



Entomofauna

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**Notes on the species of the nominal subgenus *Aprostocetus* s.str.
of *Aprostocetus* Westwood, 1833, from Europe and Turkey**
(Hymenoptera, Eulophidae, Tetrastichinae)

Miktat Doganlar

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Abstract

Material of **58** species of the subgenus *Aprostocetus* ~~genus~~ *Aprostocetus* WESTWOOD, 1833, from Europe and Turkey in the collection of the Zoologische Staatssammlung München was studied. Informations on the distribution and biology of these species are given.

Zusammenfassung

Aus der Zoologischen Staatssammlung München wurden 58 Arten der Untergattung *Aprostocetus* WESTWOOD, 1833, aus Europa und der Türkei bearbeitet. Es werden Angaben zur Verbreitung und Biologie gemacht.

Introduction

The genus *Aprostocetus* WESTWOOD, 1833 has been considered as a distinct genus in several works (BURKS, 1943; 1967; GRAHAM, 1961a; 1961b; 1961c; KROMBEIN et. al., 1979). and also as a synonym of *Tetrastichus* HALIDAY, 1843 by

several authors (BURKS, 1945, in part; DOMENICHINI, 1966a, in part; 1966b, in part; ERDÖS, 1969, in part; KOSTJUKOV, 1978; KROMBEIN et. al., 1979, in part). Recently, GRAHAM (1987) discussed the identity of the genus *Aprosoceius*. gave its synonymy, and separated it into four subgenera with many species groups. BOUCEK (1988) studied the Australasian species of the genus, also discussed its synonymy and listed the species of this region. GRAHAM and LASALLE (1991) and GRAHAM (1991) added some more synonyms and several new species and new combinations to the genus.

The present study deals with the material of the subgenus *Aprosoceius* s.str. in the Zoologische Staatssammlung München. In the course of this study, 58 described and more than 10 undescribed species of the subgenus were identified. The described ones are listed in alphabetical order with new information on their distribution and biology. The new species will be studied in a separate paper.

Species of the subgenus *Aprostocetus* WESTWOOD, 1833

Aprostocetus (Aprostocetus) abydemus (WALKER, 1848)

Corsica: 1 male, 3 females, Bastia, Etang de Biguglia, (4.XI.1964) 7.XII.-24.-27.I.-6.II.1965, reared from *Orithmium* seeds (BACHMAIER); Germany: 1 male, 2 females, München, Nymphenburg, 29.IV.-13.V.1962, on *Salix* sp. (BACHMAIER); 1 female, München, Aubinger Lohe, 27.V.1962 (BACHMAIER); 1 female, München, Nymphenburg, Brunnenhof, 4.IX.1975, on *Quercus* sp. (BACHMAIER); Austria: 1 male, Rauris, 14.VI.1962 (DILLER); 1 male, 1 female Salzburg, Parsch, 3.VI.1963; 1 female, Zistel, 900 m. 16.VIII.1965; 1 male, 28.VI.1962 (Babiy); 1 female, Linz, Holzheim, 30.VII.1960 (M. SCHWARZ). (New record).

Aprosoceius (Aprostocetus) agrus (WALKER, 1839)

Germany: 1 female, Bayern, Schleißheim, Mallertshofer Holz, 17.VII.1963 (BACHMAIER) (New record); Corsica: 1 female, Bastia Etang de Biguglia, (5.XI.1964) 24.I.1965, reared from *Echinophora spinosa* ex *Lasioptera* (BACHMAIER); Turkey: Tokat, 1 female, 11.5.1989; 1 female, Fidanlik, 26.V.1989; 1 female, Geyraz, 1.VI.1989 (H. CAM) (New record).

Aprosoceius (Aprostocetus) arenarius (ERDÖS, 1954)

Turkey: 1 female, Tokat, 25.IX.1989 (H. CAM); Adana: 1 female, Fekce, 2.X.1979; 1 female, Kozan, 5.VIII.1980 (BEYARSLAN) (New record).

Aprostocetus (Aprostocetus) aristaeus (WALKER, 1839)

Austria: 1 female, Salzburg, Parsch, 14.VII.1962, on telegraph-poles (BABYI) (New record).

Aprosoceius (Aprostocetus) artemissiae (ERDÖS, 1954)

Turkey: 1 female, Ardahan, Kars, 7.VII.1987 (DOGANLAR) (New record).

Aprostocetus (Aprosoceius) asperilus (GRAHAM, 1981)

Tenriff: 3 females, El Abrigo, 80 m, (15.III.1976) 31.III.-3.IV.1976, reared from capitula of *Cirsium* sp. (BACHMAIER) (New record).

Aprosoceius (Aprostocetus) bakkendorfi GRAHAM, 1987

Turkey: Tokat: 3 females, 2 males, 9.-21.IV.1989; 1 female, 24.VII.1989; 2 females, Fidanlik, 10.IV.-1.V.1989; 2 males, Tasliciftlik, 18.IV.1989 (H. CAM) (New record); Germany: 1 female, Bayern, Weilheim, (26.IV.1973) 17.IV.1973, ex *Picea* (BACHMAIER); 1 female, Bayern, Schwarzlaichmoor bei Schongau (26.IV.1956) 7.IV.1956, solitary endoparasite on a gall maker fly on *Betula nana* (BACHMAIER) (New record).

Aprostocetus (Aprostocetus) beyazus DOGANLAR, 1992

Iran: 3 females, 1 male, Tabriz, 10.VI.1970 (ARGAND).

Aprostocetus (Aprostocetus) boreus (DELUCCHI, 1954)

Germany: 2 females, München, 29.-30.VI.1962, ex *Quercus* sp. (BACHMAIER) (New record).

Aprosoceius (Aprosoceius) brachycerus (THOMSON, 1878)

Turkey: Tokat: 2 females, 27.IV.-27.V.1989; 2 females, Tasliciftlik, 18.IV.-1.VI.1989; 1 female, Fidanlik, 12.V.1989 (H. CAM); 1 male, 1 female, Erzurum, 17.VI.1984 (DOGANLAR); 1 female, Erzincan, 9.V.1982 (DOGANLAR) (New record); Germany: Many females, Bayern, Nördlingen, 11.VII.1991 (DOGANLAR); 1 female, Bayern bei München, Garching Heide, 5.VII.1972 (BACHMAIER); 1 female, München, Nymphenburg, 26.VI.1973 (BACHMAIER).

Aprostocetus (Aprosoceius) bruzzonis (MASI, 1930)

Turkey: 2 females, Tokat, 31.V.1989 (H. CAM) (New record).

Aprosoceius (Aprosoceius) catius (WALKER, 1839)

Turkey: 1 female, Tokat, 11.V.1989 (H. CAM) (New record).

Aprostocetus (Aprosoceius) caudatus WESTWOOD, 1833

Germany: 1 female, Bayern, Nördlingen, 11.VII.1991, swept from grasses (DOGANLAR).

***Aprostocetus (Aprostocetus) citritibialis* (KOSTJUKOV, 1978)**

France: 1 female, Corsica, Bastia, 4.V.1964, ex *Erica arborea* (BACHMAIER) (New record).

***Aprostocetus (Aprostocetus) coccidiphagus* GRAHAM, 1987**

Germany: 1 female, Bayern, Schleißheim Mallenshofer Holz, 12.VII.1963 (BACHMAIER) (New record).

***Aprostocetus (Aprostocetus) collega* (RATZEBURG, 1844)**

Austria: Salzburg, Parsch: 1 female. 23.X.1962; 1 female. 23.IX.1963; 2 females, 10.-24.X.1962 (BABİY) (New record).

***Aprostocetus (Aprostocetus) craneiobiae* GRAHAM, 1987**

Germany: 1 female, Miinclin. 18.V.1961, swept from grasses (BACHMAIER) (New record for Germany); Austria: 1 female, Salzburg, Parsch, 16.VI.1963, on bush (BABİY) (New record).

***Aprostocetus (Aprostocetus) deobensis* GRAHAM, 1987**

Germany: 1 female, Bayern, Matting bei Regensbürg, 5.IX.1963, reared from seeds of *Clematis recta* (BACHMAIER)

***Aprostocetus (Aprostocetus) deplanatus* (WALKER, 1874)**

Germany: 9 females, Bayern, Nördlingen, 11.VII.1991, swept from Umbelliferae (DOGANLAR) (New record).

***Aprostocetus (Aprostocetus) elongatus* (FÖRSTER, 1841)**

Slovakia: 1 female, Rozsutec, 24.VII.1963 (BOUCEK); Germany: 1 female, Bayern, Starnbergersee-Gebiet, Söcking Maising 25.VI.1942 (F.STÖCKLEIN); 1 female, Dachau NW, Machtenstein (16.IV.1973) 4.XI.1973, reared from *Mikiola fagi* galls (BACHMAIER); 10 females, without locality, including types in Zoologische Staatssammlung; Austria: Salzburg, Parsch: 1 female, 15.VI.1958; 1 female, 22.VII.1963; 3 females, IV.1964, reared from galls on *Betula* sp. (BABİY).

***Aprostocetus (Aprostocetus) emesa* (WALKER, 1839)**

Turkey: 1 female, Tokat, 5.V.1989 (H. CAM) (New record for Turkey); 2 females, typus as *T. emesa* A. WALK.

***Aprostocetus (Aprostocetus) epicharmus* (WALKER, 1839)**

Turkey: 2 females, Tokat, 29.VIII.1988 (H. CAM) (New record); Austria: 1 female, Lower Austria, Guntramsdorf, 19.VI.1960 (M. SCHWARZ) (New record).

***Aprostocetus (Aprostocetus) escherichi* (SZÉLENYI, 1941)**

Syria: 13 females, 15 males, reared from *Dasyneura oleae* on *Olea europea* (leaves and flowers) (New record); France: 2 females, France, Corsica, Campo Dell'Oro, 29.VII.1968, (BACHMAIER) (New record).

***Aprostocetus (Aprostocetus) eurytomae* (NEES, 1834)**

Germany: 4 males, 8 females. Eberswalde-Finow, (23.IX.1991) 15.X.1991, reared from cynipid leaf gall on *Rosa* sp. (DOGANLAR).

***Aprostocetus (Aprostocetus) foraminifer* Graham, 1987**

Germany: 2 females, München, Nymphenbürg. 24.-30.VI.1962, on *Quercus* sp. (BACHMAIER) (New record).

***Aprostocetus (Aprostocetus) försteri* (WALKER, 1834)**

Turkey: 1 female, Tokat, Gürcüköy, 29.VIII.1986 (ii. CAM); 1 male, 1 female, Artova, 8.VII.1990, reared from fruits of *Papaver* sp. (DOGANLAR); many males and females, Erzurum, 9.-20.IX.1980, reared from capitula of *Centauria solstitialis*, *Carduus* sp. and *Cirsium vulgare* (DOGANLAR); Adana: 2 females, Belededik. 3.VIII.1979; 1 female, Karaisalı, 8.IX.1979 (BEYARSLAN) (New record from Turkey); France: 1 female, Corsica, Bastia, Campo Dell'Oro Plage, 30.VI.1968, on *Diatraea maritima* (BACHMAIER).

***Aprostocetus (Aprostocetus) fusificola* GRAHAM, 1987**

Germany: 2 females, München, 9.-13.VI.1962, swept from grasses (BACHMAIER).

***Aprostocetus (Aprostocetus) gratus* (GIRAUD, 1863)**

Bohemia: 1 female, Or. Velky Vresfov, VIII.1959 (BOUCEK).

***Aprostocetus (Aprostocetus) inopinus* (KOSTJUKOV, 1978)**

Turkey: Tokat: 1 female, 29.V.1986, 4 females, Tasliciftlik, 1.-27.VI.1989 (H. CAM) (New record).

***Aprostocetus (Aprostocetus) larzacensis* GRAHAM, 1987**

Turkey: 1 female, Tokat, Tasliciftlik, 1.VI.1989 (H. CAM) (New record).

***Aprostocetus (Aprostocetus) leucone* (WALKER, 1839)**

Germany: 21 females. Bayern, Nördlingen, 11.VII.1991, swept from Umbelliferae (DOGANLAR).

***Aprostocerus (Aprostocetus) levadiensis* GRAHAM, 1987**

Turkey: Tokat: 1 female, 31.V.1989; 1 male. Gürmenck. 8.VI.1989 (H. CAM) (New record).

***Aprostocerus (Aprostocetus) ligus* (WALKER, 1839)**

Austria: 1 female. Salzburg, Parsch, 25.VIII.1962, forest clearing; 1 female, 21.X.1962, underwood; 1 female, 12.IX.1963, ex *Solidago* sp. (BABİY); 1 female, Guntramsdorf, N.Ö., 17.VI.1960 (M. SCHWARZ) (New record).

***Aprostocerus (Aprostocetus) longicauda* (TOMSON, 1878)**

Turkey: 1 female. Tokat, 31.V. 1989 (H. CAM).

***Aprostocetus (Aprostocetus) luteus* (RATZEBURG, 1852)**

Czechoslovakia: 1 female. Bohemia, Horská Kůilda, Eumava, 28.VIII.1962 (BOUCEK) (New record); Austria: Salzburg, Parsch: 2 females, 2.X. 1962; 1 female, 3. X.1964; 1 female, IX.1964, reared from leaf gall on *Betula* sp. (BABİY).

***Aprostocetus (Aprostocetus) minimus* (RATZEBURG, 1848)**

Germany: München: 2 females. 9.VI.1962; 1 female. 6.V.1962 (BACHMAIER); France: 1 female, Corsica, Bastia, 4.V.1964 (BACHMAIER) (New record from Corsica).

***Aprostocetus (Aprostocetus) neglectus* (DOMENICHINI, 1956)**

Italy: 25 females, 4 males. Marina di Ravenna (Pineta), 14.VII.1959, reared from pupae of *Coccinella* sp. (WICHMANN).

***Aprostocetus (Aprostocetus) palustris* GRAHAM, 1987**

Germany: 3 females. München. Nymphenburg, Brunnenhof. 4.VII.-27.VIII. 1973 (BACHMAIER) (New record).

***Aprostocetus (Aprostocetus) pausiris* (WALKER, 1839)**

Germany: 1 male. 22 females. Bayern. Nördlingen, 11.VII.1991 (DOĞANLAR); 2 females, München, Nymphenburg. 26.-27.VII.1973; 1 female. München. Nymphenburg, Brunnenhof, 18.VII.1972; 1 female. Bayern. Garching, Garching Heide, 5.VII.1972; 1 female, Elbigenalp. 13.VII.1963 (all specimens were collected by BACHMAIER) (New record); Turkey: 2 females. Tokat 11.V.1989; 2 females. 1 male. Fidanlık, 12.V.-6.VI.1989; 1 female. Tasliciftlik, 27.VI.1989; 2 females, Geyraz, 1.VI.1989 (all of the specimens were collected by H. CAM) (New record).

***Aprostocetus (Aprostocetus) phineus* (WALKER, 1839)**

Austria: 1 female, Salzburg, without date, (BABİY); 2 females. Salzburg. Parsch 21.X.1962, underwood; 1 female. 2.IX.1963, swept from open place in forest; 1 female, Ried am Wolfgangsee, 4.IX.1956 (all specimens were collected by P.P. BABİY) (New record); Germany: 1 male, 1 female. Bayern, Ebersberg (22.V.1973) 24.V.1973; 1 male. 1 female, Bayern, Lechauen (25.III.1973) 30.IV.1973, 1 male, 2.V.1973 1 female, ex Weidenrose.; 3 females. Schleißheim, Mallershofer Holz, 26.V.1961, swept from grasses (all of the specimens were collected by BACHMAIER) (New record); France: 2 females, 1 male. Corsica, Bastia. Etang du Biguglia (15.IV.1965) 27.IV. 1965 (BACHMAIER).

***Aprostocetus (Aprostocetus) phloeophthori* GRAHAM, 1987**

France: 5 females, 1 male, Corsica, Bastia, Etang du Biguglia (15.IV.1965) 18.-29.IV.1965; 1 female, (29.IV.1965) 8.VI.1965, ex *Sarothamnus* sp. (BACHMAIER).

***Aprostocetus (Aprostocetus) productus* GRAHAM, 1987**

Turkey: Tokat: 2 females, Tasliciftlik, 1.-8.VI.1989; 2 females, Fidanlık. 1.V.1989; 1 female, Zile, 20.V.1989 (H. CAM) (New record).

***Aprostocetus (Aprostocetus) plarimicae* GRAHAM, 1987**

Germany: 4 females, Bayern, Nördlingen, 11.VII.1991, swept from Umbelliferae in forest (DOĞANLAR) (New record for Germany); Austria: 1 female, Guntramsdorf near Vienna, 16.VI.1960 (M.SCHWARZ) (New record).

***Aprostocetus (Aprostocetus) pygmaeus* (ZETTERSTEDT, 1838)**

Austria: 16 males, 14 females, Salzburg, Parsch, 14.VI.-27.V.1962, on Umbelliferae (BABİY) (New record); Germany: 1 female, Bayern, Matting, 5.IX.1963, reared from seeds of *Clematis recta* (BACHMAIER); 1 female, Bayern, Garching, Garching Heide, 5.VII.1972 (BACHMAIER) (New record); Turkey: Kars: 4 females. Ardahan, 2.VIII.1987, swept from fields of *Onobrychis sativa* (DOĞANLAR); 1 female. Aralık, 20.V.1984 (DOĞANLAR); Tokat: 4 females, 29.IV.-4.VI.1989; 1 female, Fidanlık, 18.IV.1989; 1 female, Tasliciftlik, 18.IV.1989; 1 female, Geyraz, 1.VI.1989; 1 female. Zile, 3.VI.1989; 1 female, Pazar, 10.VI.1989 (all specimens were collected by H. CAM) (New record).

***Aprostocetus (Aprostocetus) rumicis* GRAHAM, 1987**

Turkey: 2 females, Tokat. Tasliciftlik, 14.-18.IV.1989 (H. CAM) (New record for Turkey); Austria: 1 female, Guntramsdorf near Vienna, 17.VI.1960 (M. SCHWARZ) (New record for Austria); France: 1 female, Corsica, Bastia, 19.V.1964, ex *Erica arborea* (BACHMAIER).

***Aprostocetus (Aprostocetus) serratularum* GRAHAM, 1987**

Germany: 19 females, 4 males, Bayern, Schleißheim, Mallertshofer Holz, 30.VII.-12.VIII.1963, reared from capitula of *Carduus nutans*, *Carduus* sp. and *Verbascum* sp. (BACHMAIER) (New record).

***Aprostocerus (Aprostocerus) strobilanae* (RATZBURG, 1844)**

Germany: 2 females, 1 male, Bayern, Kleinziegenfelder Tal (22.IV.1973); 2 females, 15.V.1973, 1 male, 8.IV.1973; 1 female, (10.VI.1973) 18.VI.1973, reared from cones of *Picea* sp. (BACHMAIER); 1 female, Bayern, Wiesenfelder Wald, (22.IV.1973) 10.V.1973, reared from same host (BACHMAIER).

***Aprostocerus (Aprostocerus) subcylindricus* GRAHAM, 1987**

Germany: 1 female, München, Nymphenburg, 4.VI.1963, ex *Salix* sp. (BACHMAIER) (New record for Germany); Austria: 1 female, Salzburg, Ried am Wolfgangsee, 3.IX.1956 (BABİY) (New record for Austria); Turkey: 2 females, 1 male, Tokat, 18.IV.-11.V.1989 (H. CAM) (New record).

***Aprostocetus (Aprostocetus) tenuiradialis* GRAHAM, 1987**

Turkey: 2 females, 4 males, Kars, Ardahan, 5.VII.1990, swept from field of *Onobrychis sativa* (DOĞANLAR); Tokat: 2 females, Geyraz, 1.VI.1989; 1 female, Gümenek, 31.V.1989; 1 female, Fidanlık, 1.V.1989 (H. CAM) (New record).

***Aprostocerus (Aprostocetus) terebrans* ERDŐS, 1954**

Austria: 1 female, Salzburg, Parsch, 28.VI.1962 (BABİY) (New record).

***Aprostocetus (Aprostocetus) tompanus* (ERDŐS, 1954)**

Turkey: Tokat: 1 female, 11.V.1989; 1 male, 21.IV.1989; 1 female, Günicek, 8.VI.1989 (H. CAM) (New record).

***Aprostocerus (Aprostocetus) venustus* GRAHAM, 1987**

Turkey: 1 female, Erzurum, 8.IX.1980, reared from capitula of *Centaurea solstitialis* (DOĞANLAR) (New record for Turkey); Syrian: 4 females, reared from *Dasyneura oleae*, on *Olea europaea* L. (Leaves and flowers) (KATLABI) (New record for Syrian); Germany: Bayern, Sandharlandaner Heide bei Kelticiin (16.III.1974) 2.-3.IV.1974 (BACHMAIER); : 1 female, Bayern, Mitterlauer Moos, 14.VI.1972 (BACHMAIER); 1 female, Bayern, München, Nymphenburg, 3.VII.1973 (BACHMAIER)

***Aprostocetus (Aprostocetus) viridinitens* GRAHAM, 1987**

Turkey: 1 male, Tokat 4.VIII.1989; 1 female, Tasliciftlik, 14.IV.1989; 1 male, Fidanlık, 10.IV.1989; 2 male, Turhal, Senyurt, 13.IV.1989; 1 male, Ö. Sunar

Ciftligi, 20.V.1989 (all specimens were collected by H. CAM) (New record for Turkey); Austria: 1 male, 4 females, Guntramsdorf near Vienna, 17.VI.1960 (M. SCHWARZ); 1 male, Salzburg, Parsch, 17.VI.1963, on Umbelliferae; 1 female, 11.IX.1963, ex *Betula* sp. (BABİY) (New record).

***Aprostocerus (Aprostocerus) westwoodi* (FONSCOLOMBE, 1840)**

Turkey: 1 female, Adana, Feke, 2.X.1979 (BEYARSLAN); 1 female, Tokat, Tasliciftlik, 24.VIII.1989; 1 female, 1 male, Gümenek, 14.VI.1989 (H. CAM) (New record for Turkey); France: 2 females, Fci. g. Antonic (24.VII.1968) 18.VIII.1968, reared from *Pinus lancia*, Zweigenden mit Nadeln (BACHMAIER).

***Aprostocerus (Aprostocerus) xanthopus* (NEES, 1834)**

Germany: 3 females, Bayern, Ober-Eggendorf, 31.VII.1964, reared from *Malacosoma castrensis* (BACHMAIER); München: 1 female, 4.VI.1960; 1 female, 26.VI.1962 (BACHMAIER); Lectotype and many paralectotypes of *Eulophus pallipes*.

***Aprostocerus (Aprostocerus) zoilus* (WALKER, 1839)**

Germany: 1 female, Bayern, Nördlingen, 11.VII.1991, swept from Umbelliferae in forest (DOĞANLAR) (New record).

***Aprostocerus (Aprostocerus) zosimus* (WALKER, 1839)**

Germany: 1 female, München, 18.V.1961, swept from grasses (BACHMAIER)

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Notes on the species of some genera of Tetrastichinae in Zoologische Staatssammlung München (Hymenoptera, Eulophidae)

Miklat Doganlar

Abstract

From the collections of the Zoologische Staatssammlung München. 22 species of 8 genera. viz., *Crataebus* FÖRSTER, 1878 (1), *Holcotetrastichus* GRAHAM, 1987 (1), *Melittobia* WESTWOOD, 1848 (1), *Minotetrastichus* KOSTJUKOV, 1977 (2), *Oomyzus* RONDANI, 1870 (5), *Quadrastichus* GIRAULT, 1913 (5), *Sphenolepis* NEES, 1834 (1), *Tamarixia* MERCET, 1924 (6), were studied. New data on distribution and biology of the species are given. A new taxonomic status for *Quadrastichus solidaginis* (BURKS, 1943) comb. nov. is established.

Zusammenfassung

Aus der Zoologischen Staatssammlung München wurden 22 Arten aus folgenden Gattungen bearbeitet: *Crataebus* FÖRSTER, 1878 (1), *Holcotetrastichus* GRAHAM, 1987 (1), *Melittobia* WESTWOOD, 1848 (1), *Minotetrastichus* KOSTJUKOV, 1977 (2), *Oomyzus* RONDANI, 1870 (5), *Quadrastichus* GIRAULT, 1913 (5), *Sphenolepis* NEES, 1834 (1), *Tamarixia* MERCET, 1924 (6).

Für die behandelten Arten konnten neue Verbreitungsareale und weitere Erkenntnisse über deren Biologie festgelegt werden. *Quadrastichus solidaginis* (BURKS, 1943) comb. nov. bekam einen neuen Status.

Introduction

Many genera of Tetrastichinae were stated as synonyms of *Tetrastichus* HALIDAY, 1844, by several authors (BURKS, 1943; PECK, 1963; DOMERICINI, 1966; KOSTJUKOV, 1978; KROMBEIN et al., 1979). By the works of GRAHAM (1987) and BOUCEK (1988) most of the genera got a new status and became valid and distinct genus. These authors prepared good diagnostic keys and gave the characters for the genera. GRAHAM (1991) added some more genera to his earlier key, and revised the genera which are subject of our study. He gave diagnostic keys and descriptions of the species included in these genera and informations about their distribution, biology and taxonomic details.

The present study deals with material of the Zoologische Staatssammlung