

**A review of the genus *Cistelodema* Borchmann  
(Coleoptera: Tenebrionidae: Alleculinae: Gonoderina)  
with descriptions of two new species from the Oriental Region**

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**Taxonomy, new species, descriptions, new combinations, Coleoptera, Tenebrionidae, Alleculinae, Gonoderina, *Cistelodema*, Oriental Region**

**Abstract.** Two new species of the genus *Cistelodema* Borchmann, 1932 are described as *Cistelodema regina* sp. nov. from Malaysia and *Cistelodema tenebrosa* sp. nov. from Indonesia (West Papua - Irian Jaya). Species *Pseudocistela rufomaculata* Pic, 1915 and *Pseudocistela violacea* Pic, 1915 from Island Borneo (Kinabalu), *Pseudocistela testaceithorax* Pic, 1913 and *Pseudocistela viridimetallica* Pic, 1913 from Indonesia (Island Sumatra) are presently transferred to the genus *Cistelodema* Borchmann, 1932 as *Cistelodema rufomaculata* (Pic, 1915) comb. nov., *Cistelodema violacea* (Pic, 1915) comb. nov., *Cistelodema testaceithorax* (Pic, 1913) comb. nov. and *Cistelodema viridimetallica* (Pic, 1913) comb. nov. Redescriptions of the species *Cistelodema bruneiensis* (Pic, 1930), *Cistelodema metallica unifasciata* (Pic, 1930) and *Cistelodema rufomaculata* (Pic, 1915) comb. nov. are added.

## INTRODUCTION

The genus *Cistelodema* was introduced by Borchmann (1932) for *Cistelodema cyanea* (Pic, 1930) as a type species from the Philippines, originally described as *Pseudocistela* Crotch, 1873. Borchmann (1932) also transferred species *Pseudocistela bruneiensis* Pic, 1930, *Pseudocistela metallica* Pic, 1930 and *Pseudocistela metallica unifasciata* Pic, 1930 from Island Borneo as *Cistelodema bruneiensis* (Pic, 1930), *Cistelodema metallica metallica* (Pic, 1930) and *Cistelodema metallica unifasciata* (Pic, 1930). Species *Pseudocistela rufomaculata* Pic, 1915 and *Pseudocistela violacea* Pic, 1915 from Island Borneo (Kinabalu), *Pseudocistela testaceithorax* Pic, 1913 and *Pseudocistela viridimetallica* Pic, 1913 from Indonesia (Island Sumatra) are presently transferred to the genus *Cistelodema* Borchmann, 1932 (after studying type material in MNHN) as *Cistelodema rufomaculata* (Pic, 1915) comb. nov., *Cistelodema violacea* (Pic, 1915) comb. nov., *Cistelodema testaceithorax* (Pic, 1913) comb. nov. and *Cistelodema viridimetallica* (Pic, 1913) comb. nov. Redescriptions of the species *Cistelodema bruneiensis* (Pic, 1930), *Cistelodema metallica unifasciata* (Pic, 1930) and *Cistelodema rufomaculata* (Pic, 1915) comb. nov. are added.

The new species are described as follows: *Cistelodema regina* sp. nov. from Malaysia (Perak) and *Cistelodema tenebrosa* sp. nov. from Indonesia (Papua - Irian Jaya). New species are described, illustrated and compared with similar species.

## MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the 'ocular index' dorsally (Campbell & Marshall 1964) and 'pronotal index' (Campbell 1965), are used in this paper as well. The ocular index equals  $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$ . The pronotal index is calculated as  $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$ .

In the list of type material, a slash (/) separates data in separate rows, a double slash (//) separates different labels.

The following collection codes is used:

MNHN Muséum National d'Histoire Naturelle, Paris, France;

SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany;

VNPC private collection of Vladimír Novák, Praha, Czech Republic.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennae length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex ( $3=1.00$ ), RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex ( $1=1.00$ ).

Other abbreviations are used: bf= black frame; bl= beige label; gl= grey label; hb= handwritten black; pb= printed black; pbl= pale blue label; rl= red label; wl = white label; yl= yellow label.

Measurements were made with Olympus SZ 40 stereoscopic microscope with continuous magnification and with Soft Imaging System AnalySIS. Snapshots were taken by using camera Canon EOS 550 D and Canon Macro Photo Lens MP-E and software Helicon Focus 5.2.

## TAXONOMY

### **subtribe Gonoderina Seidlitz, 1896**

### **genus *Cistelodema* Borchmann, 1932**

**Type species.** *Pseudocistela cyanea* Pic, 1930.

**Diagnosis.** Body small, oval or elongate oval, slightly convex, dorsal surface with punctuation, microgranulation, shiny, often with metallic lustre. Head relatively small, widest through the eyes, approximately as wide as long, as wide as anterior margin of pronotum. Eyes large, transverse, space between eyes narrower than diameter of one eye. Antennae short and strong, slightly exceeding one third body length. Antennomeres 4-11 widened, antennomeres 5-10 approximately as wide as long or wider than long. Ultimate palpomere

knife-shaped or slightly axe-shaped. Pronotum transverse, lateral margins arcuate. Posterior angles roundly obtuse, anterior angles not clearly distinct. Dorsal surface of pronotum with microgranulation and punctuation, punctures small. Elytra oval or elongate oval, shiny, at humeri as wide or very slightly wider than base of pronotum. Elytral striae with rows of small punctures or indistinct. Elytral intervals with punctures smaller than those in striae, with microgranulation. Scutellum triangular or roundly triangular. Elytral epipleura well-developed, regularly narrowing to ventrite 2. Legs narrow and relatively long, penultimate tarsomeres not widened or lobed. Outer sides of tibiae with short, strong setae.

***Cistelodema bruneiensis* (Pic, 1930)**

(Figs. 1-7)

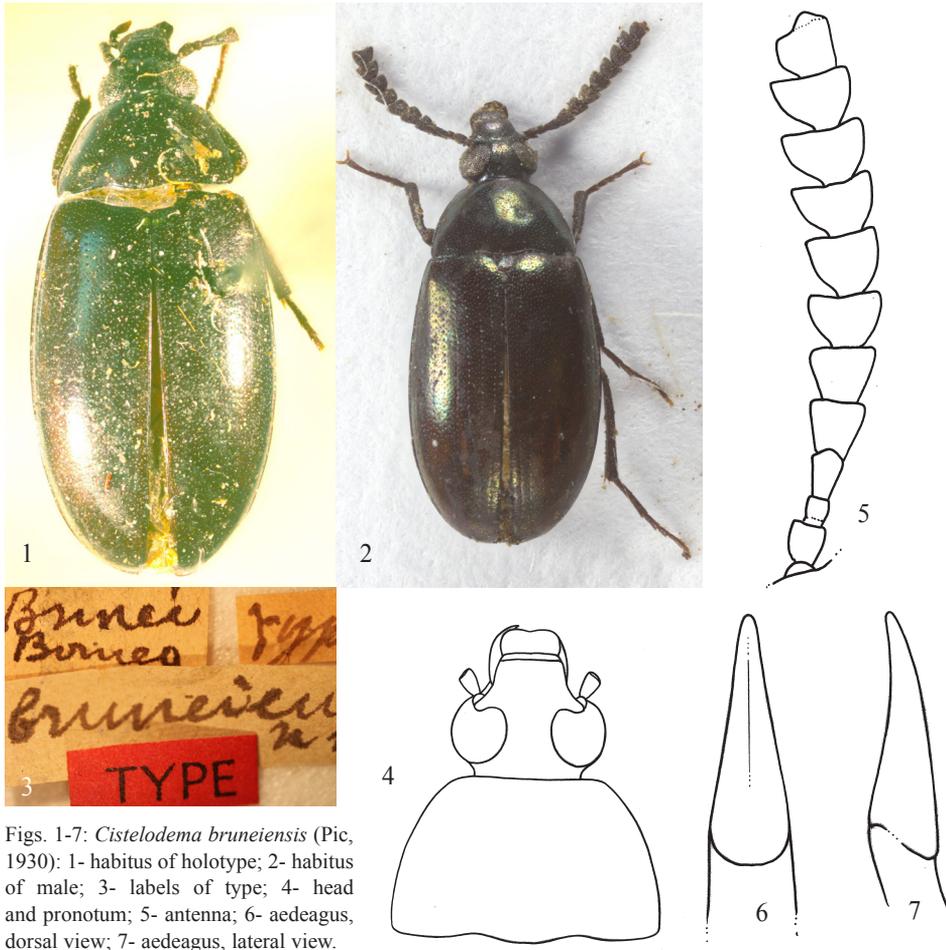
*Pseudocistela bruneiensis* Pic, 1930: 29; *Cistelodema bruneiensis* (Pic, 1930) - new combination (Borchmann 1932: 380, 381).

**Type locality.** Brunei Darussalam, Island Borneo.

**Type material.** Holotype: bl: Brunei / Borneo [hb] // bl: Type [hb] // bruneiensis / n sp [hb] // rl: TYPE [pb], (MNHN).

**Other material examined:** bl: Nord-Borneo / ex coll. Fruhstorfer [pb], 1 ♂, (VNPC).

**Redescription.** Habitus as in Fig. 2, body oval, slightly convex, from green to black, dorsal surface shiny with metallic lustre, almost glabrous, with punctuation and very fine microgranulation, BL 5.44 mm. Widest near middle elytra length; BL/EW 2.47. Head (Fig. 4) black, slightly shiny with fine metallic lustre, approximately as long as wide, through the eyes approximately as wide as anterior margin of pronotum. Dorsal surface with microgranulation and punctuation, punctures slightly larger than those in pronotum. Apex of anterior part and clypeus with a few long, pale setae. Mandibles shiny, blackish brown, glabrous dorsally with sparse microgranulation. Clypeus with pale setation, small and very shallow almost indistinct punctures, with microrugosities, slightly excised in middle of apex. HW 0.94 mm; HW/PW 0.55; HL (visible part) 0.95 mm. Eyes large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, slightly wider than length of antennomere 1 or 3, approximately as wide as antennomere 4; OI equal to 26.44. Antenna (Fig. 5) short and strong (slightly exceeding one third body length, AL 2.08 mm; AL/BL 0.38), antennomeres black, matte, with short, dark setation, microgranulation and distinct punctuation. Antennomere 2 shortest, ultimate antennomere longest with distinct top, antennomeres 4-11 distinctly longer than antennomere 3. Antennomeres 5-10 transverse, shorter than wide. RLA(1-11): 0.86 : 0.66 : 1.00 : 1.43 : 1.36 : 1.26 : 1.31 : 1.29 : 1.26 : 1.17 : 1.60. RL/WA(1-11): 1.50 : 1.15 : 1.46 : 1.21 : 0.95 : 0.79 : 0.82 : 0.76 : 0.77 : 0.73 : 1.30. Maxillary palpus black, slightly shiny, with pale setation and fine microgranulation. Pronotum (Fig. 4) green, shiny with metallic lustre, wide, transverse, slightly narrower than elytra at humeri. Dorsal surface with very fine microgranulation and sparser punctuation, punctures small, approximately as wide as



Figs. 1-7: *Cistelodema bruneiensis* (Pic, 1930): 1- habitus of holotype; 2- habitus of male; 3- labels of type; 4- head and pronotum; 5- antenna; 6- aedeagus, dorsal view; 7- aedeagus, lateral view.

in elytron. Intervals between punctures wider than diameter of punctures. PL 0.91 mm; PW 1.72 mm; PI equal to 52.91. Border lines distinct, narrow. Lateral margins slightly arcuate, anterior margin almost straight, base bisinuate. Posterior and anterior angles roundly obtuse, anterior angles not clearly distinct. Elytra green, with metallic lustre, oval, widest near middle, with fine microgranulation. EL 3.58 mm; EW 2.20 mm; EL/EW 1.63. Elytral striae with distinct rows of punctures slightly larger than those in elytral interspaces. Scutellum reddish brown, roundly triangular, with microgranulation and small punctures, slightly shiny. Elytral epipleura well-developed, dark, wide, widest near base, distinctly narrowing to ventrite 2, then relatively wide and parallel in apical part. Legs longer, black, with fine microgranulation, pale setation and small punctures. Outer part of tibiae with dense, strong, dark setae. Tarsomeres narrow, penultimate tarsomeres not widened and lobed. RLT: 1.00 : 0.67 : 0.40 : 0.61 : 1.49 (protarsus), 1.00 : 0.34 : 0.25 : 0.59 (metatarsus). Tarsal claws

pale brown. Both anterior tarsal claws with 3 or 4 visible teeth. Ventral side of body black. Abdomen blackish brown, slightly shiny with pale setation, fine microgranulation and dense punctuation, punctures small. Aedeagus (Figs. 6, 7) ochre yellow. Basal piece rounded laterally, slightly narrowing in dorsal view. Apical piece elongate triangular, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.54.

**Distribution.** Brunei Darussalam, Island Borneo.

***Cistelodema cyanea* (Pic, 1930)**

(Figs. 8-9)

*Pseudocistela cyanea* Pic, 1930: 29; *Cistelodema cyanea* (Pic, 1930) - new combination (Borchmann 1932: 380, 381).

**Type locality.** The Philippines, Island Mindanao, Momungan,

**Type material.** Holotype: bl: Momungan / Mindanao [pb] // bl: cyanea / n sp [hb] // bl: genre / Cistelodema / Borch [hb], (MNHN).

**Remarks.** This species distinctly belongs to the genus *Cistelodema* Borchmann, 1932 (oval body and transverse antennomeres 6-10).

**Distribution.** The Philippines, Island Mindanao.



Figs. 8-9: *Cistelodema cyanea* (Pic, 1930): 8- Habitus of holotype (MNHN); 9- labels of type.

***Cistelodema metallica metallica* (Pic, 1930)**

(Figs. 10-11)

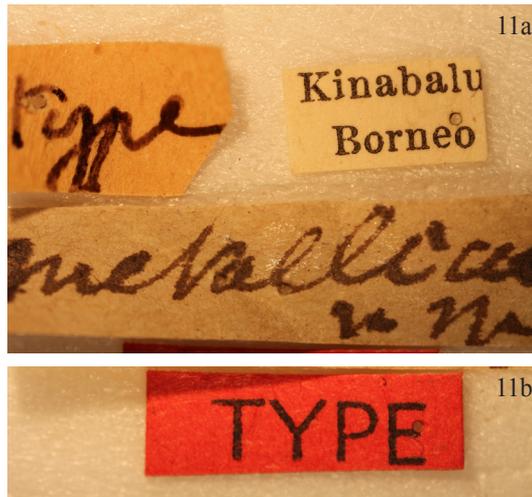
*Pseudocistela metallica* Pic, 1930: 29; *Cistelodema metallica* (Pic, 1930) - new combination (Borchmann 1932: 380, 381).

**Type locality.** Malaysia, Sabah province, Island Borneo, Mt. Kinabalu.

**Type material.** Holotype: bl: Kinabalu / Borneo [pb] // yl: Type [hb] // *metallica* / n sp [hb] // rl: TYPE [pb], (MNHN).

**Remarks.** This species distinctly belongs to the genus *Cistelodema* Borchmann, 1932 (oval body and transverse antennomeres 6-10).

**Distribution.** Malaysia, Island Borneo.



Figs. 10-11: *Cistelodema metallica* (Pic, 1930): 10- Habitus of holotype (MNHN); 11a, b- labels of type.

***Cistelodema metallica unifasciata* (Pic, 1930)**

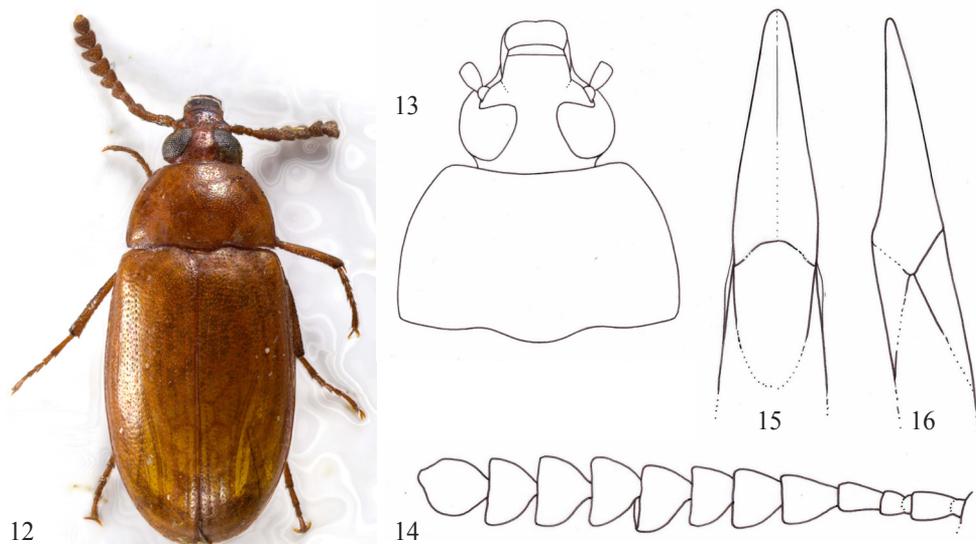
(Figs. 12-16)

*Pseudocistela metallica unifasciata* Pic, 1930: 30; *Cistelodema metallica unifasciata* (Pic, 1930) - new combination (Borchmann 1932: 380, 381).

**Type locality.** Malaysia, Sabah province, Island Borneo, Mt. Kinabalu.

**Material examined:** bl: Kina Balu / Borneo / (Stauding.) [hb], 1 ♂, (VNPC).

**Redescription.** Habitus as in Fig. 12, body oval, from pale reddish brown to brown, dorsal surface shiny, almost glabrous, with punctuation and very fine microgranulation, BL 5.60 mm. Widest near middle elytra length; BL/EW 2.40. Head (Fig. 13) reddish brown, slightly shiny, slightly wider than long, through the eyes slightly narrower than anterior margin of pronotum. Dorsal surface with fine microgranulation and punctuation, punctures small, slightly larger than those in pronotum. Anterior part with blackish brown spots. Clypeus blackish brown with long, pale setae, small and very shallow almost indistinct punctures, with microgranulation, slightly excised in middle of pale brown apex. HW 0.98 mm; HW/PW 0.54; HL (visible part) 0.82 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 1 or 3; OI equal to 23.48. Antenna (Fig. 14) short and strong (slightly exceeding one third body length, AL 1.99 mm; AL/BL 0.36), brown, matte, antennomeres



Figs. 12-16: *Cistelodema metallica unifasciata* (Pic, 1930): 12- habitus of male, 13- head and pronotum; 14- antenna; 15- aedeagus, dorsal view; 16- aedeagus, lateral view.

with short, dark setation, microgranulation and distinct punctuation. Antennomere 2 shortest, ultimate antennomere longest with distinct top, antennomeres 4-11 distinctly longer than antennomere 3. Antennomeres 5-10 transverse, shorter than wide. RLA(1-11): 0.90 : 0.66 : 1.00 : 1.08 : 1.10 : 1.16 : 1.09 : 1.22 : 1.20 : 1.24 : 1.58. RL/WA(1-11): 1.54 : 1.35 : 1.52 : 1.05 : 0.89 : 1.06 : 0.88 : 0.89 : 0.77 : 0.86 : 1.44. Maxillary palpus blackish brown, with short, pale setation, small punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere slightly paler and shiny in apical part, more axe shaped than knife-shaped. Pronotum (Fig. 13) pale reddish brown, wide, transverse, shiny, slightly narrower than elytra at humeri. Dorsal surface almost glabrous, with very fine microgranulation and relatively sparse punctuation, punctures very small. Intervals between punctures wide, distinctly wider than diameter of punctures. PL 1.05 mm; PW 1.81 mm;

PI equal to 58.01. Border lines distinct, narrow. Lateral margins slightly arcuate, anterior margin almost straight, base bisinuate. Posterior and anterior angles roundly obtuse, anterior angles not clearly distinct. Elytra pale reddish brown, shiny, oval, widest near middle, with very fine microgranulation. EL 3.73 mm; EW 2.33 mm; EL/EW 1.60. Elytral striae with distinct rows of punctures slightly larger than those in elytral interspaces. Scutellum triangular, pale reddish brown as elytron itself, with microgranulation, more matte. Elytral epipleura well-developed, pale reddish brown, slightly shiny, widest near base, distinctly narrowing to ventrite 2, very small punctures, relatively wide leads parallel in apical part. Legs longer, reddish brown, with fine microgranulation, setation and small punctures. Outer part of tibiae with dense, strong, dark setae. Tarsomeres narrow, penultimate tarsomeres not widened and lobed. RLT: 1.00 : 0.53 : 0.49 : 0.57 : 1.69 (protarsus), 1.00 : 0.43 : 0.39 : 0.31 : 0.70 (mesotarsus), 1.00 : 0.41 : 0.25 : 0.34 (metatarsus). Tarsal claws pale brown. Both anterior tarsal claws with 4 visible teeth. Ventral side of body reddish brown with small punctures. Abdomen shiny with very short, pale setation, fine microgranulation and dense punctuation, punctures small. Ventrites 1 and 2 reddish brown, ventrites 3-5 blackish brown. Aedeagus (Figs. 15, 16) ochre yellow. Basal piece rounded laterally, slightly narrowing in dorsal view. Apical piece elongate triangular, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 5.11.

**Distribution.** Malaysia, Island Borneo.

***Cistelodema regina* sp. nov.**

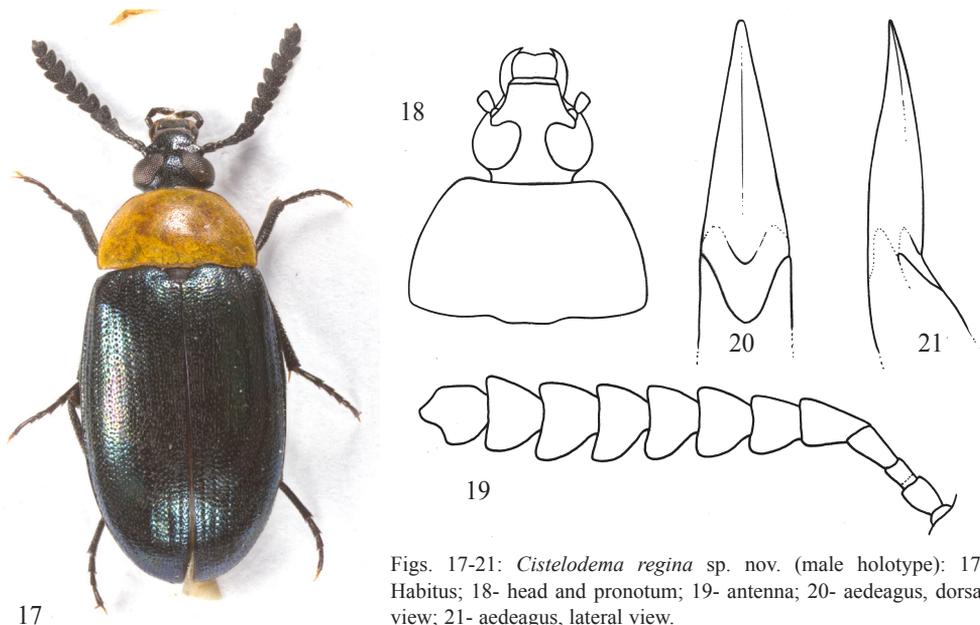
(Figs. 17-21)

**Type locality.** Western Malaysia, Perak, 40 km southeast of Ipoh, Banjaran Titi Wangsa, Ringlet, 900 m.

**Type material.** Holotype (♂): MALAYSIA W, PERAK / 40km SE of IPOH, 900 m / Banjaran Titi Wangsa / RINGLET, 29.iii.-15.iv. / 2004 Čechovský Petr lgt., (VNPC). Paratypes: (1 ♂, 1 ♀): same data as holotype, (VNPC); (2 ♂♂): MALAYSIA-W, PERAK, / 30 km SE of IPOH, 900 m / Cameron Highland / RINGLET, 25.iv.-5.v. / 2001, P. Čechovský leg., (VNPC). The types are provided with a printed red label: 'Cistelodema regina sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2019'.

**Description of holotype.** Habitus as in Fig. 17, body oval, from orange to black, shiny, dorsal surface with pale setation, punctuation and microgranulation, BL 6.32 mm. Widest near middle elytra length; BL/EW 2.38.

Head (Fig. 18) black, slightly shiny, approximately as long as wide, through the eyes approximately as wide as anterior margin of pronotum. Dorsal surface with sparse, short, pale setae, microgranulation and punctuation, punctures slightly larger than those in pronotum. Anterior part and clypeus with a few long, pale setae. Mandibles shiny, blackish brown, glabrous dorsally. Clypeus with denser setation than those in head, small and very shallow almost indistinct punctures, with microrugosities, slightly excised in middle of apex. HW 1.06 mm; HW/PW 0.52; HL (visible part) 1.09 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1 or 3; OI equal to 21.50.



Figs. 17-21: *Cistelodema regina* sp. nov. (male holotype): 17- Habitus; 18- head and pronotum; 19- antenna; 20- aedeagus, dorsal view; 21- aedeagus, lateral view.

Antenna (Fig. 19). Short and strong (slightly exceeding one third body length, AL 2.15 mm; AL/BL 0.34), black, matte, antennomeres with short, dark setation, microgranulation and distinct punctuation. Antennomere 2 shortest, ultimate antennomere longest with distinct top, antennomeres 4-11 distinctly longer than antennomere 3. Antennomeres 5-10 transverse, shorter than wide.

RLA(1-11): 0.83 : 0.70 : 1.00 : 1.13 : 1.04 : 1.11 : 1.13 : 1.09 : 1.17 : 1.13 : 1.52.

RL/WA(1-11): 1.23 : 1.23 : 1.64 : 1.18 : 0.89 : 0.82 : 0.71 : 0.64 : 0.73 : 0.73 : 1.23.

Maxillary palpus black, shiny, with pale setation, small punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere slightly paler in apical part, more axe shaped than knife-shaped.

Pronotum (Fig. 18) orange, wide, transverse, shiny, as wide as elytra at humeri. Dorsal surface with short, recumbent, pale setation, very fine microgranulation and dense punctuation, punctures small. Intervals between punctures approximately as wide as diameter of punctures. PL 1.03 mm; PW 2.05 mm; PI equal to 50.24. Border lines distinct, narrow. Lateral margins slightly arcuate, anterior margin almost straight, base bisinuate. Posterior and anterior angles roundly obtuse, anterior angles not clearly distinct.

Elytra. Green, with metallic lustre, oval, widest near middle, with fine microgranulation and short, pale, recumbent setation. EL 4.20 mm; EW 2.66 mm; EL/EW 1.58. Elytral striae with distinct rows of punctures slightly larger than those in elytral interspaces.

Scutellum. Black, roundly triangular, with microgranulation, small punctures and dark setae, more matte.

Elytral epipleura well-developed, black, widest near base, distinctly narrowing to ventrite 2, with pale setae and punctures, then relatively wide and parallel in apical part.

Legs. Longer, black, with fine microgranulation, pale setation and small punctures. Outer part of tibiae with dense, strong, dark setae. Tarsomeres narrow, penultimate tarsomeres not widened and lobed. RLT: 1.00 : 0.46 : 0.50 : 0.44 : 1.85 (protarsus), 1.00 : 0.50 : 0.38 : 0.34 : 0.70 (mesotarsus), 1.00 : 0.42 : 0.32 : 0.61 (metatarsus).

Tarsal claws pale brown. Both anterior tarsal claws with 4 visible teeth.

Ventral side of body with sparse, very short, pale setae and very small punctures. Prothorax orange, meso- and metaventricle black. Abdomen black, shiny with pale setation, fine microgranulation and dense punctuation, punctures small. Sides of ventrites and ultimate ventrite with microrugosities.

Aedeagus (Figs. 20, 21) ochre yellow. Basal piece rounded laterally, slightly narrowing in dorsal view. Apical piece elongate triangular, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.39.

**Female** without distinct differences, ultimate palpomere slightly narrower than in male, anterior tarsal claws with 3 teeth.

**Variability.** The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Specimens (n= 5). BL 6.68 mm (6.22-7.07 mm); HL 1.06 mm (0.99-1.16 mm); HW 1.13 mm (1.06-1.24 mm); OI 21.54 (19.49-23.05); PL 1.12 mm (1.03-1.19 mm); PW 2.24 mm (2.05-2.51 mm); PI 50.20 (47.41-52.07); EL 4.50 mm (4.20-4.72 mm); EW 2.81 mm (2.66-3.04 mm).

**Differential diagnosis.** Most similar species is *Cistelodema testaceithorax* (Pic, 1913) comb. nov.

*Cistelodema regina* sp. nov. clearly differs from similar species *C. testaceithorax* mainly by narrower space between eyes (OI 19-23) and by distinct rows of punctures in elytral striae, while *C. testaceithorax* has wider space between eyes (OI 31) and rows of punctures in elytral striae are indistinct.

**Etymology.** The name *regina* is taken from Latin (queen).

**Distribution.** Malaysia, province Perak.

***Cistelodema rufomaculata* (Pic, 1915) comb. nov.**

(Figs. 22-26)

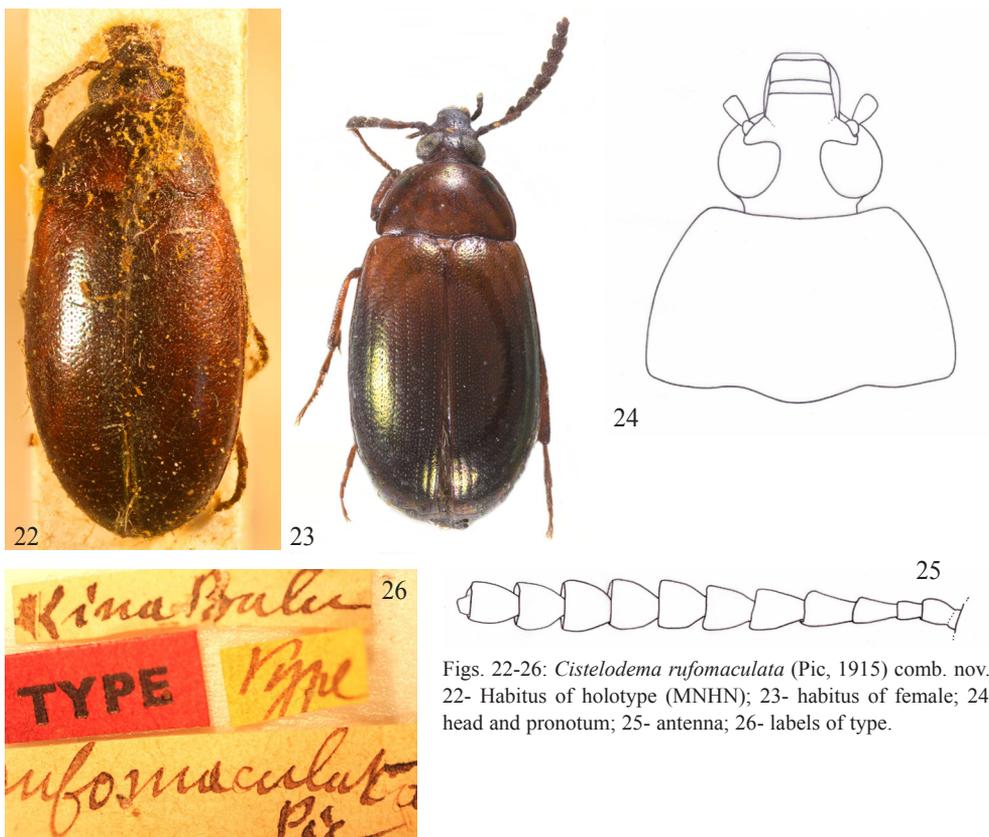
*Pseudocistela rufomaculata* Pic, 1915: 14.

**Type locality.** Malaysia, Sabah province, Island Borneo, Mt. Kinabalu.

**Type material.** Holotype: bl: Kina Balu [hb] // bl: Type [hb] // rufomaculata / Pic [hb] // rl: TYPE [pb], (MNHN).

**Other material examined:** bl: Kina Balu / Borneo / (Stauding.) [hb], 1 ♀, (VNPC).

**Redescription** (female). Habitus as in Fig. 23, body oval, from pale reddish brown to



Figs. 22-26: *Cistelodema rufomaculata* (Pic, 1915) comb. nov.: 22- Habitus of holotype (MNHN); 23- habitus of female; 24- head and pronotum; 25- antenna; 26- labels of type.

brown, elytra partly green, shiny, dorsal surface almost glabrous, with punctuation and microgranulation, BL 6.35 mm. Widest near middle elytra length; BL/EW 2.27. Head (Fig. 24) dark reddish brown, rather matte, approximately as long as wide, through the eyes approximately as wide as anterior margin of pronotum. Dorsal surface with microgranulation and small, shallow punctures. Apex of anterior part and clypeus blackish brown. Clypeus with long setae. HW 1.06 mm; HW/PW 0.52; HL (visible part) 1.09 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 1 or 3; OI equal to 21.50. Antenna (Fig. 25) short and strong (slightly exceeding one third body length, AL 2.15 mm; AL/BL 0.34), matte, antennomeres with short, dark setation, microgranulation and distinct punctuation. Antennomeres 1 and 2 black, antennomere 3-11 dark brown, antennomere 2 shortest, ultimate antennomere longest with distinct top, antennomeres 4-11 distinctly longer than antennomere 3. Antennomeres 5-10 transverse, shorter than wide. RLA(1-11): 0.83 : 0.70 : 1.00 : 1.13 : 1.04 : 1.11 : 1.13 : 1.09 : 1.17 : 1.13 : 1.52. RL/WA(1-11): 1.23 : 1.23 : 1.64 : 1.18 : 0.89 : 0.82 : 0.71 : 0.64 : 0.73 : 0.73 : 1.23. Maxillary palpus blackish brown, matte, with dark setation, small punctures and microgranulation. Palpomeres 2-4 distinctly narrowest at base and widest at apex. Pronotum (Fig. 24) reddish brown, wide,

transverse, shiny, as wide as elytra at humeri. Dorsal surface almost glabrous, with very fine microgranulation and sparse punctuation, punctures very small. Intervals between punctures wide, distinctly wider than diameter of punctures. PL 1.03 mm; PW 2.05 mm; PI equal to 50.24. Border lines distinct, narrow. Lateral margins slightly arcuate, anterior margin almost straight, base bisinuate. Posterior and anterior angles roundly obtuse, anterior angles not clearly distinct. Elytra bicolorous, humeral part pale reddish brown, rest green, with metallic lustre, oval, widest near middle, with fine microgranulation, almost glabrous. EL 4.20 mm; EW 2.66 mm; EL/EW 1.58. Elytral striae with distinct rows of punctures slightly larger than those in elytral interspaces. Scutellum pale reddish brown, roundly triangular, with microgranulation and small punctures. Elytral epipleura well-developed, pale reddish brown, widest near base, distinctly narrowing to ventrite 2, with a few short, pale setae and very small punctures, then relatively wide and parallel in apical part. Legs longer, narrow, reddish brown, with fine microgranulation, pale setation and small punctures. Outer part of tibiae with dense, strong, dark setae, apex of tibiae slightly darker. Tarsomeres narrow, penultimate tarsomeres not widened and lobed. RLT: 1.00 : 0.46 : 0.50 : 0.44 : 1.85 (protarsus), 1.00 : 0.50 : 0.38 : 0.34 : 0.70 (mesotarsus), 1.00 : 0.42 : 0.32 : 0.61 (metatarsus). Ventral side of body reddish brown, with very small punctures. Ventrites 1 and 2 reddish brown, ventrites 3-5 blackish brown.

**Distribution.** Malaysia, Island Borneo.

***Cistelodema tenebrosa* sp. nov.**

(Figs. 27-31)

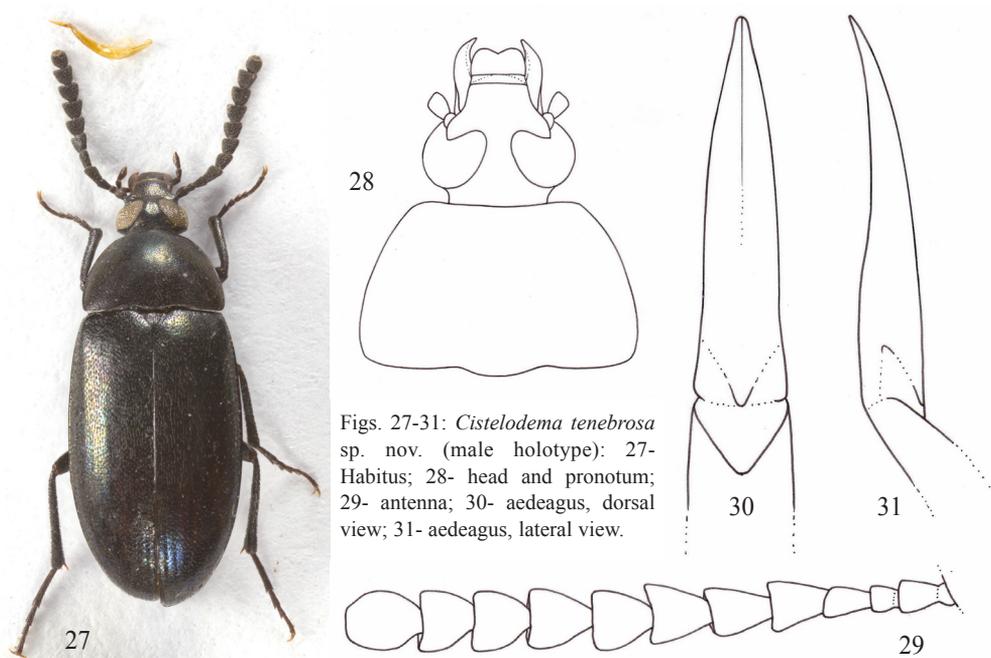
**Type locality.** Indonesia, Papua, Irian Jaya, Nabire, Mapia, Unipo.

**Type material.** Holotype (♂): pbl: IRIAN JAYA: Nabire / nach Mapia, Unipo / 24.VII.1996 km117 / leg.SCHÜLE/, (SMNS). The type is provided with a printed red label: 'Cistelodema tenebrosa sp. nov. / HOLOTYPUS / V. Novák det. 2019'.

**Description of holotype.** Habitus as in Fig. 27, body elongate oval, black, slightly shiny, dorsal surface with fine metallic lustre and pale setation, punctuation and microgranulation, BL 6.14 mm. Widest near middle elytra length; BL/EW 2.62.

Head (Fig. 28) black, slightly shiny, approximately as long as wide, through the eyes approximately as wide as anterior margin of pronotum. Dorsal surface with sparse, short, pale setae, microgranulation and punctuation, punctures slightly larger than those in pronotum. Anterior part and clypeus with a few long, pale setae. Mandibles slightly shiny, blackish brown in basal half, pale brown with dark apex in apical part. Clypeus with small and very shallow almost indistinct punctures, with microgranulation, slightly excised in middle of apex. HW 1.00 mm; HW/PW 0.53; HL (visible part) 0.95 mm. Eyes very large, transverse, distinctly excised, space between eyes narrow, distinctly narrower than diameter of one eye; distinctly wider than length of antennomere 2, approximately as wide as length of antennomere 1 or 3; OI equal to 20.89.

Antenna (Fig. 29). Short and strong, black, matte, antennomeres with short setation,



Figs. 27-31: *Cistelodema tenebrosa* sp. nov. (male holotype): 27- Habitus; 28- head and pronotum; 29- antenna; 30- aedeagus, dorsal view; 31- aedeagus, lateral view.

microgranulation and distinct punctuation. AL 2.31 mm; AL/BL 0.38. Antennomere 2 shortest, ultimate antennomere longest, rounded, antennomeres 4-11 distinctly longer than antennomere 3. Antennomeres 6-10 transverse, approximately as long as wide.

RLA(1-11): 1.11 : 0.56 : 1.00 : 1.36 : 1.36 : 1.36 : 1.42 : 1.44 : 1.56 : 1.47 : 1.58.

RL/WA(1-11): 2.00 : 1.54 : 1.90 : 1.63 : 1.17 : 1.02 : 0.94 : 0.97 : 0.98 : 0.93 : 1.22.

Maxillary palpus black, slightly shiny, with pale setation, punctures and microgranulation. Palpomeres 2 and 3 distinctly narrowest at base and widest at apex, ultimate palpomere slightly paler in apical part, more axe shaped than knife-shaped.

Pronotum (Fig. 28) wide, transverse, relatively narrow, as wide as elytra at humeri. Dorsal surface black with blueish green metallic lustre, short, recumbent, pale setation, fine microgranulation and dense punctuation, punctures small. Intervals between punctures approximately as wide as diameter of punctures. PL 1.02 mm; PW 1.89 mm; PI equal to 53.97. Border lines distinct, narrow. Lateral margins slightly arcuate, anterior margin straight. Base bisinuate. Posterior angles roundly obtuse, anterior angles indistinct.

Elytra. Black, with blueish green metallic lustre, slightly oval, with short, pale, recumbent setation, punctuation and microgranulation. EL 4.17 mm; EW 2.34 mm; EL/EW 1.78. Elytral striae and rows of punctures in elytral striae indistinct.

Scutellum. Black, triangular, with microgranulation and setae, more matte.

Elytral epipleura well-developed, black as elytron itself, widest near base, distinctly narrowing to ventrite 2, with pale setae and punctures, then relatively wide and parallel in apical part.

Legs. Longer, black, with fine microgranulation, pale setation and small punctures.

Outer part of tibiae with short and dense, strong, dark setae. Tarsomeres narrow, penultimate tarsomeres not widened and lobed. RLT: 1.00 : 0.50 : 0.48 : 0.40 : 1.69 (protarsus), 1.00 : 0.43 : 0.33 : 0.29 : 0.96 (mesotarsus), 1.00 : 0.40 : 0.26 : 0.47 (metatarsus).

Tarsal claws pale brown. Both anterior tarsal claws with 4 visible teeth.

Ventral side of body black with sparse, very short, pale setae and very small punctures. Abdomen black, slightly shiny with pale setation, fine microgranulation and dense punctuation, punctures small.

Aedeagus (Figs. 30, 31) ochre yellow. Basal piece rounded laterally, slightly narrowing in dorsal view. Apical piece elongate triangular, beak-shaped dorsally and laterally. Ratio of length of apical piece to length of basal piece from dorsal view 1: 3.63.

**Female** unknown.

**Differential diagnosis.** Species *Cistelodema tenebrosa* sp. nov. distinctly differs from all other known species of *Cistelodema* Borchmann mainly by dark body (dorsal surface black with blueish or greenish metallic lustre), body elongate oval and by country of origin (West Papua).

**Etymology.** The name *tenebrosa* is taken from Latin (it means 'dark').

**Distribution.** Indonesia, West Papua, Irian Jaya.

***Cistelodema testaceithorax* (Pic, 1913) comb. nov.**

(Figs. 32-33)

*Pseudocistela testaceithorax* Pic, 1913: 14.

**Type locality.** Indonesia, Island Sumatra, Mana-Riang, Ranau Palembang.

**Type material.** Holotype: wl with bf: Mana-Riang. / Ranau.Palembang. / April 90.2-3000<sup>1</sup>. / I.Z. Kannegieter [pb] // bl: Type [hb] // rl: TYPE [pb] // gl: Pseudocistela / testaceithorax / type Pic [hb] // gl: genre / Cistelodema / Borch [hb], (MNHN).

**Remarks.** This species distinctly belongs to the genus *Cistelodema* Borchmann, 1932 (oval body and transverse antennomeres 6-10).

**Distribution.** Indonesia, Sumatra Island.



Figs. 32-33: *Cistelodema testaceithorax* (Pic, 1913) comb. nov.: 32- Habitus of holotype (MNHN); 33- labels of type.

***Cistelodema violacea* (Pic, 1915) comb. nov.**  
(Figs. 34-35)

*Pseudocistela violacea* Pic, 1915: 14.

**Type locality.** Malaysia, Sabah province, Island Borneo, Mt. Kinabalu.

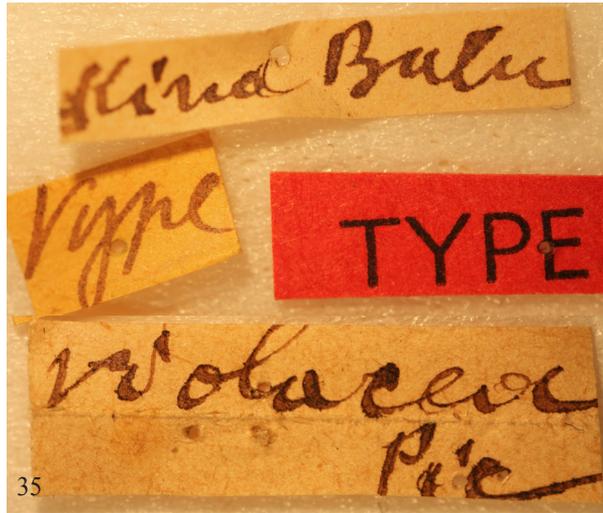
**Type material.** Holotype: bl: Kina Balu [hb] // bl: Type [hb] // violacea / Pic [hb] // rl: TYPE [pb], (MNHN).

**Remarks.** This species distinctly belongs to the genus *Cistelodema* Borchmann, 1932 (oval body and transverse antennomeres 6-10).

**Distribution.** Malaysia, Island Borneo.



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Figs. 34-35: *Cistelodema violacea* (Pic, 1915) comb. nov.: 34- Habitus of holotype (MNHN); 35- labels of type.

***Cistelodema viridimetallica* (Pic, 1930) comb. nov.**  
(Figs. 36-37)

*Pseudocistela viridimetallica* Pic, 1913: 13.

**Type locality.** Indonesia, Sumatra Island, Mana Riang.

**Type material.** Holotype: yl with bf: Mana-Riang. / Ranau.Palembang. / April 90.2-3000<sup>1</sup>. / I.Z. Kannegieter [pb] // yl: Type [hb] // rl: TYPE [pb] // bl: Pseudocistela / viridimetallica / type Pic [hb], (MNHN).

**Remarks.** This species distinctly belongs to the genus *Cistelodema* Borchmann, 1932 (oval body and transverse antennomeres 6-10).

**Distribution.** Indonesia, Island Sumatra.



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Figs. 36-37: *Cistelodema viridimetallica* (Pic, 1930) comb. nov.: 36- Habitus of holotype (MNHN); 37- labels of type.

## DISCUSSION

Species *Cistelodema metallica metallica* (Pic, 1930), *Cistelodema metallica unifasciata* (Pic, 1930), *Cistelodema rufomaculata* (Pic, 1915) and *Cistelodema violacea* (Pic, 1915) are known only from Island Borneo - Mount Kinabalu. *C. metallica metallica* and *C. metallica unifasciata* have no distinct rows of punctures in elytral striae, *C. rufomaculata* and *C. violacea* have distinct rows of punctures in elytral striae. Other differences are in colouration of dorsal surface. In the future it is necessary to make other important comparisons, especially the preparation of genitalia in order to rule out or confirm the possible synonymy of the above mentioned species.

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