

From : Bulletin et Annales de la Société
Entomologique de Belgique, Vol. 70,
pp.33-40, 1930

NOTES ON SYNONYMY IN THE GENUS LACCOBIUS ER.

(COL. PALP.)

(Notes synonymiques sur le genre Laccobius Er.)

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by

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Translated for the National Science Foundation and the
U.S. Department of the Smithsonian Institution,
Washington, D.C., by the Agence Tunisienne de Public-
Relations Tunis-Tunisia

NOTES ON SYNONYMY IN THE GENUS LACCOBIUS ER.

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by A. D'Orchymont

In doing bibliographical research for a study of our Methyrus my attention has been drawn to Hydrophilus bipunctatus F., 1775, which is a Laccobius. It was described from Uppsala in Sweden as being of small size; with a black head spotted light in front of the eyes; with shiny black thorax, lighter on the sides; with elytra which were brown but lighter on the edges and each decorated, near the end, with a more or less visible light spot. Fabricius adheres to this diagnosis in all his publications (Syst. Ent., 1775, Spec. Ins., 1781, Mant. Ins., 1787, Ent. Svst., 1792 and Svst. El., 1801), except that in the third and fourth he associates with the species an incomprehensible synonymy, Dytiscus fuscipes of Linnaeus, Geoffroy's striated black Hydrophila. Also, in 1801, he added another unadopted synonym, Chrysomela minuta of Linnaeus. The authors Olivier, Herbst, Paykull and Laporte de Castelnau accepted this bipunctatus, but interpreted it each in his own way. It is difficult to know what they accepted under this name, and in fact there would seem to be no value in inquiring further into the question. Their writings seem, however, indicate that they were not considering the same species as Fabricius. In 1868, Thomson took a first step toward a more thorough distinction of the existing forms and admitted bipunctatus into the group with

regularly punctate-striate elytra, without however justifying his position. Later, in 1874, Rottenberg published, in the Berliner Entomologische Zeitschrift, XVIII, p. 305, his "Revision der europäischen Laccohius-Arten", in which he gave longer interpretations of the known forms, including bipunctatus. By comparing the descriptions of Thomson and of Rottenberg, and also the correctly identified materials, it is easy to see that these authors were not describing the same species; the diagnosis of the second concerned not Thomson's bipunctatus as is indicated, but a form as yet unknown at that time. This latter form was later characterized - under the name introduced by Rottenberg - by Rey, by Ganglbauer, etc., principally by the intermediate femora of the male more densely punctate and pubescent against the trochanter¹, the dark spot of the pronotum more reduced, more lacinate, especially laterally.

To remove all doubt concerning the distinction made above, it is sufficient to consult Gerhardt. After Rottenberg's death, and after studying his collection, Gerhardt published in Zeitschrift für Entomologie, Breslau, Neue Folge, VI, 1877.

¹ Not, however, so densely or so visibly as in the of striatulus F. (nigriceps Thomson). In this latter, the pubescence truly forms a padded area which is very distinctly independent of the surrounding small, sparse silks of the femur. In Rottenberg's species, the setiferous pores become more and more numerous against the trochanter, but without forming a distinctly delineated padded, pubescent area.

p. 8, an article entitled "Zur Gruppe A der Rottenberg'schen Laccobius-Arten", and knowing the supposed bipunctatus only from Rottenberg's materials, he gave details of it¹ which make it possible to recognize without fail the species studied. As Gerhardt had, in addition, specimens which did not fall within the framework of the species distinguished by Rottenberg, specimens with a pronotum completely smooth and without granulation between the punctation, with very pronounced light posterior spot of the elytra, etc., he described them as being new, under biguttatus. The bipunctatus of Thomson, which aside from the name is precisely this form, thus disappeared from the treatises after 1904, to be replaced by the new name under the influence of Ganglbauer's authority. Lameere, and perhaps Stierlin as well, were the last to use it, the first in his Manuel de la Faune de Belgique. Nonetheless Sainte Claire Deville in turn, and fairly recently², has expressed doubts as to the identity of the bipunctatus of Fabricius and as to nomenclature adopted by Ganglbauer, and it has therefore become urgent to examine the question more closely.

¹ Especially on page 26, on the subject of the very different form of the claws of the tarsi. These details are found in on the specimens I have had occasion to study, among others three subjects of Breslau, the locality from which Rottenberg's materials came.

² Ann. Soc. Ent. France, XC, 1921, p. 88

It was necessary first to appeal to Fabricius' types themselves, if possible. With a graciousness for which I wish again to thank him here, Dr. Olav Schröder, director of the zoological section of the University of Kiel, put at my disposal the four specimens of the Fabricius collection figuring there as Hydrophilus bipunctatus. These specimens are well preserved, each on a relatively fine pin; those I have labelled 1 and 2 are males, those I numbered 3 and 4 are females. They are small, 2.75 to 2.83 mm, and are indeed specimens of Laccobius, with curved posterior tibiae. The punctuation of the elytra is not disposed in very regular series (Fabricius does not specify in his diagnoses); the head and the pronotum are covered with fine granulation between the punctuation; the mentum is finely punctate and is smooth in the intervals; the intermediate femora have no dense field of pubescence at the base in the males; the posterior light spot of the elytra is more or less apparent; the prefrons is spotted light in front of the eyes; and, importantly, the two males have the labrum provided with very transverse, even linear, specula. All who have followed this list of characters will already have recognized the alutaceus of Thomson.

And in fact these four specimens do belong to that species¹. Thomson was thus mistaken in explaining the form of Fabricius, and he was wrong to describe his alutaceus as new.

Having thus retraced the origin of the two-fold confusion, which goes back at least as far as Thomson first, then Rottenberg, the question is now what name should be given to the binunctatus of the latter author, binunctatus Thomson (nec F.) being obviously the same thing as biguttatus Gerhardt. Ganglbauer has placed in synonymy with binunctatus Rottenberg (nec F., nec Thomson), an alpinus Kuwert, 1890, described from Bosnia from materials gathered by Appelbeck. Dr. Bolkay, conservator of the museum of Sarajevo, has been good enough to provide me with a typical ♂ : it is labelled "Apfelbeck, Ilidz. Sar."². This refers to the resort Ilidze near Sarajevo.

¹ I draw especial attention to the presence of these specula on the anterior edge of the labrum of the ♂♂ which is found in such a reduced form only in alutaceus, in the direction of the longitudinal axis of the body, to such an extent that they give the impression of a very narrow membranous border, rather than the two small rounded or elliptical mirrors so apparent in striatulus F. (nigriceps Thomson), atrocephalus Reitter (ytensis Sharp) and others. In order to see them well in the species with which we are concerned here, it is necessary to move the piece under the microscope until the light is reflected by the specula and penetrates the instrument along its axis.

² Size of this specimen: 2.92 x 1.67 mm under the micrometer.

The mentum of this specimen is very roughly punctate¹, the punctures being very deep and very close together, and their intervals form small, raised wrinkles. The intermediate femora are more densely pubescent at the base, and the elytra, while fairly regularly punctate-seriate, are not so regularly so as in minutus; the series are very close to one another and show here and there a few points which are not in alignment². In addition, the dark spot of the middle of the disk of the pronotum is shaped as Ganglbauer has described it for his bipunctatus. Thus there is no longer any doubt that albines Kuwert is the same thing as bipunctatus Rott., Ganglb. Aside from the type, I have seen only one ♂ from El Basan in Albania, three specimens from Breslau and a few ♂♀, without indication as to home (R.P. Ruschkamp leg.). I am happy to be able to restore a name which has already been introduced and not to be obliged to propose a new one. In all the specimens seen, the labrum and the dark parts of the head and of the disk of the pronotum show a light purpurin gleam.

¹ In opposition with the passage of Kuwert's diagnosis "Mentum ... fere languidum haud aut subtiliter dense punctatum." But this contradiction is only apparent, since the punctuation becomes confluent to the point of almost disappearing at first examination and of giving the mentum a "mat" appearance as is specified in the German text of the diagnosis.

² This explains the other passage which is apparently contradictory to the diagnosis: "elytris ... irregulariter ... seriatopunctatis."

Finally I wish to point out again that the bipunctatus of Rey is supposed to have the pronotum "almost smooth between the punctures," whereas in all the albipes I have seen it is finely alutaceous between this punctuation, which was also in fact observed by Rottenberg and Ganglbauer. Is this, as I suppose, no more than a question of appreciation, and would Rey have detected the fine granulation of the background of the pronotum if he had studied his materials under a sufficient enlargement? As I have seen no authentic specimen from France, Belgium or the Netherlands, I can do no more than raise the question. As I supposed in 1926, the of albipes has no specula under the labrum, which makes it easy to distinguish it from the ♂ of striatulus (nigriceps). The male of minutus L. and that of biguttatus Gerhardt do not have any either.

In ending I think it useful to give the detailed bibliography of the three species, modifying that given by Knisch in Junk, Col. Catal., Pars 79, 1924, Hydrophilidae, pp. 184 and 185, which contains several confusions. I have not been able to consult the following works cited by Knisch, and thus they have not been mentioned in this list:

OLIVIER, Encyclopédie méthodique, VII, 1792;

GYLLENHAL, Insecta Suecica, I, 1808;

SEIDLITZ, Fauna baltica, 1872;

STIERLIN, Col. Helv., 1900;

FOWLER, Col. Brit. Isl., VI, 1913;

TULLGREN et WAHLGREN, Svenska Insecter (2), 1920.

L. albipes KUWERT, Verh. Naturf. Ver. Brünn., XXVIII, 1889
(1890), p. 82-85 nota (1).

bipunctatus ROTTENBERG, Berl. Ent. Zeitschr., XVIII, 1874,
p. 307-315 (3). - MARSEUL, L'Abeille, XX, 1882, p. 144
(^o). - REY, Palp. in Ann. Soc. Linn. Lyon, XXXI, 1884
(1885), p. 297 (2). - GANGLBAUER, Käfer Mitteleur., IV,
1904, p. 252. - REITTER, Fna Germ., II, 1909, p. 364;
Süßwasserfna Deutschl., 1909, p. 75 (3). - KUHN,
Illustr. Bestim. Tab. Käf. Deutschl., 1913, p. 434,
fig. 89 A.a.B. (3). - DES GOZIS-BARTHE, Miscell. Entom.
XXIII, 1917, p. 50, 61 et 61, nota 1. - SAINTE CLAIRE
DEVILLE, Ann. Soc. Ent. Francee XC, 1921, p. 88 (2). -
EVERTS, Col. Neerl., III, 1922, p. 289, 290. -
A. D'ORCHYMONT, Bull. et Ann. Soc. Ent. Belg., 66, 1926,
p. 279 et 280, nota 1. (nec. F., 1775; nec. THOMSON, 1868)
Albania, Bosnia (1), Gallia (2), Germania (3) (*).

L. biguttatus GERHARDT, Zeits. Ent. Breslau, N.F., VI, 1877,
p. 23. - GANGLBAUER, Käfer Mitteleur., IV, 1904, p. 252. -
NEWBERRY, Entom. Monthl. Mag., 2, XIX, 1908, p. 30. -
REITTER, Fna Germ., II, 1909, p. 365; Süßwasserfna Deutschl.
1909, p. 75. - EDWARDS, Entom. Monthl. Mag., 2, XXIII, 1912,
p. 211. - KUHN, Illustr. Bestim. Tab. Käf. Deutschl., 1913,
p. 434. - DES GOZIS-BARTHE, Miscell. Entom., XXIII, 1917,

(^o) Extracted and translated by Rottenberg

(*) I have not yet seen authentic ♂♂ from Belgium or the
Netherlands. Considering the insect's rarity and the ease of
confusing it with closely related species, I list only the
countries of which I am absolutely sure.

p. 49, 53 et 61, nota 1. - SAINTE CLAIRE DEVILLE, Ann.
Soc. Ent. France, XC, 1921, p. 88. - EVERTS, Col. Neerl.,
III, 1922, p. 289, 291.

bipunctatus THOMSON, Skand. Col., X, 1868, p. 311, - BEDEL,
Fne Col. Bass. Seine, I, 1861, p. 313, 331. - SHARP,
Entom. Monthl. Mag., XXI, 1884-5, p. 85, 86. - FOWLER,
Col. Brit. Isl., I, 1887, p. 229, t. 33, f. 5 (d'après
EDWARDS). - SEIDLITZ, Fna Balt., 4d. 2, 1888, p. 110;
Fna Transylv., 1888, p. 117. - KUWERT, Verh. Naturf.
Ver. Brünn., XXVIII, 1889 (1890), p. 83. - EVERTS, Col.
Neerl., I, 1898 (1899), p. 647. - LAMBEERE, Man. Fne Belg
II, 1900, p. 332 (nec F., 1775; nec ROTTENBERG, 1874).
pallidus KUWERT, Verh. Naturf. Ver. Brünn., XXVIII, 1889
(1890), p. 83. - EVERTS, Col. Neerl., I, 1898 (1899),
p. 647 (nec CAST., 1840).

Anglia, Austria, Belgia, Gallia, Germania
Neerlandia, Rossia, Suecia, Transsylvania.

L. bipunctatus FABRICIUS, Syst. Entom., 1775, p. 229, n° 9;
Species Ins., I, 1781, p. 290, n° 10; Mant. Insect., I,
1787, p. 189, n° 12; Entom. Syst., I, 1792, p. 186, n° 22;
Syst. Eleuth., I, 1801, p. 254; n° 26 (Hydrophilus).
(? OLIV., Ent., III, 1795, n° 39, p. 16, t. 2, f. 14 a.b.
(Hydrophilus). - PANZER, Ent. Germ., I, 1795, p. 72; Fna ; I
Ins. Germ., 67, 1799, n° 14 (Hydrophilus). (? HERBST, Natur-
syst. Käf., VII, 1797, p. 309, t. 114, f. 5 E. - ? PAYKULL,
Fna Suec., I, 1798, p. 188. - ? LAPORTE DE CASTELNAU, Hist.
Nat. Ins., II, 1840, p. 56).

Europa.

? colon STEPHENS, Illustr. Brit. Entom., Mandib., II, 1829,

p. 133 (Hydrobius); Man. Brit. Col., 1839, p. 92 (+)
alutaceus THOMSON, Skand. Col., X, 1868, p. 313, - ROTTEN-
 BERG, Berl. Ent. Zeits., XVIII, 1874, p. 307, 317
 (alutacius) - BEDEL, Fne Col. Bassin Seine, I, 1881,
 p. 314, 331. - EVERETS, Tydschr. Ent. XXV, 1882, p. 18,
 Col. Neerl., I, 1899, p. 648; I. c., III, 1922, p. 290
 - SHARP, Ent. Monthly Mag., 21, 1884, p. 85, 86. - REY
 Ann. Soc. Linn. Lyon, XXXI, 1885, p. 301. - SEIDLITZ,
 Fna balt., 4d. II, 1888, p. 111; Fna transylv., 1888,
 p. 118. - KUWERT, Verh. Naturf. Ver. Brünn, 28, 1890,
 p. 81. - LAMEERE, Man. Fne Belg., II, 1900, p. 302. -
 BANGLBAUER, Käfer Mitteleur., IV, 1904, p. 254. -
 NEWBERRY, Ent. Monthly Mag., S. 2, vol. 19, p. 31
 (1908). - REITTER, Fna Germ., II, 1909, p. 365; Süss-
 wasserfna Deutschl., 3/4, 1909, p. 75. - EDWARDS J.,
 Ent. Monthly Mag., S. 2, vol. 23, 1912, p. 211. -
 KUHN, Ill. Best. Tab. Käf. Deutschl., 1913, p. 434.
 DES GOZIS, Miscell. Entom., XXIII, 1917, p. 50 et 59.
 A. D'ORCHYMONT, Bull. et Ann. Soc. Ent. Belg., 66,
 1926, p. 280.

(+) This name is placed in the Knisch catalogue as a
 dubious synonym of biguttatus Gerhardt, and would have
 priority if it should be proven that this is really the case.
 But the mention "elytra ... faintly punctate-striate, the
 disc darkest ..." leads me to suppose that this is
 Fabricius' bipunctatus, especially in that Stephens does not
 mention this name in his Manual of British Beetles.

biguttatus KUWERT, Verh. Naturf. Ver. Brunn., 28, 1890,
p. 82, - EVERTS, Col. Neerl., I, 1899, p. 648
(nec. GERHARDE, 1877).

Laccobius striatulus (Fabricius, 1801) Hydrophilus

L. nigricens Thomson, 1853.

L. perla Des Gozis, 1917 (nec Geoffroy).

According to the Krosch catalogue, Hydrophilus striatulus Fabricius designates the same species as nigricens Thomson, 1853. Nonetheless a question mark precedes the mention. The single and typical specimen of the Kiel collection that I have seen is pricked on a bad pin with no point and with a head as large as what remains of the insect, since the entire prothorax with the fore feet, as well as the head and its appendages, are lacking. Nonetheless we recognize here a Laccobius by the curved posterior tibiae and by the general morphology of the hing-body, which is all that remains, along with the elytra. This remainder is fairly dirty and has turned a uniform dark reddish color through age and the oxide of the pin. We have here a species which is large for the genus, as the elytra measure together 2.8 mm in length, 1.8 mm in width at the base, 2.3 mm in the middle. These are exactly the dimensions of a nigricens of ♀ sex which has been compared. The punctuation of the elytra ; in extremely irregular series with a few, sparse larger punctures, the sculpture of the intermediate and posterior femora, and finally that of the ventral abdominal segments are perfectly comparable, so that there is no doubt that Thomson has redescribed the speci

of Fabricius as new. Since the intermediate femora are not provided, at the base and underneath, with an area of more closely spaced and setiferous punctures, distinctly delineated by the surrounding punctuation, this is a ♀. At this part of the intermediate femora, one remarks only a few finer punctures, very widely spaced and a few very short silks spaced as in nigriceps ♀. Hydrophilus striatulus was, according to the Systema Eleutheratorum, I, 1801, p. 254, no. 25, described from Germany, but the type bears no label as to locality.

Des Gozis in Tableaux de détermination des Hydrophilides de la faune franco-rhénane, 1917, p. 56 has restored for this Laccobius¹ the name perla introduced by Geoffroy in 1785, as there is no doubt in his mind that perla was the first known in France and that it is there less rare than the northernmost minutus of Linnaeus. These reasons do not stand up if one consults the original texts (Geoffroy, in Fourcroy, Entomologia parisiensis, I, 1764, p. 86, no. 28, "La perle aquatique"). It is specified there, in fact, that the "perle aquatique" (aquatic pearl) measures only 1 line in length over $3/4$ line in width, that is, a little over 2 mm over 1.6 mm/ This is quite inadequate for nigriceps, our largest Laccobius which Des Gozis himself says is $3\frac{1}{2}$ to 4 mm. In addition, the ratio of the dimensions indicated by Geoffroy is only 1.33 ... (1/0.75), which is also too little, since nigriceps

¹ Undoubtedly according to Rey, Palpicornes de France, 1885, but Rey let a certain doubt persist.

is precisely a relatively not very subhemispheric species. Geoffroy's description: hemispheric form (subrotundus), head, waist and underside of the belly black, the elytra, covered with striae formed by an infinity of small punctures, light brown in color, as well as the legs and often too the edges of the prothorax, cannot in my opinion apply better than to the minutus of Linnaeus, for which perla is consequently only a synonym.