A key to species of the tribe Hylastini LeConte, 1876 (Coleoptera: Curculionidae: Scolytinae) from Russia and adjacent countries

Opredelitel'nye tablitsy vidov triby Hylastini LeConte, 1876 (Coleoptera: Curculionidae: Scolytinae) Rossii i sopredel'nykh stran

M.Yu. Mandelshtam1, A.V. Petrov2

ABSTRACT. Species of the tribe Hylastini Erichson, 1836 from Russia and adjacent countries are reviewed and keys to genera and species of the tribe are provided. Data on synonymy, geographic distribution and host-plants of all Hylastini species of Russia and neighboring states are given in an annotated list of species. Special attention is given to a poorly known subendemic species Hylurgops imitator (Reitter, 1900), = (Chapuis, 1875), of Hylastini, Hylastes, Hylurgops, bark beetles, taxonomy, Russia, endemics, countries of the former USSR.

KEY WORDS: Coleoptera, Curculionidae, Scolytinae, Hylastini, Hylastes, Hylurgops, bark beetles, taxonomy, Russia, endemics, countries of the former USSR.

The tribe Hylastini LeConte, 1876 includes four genera of Scolytinae: Hylastes Erichson, 1836, Hylurgops LeConte, 1876, Scierus LeConte, 1876 and Pachysquamus Mercado-Vélez et Negrán, 2014 [Wood, 1986; Wood, Bright, 1992; Mercado-Vélez, Negrán, 2014] of which two are recorded from Russia and adjacent countries. The Palearctic fauna of the tribe Hylastini currently includes 27 species [Wood, Bright, 1992; Pffefer, 1995; Knížek, 2011]. Besides, 8 fossil species were described from Baltic amber [Schedl, 1947; Wood, Bright, 1992].

Species in the tribe are characterized by the following features: 1) body cylindrical (Figs 1–4, 20); 2) vestiture of the upper side of the body usually includes both hair-like setae and scales, often vestiture is rather poorly developed (Figs 5–6); 3) head elongate, subrostrate, frons not sexually dimorphic (Figs 15–16); 4) eye oval, entire; 5) antennal funicle 7-segmented, scape elongate, club conical; 6) prothoracic precoxal area large, its lateral margins strongly elevated from anterior rim to coxae forming acutely elevated precoxal ridge; 7) pronotum narrowing anteriorly with more or less strongly developed constriction in the anterior third of its length, anterior margin simply rounded (Figs 17–19), not armed; 8) surface of pronotum punctured, without crenulations, denticles or rugosities; 9) base of elytra with poorly developed crenulations, not elevated; 10) elytral apex convex, simply rounded without profound armature; 11) tarsal segment 3 wider than 1 or 2 (Figs 13–14).

How to cite this article: Mandelshtam M.Yu., Petrov A.V. 2019. A key to species of the tribe Hylastini LeConte, 1876 (Coleoptera: Curculionidae: Scolytinae) from Russia and adjacent countries // Russian Entomol. J. Vol.28, No.4. P.389–399. doi: 10.15298/rusentj.28.4.08
Description of the proventriculus in *Hylastes* and *Hylurgops* is given by Nobuchi [1969] and Lopez-Buenfil et al. [2001] (Figs 7–8). The proventriculus in both genera is narrowing posteriorly; anterior plate sclerotized on lateral sides, indistinctly bordered on crop, posteriorly with about 20–25 transverse ridges. In *Hylurgops* ridges are replaced by rows of minute tubercles in anterior portion (except lateral sides), the tubercles becoming sharper and longer in middle of anterior portion [Nobuchi, 1969]. In *Hylastes* ridges are more or less curved and accompanied with spinules in middle of anterior portion and replaced by rows of sharp tubercles, becoming larger on each lateral side [Nobuchi, 1969]. Posterior plate as long as anterior; closing teeth long, extending beyond middle of masticatory brush. In *Hylurgops* crop rather closely covered by long spines, in *Hylastes* crop rather closely covered by pubescence [Nobuchi, 1969].

In male genitalia the median lobe is cylindrical, narrowing posteriorly; dorsal lobes overlapping, subequal to half length of median lobe with wedge-shaped hind margins; lateral lobes longer than dorsal ones, attaining 2/3 of median lobe length [Grocholski et al., 1977, Michalski et al., 1983]. Apophyses as long as median lobe, apophyses at base either divided (Figs 21–22, 26) or fused forming V-like figure (Figs 23–25); spicule longer than aedeagus, at base either divided (Figs 19–20) or fused forming V-like figure (Fig. 23); spicule longer than aedeagus, sickle-shaped, with flattened base adjoining the apices of the apophyses.

External morphology is very variable within species of this tribe and have led to numerous taxonomic discussions about the validity of several species [Pfeffer, 1944; Hansen, 1956; Lekander, 1965; Schedl, 1968; Beaver, 1970; Grocholski et al, 1976, 1977].

All species breed in coniferous hosts [Wood, 1982, 1986], mostly in habitats with high humidity, often in stumps, roots or logs contacting with ground. Some *Hylastes* species are of economic importance, damaging root neck or roots of young pines during maturation feeding; this feeding may cause stress and death of young pines.

Material and methods

Specimens were collected by the authors from 1975 to 2019 in the forests of the Russian Federation, including European part of Russia (Belgorod, Ivanovo, Kaliningrad, Kaluga, Kursk, Leningrad, Moscow, Novgorod, Pskov, Tambov, Tula, Tver, Vladimir, Vologda, Voronezh, Yaroslavl Provinces), Republic of Crimea, Republic of Karelia, North and North-West Caucasus (Krasnodar Terr., Adygeya Republic, Dagestan Republic), forests of Siberian Federal district (Buryatia Republic, Chita Province), Far-East (Primorsk Terr.) and elsewhere. Outside Russia we obtained samples from Kazakhstan, Kirgizstan, Ukraine. Museum specimens deposited in the Zoological Institute of Russian Academy of Sciences (St. Petersburg), Zoological Museum of Moscow University (Moscow), Siberian Zoological Museum (Novosibirsk), Institute of Biology and Soil Sciences (Vladivostok), Natural History Museum (London), Naturhistorisches Museum Wien (Vienna), Natural History Museum (Budapest), and the United States National Museum of Natural History (Washington) were also examined.

Data about distribution were taken principally from Knížek [2011] and data about host plants from Pfeffer [1995] and Krivolutskaya [1958, 1983, 1996], but many unlisted sources were used as well as the authors’ own field observations.

Photographs of beetles were taken using a Canon 50D camera and macro lens MP-E 65mm, and processed using the program CombineZP.

Results

**KEY TO THE RUSSIAN GENERA IN THE HYLASTINI:**

1. Third tarsal segment emarginate, narrow, 1.0–1.1x as wide as the second segment (Fig. 13); pronotum without noticeable constriction in the anterior third of its length or this constriction is only poorly developed, sides of pronotum usually parallel for most of its length, form of pronotum elongate-oval when viewed from above (Figs 17–18); pronotum more elongated, averaging 1.2x longer than wide; pronotal disc lacking or with fewer small than large punctures (Figs 9–11) ............ *Hylastes* Erichson, 1836 — Third tarsal segment bilobed, broad, 1.3–1.7x as wide as the second segment (Fig. 14); pronotum with conspicuous constriction on anterior third, strongly narrowing anteriorly, nearly triangular when viewed from above, broad (Fig. 19), 0.9–1.1 times as long as wide; pronotal disc usually with about equal number of smaller and larger punctures ...................................... *Hylurgops* LeConte, 1876

**Genus *Hylastes*** Erichson, 1836

In Russia and neighboring countries (in borders of the former USSR) 10 species are recorded. Out of these, *H. parallelus* Chapuis, 1875 is unknown to us and therefore not included in the key. It is apparently closely related to *H. ater* (Paykull, 1800) and *H. brunneus* (Erichson, 1836) according to Murayama [1962], but differs from these by the widely rounded, not nearly rectangular, basal angles of pronotum, the very large and shallow punctures on elytral striae, and narrow interstriae. The structure of ventrite 5 in the male in *H. parallelus* is undescribed in literature. Nobuchi [1969] made notes on the proventriculus of but without illustrations. This description did not allow us to establish differences between *H. parallelus* and *H. brunneus*.

**KEY TO THE *HYLASTES* SPECIES OF RUSSIA AND NEIGHBORING COUNTRIES:**

1. Pronotum subrectangular, anterior half wider or of equal width to the posterior half, 1.2–1.35 x as long as wide, pronotal disc with strong elongated punctures, longitudinal median area impunctate, slightly elevated, elytra 1.85–2.00 x as long as wide, with strongly developed striae, interstriae with fine recumbent setae, replaced on declivity by minute scales and single rows of semi-erect bristles. Rostrum with a very fine, sometimes inconspicuous longitudinal keel. Apex of male ventrite 5 with faint median impression, covered by minute erect setae, pubescent area forms small triangle; male genitalia as in Fig. 23; 3.0–4.5 mm ............................................ *H. linearis*
— Pronotum widest on posterior half, 0.9–1.2 x as long as wide, pronotal disc with more or less round punctures, median impunctate area variable, short or long .......................... 2

2. Rostrum without extensive transverse impression, either with weak impression just above mandibles or without impression and without an elevated longitudinal median keel (Fig. 16) .......................................................... 6

— Rostrum with transverse impression occupying at least 1/3 of rostrum length, with longitudinal median keel, sometimes feebly developed or interrupted above upper border of transverse impression (Fig. 15) .......................... 3

3. Elytral interstriae both on disk and on declivity covered by recumbent golden hair-like setae arranged in 3 unregular rows (Figs 2, 5), these rows continue on declivity; declival interstriae with single rows of erect pale bristles (Fig. 6); in males median impression of ventrite 5 conspicuous and clearly visible from apex of ventrite up to its center, lateral portions of ventrite 5 weakly elevated (Figs 27, 29–30); male genitalia with apophyses separated at base, without apical plates at penis apex (Figs 21–22); 3.6–4.1 mm .......................................................... H. substratius

— Elytral interstriae on disk with recumbent pale hair-like setae, in some species setae very small, barely noticeable (Figs 1, 3–4); on apical declivity clearly visible minute recumbent scales substitute for these setae and, besides, declival interstriae with single rows of erect pale bristles (Fig. 6); in males median impression of ventrite 5 conspicuous and clearly visible from apex of ventrite up to its center, lateral portions of ventrite 5 weakly elevated (Figs 27, 29–30); male genitalia with apophyses fused at base, penis apex with large apical plates (Figs 24–25) ........................................ 4

4. Pronotum wide, 0.94–1.15 x as long as wide, slightly constricted on anterior third or sides in anterior third rectilinearly narrowing towards the rounded apex (Figs 1, 18); Elytra short and broad, 1.46–1.76 x as long as wide, equal in width or wider than pronotum, elytral interstriae on disc with short recumbent pale hair-like setae arranged in two or three rows (Fig. 1). Pronotal punctures large, deep, densely located, space between punctures with fine reticulation (Fig. 11). In males ventrite 5 with subapical median depression and broad trapezoid tuft of light yellow setae (Fig. 30); often longitudinal carina in frons short, developed usually in epistomial area only and interrupted when continues to front; 3.5–4.6 mm .......................................................... H. conicularius

— Pronotum distinctly longer than wide, oval, without constriction in the anterior third, sides of pronotum in basal half almost parallel, straight; body more slender, elytra 1.6–2.0 x as long as wide, distinctly wider than pronotum; space between punctures on pronotal disc without reticulation (Figs 9–10); in males ventrite 5 with triangular tuft of setae .......................................................... 5

5. Surface of pronotum and elytra shining (Fig. 10); lateral sides of pronotum rounded on apical third; in males triangular hair tuft on ventrite 5 with glabrous longitudinal median area dividing tuft into two parts (Fig. 29); 3.4–4.8 mm .......................................................... H. brunneus

— Surface of pronotum and elytra dull (Fig. 9); lateral sides of pronotum subparallel; in males triangular tuft of setae on ventrite 5 entire without glabrous median area (Fig. 27); 3.4–4.8 mm .......................................................... H. ater

6. Pronotum short, only slightly elongated, 1.05–1.09 x as long as wide. Rostrum flat, with short longitudinal median pit above transverse depression on epistoma. Elytra either black or brown. Body length not exceeding 3.0 mm .......... 8

— Pronotum very short and oval, 1.01–1.04 x as long as wide, with weak constriction in anterior third. Rostrum weakly convex with only weakly marked transverse impression above epistoma, without pit. Elytral interstriae with two rows of hair-like setae on disk and one row of setae on declivity. Body color black. 2.5–3.5 mm ........ 7

7. Elytral striae strongly punctured; interstriae slightly wider than striae. Pronotum 1.01–1.03 x as long as wide, densely punctured and with median keel-like longitudinal impunctate area. 2.9–3.5 mm .......................... H. opacus

— Elytral striae more coarsely punctured; interstriae as wide as striae. Pronotum slightly longer, 1.04 x as long as wide. 2.6–3.5 mm .......................................................... H. plumbeus

8. Pronotum with weak constriction in anterior third. Elytral striae deeply and coarsely punctured; interstriae narrower than striae, each with a single row of hair-like setae from base to declival apex; these setae are recumbent on disc and semi-erect and bristle-like on declivity. Body blackish-brown or elytra may be reddish-brown. 2.0–2.6 mm .......................................................... H. attenuatus

— Pronotum oval, without signs of constriction in anterior third. Elytral interstriae as wide as striae, with two rows of recumbent hair-like setae in the basal half and one row of semi-recumbent hair-like setae on declivity. Body black. 2.5–3.0 mm .......................................................... H. angustatus

Annotated list of species of Hylastes of Russia and neighboring countries.

1. H. angustatus (Herbst, 1793)


DISTRIBUTION. Russia: European part (central and southern parts), Crimea, North Caucasus (Adygeya Republic, Dagestan) [Petrov, 2005]; European countries of the former USSR (Belarus, Estonia, Latvia, Lithuania, Moldova, Ukraine), Caucasus; Northern, Central and Southern Europe; Asia (Turkey); South Africa (introduced).

HOSTS. Pinus sylvestris, Pinus nigra pallasiana, Pinus spp., also on Picea orientalis.

NOTES. H. angustatus is difficult to distinguish from H. opacus: records of H. angustatus from the northern half of European part of Russia should be verified. At least the previous records of H. angustatus from Leningrad Prov. of Russia [Mandelstham, Popovichev, 2000] are erroneous and most probably must be attributed to H. opacus [Mandelstham, Khairetdinov, 2017].

2. H. ater (Paykull, 1800)

Fig. 4, 6–7, 9, 24, 27.

— angusticolis Eggers, 1929.

— anomalus (Oke, 1934).

— chloropus (Duftschmid, 1825).

— pinicola Bedel, 1888.

DISTRIBUTION. Russia: European part south from Moscow, Kaliningrad Prov., Crimea, North Caucasus, Western and Eastern Siberia (up to southern regions of Krasnoyarsk Prov.); European countries of the former USSR (Belarus, Latvia, Lithuania, Ukraine), Caucasus, Middle Asia (Kazakhstan); Northern, Central and Southern Europe; Asia (China, including Northeast provinces: Heilongjiang, Japan, North Korea, South Korea, Turkey); North Africa (Algeria) introduced to Chile and New Zealand.

HOSTS. Pinus sylvestris, Pinus nigra, Pinus spp.

NOTES. This species by many authors, including Murayama [1962] and Schelli [1981], was considered to be a senior synonym of H. brunneus and H. aterrimus. As a
result, many records of *H. ater* from Siberia, Russian Far-East and Asiatic countries may in fact refer to *H. brunneus* (= *H. aterrimus*). Besides, in Japan *H. parallelus* Chapuis, 1875 most probably substitutes completely for *H. ater*. According to Krivolutskaya [1996] *H. ater* does not breed in Russian Far East. Records of the species for Kazakhstan [Kostin, 1973] may refer to *H. brunneus*. *H. ater* which has been reported for Leningrad Province of Russia and farther

Figs 1–6. Bark beetles of the genus *Hylastes*: 1 — *Hylastes cunicularius*; 2, 5 — *H. substriatus*; 3 — *H. brunneus*; 4, 6 — *H. ater*; 1–4 — habitus, dorsal view; 5–6 — elytral declivity; 1–4 — males; 1, 3 — Photographs from www.zin.ru/Animalia/Coleoptera. Author Kirill V. Makarov. Used with permission as indicated on website.
to the North, for Estonia and Finland in some earlier references, does probably not have viable, permanent populations in the region [Voolma et al., 2004].

3. *H. attenuatus* Erichson, 1836

Fig. 16.

**DISTRIBUTION.** Russia: European part south from Moscow, Crimea, North Caucasus; European countries of the former USSR (Belarus, Estonia, Latvia, Lithuania, Ukraine), Caucasus; Northern, Central and Southern Europe [Pfeifer, 1995; Lekander, 1965]; Asia (China, including Northeast provinces: Heilongjiang, Liaoning and Taiwan, Japan, South Korea, Turkey); North Africa (Madeira).

**HOSTS.** *Pinus sylvestris*, *Pinus nigra pallasiana*, *Pinus spp.*

4. *H. brunneus* Erichson, 1836

Figs 3, 10, 25, 29.

= *aterinus* Eggers, 1933.

= *rotundicollis* Reitter, 1895.

**DISTRIBUTION.** Russia: European part, Western and Eastern Siberia, including Transbaikalia and Sakha Republic, Khabarovsk Terr., Primorsk Terr.; European countries of the former USSR (Belarus, Estonia, Latvia, Lithuania, Ukraine), Caucasus; Northern, Central and Southern Europe; Asia (China, Japan, North Korea, Syria, Turkey); North Africa (Algeria).

**HOSTS.** Preferentially on *Pinus sylvestris*, also on *Pinus koraiensis*, *Pinus spp.*, *Picea spp.;* recorded rarely on *Picea schrenkiana* [Marikovskiy, 1956].

**NOTES.** In our opinion this species substitutes *H. ater* in the Far-East [Schedl, 1968].

5. *H. cunicularius* Erichson, 1836

Figs 1, 11, 18, 30.

= *starki* (Eggers, 1933).

**DISTRIBUTION.** Russia: European part where spruce grows, up to the Murmansk Prov. in the north, Western and Eastern Siberia, Primorsk Terr., Sakhalin Island; European countries of the former USSR (Belarus, Estonia, Latvia, Lithuania, Ukraine), Caucasus; Northern, Central and Southern Europe; Asia (China, Japan, North Korea, Syria, Turkey); North Africa (Algeria).

**HOSTS.** *Picea abies, P. jezoensis, P. obovata, P. orientalis*, rarely on *Pinus sp. and Larix sp.*

---

Figs 7–11. Details of bark beetles from genera *Hylastes* and *Hylurgops*: 7, 9 — *Hylastes ater*; 8 — *Hylurgops palliatus*; 10 — *Hylastes brunneus*; 11 — *Hylastes cunicularius*; 7–8 — proventriculus; 9–11 — punctures of pronotal disc; 7–8 — photographs by Kirill V. Makarov.

Рис. 7–11. Детали строения короедов родов *Hylastes* и *Hylurgops*: 7, 9 — *Hylastes ater*; 8 — *Hylurgops palliatus*; 10 — *Hylastes brunneus*; 11 — *Hylastes cunicularius*; 7–8 — провентрикулюс; 9–11 — пунктировка переднеспинки; 7–8 — фотографии К.В. Макарова.
6. *H. linearis* Erichson, 1836
   = *clavus* Wollaston, 1854.
   = *corticiperda* Erichson, 1836.
   = *variolosus* Peris, 1852.
   DISTRIBUTION. Russia [Pfeffer, 1995]; Ukraine (sporadically in western provinces) [Nikulina et al., 2015]; Central Europe [Nunberg, 1981]; Southern Europe; Asia (Cyprus, Israel, Syria, Turkey); North Africa (Algeria, Cyprus, Morocco, Tunisia); South Africa (introduced).
   HOSTS. *Pinus halepensis*, *Pinus sylvestris*, *Pinus sp.*
   NOTES. The authors have not seen specimens from the territory of Russia.

7. *H. opacus* Erichson, 1836
   = *simples* Rey, 1892.
   DISTRIBUTION. Russia: European part, Western Siberia, including Altay, Eastern Siberia, including Sakha Republic, Amur Prov., Primorsk Terr.; European countries of the former USSR (Belarus, Estonia, Latvia, Lithuania, Ukraine), Caucasus, Middle Asia (Kazakhstan); Northern, Central and Southern Europe; Asia (China: Manchuria, Japan, Mongolia, North Korea, South Korea); North America (USA).
   HOSTS. *Pinus sylvestris*, *Pinus sp.* spp., rarely on *Picea abies*.

8. *H. paralellus* Chapuis 1875
   DISTRIBUTION. Russia: East Siberia, Far-East [Knížek, 2011], Asia (China, including Northeast provinces: Heilongjiang, Jilin, etc., including Taiwan; Japan, South Korea).
   HOSTS. *Pinus densiflora*, *Pinus sp.* [Murayama, 1962].
   NOTES. This species is unknown to the authors and is probably not occurring in Russia. It was not mentioned in previous keys and revisions of the Far-Eastern bark beetle fauna [Kurentsov, 1941; Stark, 1952; Krivolutskaya, 1996]. Data about the occurrence of *H. paralellus* in Russia are given according to Knížek [2011]. Murayama [1962] notes that the species is closely allied to *H. ater* and very common through Japan, but very rare in the Asiatic continent.

9. *H. plumbeus* Blandford, 1894
   = *fushunensis* (Murayama, 1940). 
   = *obscurs* Chapuis, 1876.
   = *septemtrionalis* Eggers, 1923.
   DISTRIBUTION. Russia: European part (Arkhangelsk Prov., Karelia Republic, Leningrad Prov., Uralian Region), Western and Eastern Siberia, including Altay, Irkutsk Prov. and Sakha Republic, Khabarovsk Terr., Primorsk Terr., Kamchatka; Europe (Finland, Poland, Sweden); Asia (China, including Northeast provinces: Heilongjiang, Jilin; few other provinces, including Taiwan; Japan, North Korea, South Korea).
   HOSTS. Preferentially on *Picea abies*, *P. jezoensis*, *P. obovata*, also on *Pinus koraiensis*, *Pinus thunbergii*, *Pinus densiflora* [Murayama, 1940], rarely on *Larix sibirica*, *Abies nephrolepis* [Stark, 1952].

10. *H. substratis* Strohmeier, 1914
    Figs 2, 5, 12, 15, 17, 21–22, 28.
    DISTRIBUTION. Middle Asia (Kirgizia, Kazakhstan: Trans-Ili Alatau), Asia (Western China). Records from Turkey [Knížek, 2011] are doubtful; probably absent in Turkmenistan and Uzbekistan [Stark, 1952].
    HOSTS. *Picea schrenkiana*, also recorded from *Pinus sylvestris* [Temreshev, Kolov, 2013; Temreshev et al., 2016].

   **BIOLOGY.** This species infests only unhealthy, damaged trees. The species preferentially attacks standing trees usually already weakened by other bark and phloem tunneling insects. On fallen trees, the galleries are built on the lower part of the trunk which is in contact with the ground. One necessary condition for successful breeding is high humidity; hence, the species is most common nearby mountain rivers and streams [Temreshev et al., 2016]. It can be found very rarely on naked roots or roots surrounded by the dry litter [Stark, 1952]. Galleries are built usually in the root neck of spruces in area covered by litter or mosses. According to Marikovský [1956], *H. substratis* lives in large roots of spruces, under a layer of soil up to 30–40 cm deep. The species is monogamous as other *Hylastes* species. There is one generation per year. Larvae overwintered [Parfent’ev, 1951], however it was reported [Temreshev et al., 2016] that beetles and pupae may also overwinter. Beetles are active during all summer period starting from May, mass flight period is restricted by mid-May and beginning of June. The species frequently uses galleries of *Ips hauseri* Reitter, 1895 for penetration under the bark and for maturation feeding [Temreshev et al., 2016]. Beetles build a longitudinal parental gallery under the bark, where larvae galleries are tightly spaced, crossing and fusing into one cavity filled by frass. Imagines emerge at the beginning of August. Maturation feeding then occurs in the galleries and also in the bark of root necks and roots of young spruces and pines [Temreshev et al., 2016]. *H. substratis* is a very common species in *Picea schrenkiana* windbreak sites in Ile-Alatau National Natural Park [Temreshev, Kolov, 2013]. Besides, the species was found on pine and spruce logs in lumber yards in Almaty Province of Kazakhstan.

**Genus Hylurgops** LeConte, 1876

Six species of *Hylurgops* are recorded from Russia and neighboring countries.

**KEY TO THE SPECIES OF HYLURGOPS IN RUSSIA AND NEIGHBORING COUNTRIES.**

1. First and third elytral declivital interstriae elevated; second interstriae impressed. All interstriae in posterior half of elytra with single rows of loosely set pointed tubercles and long erect setae. Body color uniformly light red. 4.3–4.5 mm ................................................................. *H. interstitialis*
   — None out of declivital interstriae elevated, all interstriae of same height ......................................................... 2

2. Second elytral declivital interstriae without tubercles and raised setae, covered with dense scales only. Elytral interstriae in basal half of elytra with dense recumbent golden hair-like setae, very short and sparse inclined erect setae are present only on declivity, sometimes in obscure rows. Body color very dark brown, nearly black. Beetles robust (Fig. 20), 4.5–5.5 mm .................. *H. glabatus*
   — All elytral declivital interstriae with small tubercles and erect or inclined hair-like setae. Elytral interstriae in basal half of elytra with sparse recumbent hairs, or declivity with conspicuous erect or inclined setae, or beetles bicolored. Beetles usually smaller .............................................. 3

3. Upper side of beetles uniformly colored, blackish-brown or reddish brown with the exception of black head .... 4
   — Upper side of beetles usually bicolored, head and pronotum black, elytra dark-red or rusty red, anterior pronotum margin rufous .......................................................... 5

4. Each interstria in apical half of elytra and on declivity with single row of long thin erect hair-like setae oriented nearly vertically, each hair length exceeding width of interstria.
A key to species of the tribe Hylastini from Russia

Elytral striae deep and wide, interstriae of same width as striae or slightly wider. Beetles shorter and wider, elytra wider posteriorly, 1.5x as long as wide. 3.2–4.0 mm ....

\[ \text{H. longipillus*} \]

Each interstria in apical half of elytra and on declivity with single row of short thick inclined, semi-recumbent bristle-like setae much shorter than interstrial width. Elytral interstriae significantly wider than striae. Beetles long and slender, with sides parallel, elytra 2x as long as wide.

\[ 3.5–4.5 \text{ mm} \]

\[ \text{H. spessiwzeffi} \]

* All dissected H. longipillus specimens were males and all H. spessiwzeffi specimens were found to be females. It may turn out that these morphologically different forms represent only one biological species.


5. Body larger 4.0–5.0 mm. Inclined erect, conspicuous bristle-like setae narrowing apically, often of reddish shade present in apical half of elytra and on declivity only, each interstria with one row of erect setae. Interstriae 1.5–2.0x wider than striae, in the anterior half look glabrous, microscopic setae covering interstriae in anterior half of elytra inconspicuous and only barely noticeable. Body surface shining, whole body blackish-brown, broad. .......................................................... H. transbaicalicus

6. Body smaller, less than 3.2 mm. Both basal and apical halves of elytra with rows of inclined erect interstrial bristle-like setae. .......................................................... 6

6. Interstriae along whole elytral length from base to apex with one row of inclined erect hair-like setae. Besides, anterior two thirds of elytra with recumbent setae or hair-like scales (in old rubbed beetles these recumbent setae may be partially lost), declivity with dense scales. Beetles reddish-brown, only head may be black. Beetles at least


faintly shining. Front with or without longitudinal carina. 2.0–3.2 mm
— Elytra without ground scales and hair-like ground vesti-
ture, only with rather short erect hair-like setae forming
one interstrial row on elytral disc and 1–2 rows on
declivital interstriae. Beetles almost opaque. Front with-
out longitudinal carina. 2.0 mm

1. *H. glabrat us* (Zetterstedt, 1828)
Figs 19–20.

2. *H. inouyei* Nobuchi, 1959

3. *H. interstitialis* (Chapuis, 1875).


5. *H. palliatus* (Gyllenhal, 1813)
Figs 8, 14, 26.

**NOTES.** Our study of Reitter’s type of *Hylastes imitator*
type preserved in NHMB has demonstrated its identity with
*Hylurgops interstitialis*: both species are similar in structure
of elytral declivity having raised first and third interstriae and
thus *H. imitator* (Reitter, 1900) is considered as a synonym of
*H. interstitialis*, **syn. nov.**


**DISTRIBUTION.** Russia: Amur Prov., Khabarovsk Terr.,
Primorsk Terr., Sakhalin Island, Kamchatka Prov. (imported
with wood); Asia (China, including Northeast provinces:
Heilongjiang, Liaoning, etc.; Japan, North Korea).

HOSTS. *Pinus koraiensis*, less commonly on *Picea jezo-
ensis*, *Pinus sp.*, and *Larix sp.*

**NOTES.** All dissected specimens of *H. longipillus* were
found to be males and all dissected specimens of *H. spessiwz-
effi* were females. Profound sexual dimorphism is untypical
for the genus *Hylurgops*. *H. longipillus* is characterized by
stout body and long erect declivital hair-like setae and *H.
spessiwzeffi* — by slim body and minute semi recumbent
declivital setae. These forms as a rule are collected together,
have the same distribution and same host-plants in the Rus-
sian Far-East. Further observations in the nature and DNA
analysis is required to confirm the synonymy of *H. longipil-
lus* and *H. spessiwzeffi* that is quite probable. *H. longipil-
lus* was erroneously synonymized with *H. imitator* by Knížek
[2011], but as have demonstrated investigation of type from
NHMB, *H. imitator* is a synonym of *H. interstitialis* and not
of *H. longipillus*.

5. *H. palliatus* (Gyllenhal, 1813)
cunicularius*.

**NOTES.** Our study of Reitter’s type of *Hylastes imitator*
type preserved in NHMB has demonstrated its identity with
*Hylurgops interstitialis*: both species are similar in structure
of elytral declivity having raised first and third interstriae and
thus *H. imitator* (Reitter, 1900) is considered as a synonym of
*H. interstitialis*, **syn. nov.**

6. H. spessiwezzfi Eggers, 1914
= modestus Murayama, 1937.
= squamosum Murayama, 1942.

DISTRIBUTION. Russia: eastern parts of Sakha Republic, Amur Prov., Khabarovsky Terr., Primorsky Terr., Sakhalin Island; Asia: Northeast territories and Taiwan; Japan, North Korea, South Korea.

HOSTS. Pinus koraiensis, less commonly on Picea sp., Pinus sp., and Larix sp.

NOTES. H. spessiwezzfi may only represent a female of H. longipilus.

7. H. transbaicalicus Eggers, 1941

DISTRIBUTION. Russia: southern parts of Sakha Republic, Khabarovsky Terr., Primorsky Terr., Kamchatka Prov. (imported with wood); Asia (Japan).

HOSTS. Pinus koraiensis, less commonly on Picea jezoensis and Larix sp.

NOTES. This species is erroneously referred to as Hylurgops imitator in most Russian entomological literature [e.g. Kurentsov, 1941; Stark, 1952; Krivolutskaya, 1996 and other uncited sources], but as we have demonstrated by the investigation of types in NHMB and USNM, H. imitator is a synonym of H. interstitialis and, hence, H. transbaicalicus is a valid species.

ACKNOWLEDGEMENTS. We express our most sincere gratitude to Dr. Boris Korotyaev (Zoological Institute, St. Petersburg, Russia), Dr. Nikolay Nikitisky and Alexey Gusakov (Zoological Museum of Moscow University, Russia), Dr. Harald Schilhammer and late Dr. Heinrich Schönmann (Natural History Museum, Vienna, Austria), Dr. Otto Merkl (Natural History Museum, Budapest, Hungary), Dr. Natalia Vandenberg and Lourdes Chamorro (United States National Museum of Natural History, Washington, DC, USA) for providing access to the collections. The authors thanks Kirill Makarov, Yuri Sundukov, Maksim Sergeev for the provided entomological material. Our most sincere gratitude is addressed to Dr. Kirill Makarov for permit to use his high-quality photographs for the paper. Dr. Bjarte Jordal (University of Bergen, Norway) is thanked for helpful hints allowed to improve manuscript and checking the language. The research was supported by a grant from the Russian Fund for Basic Research (No. 17-04-00360a). Studies in Kazakhstan Republic were supported by grant of Russian Fund for Basic Research (No. 17-04-00360a).

M.Yu. Mandelshtam, A.V. Petrov

References


