

## Notes on some species of *Hylastes* Er. and *Trypophloeus* Fairm. (Coleopt. Scolytidae).

By  
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While working up the Danish Scolytidae for "Danmarks Fauna" I made a few observations which might be of further interest and therefore are mentioned below.

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My best thanks are also due to Mr. Hans Johansen, Zoological Museum, Copenhagen, who has translated different paragraphs in V. Stark's work.

### 1. *Hylastes* Er.

#### A. *H. cunicularius* Er., *brunneus* Er., and *ater* Payk.

Of *Hylastes* species with a median carina in front of the rostrum three species occur in Denmark: *cunicularius* Er., *brunneus* Er. and *ater* Payk. The two last species have here — as well as in Sweden — hitherto been confused under the name *ater* Payk. In Norway *ater* Payk. has not been found, but *brunneus* Er. has been named *ater* Payk.<sup>1)</sup> From Finland both *brunneus* and *ater* have

<sup>1)</sup> Strand, 1953, pp. 61—62.

been recorded<sup>1)</sup>, but according to my examination of Finnish material it seems that *ater* is also wanting in this country. This is in good agreement with the information received from England, according to which *brunneus* in this country is a northern, *ater* a southern species<sup>2)</sup>.

The three species vary considerably in several respects. The colour of the body varies from black to brown, and the names *ater* and *brunneus* are not appropriate, since *ater*, as a rule, is not darker than *brunneus*, rather the opposite. The micro-reticulation on the elytral interstices in *ater* is somewhat variable in extension, although it seems, that it can always be used for separating the species from the two others. The front-carina is, as a rule, short in *cunicularius*, and behind — on the back — not exceeding the two front-impresions, contrary to what is the case in *brunneus* and *ater*, but *cunicularius* is considerably variable in this respect, and the length of the carina is therefore inapplicable for separating *cunicularius*. The determination of the three species can therefore be difficult in diverging specimens. The late Hans Eggers (*in litt.*) segregated some new species: *subalpinus*, *intermedius* and *pupillatus*, but did not describe them (*nomina nuda*)<sup>3)</sup>. Dr. G.-A. Lohse, Hamburg, has been good enough to send me specimens of these three forms, determined by Eggers, as well as a specimen of *aterrimus* Eggers<sup>3)</sup>, also determined by Eggers. After examination of this collection I came to the result that *subalpinus* and *intermedius* are identical with *cunicularius* Er.<sup>4)</sup>, and that *pupillatus* and *aterrimus* are identical with *brunneus*.

1) Hellén, 1939, p. 117.

2) Blair, 1949, p. 89; Duffy, 1953, p. 12.

3) Horion 1951, p. 509. *H. aterrimus* is not — as stated here — a *nomen nudum*. It is described in Entom. Blätter 1933, p. 3.

4) Cf. Blair, 1949, p. 89.

In order to verify these results I examined the ædeagus of the acquired material, and this examination just

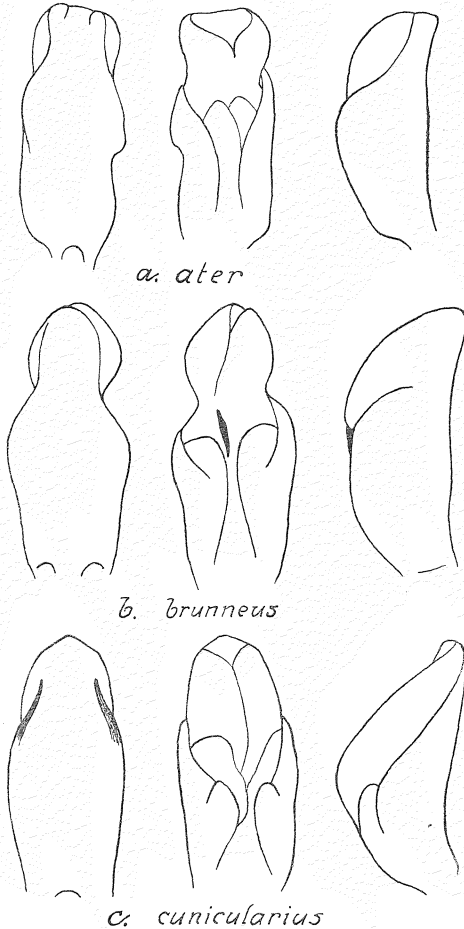


Fig. 1. Ædeagus of *Hylastes ater* Payk., *brunneus* Er., and *cunicularius* Er. from below, from above and from the side.

confirms the results. The ædeagus shows three distinctly different forms corresponding with the three species, see fig. 1. The ædeagus of *cunicularius* differs especially

from the two other species by the shape seen from the side. The ædeagus of *brunneus* is distinguished by a strong constriction of the apical part and the very dark, oblong, tapering part in the middle, seen from above. The ædeagus of *ater* is, among other things, characterized by the rounded tubercle in the middle of the right side, seen from below.

**Key to the species.**

1. Body broader. Pronotum not quite as long as broad, very closely punctured, rather shining, often — at least behind — feebly micro-reticulate. Elytra not quite twice as long as together broad, without micro-reticulation on the interstices. Ædeagus see fig. 1, c . . . . . 1. *cunicularius*.
- Body more slender. Pronotum at least as long as broad, rather closely punctured, very shining, usually without micro-reticulation. Elytra at least about twice as long as together broad. Ædeagus see fig. 1, a and b . . . . . 2.
2. Elytral interstices dull, entirely or chiefly micro-reticulate. Pronotum distinctly longer than broad. Ædeagus see fig. 1, a . . . . . 3. *ater*.
- Elytral interstices shining, without micro-reticulation. Pronotum usually as long as broad. Ædeagus see fig. 1, b . . . . . 2. *brunneus*.

1. **H. cunicularius** Er., Balachowsky p. 129, Stark p. 214; *subalpinus* Eggers, *intermedius* Eggers, nomina nuda.

Separated from the two following species by the characters given in the key. Further the rostrum is slightly broader, the sides of pronotum somewhat more rounded, scutellum a little broader and more closely punctured, the basal line of elytra a little curved backwards towards the scutellum, the interstices a little more raised, somewhat more strongly rugose, the striæ usually a little stronger and the scale-like clothing on the declivity slightly stronger and denser. Length 3.5—5 mm. — ♂: Ædeagus, see fig. 1, c.

The species is generally distributed in Fennoscandia and Denmark.

2. **H. brunneus** Er., Reitter, Balachowsky p. 128, Duffy; *aterrimus* Eggers, Stark p. 213; *pupillatus* Eggers, nomen nudum.

The basal line of elytra almost straight towards the scutellum. Length 3.5—5 mm. — ♂: Ædeagus, see fig. 1, b.

By the courtesy of Dr. K. Delkeskamp, Zoologisches Museum in Berlin, I have been able to examine the type of *brunneus* Er. It is, as indicated in Erichson's description, a reddish-brown specimen, and this made him give this species, which is normally deep black and not at all lighter than *ater*, a misleading name and erroneously state the lighter colour to be a feature distinguishing it from *ater*. The name *aterrimus* given by Eggers is much more characterizing but must be superseded by Erichson's older name.

The species is generally distributed in Fennoscandia and Denmark. In Denmark it is less common than *cunicularius*.

3. **H. ater** Payk., Reitter, Eggers, Blair, Balachowsky p. 128, Stark p. 212, Duffy.

Separated from *brunneus* by the characters given in the key. In addition, pronotum is more parallel-sided, the elytra a little more elongate and their striæ slightly weaker. The decisive character is the micro-reticulation of the elytra, and for the male the shape of the ædeagus. Length 3.5—5 mm. — ♂: Ædeagus see fig. 1, a.

The species has been found in a few localities in Denmark, but is undoubtedly here much rarer than the two preceding species. In Norway it has not been found, probably also not in Finland. In Sweden, where it has been found e. g. in Scania, it is presumably a southern species.

The type specimen (in Naturhistoriska Riksmuseum in Stockholm) has been examined by Andr. Strand<sup>1)</sup>.

<sup>1)</sup> Strand, 1953, p. 62.

**B. *H. attenuatus* Er., *angustatus* Hbst., *opacus* Er.,  
and *plumbeus* Blandf.**

*H. attenuatus*, *angustatus* and *opacus* are closely allied. Typical specimens are easy to distinguish, but since the species are subject to great variation the determination may sometimes be difficult. The difference in the ædeagus

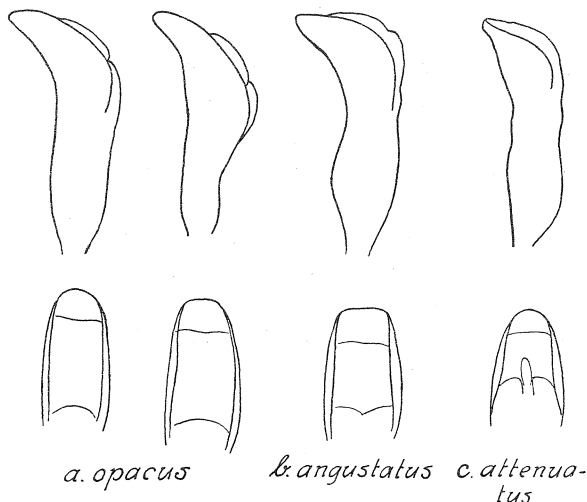


Fig. 2. *Hylastes opacus* Er., *angustatus* Hbst., and *attenuatus* Er. Ædeagus seen from the side (above) and from above.

gus confirms that they are really good species, see fig. 2. On *H. plumbeus* some remarks are made below p. 175—176.

**Key to the three species.**

1. The elytral interstices also in front with a single row of hairbearing small tubercles, the hairs rather long, also in front distinctly raised. Elytra as a rule brown and lighter than head and pronotum. Length 2—2.5 mm. . . . . 1. *attenuatus*.
- The elytral interstices at least in front with an irregular double row of hairbearing, small tubercles, the hairs rather short, in front very short and recumbent. Elytra as a rule black or brownish-black and not lighter than head and pronotum. Length 2.5—3.4 mm. . . . . 2.

2. Pronotum at least as long as broad. The rostrum as a rule with a short narrow longitudinal furrow at the base. Body narrower . . . . . 2. *angustatus*.  
 — Pronotum not quite as long as broad. The rostrum without a furrow at the base, exceptionally with a little, weak point in the middle. Body broader . . . . . 3. *opacus*.

1. **H. attenuatus** Er. A little narrower than *angustatus* and considerably narrower than *opacus*. The rostrum as a rule with a short longitudinal furrow at the base. Pronotum at least as long as broad. The elytral interstices generally a little narrower than in the two following species. — ♂: Ædeagus, see fig. 2, c.

The species has been found in Finland, in South Norway, and in Sweden (a single specimen from Gotland), but not in Denmark.

2. **H. angustatus** Hbst. Somewhat narrower and on an average slightly smaller than *opacus* with a little less rounded sides of pronotum and slightly narrower elytral interstices, especially the sutural interstice. Length 2.5—3.2 mm. — ♂: Ædeagus, see fig. 2, b.

The species has been found in South Norway, in Sweden (Gotland), and in Denmark (South Jutland), but not in Finland.

3. **H. opacus** Er. The biggest and broadest of the three species. Length 2.7—3.4 mm. — ♂: Ædeagus, see fig. 2, a.

The species is distributed in Fennoscandia and Denmark.

4. **H. plumbeus** Blandford, 1894; *obscurus* Chapuis, 1875; ?*septentrionalis* Eggers, 1923, 1933.

In the original description given by Chapuis (1875, p. 197) it is said that the species is so closely allied to *opacus* that it can only be distinguished from this species by a very careful examination, and that it is separated from *opacus* by having the interstices, which are very finely punctured and scarcely visibly granulated, nar-

rower than the striæ, while the interstices in *opacus* are said to be distinctly broader than the striæ.

Stark, 1952, p. 210 and pp. 217—219 says that *plumbeus* has deeper striæ than *opacus* and smooth interstices with a single row of small tubercles, while the interstices in *opacus* are finely granulated and have two rows of small tubercles. Further the front in *plumbeus* is indistinctly and rugosely, in *opacus* distinctly punctured.

Blandford, 1894, pp. 56—57, says that *plumbeus* is somewhat variable in the depth of the elytral striæ, and that the interstices have an irregular double row of bristles from the base to the middle, thence single.

As the bristles are placed on the small tubercles, and as in *opacus* the interstices are furnished with small tubercles, which are chiefly arranged in a single row, but in a varying degree, especially anteriorly, in an irregular double row, it will be seen that there is a considerable amount of uncertainty concerning the characters of *plumbeus*.

Eggers says 1933, p. 55 that his *septentrionalis* is identical with *plumbeus*, but in his description, 1923, pp. 135—136 it is said that *septentrionalis* stands between *H. angustatus* and *attenuatus*, while *opacus* is not mentioned at all. Further, that the interstices are "alle fein einreihig punktiert und fein gekörnt und mit einer Reihe gelber, fast anliegender Haare besetzt, nur der zweite Zwischenraum trägt eine unregelmässige doppelte Reihe".

These remarks do not help to clear up the matter, and as I have only seen a single specimen of *plumbeus* from Vladivostok I cannot say anything definite about this species. An examination of the ædeagus in *plumbeus* is undoubtedly necessary. In the material examined from Fennoscandia and Denmark I have not seen any specimen which could be a true *plumbeus*.



## 2. *Trypophloeus* Fairm.

The literature on this genus seems to be insufficient. The determination of the only species found in Denmark caused me trouble. I therefore obtained specimens of some species from Fennoscandia and the vicinity of Hamburg. The result of the examination of this material and of some specimens from Central Europe and Russia showed that — besides *alni* Lindemann<sup>1)</sup> — four species: *asperatus* Gyll., *grothi* Hagedorn, *bispinulus* Eggers, and *palmi* n. sp. occur in Fennoscandia and Denmark. *Tr. granulatus* Ratz. does not seem to have been found in the said countries and is perhaps a more southern species.

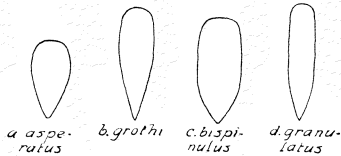


Fig. 3. Scales of species of *Trypophloeus*.

The species vary considerably in size and colour and also in other respects. Still the colour is perhaps in reality not so varying in fully mature specimens, but mature and immature individuals often occur together, and the colour of body, legs and antennæ is therefore inapplicable for determination<sup>2)</sup>. The best distinguishing characters seem to be the puncture of the hind part of the pronotum, the puncture and striæ on the back of the elytra, and the shape of the elytral raised setæ and of the recumbent scales on the back of elytra from the base to the beginning of the declivity. These scales are often somewhat varying within the same specimen, but by

<sup>1)</sup> This species is recorded from Finland (Karelia borealis) and North Norway. It is easily recognizable e. g. by the very elongate form with the elytra almost twice as long as together broad, and is not discussed in this paper.

<sup>2)</sup> See J. Klimesch, 1913, pp. 112—114.

closer examination it is as a rule not difficult to recognize the typical scale-form of the specimen, see fig. 3.

In the male the elytral declivity bears a small tooth on each side. These teeth vary considerably in size, and sometimes there are 2 or 3 teeth on each side (one behind the other). The teeth are apparently not usable for determination. On the other hand, the shape of the end of the ædeagus is of interest as first pointed out by J. Klimesch (1914, pp. 234—239), see below fig. 4.

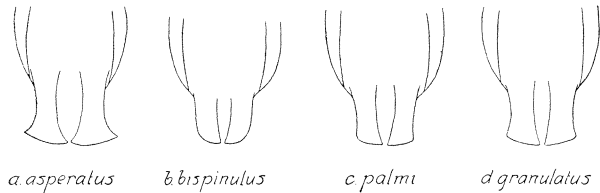


Fig. 4. Ædeagus of species of *Trypophloeus*.

**Key to the five species.**

1. The second row of raised setæ on the elytra interrupted or almost interrupted on the declivity until a little before the hind edge. Elytra very finely punctured, in front of the back (apart from the sutural stria) only with very indistinct, short rows of coarser points, in the scutellar region not distinctly coarser rugose or rugose-punctured; the recumbent scales short, broad, gradually tapering (fig. 3, a). Base of pronotum very finely punctured. Ædeagus see fig. 4, a . . . . 1. *asperatus*.
- The second row of raised setæ on the elytra not interrupted behind. Elytra at least in front on the back with distinct rows of coarser points, in the scutellar region rather strongly rugose or rugose-punctured; the recumbent scales of different form (fig. 3, b—d) . . . . . 2.
2. Base of pronotum on each side near the median line rather finely and diffusely punctured. Elytra on the back only in front with rows of coarser points, the recumbent scales on the front part of the back rather narrow, gradually tapering (fig. 3, b). Ædeagus as fig. 4, a . . . . . 2. *grothi*.
- Base of pronotum strongly and closely punctured. Ædeagus see fig. 4, b—d . . . . . 3.

3. The recumbent scales on the front part of elytral back long, narrow, hairlike (fig. 3, d), the raised setæ long and narrow, the punctured striæ feebly impressed, continued to the apex ..... 5. *granulatus*.  
 — The recumbent scales on elytra rather broad (fig. 3, c) ... 4.  
 4. Elytra rather dull, the punctured striæ on the back continued to the apex, distinctly impressed, the interstices feebly raised, the raised setæ rather short and fairly broad, scarcely tapering towards the end, which is somewhat truncate. Length 1.6—2.2 mm. .... 4. *palmi*.  
 — Elytra rather shining, the punctured striæ on the back (apart from the sutural stria) distinct only in front and not distinctly impressed, the interstices flat, the raised setæ longer and narrower, somewhat tapering towards the end. Length 1.4—2 mm. .... 3. *bispinulus*.

1. **Tr. asperatus** Gyll., Hagedorn (1904—1906, pp. 230—231), Klimesch (1913, p. 112, partim), Reitter (1916, p. 289), Palm (1950, p. 142), Stark (1952, p. 289); *binodulus* Ratz.; ?*granulatus* Balachowsky (1949, pp. 214—216).

Characterized by the features given in the key, especially the fine puncturation of the pronotum and the elytra and the posteriorly interrupted, or nearly interrupted second row of raised setæ on the elytra. Pronotum broader than long. On the elytra the raised setæ are short, and the suture behind somewhat elevated, on each side limited by a rather broad longitudinal impression. Length 1.2—1.6 mm. — ♂: The hind outer-angles of the endplates (“die Endplatten”, Klimesch) of ædeagus acutely prominent, somewhat variable in shape (fig. 4, a).

Found in Norway and Sweden, but hitherto not in Denmark, presumably not in Finland either.

This species is identical with Klimesch's *asperatus*, see his fig. 9, p. 238, except that I consider *grothi* a good species, see below. It is also identical with Stark's *asperatus*, of which I have seen specimens from Briansk, determined by Stark<sup>1</sup>). On the other hand, it cannot be

<sup>1</sup>) *Tr. berezinae* Stark l. c. p. 281 and p. 285 has the base of the pronotum finely punctured, the recumbent scales of elytra short

identical with Balachowsky's *asperatus* according to the characters (second row of raised setæ uninterrupted, recumbent scales narrow, see fig. 206, B, p. 216) given by him in the key and in the description. His *granulatus* might rather be identical with *asperatus* Gyll. On Balachowsky's fig. 201 (p. 210) it is stated in the legend to the figure p. 211 that the figure refers to *granulatus*, but on p. 215 that it refers to *asperatus*.

The type of *binodulus* Ratz. has been examined and described by Hagedorn (p. 231). This type, as well as the type of *asperatus* Gyll., no longer exists according to information given me by Mr. Heinrich E. Wichmann, Munich, and by Mr. Bertil Kullenberg, Uppsala, respectively.

I have seen specimens of the species from Kirtorf, Oberhessen (in coll. U. Saalas) determined by Eggers as "*grothi* Hag. = *asperatus* Gyll. = *binodulus* Ratz."

2. **Tr. grothi** Hagedorn (1904—1906, p. 232); *discedens* Eggers, nomen nudum.

Closely allied to *asperatus*, but distinguished by the following characters: Elytra in front on the back with distinct rows of coarser points, in the scutellar region rather strongly rugose or rugose-punctured, the raised setæ somewhat longer and the second row not interrupted behind, the recumbent scales on the front part of the back longer, narrower and more gradually tapering (fig. 3, b), the suture behind less elevated, the impressions on each side weaker or indistinct. Further, the body is somewhat more slender, the pronotum usually only a little or scarcely broader than long. In fully mature specimens the colour of the body is shining black or brownish black, the legs, especially femora, relatively

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and broad, absence of striæ also in the front part of elytra, and the second row of raised setæ interrupted on the declivity of elytra. It seems therefore somewhat doubtful, whether *berezinae* is specifically different from *asperatus* Gyll.

dark, and the club of the antennæ dark. Length 1.2—1.8 mm. — ♂: The end of the ædeagus as in *asperatus*, see fig. 4, a.

The species is described from Osdorf near Hamburg. It has been found also in Denmark and Sweden.

Since the appearance of J. Klimesch's paper *T. grothi* Hagedorn has been treated as synonymous with *asperatus* Gyll. by the authors (Reitter, Balachowsky, Stark etc.), but it is undoubtedly a good species. That the proventriculum ("der Kaumagen") and the ædeagus, as pointed out by Klimesch, do not present any difference in the two forms can not of course be decisive, and the abovementioned differences, especially in regard to the elytral scales and setæ whose characters are not at all mentioned by Klimesch must certainly justify the view that *grothi* is a good species. The objections raised by Klimesch to Hagedorn's description of *grothi* are undoubtedly right, but nevertheless it seems correct to use his name, *grothi*, for the species, since there is no doubt about the identity of his species. Indeed, according to the information given me by Mr. G.-A. Lohse, Hamburg, the type specimen no longer exists, but I have examined specimens (labelled "Osdorf, 5, 1904") from Hagedorn's material.

A description of *discedens* Eggers has not been published, so that the name is a nomen nudum, but from Statens Skogsforskningsinstitut in Stockholm I have seen specimens of *grothi* from Kalmar labelled by Eggers 1933 as *discedens* type ♂, cotype ♀. From Prof. O. Lundblad, Stockholm I have seen specimens of *grothi* (found near Bosjökloster, Scania, Sweden) determined by K. E. Schedl as *asperatus* Gyll. As mentioned above *asperatus* Balach. must be a species different from *asperatus* Gyll., and it is not likely that it is identical with *grothi*, as the figure of the recumbent scales (fig. 206, B, l. c. p. 216) does not agree with *grothi*.

3. *Tr. bispinulus* Eggers (1927, pp. 121—122), Palm (1950, p. 142), Stark (1952, p. 288); *granulatus* Sahlb. 1919.

Characterized by the following features: Base of pronotum strongly and closely punctured. Elytra only in front of the back with distinct rows of coarse points, in the scutellar region strongly rugose, the recumbent scales fairly broad, longer and more abruptly tapering than in *asperatus* (fig. 3, c), the raised setæ somewhat longer than in *asperatus*, rather narrow, somewhat tapering towards the end, the second row not interrupted behind. The body is fairly broad, rather shining, black or brownish black, legs and antennæ brown or yellowish brown. Pronotum broader than long. Length 1.4—2 mm. — ♂: The ædeagus is quite different from the ædeagus of the two preceding species, the hind outer angles of the endplates being rounded (fig. 4, b).<sup>1)</sup>

Norway, Sweden, Finland, Russia, but hitherto not in Denmark. Probably the records of *granulatus* Ratz. from Northern Europe refer to *bispinulus* (see Stark, 1952, p. 288).

The collection of Eggers is now in the U. S. A., and I have not seen the type of *bispinulus*. But by the courtesy of Prof. U. Saalas, Helsingfors, I have been able to examine specimens (labelled "Helsinki, U. Saalas"), that have been found together with the type, and a specimen (labelled "Lojo", 23. 7. 18, Håkan Lindberg), which according to his statement can be regarded as a cotype. I have also seen a Swedish specimen (from Statens Skogsforskningsinstitut, Stockholm) determined by Eggers in 1933. It appears from a correspondence between Eggers and U. Saalas that Eggers has been in great doubt as

<sup>1)</sup> The shape of the hind angles seems to be very similar to that of *rybinski* Reitter, see Klimesch 1914, p. 239, fig. 11, but *Tr. bispinulus* cannot be confounded with *rybinski* which has a much longer and slender form, and whose male has no teeth on the hind part of the elytra.

to this species which he first determined (1914) as *granulatus* and later (1919—20) as *grothi*.<sup>1)</sup>

4. **Tr. palmi** n. sp.; *discedens* Th. Palm, 1950, p. 142 (nec Eggers, see above p. 181).

Very closely allied to *bispinulus* but separated by the characters given in the key. From *granulatus*, which also has the elytral striæ complete (not shortened behind), it is easily distinguished by the broad recumbent scales on the front part of the back of the elytra and the much shorter, rather broad and somewhat truncate raised setæ. Length 1.6—2.2 mm. — ♂: The shape of the endplates of ædeagus intermediate between *bispinulus* and *granulatus*, the sides being a little less convex than in *granulatus*, and the hind outer-angles a little less rounded than in *bispinulus*, very slightly obtuse-angled.

Sweden: Östergötland (Omberg, leg. Palm), Uppland (Fiby Urskog, leg. Lundblad), Jämtland (Fors, leg. Palm). The specimens from Fiby Urskog were determined by K. E. Schedl as *granulatus* Ratz. Breeding in *Populus tremula*, often together with *bispinulus* Eggers and *asperatus* Gyll. (Palm, 1950, p. 142).

I have named this species after my friend, the distinguished Swedish coleopterist, Dr. Thure Palm of Uppsala, who first noticed the species. The type and allotype are in my collection.

5. **Tr. granulatus** Ratz., Hagedorn (1904—1906, p. 229), Klimesch (1913, p. 106, 1914, p. 237), Reitter (1916, p. 290), Stark (1952, p. 288), nec Balachowsky (1949, p. 214 and pp. 215—216), nec Saalas.

Closely allied to *palmi* and like this characterized by the complete, feebly impressed elytral striæ, but easily distinguished by the quite different shape of the elytral scales (fig. 3, d) and setæ. The setæ are somewhat taper-

<sup>1)</sup> As mentioned above p. 181, Eggers in 1934 called the true *grothi*: *discedens* n. sp.

ing towards the end. The elytral striæ are not quite so coarsely punctured as in palmi, and the interstices are flat or almost flat. Length 1.4—2.2 mm. — ♂: The end-plates of ædeagus with obtuse-angled hind outer angles and slightly convex sides (fig. 4, d).

The species has not been found in Fennoscandia and Denmark, and is probably a more southern species, see above p. 182.

This species is identical with Klimesch's *granulatus*, but it cannot be identical with *granulatus* Balachowsky according to the characters (second row of raised setæ interrupted behind, recumbent scales short and broad, see fig. 206 C, p. 216) given by him in the key and description. Also *asperatus* Balach. must be a different species since it has the base of pronotum very finely punctured (p. 215 in the key). The type of Ratzeburg has been examined and described by Hagedorn (pp. 229—230), but unfortunately, he does not mention the shape of the scales and setæ. According to information given me by Mr. Heinrich E. Wichmann of Munich, this type no longer exists. I have only seen specimens from Moravia, collected and determined by Klimesch and labelled: "Hradisch Mor. Sept. 1912. Johs. Klimesch"<sup>1</sup>). Some of these specimens have been determined also by Eggers as *granulatus* Ratz.

#### Literature cited.

- A. Balachowsky: Coléoptères Scolytides. Faune de France, 50. 1949.  
 K. G. Blair: Hylastes brunneus Er. (Col., Scolytidae) in Britain. Entom. Monthly Mag. 1949, p. 89.  
 W. F. H. Blandford: Rhyncophorous Coleoptera of Japan. Trans. Ent. Soc. London, 1894, p. 53—141.  
 F. Chapuis & W. Eickhoff: Scolytides recueillis au Japon par M. G. Lewis. Ann. Soc. ent. Belgique, 1875 (XVIII) p. 195—203.

<sup>1</sup>) See Klimesch, 1913, p. 105 and 1915, pp. 6—7.



- E. A. Duffy: Coleoptera, Scolytidae and Platypodidae (Handbooks for identification of British insects, Vol. V, Part 15), 1953.
- H. Eggers: Ent. Blätter 1923, p. 135—136 (*Hylastes septentrionalis*),  
l. c., 1927, p. 121—122 (*Trypophloeus bispinulus*),  
l. c., 1933, p. 3—4 (*Hylastes aterrimus*),  
l. c., 1933, p. 55 (*Hylastes plumbeus*).
- M. Hagedorn: Revision unserer Pappelborkenkäfer. Münch. Kol. Z. II (1904—1906), p. 228—233. Biologischer Nachtrag p. 372—373.
- Wolter Hellén: Catalogus coleopterorum Daniae et Fennoscandiae, 1939.
- Ad. Horion: Verzeichnis der Käfer Mitteleuropas, 2. Abt., 1951.
- J. Klimesch: Beiträge zur Kenntnis der Gattung Trypophloeus Fairm. (Glyptoderes Eichh.). Ent. Blätter 1913, p. 105—116, 1914, p. 213—219, 231—241, 1915, p. 6—13.
- Thure Palm: För Sverige nya Coleoptera IX. Ent. Tidskr. 1947, p. 44 (*Hylastes attenuatus*).
- : Die Holz- und Rinden-Käfer der nordschwedischen Laubbäume. Medd. Stat. Skogsforskningsinst. 40, Nr. 2, 1950.
- : Anteckningar om svenska skalbaggar V, Ent. Tidskr. 1950, p. 142—143.
- Edm. Reitter: Bestimmungs-Tabelle der Borkenkäfer (Scolytidae). XXXI. Heft, 2. Aufl., 1913.
- : Fauna Germanica, V. Band, 1916.
- V. Stark: Fauna U. S. S. R., XXXI [Barkbiller] 1952.
- Andr. Strand: Koleopterologiske bidrag VI. Norsk Ent. Tidsskr. IX, p. 61—62 (1953).
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