



## A new species of the genus *Augyles* Schiödte, 1866 (Coleoptera: Heteroceridae) from Vietnam

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Family Heteroceridae includes 5 genera and about 370 species worldwide (Mascagni 2014; Skalický & Ezer 2014). Adults and larvae of Heteroceridae construct tunnels in wet sand and soil at the edges of streams, rivers, lakes and ponds, and in brackish mud flats (Vanin *et al.*, 2016).

The published data on the variegated mud-loving beetle fauna of Vietnam includes records of 9 species: *Augyles anulatus* (Mascagni, 1991); *A. gigas* Mascagni, Thanh Binh & Ha, 2017; *A. hiekei* (Mascagni, 1995); *A. infimus* (Fairmaire, 1889); *A. manfredjaechi* (Mascagni, 1995), *Heterocerus fenestratus* (Thunberg, 1784); *H. lorenzevae* Mascagni, 1993; *H. nepalensis* Mascagni, 1993 and *H. philippensis* ssp. *javanicus* (Grouvelle, 1896) (Fairmaire 1889; Mascagni 1991, 1995; Mascagni *et al.* 2017; Mascagni & Skalický 2007). The records of *Micilus minutissimus* Sahlberg 1900 need confirmation (Mascagni 2003, Mascagni *et al.* 2017).

During the ecological research, conducted by the Joint Russia-Vietnam Complex Expedition in 1976, two specimens of *Augyles* were collected by L.N. Medvedev in North Vietnam. The specimens turned out to belong to a new species.

### Materials and methods

The specimens were collected at light. Studied material, including type series of *Augyles letovi*, is stored in the collection of Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia)—ZISP, and Papanin Institute for Biology of Inland Waters, Russian Academy of Sciences (Yaroslavl' Province, Borok)—IBIW. Genitalia were cleaned with 10% KOH, washed in a solution of ethanol and enclosed in glycerin for examination and storage. Images were made in Inkscape 0.91.

### Taxonomy

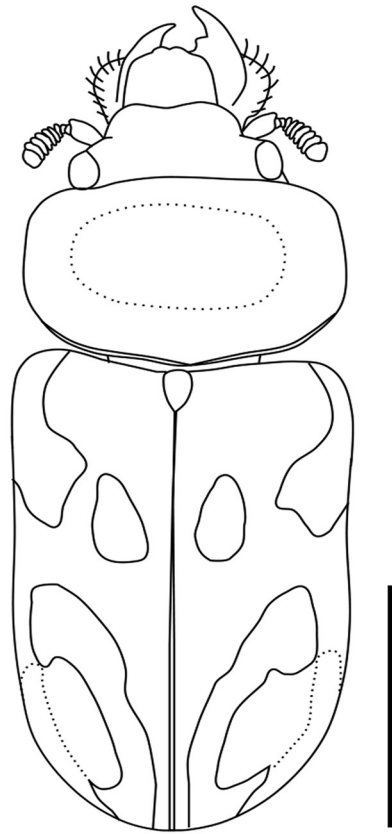
#### *Augyles (Augyles) letovi* sp. nov. (Figs 1, 2)

**Type locality.** N Vietnam, Hòa Bình Province.

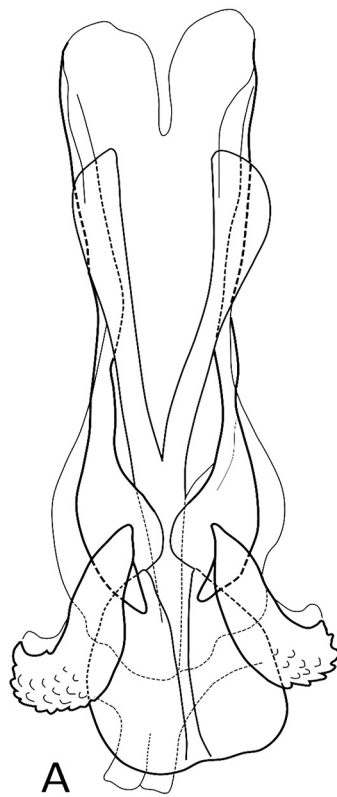
**Type material.** Holotype: “15.01.1976 Вьетнам, Хао бинь, Л.Н. Медведев, УФ свет, 36” [15.01.1976 Vietnam, Hòa Bình, L.N. Medvedev, UV light, 36—in Russian], ♂ (ZISP). Paratype: “15.01.1976 Вьетнам, Хао бинь, Л.Н. Медведев, УФ свет, 33” [15.01.1976 Vietnam, Hòa Bình, L.N. Medvedev, UV light, 33—in Russian], ♀ (IBIW).

**Description.** *Holotype*, ♂. Total length 3.2 mm (from apex of labrum to apex of elytra). Body (Fig. 1) moderately elongated, dorsoventrally compressed. Head light brown, with dense whitish pubescence and longer scattered setae; mandibles average, not hypertrophied, with acute apex; eyes well developed, antennae with 10 antennomeres, apical 7 antennomeres forming club; clypeus without pair of anterior horns, with dense and short setae, labrum dark brown. Pronotum light brown, with disc darker, evenly wide or slightly narrower than elytra at base, rectangular, densely punctured, bordered posteriorly, laterally with dense whitish pubescence and longer setae. Elytra with pale brown spots (Fig. 1), densely and uniformly punctate, with dense whitish pubescence; elytral longitudinal ridges only slightly indicated. Setae of elytra short, sparse, semierect. Legs light brown, densely pubescent; tibiae with numerous spines and long setae. Abdomen light brown, stridulatory arch marked; postmetacoxal line present. Aedeagus (0.7 mm long) and spiculum gastrale (V-shaped) as in Fig. 2.

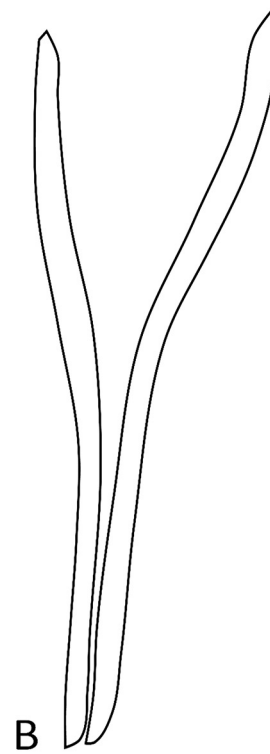
*Paratype*, ♀. Total length 3.3 mm (from apex of labrum to apex of elytra). Externally similar to male, but mandible, head and pronotum smaller. Head and pronotum brown.



1



A



B

2

FIGURES 1–2. *Augyles letovi* sp. nov. 1—holotype, male (Vietnam, Hòa Bình). Scale bar—1.0 mm. 2—A) aedeagus, B) spiculum gastrale. Scale bar—0.5 mm.

**Variability.** Body size 3.2–3.3 mm. Males and females are very difficult to separate without examination of the genitalia. Elytral markings slightly differ in two studied specimens (spots of holotype specimen is more contrasting).

**Differential diagnosis.** Based on the shape of the male genitalia, and shape of the elytral pattern, *Augyles letovi* sp. nov. is probably most related to the south-east Asian species *Augyles rejseki* Skalický, 1999 (described from Thailand) and *Augyles hiekei* (Mascagni, 1995) (described from Vietnam). *A. letovi* differs from *A. rejseki* by the tegmen, having lateral margin evenly curved (not dentate) and possessing paired sclerotized elements in basal part (Fig. 2). *A. letovi* differs from *A. hiekei* also by the structure of tegmen presence possessing paired sclerotized elements in basal part.

**Ecology.** All specimens were collected at light.

**Distribution.** So far known only from the type locality.

**Etymology.** Dedicated to Igor Fedorovich “Yegor” Letov, Russian poet, musician, singer, songwriter, audio engineer and conceptual art painter, best known as the founder and leader of the post-punk/psychedelic rock band Grazhdanskaya Oborona (Civil Defense).

## Acknowledgements

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## References

- Fairmaire, L. (1889) Descriptions de Coléoptères de l’Indo-Chine. *Annales de la Société Entomologique de France*, 6 (8), 333–378.
- Mascagni, A. (1991) Contributo alla conoscenza degli Heteroceridae del Burma e della Cambogia con descrizione di *Heterocerus anulatus* n. sp. (Insecta: Coleoptera: Heteroceridae). *Redia*, 74 (1), 15–28.
- Mascagni, A. (1995) Heteroceridae: Check list of the Heteroceridae of China and neighbouring countries, and description of two new species (Coleoptera). In: Jäch M.A. & Ji L. (Eds.). *Water Beetles of China. Vol. 1. Zoologisch-Botanische Gesellschaft and Wiener Coleopterologenverein*, Wien, pp. 341–348
- Mascagni, A. (2003) Descriptions of three new species, and updated checklist of the Heteroceridae of China and neighbouring countries (Coleoptera: Heteroceridae). *Koleopterologische Rundschau*, 73, 285–296.
- Mascagni, A. (2014) The Variegated Mud-Loving Beetles of Europe (first part) (Coleoptera: Heteroceridae). *Onychium*, 10, 78–118.
- Mascagni, A. & Skalický, S. (2007) New species and new statuses of Heteroceridae from the Oriental region (Coleoptera). *Folia Heyrovskyana*, Series A, 14 (3), 87–94.
- Mascagni, A., Thanh Binh, T.T. & Ha, N.T. (2017) A new species of *Augyles* Schiödte, 1866 from Vietnam (Coleoptera: Heteroceridae). *Koleopterologische Rundschau*, 87, 283–287.
- Skalický, S. (1999) New species of Heteroceridae from Thailand and Namibia (Coleoptera: Heteroceridae). *Koleopterologische Rundschau*, 69, 119–123.
- Skalický, S. & Ezer, E. (2014) Coleoptera: Heteroceridae. *Folia Heyrovskyana, Serie B, Icones Insectorum Europae Centralis*, 18, 1–12.
- Vanin, S.A., Costa, C., Ide, S. & Beutel, R.G. (2016) Heteroceridae MacLeay, 1825. In: Beutel, R.G. & Leschen, R.A.B. (Eds.), *Handbook of zoology. Volume IV Arthropoda, Part 38. Coleoptera, Beetles. Vol. 1. Morphology and Systematics (Archostemata, Adephaga, Myxophaga, Polyphaga partim)*. Walter de Gruyter, Berlin & Boston, pp. 612–615.