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Volker Puthz

Limnologische Fluss-Station des Max-Hanck-Instituts für Limnologie, Schlitz/Hessen, Germany

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SOME *STENUS* LATR. FROM MICHIGAN (COLEOPTERA: STAPHYLINIDAE)
107th CONTRIBUTION TO THE KNOWLEDGE OF STENINAE

Volker Puthz

Limnologische Fluss-Station des Max-Planck-Instituts für
Limnologie, Schlitz/Hessen, Germany

Our knowledge of the nearctic *Stenus*-fauna is very poor. The main work on the *Steninae* has been done at the end of the last century by the well known coleopterist Th. L. Casey who is known for his peculiar systematic methods. He published the "Revision of the *Stenini* of America North of Mexico..." (Philadelphia, 1884), in which he described about 80% of the known species from North America.

Last year I had the opportunity to revise all the types of the Casey Collection in the U.S. National Museum, Washington, D.C. and found numerous synonyms which will be published in other papers.

Recently I received fresh *Stenus* material from Michigan collected by Father Carlo Brivio, Maryglade College, Memphis, Michigan. These specimens are the subject of this article.

My best thanks are due to Dr. Brivio for the loan of the interesting material and for donating specimens to my collection.

Father Brivio did most of his Michigan collecting at the following localities symbolized as:

- A:** Maryglade College, about one mile East of Memphis, Macomb County, Michigan. The Belle River runs through the college property, is about 15 meters wide, and, especially during the summer, the water is shallow and slow moving. Much aquatic vegetation, both floating and emergent, develops along the shores and in backwaters. The plant association is formed mainly by *Nymphaea*, *Nuphar*, *Typha*, *Scirpus*, *Phragmites*, *Spartanium*, *Sagittaria* and different species of sedges. Also there are some temporary marshes. Usually collecting was done along the shores of the river and in the marshes by floating the shores, sweeping the grass with a net, or simply by searching among the debris. The topsoil is mostly sandy.
- B:** The Edwin S. George Reserve, Livingston County. Locality owned by the University of Michigan. Marshes and swamps.
- C:** Port Sanilac, Sanilac County. Collecting along the beach of Lake Huron (sand and stones) by sweeping and searching the beach debris.
- D:** Harbor Beach, Huron County. Localities about as in C.
- E:** Douglas Lake and the University of Michigan Biological Station, Cheboygan County. The lake is about four to five miles in diameter. Collections were made mainly along the sandy shores (fine sand). Along the lake, in some areas, there are small ponds with the usual aquatic associations of plants.
- F:** Ann Arbor, Washtenaw County. Here collecting was done mostly along the shores of small ponds (about 25 meters in diameter) and in some marshy areas. Vegetation more or less comparable to that at Maryglade College.

SPECIES LIST

Stenus (s.str.) comma LeConte. A very widely spread holarctic species of which I do not know any record from Michigan; probably the first state record. A: 4.V.1963, 1 ♀.

Stenus (s.str.) juno Paykull. A very widely spread holarctic species, known from Michigan. A: 1.IV.1963, 2 ♂♂, 6 ♀♀; 27.III.1963, 1 ♂, 1 ♀; 11.III.1964, 1 ♂; 7.VI.1964, 1 ♀; 2.V.1969, 1 ♀; 7.V.1969, 1 ♂, 1 ♀. C: 20.VI.1966, 1 ♂. D: 19.VII.1965, 1 ♂; 12.VI.1967, 1 ♀.

Stenus (s.str.) jerythropus Melsheimer. This species is not common in the northern parts of the U.S.A. and is known from Michigan. B: 13.X.1962, 1 ♂.

Stenus (s.str.) neglectus Casey. This species is known from the northwestern states. It is new for Michigan. A: 1.IV.1963, 2 ♂♂, 8 ♀♀; 2.V.1969, 1 ♀. E: 15.VII.1962, 1 ♂, 1 ♀.

Stenus (s.str.) vicinus Casey. A species which is widely spread over North America but which is also new for Michigan. A: 1.IV.1963, 1 ♀; 21.V.1966, 1 ♀. 11.X.1968, 1 ♀.

Stenus (s.str.) femoratus Say. Widely spread over the U.S.A. Known from Michigan. A: 7.IV.1963, 1 ♀; 27.IV.1963, 1 ♀; Lapeer County, 1 mile S Lum, 30.VI.1964, 1 ♂, 1 ♀.

Stenus (Nestus) tenuis Casey. A species widely spread in the northeastern parts of North America. Known from Michigan. A: 1.IV.1963, 3 ♂♂, 3 ♀♀; 7.V.1963, 1 ♀; 21.V.1963, 1 ♀; 4.V.1964, 1 ♀; V.1965, 1 ♀; 21.V.1966, 1 ♀; 11.IX.1968, 1 ♀; 7.V.1969, 2 ♀♀; 27.V.1969, 1 ♀.

Stenus (Nestus) angustus Casey. A species widely spread in the northeastern parts of North America. Known from Michigan. A: 4.V.1963, 1 ♀; 31.V.1963, 1 ♂, 1 ♀; 4.IV.1967, 1 ♀; 7.V.1969, 1 ♂, 1 ♀; 14.V.1969, 1 ♂; 15.V.1969, 1 ♀.

Stenus (Nestus) egenus Erichson. A species widely spread over North America and also known from Michigan. A: 31.VII.1963, 1 ♂, 1 ♀; 11.VI.1967, 1 ♀. C: 23.VII.1965, 1 ♂. E: 23.VI.1962, 3 ♂♂; 9.VII.1962, 1 ♀. F: 1.VI.1962, 1 ♀. Lapeer County, 1 mile S Lum, 30.VI.1964, 1 ♂.

Stenus (Nestus) stygicus Say. A common North American species. A: VIII.1968, 3 ♂♂; 23.VIII.1969, 1 ♀. E: 23.VI.1962, 1 ♂.

Stenus (Nestus) colonus Erichson. A common North American species. A: 1.IV.1963, 1 ♂, 1 ♀; 27.IV.1963, 1 ♀; 31.V.1963, 1 ♀; 4.V.1964, 6 ♂♂, 3 ♀♀; 7.V.1964, 2 ♀♀. C: 25.V.1966, 1 ♂. Lapeer County, 1 mile S Lum, 30.VI.1964, 1 ♀.

Stenus (Nestus) morio Gravenhorst. A widely spread holarctic species (Puthz, 1967a). A: 1.IV.1963, 2 ♂♂, 6 ♀♀; 27.IV.1963, 4 ♂♂; 4.V.1963, 7 ♂♂, 13 ♀♀; 7.V.1963, 3 ♂♂, 5 ♀♀; 21.V.1963, 2 ♂♂, 3 ♀♀; 31.V.1963, 4 ♂♂; 15.VI.1963, 1 ♀; 4.V.1964, 1 ♂; 7.V.1964, 1 ♂, 3 ♀♀; 7.VI.1964, 1 ♂, 2 ♀♀; 21.VI.1965, 1 ♂; 21.V.1966, 3 ♂♂, 3 ♀♀; 27.V.1966, 1 ♂, 1 ♀; 20.VI.1966, 1 ♂; 4.IV.1967, 1 ♂; 21.V.1967, 1 ♂, 1 ♀; 11.VI.1967, 2 ♂♂; 21.VI.1967, 2 ♂♂, 2 ♀♀; 27.III.1968, 2 ♂♂, 3 ♀♀; V.1968, 1 ♀; 7.V.1969, 37 ♂♂, 20 ♀♀; 15.V.1969, 2 ♂♂, 1 ♀; 16.VI.1969, 1 ♀; 15.V.1970, 1 ♀. Lapeer County, 1 mile S of Lum, 30.VI.1964, 1 ♀. Macomb County, 1 mile E Romeo, 6.VII. 1964, 1 ♂, 1 ♀.

Stenus (Nestus) canaliculatus Gyllenhal. A Northern holarctic species. Known from Michigan. A: 15.V.1970, 1 ♂. B: 13.X.1962, 1 ♀.

Stenus (Nestus) brivioi n. sp.

This new species belongs to the *canaliculatus-confusus* group and resembles—regarding the nearctic species—only *S. vinnulus* Cas., *S. caseyi* Puthz, *S. dolosus* Cas., and *S. sectilifer* Cas.

Because of general resemblance to the named species a short description and a detailed comparison is sufficient.

Black, shining, coarsely and densely punctate with a distinct but not long pubescence. Antennae with the first two segments blackish, rest dark brownish, club infuscated. Palpi with the first and the bases of the second and third segments yellowish, the rest infuscated. Legs blackish. Clypeus and labrum moderately densely pubescent.

Length: 3.3-3.8 mm.

Holotype ♂ and *paratype* ♀: Michigan: Maryglade College, E. of Memphis, Macomb County. (locality A), 11.III.1964 (male) and 4.V.1964 (female), C. Brivio leg.; ♂-paratype: Eagle Har., L.Sup., 4.7. (ex coll. Hubbard & Schwarz).

Measurements in microns: width of head: 977; average distance between eyes: 529; width of pronotum: 782; length of pronotum: 882; greatest width of elytra: 1200; greatest length of elytra: 1201; sutural length: 965; posterior tarsi: 165-100-88-82-206.

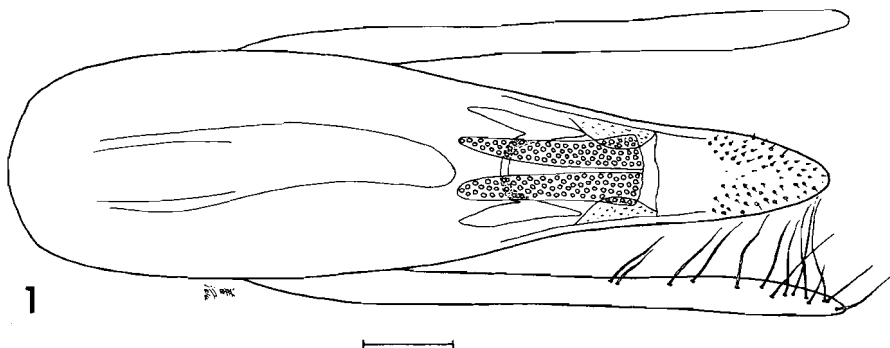


Fig. 1. *Stenus (Nestus) brivioi* n. sp. (holotype): ventral aspect of eedeagus (simplified). Scale = 0.1 mm.

Male: Legs without spines. 8th sternite with a shallow but distinct, broad emargination in posterior eighteenth. 9th sternite with distinct and long apicolateral teeth which are not curved. 10th tergite broadly rounded. Eedeagus (fig.1) with a medianlobe completely different in shape from those of the related species.

Female: 8th sternite broadly rounded. Valvifer with a long apicolateral tooth and a smaller one apicomediaally. 10th tergite broadly rounded. Spermatheca strongly sclerotized, consisting of a double coiled hose. In *vinnulus* Cas. the spermatheca seems to be smaller and less coiled.

The new species is distinguished from *S. caseyi* Puthz by smooth interstices of the abdominal punctation (in *caseyi* they are reticulated), from *S. dolosus* Cas and *S. sectilifer* Cas. by very shallow and broad longitudinal furrows of the front (in the compared species the longitudinal furrows are deep and sharp) and the elytra which are less deep impressed. From *S. vinnulus* Cas. the separation is very difficult using only exoskeletal characters: in the new species the pronotum is shorter and the punctation of the fore parts is slightly coarser and denser. From all its relatives the new species is easily distinguished by the eedeagus (*vinnulus* Cas.: fig.1, Renkonen 1935; *dolosus* Cas., *sectilifer* Cas. and *caseyi* Puthz: figs 2-4, Puthz 1971).

I dedicate the new species to its collector, the Father Carlo Brivio, with thanks for donating a paratype to my collection.

Holotype in the collection of the P.I.M.E. Entomological Museum, Maryglade College; paratypes in the U.S. National Museum, Washington D.C. and in the author's collection.

Stenus (Nestus) mammops Casey. A northern North American species. B: 13.X.1962, 1 ♂.

Stenus (Tenus) graciosus Casey. A species known from the northeastern parts of the U.S.A. A: 27.IV.1963, 1 ♂.

Stenus ("Hemistenus") croceatus Casey. Not common in the middle and eastern parts of the U.S.A. A: 4.V.1963, 1 ♀; 16.VI.1963, 1 ♀; 11.III.1964, 1 ♂; 7.VI.1964, 1 ♀; 7.VII.1967, 1 ♀; V.1968, 1 ♀; 15.V.1969, 1 ♂, 1 ♀; 7.IX.1970, 1 ♂. B: 6.X.1962, 5 ♂♂, 5 ♀♀; 13.X.1962, 1 ♀. F: 20.IV.1962, 1 ♂.

Stenus (Hypostenus) annularis Erichson. Common in nearly all states of the U.S.A. A: 27.III.1963, 1 ♀; 7.V.1969, 1 ♀. B: 6.X.1962, 2 ♀♀.

Stenus (Hypostenus) flavicornis Erichson. A very common widely spread nearctic species. A: 27.IV.1963, 1 ♂, 4 ♀♀; 15.V.1963, 1 ♀; 31.V.1963, 1 ♀; 1.VI.1963, 1 ♀; 7.VI.1963, 2 ♀♀; 16.VI.1963, 4 ♂♂, 4 ♀♀; 17.VII.1963, 1 ♂; 31.VII.1963, 2 ♂♂, 3 ♀♀; 14.VIII.1963, 1 ♂, 1 ♀; 27.VIII.1963, 1 ♀; 4.V.1964, 3 ♀♀; 7.V.1964, 1 ♂, 5 ♀♀; 17.V.1964, 2 ♂♂, 5 ♀♀; 7.VI.1964, 2 ♂♂; 27.VII.1964, 1 ♀; V.1965, 1 ♂; 16.VII.1965, 1 ♂; 21.VI.1965, 1 ♀;

21.V.1967, 4 ♂♂, 2 ♀♀; 25.V.1967, 1 ♂; 21.V.1967, 2 ♂♂, 2 ♀♀; 16.VII.1967, 1 ♀; V.1968, 1 ♂, 1 ♀; 7.VI.1968, 1 ♂; 11.X.1968, 6 ♂♂, 3 ♀♀; 7.V.1969, 10 ♂♂, 13 ♀♀; 15.V.1969, 2 ♀♀; 21.V.1969, 1 ♂; 9.VI.1969, 2 ♀♀; 15.V.1970, 2 ♂♂, 1 ♀; 7.X.1970, 5 ♂♂, 2 ♀♀. B: 13.X.1962, 1 ♂, 3 ♀♀. D: 5.VIII.1965, 1 ♀. E: 9.VII.1962, 5 ♂♂, 1 ♀. F: 5.V.1962, 1 ♀. St. Clair County, Columbus, 6.X.1970, 1 ♂, 1 ♀.

Stenus (Hypostenus) advena Casey. Distribution: see map in Sanderson, 1957. E: 9.VII.1962, 1 ♂; 15.VII.1962, 1 ♀.

Stenus (Hypostenus) rossi Sanderson. Distribution: see Sanderson, 1957. E: 15.VII.1962, 1 ♀.

Stenus (Hypostenus) callosus Erichson. Widely spread over the eastern states; new for Michigan. B: 6.X.1962, 1 ♀.

Stenus (Hypostenus) punctatus Erichson. One of the most common species in North America. A: 7.V.1962, 1 ♂; 27.VIII.1963, 1 ♀; 21.VIII.1966, 1 ♀; 11.X.1968, 3 ♂♂, 3 ♀♀; 2.V.1969, 1 ♀; 7.V.1969, 4 ♂♂; 17.VIII.1970, 1 ♀. F: 5.V.1962, 2 ♂♂, 1 ♀; 13.V.1962, 1 ♀. Macomb County, 1 mile E Romeo, 6.VI.1964, 1 ♀;

Stenus (Hypostenus) insperatus n. sp.

This new species belongs to the *arculus* complex which is characterized by the shape of the 10 tergite. This is pointed into a small fork, about as in *furcifer* Puthz. (See fig. 129, Puthz 1965). Six species of this complex are known from the nearctic region (*S. laetulus* Cas., *S. perforatus* Cas., *S. arculus* Er., *S. lutzi* Notm., *S. caenicolus* Notm., and *S. nitescens* Cas.) The seventh species, described below, resembles very closely the last four named species and can only be distinguished—at present!—by its edeagus. The reason for this intricate situation is found in general variability of the four named species.

Shiny, black, coarsely and moderately densely punctate, distinctly pubescent. Antennae reddish yellow, club infuscated. Palpi reddish yellow, third segment slightly infuscated. Legs reddish, apical portion of the femora brownish, basal fourth of tibiae yellowish or at least lighter than the rest of the tibiae. Clypeus and labrum moderately densely pubescent. 10th tergite with a distinct fork at apex.

Length: 2.6-3.2 mm.

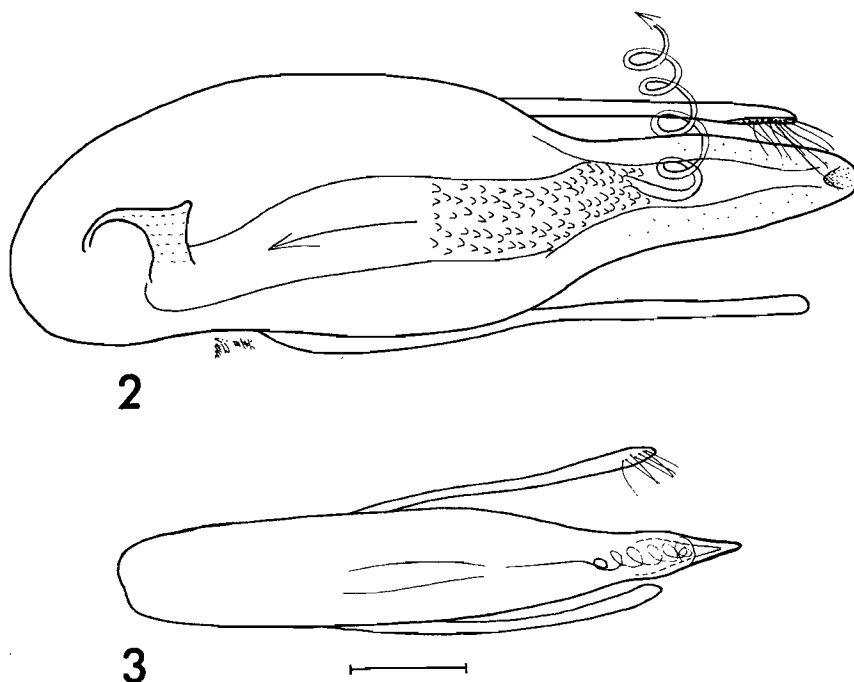
Holotype ♂ and paratypes (3 ♂♂, 3 ♀♀): Michigan: Grand ledge (ex coll. Hubbard & Schwarz); paratypes (1 ♂, 2 ♀♀): Michigan (without further dates) (ex coll. Casey and coll. Hubbard & Schwarz); paratype (1 ♂): Iowa City, Iowa, 19.V., Wickham leg.; paratype (1 ♂): America borealis (ex coll. Kraatz); paratype (1 ♂): no patria but a red round label (ex coll. J. B. Smith). Females which probably belong to the new species but are not designated as paratypes: locality A: 11.III.1964, 2 ♀♀; 7.VI.1966, 1 ♀, Brivio leg.; Cambridge, Mass., 2 ♀♀ (ex coll. Hubbard & Schwarz); Can(ada), 1 ♀ (ex coll. Hubbard & Schwarz).

Measurements of the holotype in microns: width of head: 906; average distance between eyes: 482; width of pronotum: 753; length of pronotum: 751; greatest width of elytra: 1152; greatest length of elytra: 1034; sutural length: 823; posterior tarsi: 212-94-82-85-188.

The only certain distinguishing character which I know at present is the edeagus (fig.3). It is very small and narrow; the median lobe has a lancet-like shape.

The edeagus of *arculus* Er. (fig.45, Puthz, 1967b) and *caenicolus* Notm. (Fig.2) are completely different.

Regarding exoskeletal characters *Stenus insperatus* can be distinguished from *S. nitescens* Cas. (which was described and is only known from Florida and is probably a synonym of *arculus*) and *arculus* Er. by its length (both compared species are 3.3-4.2 mm long), from *nitescens* furthermore by denser punctation of the pronotum, from *arculus* by less dense punctation of the fore parts; from *caenicolus* Notm. only by its shorter body and the edeagus, and from *lutzi* Notm. (only known by the holotype from Florida)



- Fig. 2. *Stenus caenicolus* Notm. (Keene Heights, Essex County, N.Y.): Ventral aspect of aedeagus (slightly turned in microscopic slide and slightly simplified). Scale = 0.1 mm.
- Fig. 3. *Stenus (Hypostenus) insperatus* n. sp. (paratype): Ventral aspect of aedeagus (slightly turned in microscopic slide and slightly simplified). Scale = 0.1 mm.

by its shorter pronotum, coarser punctation of the fore parts and slightly shorter length. Some specimens of the new species have a very shallow groundsculpture on the elytra and the abdomen, but this character seems to be variable in the *arculus* complex s. str..

The holotype has been deposited in the U.S. National Museum, Washington; paratypes in the Deutsches Entomologisches Institut, Eberswalde, and in my collection.

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CHANGE OF NAME FOR THE JOURNAL OF THE
MICHIGAN ENTOMOLOGICAL SOCIETY

The first four volumes of the Journal of the Michigan Entomological Society appeared under the name of *The Michigan Entomologist*. Beginning with Volume 5, Number 1 the Journal will be published as *The Great Lakes Entomologist*. This change of name is intended to reflect better the varied interests of the membership of the Society.