

A contribution to the subgenus *Achlaenius* Mandl, 1992 (Coleoptera: Carabidae: *Chlaenius* Bonelli, 1810) of the Russian Far East

К познанию подрода *Achlaenius* Mandl, 1992 (Coleoptera: Carabidae: *Chlaenius* Bonelli, 1810) Дальнего Востока России

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КЛЮЧЕВЫЕ СЛОВА: Carabidae, *Chlaenius*, *Achlaenius*, Дальний Восток, определитель.

ABSTRACT. The article presents data on the discovery of *Chlaenius* (*Achlaenius*) *micans* (Fabricius, 1792) in the south of Sakhalin Island, and provides a key to the species of the subgenus *Achlaenius* Mandl, 1992 in the Russian Far East.

РЕЗЮМЕ. Приведены сведения о находке *Chlaenius* (*Achlaenius*) *micans* (Fabricius, 1792) на юге о. Сахалин, дана определительная таблица видов подрода *Achlaenius* Mandl, 1992 Дальнего Востока России.

Subgenus *Achlaenius* was established by K. Mandl [1992] for four species (*Ch. micans* (Fabricius, 1792), *Ch. ocreatus* Bates, 1873, *Ch. sericimicans* Chaudoir, 1876, and *Ch. variicornis* A. Morawitz, 1863) living in the Southeastern Palearctic and Oriental Region. Later [Kirschenhofer, 2005, 2017] the subgenus was expanded to include *Ch. amplipennis* Chaudoir, 1876, *Ch. athleta* Kryzhanovskij, 1976, *Ch. kurosawai* Kasahara, 1986, and *Ch. rotundus* Andrewes, 1920, as well as *Ch. tristis* (Schaller, 1783) [Kabak, Liang, 2021]. In 2007, G. Sh. Lafer prepared an article for publication with a review of the species of this subgenus from the Russian Far East, but it was never published. After the author's death, it was impossible to find the manuscript; only information about the find of *Ch. kurosawai* and *Ch. sericimicans* in Primorsky Krai, posted on the website of the Zoological Insti-

tute of the Russian Academy of Sciences [Lafer, 2007], survived. Taking into account all these data, five species of *Achlaenius* were known for the Russian Far East (*Ch. athleta*, *Ch. kurosawai*, *Ch. sericimicans*, *Ch. tristis*, *Ch. variicornis*). In July 2025, R.A. Ivolga discovered another species of this subgenus, *Ch. micans*, in the south of Sakhalin. The material is stored in the collection of Moscow State Pedagogical University, Moscow, Russia (MSPU).

Chlaenius (*Achlaenius*) *micans* (Fabricius, 1792)

Fig. 1.

MATERIAL. Sakhalin Island, Crillon Peninsula, right bank of Naicha River, 46°08'36"N, 142°12'47"E 26.VII.2025 leg. R. Ivolga – 1♀ [MSPU].

The beetle was found at night, around 11:30 pm, in the Naicha River valley on a dirt road running through a post-forest tall-grass meadow dominated by *Petasites japonicus* (Siebold et Zucc.) Maxim., *Filipendula camtschatica* (Pall.) Maxim., *Angelica ursina* (Rupr.) Maxim., surrounded by floodplain willows (*Salix* sp.).

This is a mature female, body length 16.7 mm. Thirty-two eggs, including 23 mature, were found in the ovarioles. Mature eggs are 2.2–2.6 mm long and 1.0–1.2 mm wide.

The closest locations to Sakhalin where this species has been found are the Sōya District in northern Hokkaido [Kimoto, Yasuda, 1995], which makes it likely that it has been introduced to southern Sakhalin.

Taking this finding into account, the subgenus *Achlaenius* becomes the most diverse among *Chlaenius* of the Russian Far East. Therefore, it is appropriate to discuss the subgenus's diagnosis and provide a key to the species known from the region.

Subgenus *Achlaenius* Mandl, 1992

Type species *Ch. micans* (Fabricius, 1792)

Kabak & Liang [2021] substantiated the transfer of *Ch. tristis* to the subgenus *Achlaenius* by the structure of the gonocoxites (apical gonocoxite glabrous) and the rugose sculpture of pronotum. The structure of the gonocoxites varies within the genus *Chlaenius*. Glabrous stylomeres, like *Achlaenius*, are found in species of the subgenera *Chlaenius* s.str., *Chlaenites* Motschulsky, 1860, *Eochlaenius* Semenov, 1912, *Lithochlaenius* Kryzhanovskij, 1976 and *Stenochlaenius* Reitter, 1908. Gonocoxites with a field of short, thick spines are found not only in *Chlaeniellus* Reitter, 1908, but also in the subgenera *Naelichus* Lutshnik, 1933 and *Agostenus* Fischer von Waldheim, 1829. Moreover, among the species of the subgenus *Chlaeniellus*, in *Ch. lineellus* Motschulsky, 1859, *nigricornis* (Fabricius, 1787), and *terminatus* Dejean, 1826, almost the entire ventral surface of the expanded part of the apical stylomere is covered with spines; in *Ch. kindermanni chrysothorax* Krynicki, 1832, *extensus* Mannerheim, 1825, *melampus* Ménétériés, 1848, *nitidulus* (Schränk, 1781), and *tenuilimbatus* Ballion, 1871, spines occupy about half the surface; while in *Ch. flavipes* Ménétériés, 1832, they are absent. The situation is similar with the sculpture of the pronotum: in the type species of *Achlaenius* it is not wrinkled, but uniformly punctate. So far, not yet possible to formulate a precise diagnosis of the subgenus *Achlaenius* based on previously published characters [Mandl, 1992; Kirschenhofer, 2005].

Species of the subgenus *Achlaenius*, living in the Russian Far East, have non-expanded palps, a finely punctate head, with only very short, sparse setae, except for the supraorbital. Medial tooth of mentum pointed or weakly emarginated apically. Pronotum uniformly punctate or has short transverse wrinkles. Elytra are completely punctate and pubescent. Prosternal process not bordered.

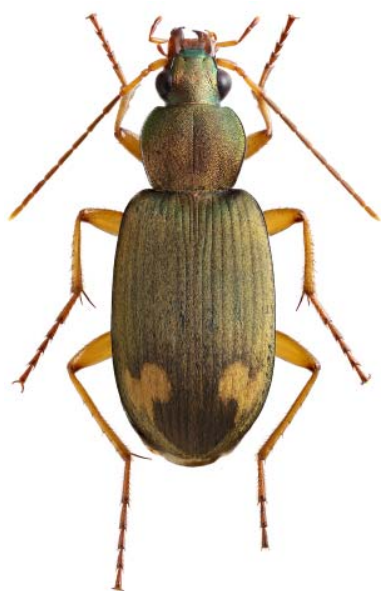


Fig. 1. *Chlaenius* (*Achlaenius*) *micans* (Fabricius, 1792), female, found on Sakhalin Island.

Рис. 1. Самка *Chlaenius* (*Achlaenius*) *micans* (Fabricius, 1792), найденная на о. Сахалин.

Abdominal sternites densely punctate and pubescent. The absence of setae on the dorsal surface of the head is the only reliable characteristic distinguishing *Achlaenius* from regional representatives of the subgenera *Chlaenius* s.str., *Chlaeniellus*, and *Naelichus*.

KEY TO SPECIES OF THE SUBGENUS *ACHLAENIUS* OF THE RUSSIAN FAR EAST

1. Body and appendages uniformly black. *Ch. (Achlaenius) tristis reticulatus* Motschulsky, 1844
— Legs and appendages are mostly yellow, body has a metallic coloration 2
2. Elytra with preapical spot *Ch. (Achlaenius) micans* (Fabricius, 1792)
— Elytra uniformly colored, green or dark green 3
3. Pronotum wide, its base only slightly narrower than the elytra. Green with a copper-red pronotum. *Ch. (Achlaenius) athleta* Kryzhanovskij, 1976
— Pronotum noticeably narrower than the elytra, usually green or dark green 4
4. The greatest width of the pronotum is in the basal third, the posterior angles are widely rounded *Ch. (Achlaenius) sericimicans* Chaudoir, 1876
— Pronotum narrower, its lateral sides converge towards the base in a straight line or slightly sinuate 5
5. The greatest width of the pronotum is immediately behind the middle, the sides are indistinctly sinuate before the base *Ch. (Achlaenius) kurosawai* Kasahara, 1986
— The greatest width of the pronotum is before the middle, its sides are usually sinuate before the base *Ch. (Achlaenius) variicornis* A. Morawitz, 1863

Conflict of interest. The authors declare that they have no conflict of interest.

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References

- Kabak I.I., Liang H.-B. 2021. An annotated list of the genus *Chlaenius* (Coleoptera: Carabidae) of Xinjiang Uygur Autonomous Region of China // Far Eastern Entomologist. No.429. P.12–28. <https://doi.org/10.25221/fee.429.3>
- Kimoto S., Yasuda N. 1995. [The ground beetles of Hokkaido. Ecological and biological survey]. Tokyo: Tokai University Press. 315 pp. [In Japanese]
- Kirschenhofer E. 2005. Über die mit *Chlaenius variicornis* Morawitz, 1863 (Untergattung *Achlaenius* Mandl 1992) näher verwandten Arten sowie Beschreibungen neuer Arten der Untergattung *Pseudochlaeniellus* Jeannel, 1949 der Gattung *Chlaenius* Bonelli, 1810 aus der orientalischen Region (Coleoptera: Carabidae) // Entomofauna. Zeitschrift für Entomologie. Bd.26. H.9. S.165–192.
- Kirschenhofer E. 2017. Tribe Chlaeniini Brullé, 1834 // I. Löbl, D. Löbl (eds.). Catalogue of Palaearctic Coleoptera. Vol.1. Archostemata-Myxophaga-Adephaga. Leiden-Boston: Brill. P.482–497.
- Lafer G.Sh. 2004. Ground beetles of the subgenus *Achlaenius* Mandl, 1992 of the genus *Chlaenius* (Carabidae): atlas of the fauna of Russia. <https://www.zin.ru/Animalia/coleoptera/rus/achlaen1.htm> Accessed at 14.11.2025.
- Mandl K. 1992. Ein Beitrag zur Kenntnis einiger Chlaeniinae-(Callistinae-)Formen aus der paläarktischen und der orientalischen Region (Zugleich zweite Auswertung der vom Naturhistorischen Museum in Wien erworbenen Chlaeniinae-Spezialsammlung Ernst Grundmanns) (Carabidae: Coleoptera) 2. Teil // Annalen des Naturhistorischen Museums in Wien. Serie B. Bd.93. S.59–103.