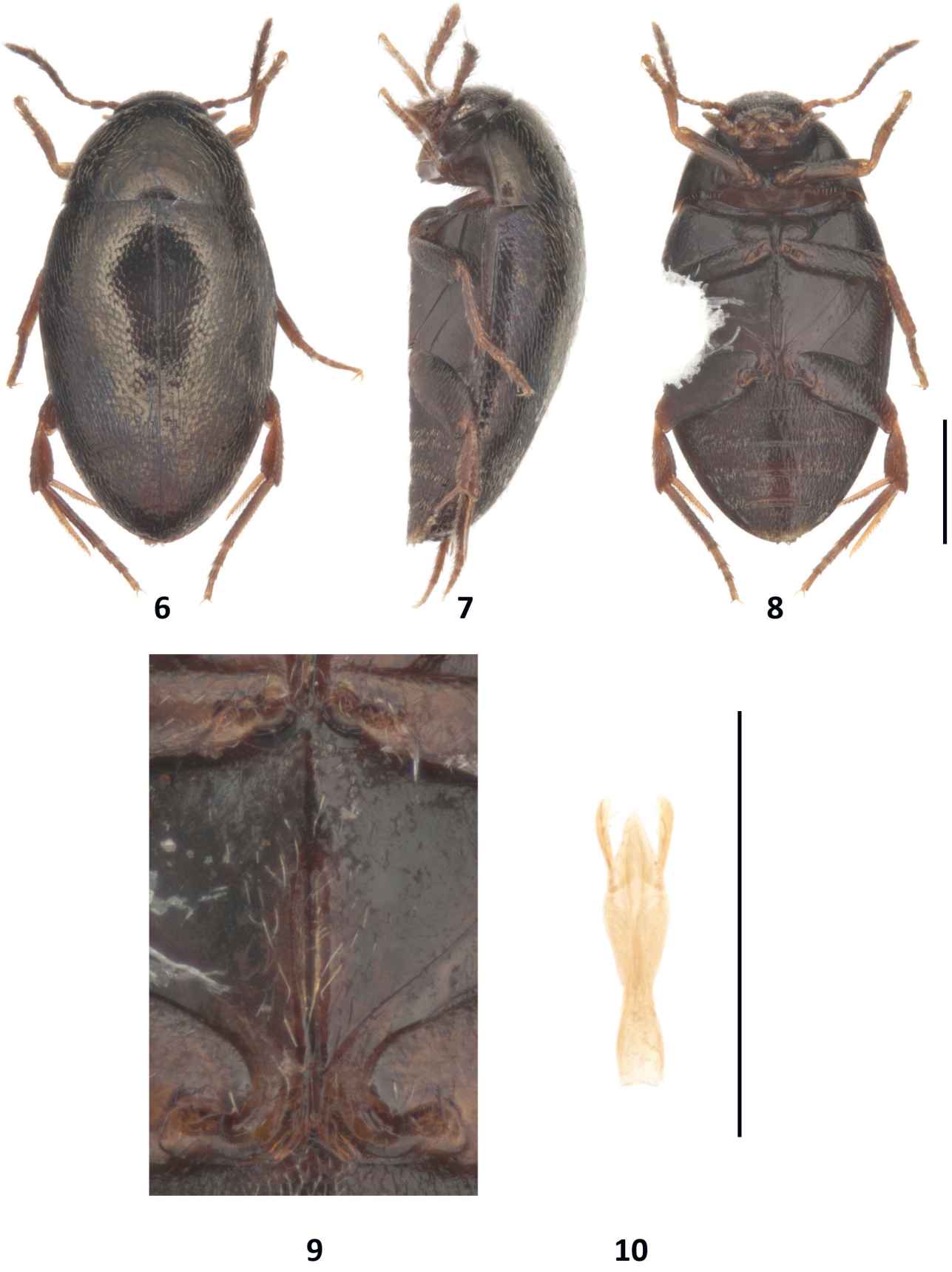
***Fuscatelia metallica* sp. nov.**
Figs 6-10, 17

Type material: Holotype: 1♂; "CHILI Valdivia | 35 km. N[orth]. Valdivia | 12.V.[19]79 | T. Cekalovic" / "MHNG-ENTO-0120812" / "HOLOTYPE | *Fuscatelia metallica* sp. nov. | det. COSANDEY, 2023" (housed in MHNG).
Paratypes (2): 1♂; MHNG-ENTO-0120813; Chile, X Region, Osorno, prov. Pucatrihue, 65 km W Osorno, 04.XII.1992, 150 m, 40°28'S, 73°43'W, leg. D. Burckhardt, #21, Valdivian rain forest, sifting of moss on dead tree trunks, branches/rocks and of vegetational debris, #21. – 1♀; MHNG-ENTO-0120814; Chile, Osorno, 3 km S Maicolpue, Bahia Mansa, 21.XII.1984, S. & J. Peck, 200 m, mixed forest litter.

Diagnosis: Individuals of this species are larger than *F. cupula* and have a metallic sheen similar to that seen in *F. oviformis*. They can be distinguished from the latter species by their dark coloration (even on ventral side) and by the proportion of the antennomeres: elongate in *F. metallica* (Fig. 17) and mostly transverse in *F. oviformis* (Fig. 18). Additionally, males are well characterized by the shape of their metaventrite medial areas with a shallow lineiform impression in *F. oviformis* (Fig. 14), while *F. metallica* has a wider depression (Fig. 9).

Etymology: The name of this species refers to its metallic shine.

Description: Length: 1.60-1.90 mm; width: 0.87-1.10 mm; depth: 0.66-0.83 mm. Body (Figs 6-8) oval in dorsal view, 1.8 times longer than wide, widest slightly anteriorly to middle; convex in lateral view. Dorsal side black with green metallic shine, ventral side brown to black, legs, palpi, and antennae brown to reddish. Head dull, punctation becoming rough anteriorly, surface covered with shallow transverse microreticulation. Antennae (Fig. 17) exceeding hind margin of pronotum; antennal club distinct, formed by three elongate apical antennomeres; relative length of antennomeres as follows: 8-6-4-4-3-3-2-4-6-6-10; antennomeres I, III, IV, V, VI, IX, X elongate, antennomeres II, VII, VIII as long as wide, antennomere XI twice longer than wide. Distal article of maxillary palpi very long: ca 0.14 mm long, 1.75 times longer than wide, widest near base; internal margin straight to slightly concave, external margin slightly curved, apex pointed. Pronotum ca 0.5 times as long as wide, widest at base; punctation shallow, surface with distinct transverse microreticulation. Elytra 1.4 times longer than wide; surface smooth, lacking microreticulation, punctation rough, forming little granules. Metaventrite covered with microreticulation, slightly stronger laterally, pubescent medially and laterally. Metanepisterna pubescent. Metacoxae pubescent laterally. Metatarsal spurs unequal in length, longest slightly longer than metatarsomere I, shortest as long as 0.8 times metatarsomere I; relative length of metatarsomere: 18-5-4-5. Abdomen ventral surface dull, covered with weak microreticulation and shallow punctation.
Male: Posterior half of metaventrite with an elongate central depression, 0.8 times longer than wide (Fig. 9); sides parallel, more abruptly rounded anteriorly than posteriorly; inner area pubescent, with a central longitudinal ridge. Area around metaventral depression pubescent and weakly punctured. Aedeagus (Fig. 10) 0.35 mm long; parameres thin, straight, and divergent, curved inwards apically, longer than median lobe; median lobe triangular; phallobase as long as 0.6 of aedeagal total length, constricted in middle.
Female: Metaventrite with a medial lineiform groove on metaventral posterior ¾, surrounding area punctate and pubescent.



Figs 6-10. *Fuscatelia metallica* sp. nov. Habitus in (6) dorsal, (7) lateral, and (8) ventral views. (9) Metaventral medial area of male. (10) Aedeagus. Scale bars = 0.50 mm.

Distribution and natural history: This species is only known from the regions of Los Ríos and Los Lagos in central Chile. Specimens were collected by sifting forest floor litter.

Comments: This large and dark species is the most spectacular of the genus *Fuscatelia*.

Fuscatelia oviformis (Fairmaire & Germain, 1863)

Figs 11-15, 18

Stauropus oviformis Fairmaire & Germain, 1863: 228.
Lederia (*Fuscatelia*) *oviformis* (Fairmaire & Germain, 1863); Nikitsky & Belov, 1982: 113.

Material examined: 3♂, 4♀; MHNG; Chile, X Region, Osorno prov., PN Puyehue, Aguas Calientes, 450-600 m, 01-03.xii.1992, leg. D. Burckhardt, #20b, 40°40'S, 72°20'W, sifting of moss on dead tree trunks branches and rocks, and of veg. debris #20b. – 7♂, 11♀; MHNG; Chile, X Reg., Prov. Osorno, PN Puyehue Aguas Calientes, 400-500 m, 31.XII.1990-1.I.1991, Agosti & Burckhardt, #25a. – 1♂, 1♀; MHNG; Chile, X Reg., Prov. Chiloé, Cucao, 30 km SW Castro, PN Chiloé, 30 m, temp. rain forest, 4-6.I.1991, Agosti & Burckhardt #29a. – 1♂, 1♀; MHNG; Chile, X Region, Chiloé prov., PN Chiloé, 30 km SW Castro near Cucao, 28.XII.1992-1.I.1993, 42°37'S, 74°08'W, 10-70 m, D. Burckhardt, #34b, sifting of moss on forest floor, trees and dead trunks and vegetational debris #34b. – 1♂; MHNG; Chile, Chiloé prov., Chiloé NP, Cucao, 42°37'S, 74°08'W, 50 m, 13.I.1994, leg. D. Burckhardt, #55a, Temperate rain forest sifting of vegetational debris and moss on tree trunks & forest floor #55a. – 2♂; MHNG; Chile, X Reg., Osorno prov., PN Puyehue, sector Mirador Los Malines, 01-03.II.1996, 700 m, leg. D. Burckhardt, #72a, open *Nothofagus nitida* scrub, intergrading into sclerophyll rain forest, sifting of moss and vegetational debris #72a. – 1♀; MHNG; Chile, Chiloé, Pinnuiguina, 19.II.83, leg. Cekalovic.

Diagnosis: Individuals of this species have a metallic sheen, unlike *F. cupula*. They can be distinguished from *F. metallica* by their brownish ventral coloration and by the proportion of the antennomeres, mostly transverse. Males are easy to identify by the examination of their metaventrite medial area: *F. oviformis* (Fig. 14) has a shallow lineiform impression, *F. cupula* (Fig. 4) an oval depression, and *F. metallica* (Fig. 9) an elongate depression.

Etymology: Fairmaire & Germain (1863) do not give an explanation for the choice of this specific epithet. However, it seems reasonable to assume that it was inspired by the rounded shape of individuals of this species.

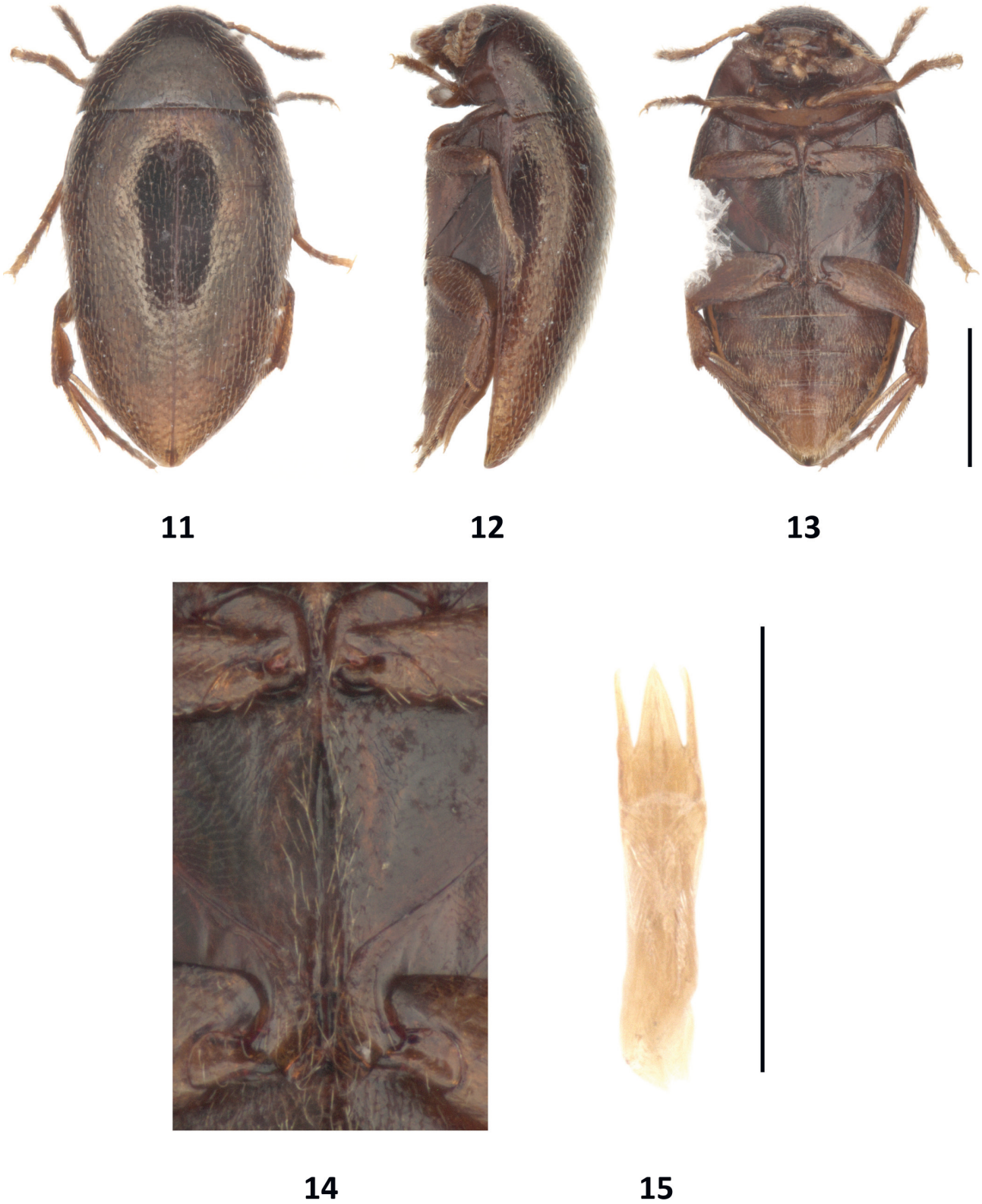
Redescription: Length: 1.50-1.70 mm; width: 0.80-0.90 mm; depth: 0.65-0.7 mm.

Body (Figs 11-15) in dorsal view ovoid, more abruptly rounded anteriorly than posteriorly, ca 2 times longer than wide, widest between anterior half and third. Body black-brown to brown-reddish, shining and mostly metallic dorsally; mouthparts, posterior margin of pronotum, posterior quarter of elytra, legs, and abdomen reddish; dorsal side slightly more shining than ventral side. Body covered by fine and sparse yellow pubescence. Head with weakly rough setiferous punctation, surface with weak transverse microreticulation. Transverse carina present behind eyes, neck with strong transverse reticulation, dull. Antennae (Fig. 18) short, exceeding slightly posterior border of pronotum; antennomeres relative length: 7-6-4-2-2-2-2-2-3-4-8; antennomeres I, III, IV, V twice longer than wide, antennomeres II and XI elongate, antennomere VI as long as wide, antennomeres VII, VIII, IX, X transverse. Distal article of maxillary palpi twice longer than wide, widest near base; internal margin straight, covered with white to yellowish hairs, external margin rounded. Pronotum 0.45 times as long as wide; surface shining, covered with weak transverse microreticulation and very weak punctation; pronotal lateral margins edged between upper margin of eyes (in lateral view) and posterior angle. Elytra elongate, 1.45 times longer than wide; surface smooth and shining, punctation sparse, stronger than on pronotum but slightly weaker than on head. Metaventrite with a central area bearing setiferous punctation and a lineiform groove (Fig. 14) occupying posterior 3/4 of metaventrite; rest of metaventral surface homogeneously covered with weak microreticulation and fine punctation on lateral sides. Protarsi and mesotarsi not enlarged. Both metatarsal spurs unequal in length, longest exceeding metatarsomere I, reaching ca anterior third of metatarsomere II; relative length of metatarsomeres: 30-8-6-9. Abdomen ventral surface finely punctured with shining surface, densely pubescent.

Male: Aedeagus (Fig. 15) 0.5 mm long, well sclerotized; phallobase 0.33 mm long; parameres straight but slightly curved inward at apex; median lobe triangular.

Female: Without sexual dimorphism with exception of genitalia.

Distribution and natural history: The type material of this species originates from Chiloe Island, situated in the Los Lagos region, Chile. All the additional material examined was collected in the same region, on Chiloe Island as well as in continental Chile. According to Fairmaire & Germain (1863) this species can be found under decaying tree trunks but is rare. The recent specimens were collected by sifting forest floor litter, mosses and other vegetation debris, often in contact with dead tree trunks. Orchesiini have modified saltatory posterior legs and are known to be good jumpers (Sasaji, 1995). *Fuscatelia oviformis* can jump up to one half meter (ca 300x its own body length!) (Fairmaire & Germain, 1863).



Figs 11-15. *Fuscatelia oviformis* (Fairmaire & Germain, 1863). Habitus in (11) dorsal, (12) lateral, and (13) ventral views. (14) Metaventral medial area of male. (15) Aedeagus. Scale bars = 0.50 mm.

Figs 16-18. Antennae of *Fuscatelia*. (16) *F. cupula*. (17) *F. metallica*. (18) *F. oviformis*. Scale bar = 0.25 mm.

Comments: The type material designated by Faimaire & Germain could not be located in the MNHN. Nevertheless, according to the original description and the figures of Nikitsky & Belov (1982), it seems reasonable to assume that the redescription and other information given above are referable to the actual *F. oviformis*.

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REFERENCES

Broun T. 1880. Manual of the New Zealand Coleoptera [1]. *Colonial Museum and Geological Survey Department, Wellington*, XIX + 651 pp.

Fairmaire L., Germain P. 1863. Révision des Coléoptères du Chili, Suite (1). *Annales de la Société entomologique de France* 4(3): 225-284.

Germar E.F. 1812. Dissertatio sistens Bombycum species secundum oris partum diversitatem in nova genera distributas. Part II. In *Officina Schimmelpfennigiana*, *Halis*, 51 pp.

Illiger J.C.W.1802. Aufzählung der Käfergattungen nach der Zahl der Fussglieder. *Magazin für Insektenkunde* 1: 285-305.

Latreille P.A. 1807. Genera crustaceorum et insectorum secundem ordinem naturalem in familias disposita, iconibus exemplisque plurimis explicata. Tomus secundus. *Armand Koenig, Paris and Strasbourg*, 280 pp.

LeConte J.L. 1866. New species of North-American Coleoptera. Part 1. *Smithsonian Miscellaneous Collections* 6: 1-177.

Nikitsky N.B. 1994. New species of the genus *Lederina* Nikitsky & Belov, 1982, stat. nov. from the Nepal Himalayas. *Entomofauna* 15(30): 345-352.

Nikitsky N.B. 2008. Melandryidae. (pp. 28-29) In: Löbl I. & Smetana A. (eds). Catalogue of Palaearctic Coleoptera Volume 5. Tenebrionoidea. *Apollo Books, Stenstrup*, 670 pp.

Nikitsky N.B., Belov V.V. 1982. The false darkling beetle genus *Lederia* Rtt. (Coleoptera, Melandryidae). *Folia Entomologica Hungarica* 43(1): 111-123.

Nikitsky N.B., Pollock D.A. 2011. 11.6. Melandryidae Leach, 1815 (pp. 520-533). In: Leschen R.A.B., Beutel R.G., Lawrence J.F. (eds). Handbook of Zoology. Arthropoda: Insecta. Coleoptera, Beetles, Volume 2, Morphology and Systematics (Elateroidea, Bostrichiformia, Cucujiformia partim). *Walter de Gruyter*, *Berlin, New York*, XIII + 786 pp. DOI: 10.1515/9783110911213.520

Reitter E. 1879. *Lederia* nov. gen. Melandryidarum. *Verhandlungen Der Zoologisch-Botanischen Gesellschaft in Wien* 29: 451-488.

Sasaji H. 1995. On the adaptative characteristics of the genus *Lederia* (Coleoptera, Melandryidae), with description of a new species from Japan. *Special Bulletin of the Japanese Society of Coleopterology* 4: 425-431.