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Anisotomini from the Caucasus (Coleoptera, Leiodidae)*

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Abstract - 32 species of Anisotomini known from the Caucasus are treated; of these three are new for the region: Amphycillis globiformis SAHLBERG, Anisotoma humeralis FABRICIUS and Agathidium brisouti REITTER. Six species appear endemic to the Caucasus while five are present only is adjacent Regions (northern Iran, Turkey of the Crimea) out of the Caucasus. A key to the Anisotomini species of the Caucasus is given and the locality data of the material studied are recorded. With 126 figures and 2 tables.

INTRODUCTION AND HISTORICAL NOTES

The purpose of the present notes is to submit known data for the Anisotomini from the Caucasus based on the study materials secured at the end of the last century by LEDER and REITTER and, in 1910, by ROUBAL and recently, by Prof. H. C. HERBERT FRANZ, Dr. S. I. GOLOVATCH, Dr. S. M. JABLOKOFF-KHNZORIAN and Prof. J. MARTENS as well as to furnish a dichotomous key for easy identification of the species. During this work I have met whit the same difficulties previously encountered by ANGELINI & DE MARZO (1983: 47) and ANGELINI (1988: 11) for North Africa and Japan, respectively.

The first 12 species of Anisotomini from the Caucasus were recorded or described by REITTER (in SCHNEIDER 1877); between 1883 and 1898 he recorded or described 14 species in 5 different works; a few years later ROUBAL (1911) described Agathidium mequignoni; 30 years later more new records were given by HORION (1949) (Agathidium nigrinum STURM and A. mandibulare STURM); and more recently HLISNIKOVSKY (1964) described further 7 new species; most recently ANGELINI & DE MARZO (1983) described Agathidium pseudobescidicum which occurs in the Caucasus and previously misidentified by REITTER as A. bescidicum.

REITTER (in HEYDEN et al. 1891) has not confirmed the presence of A. siculum BRISOUT (= A. seminulum LINNAEUS) doubtfully recorded by him previously (REITTER 1888). ANGELINI (1986, 1988) has put in synonymy 6 species described by HLISNIKOVSKY. Considering the new records of Amphycillis globiformis SAHLBERG, Anisotoma humeralis FABRICIUS and Agathidium brisouti REITTER, the tribe Anisotomini known from the Caucasus now totals 32 species representing 4 of the 7 palearctic genera (the genus Ansibaris being included by NEWTON in litt. belongs to another tribe).

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MATERIAL AND METHODS

The type material of 26 of the 32 species treated have been examined, types of those not examined include Amphycillis, Anisotoma, Cyrtoplastus successor REITTER (typus not found), and Agathidium seminulum LINNAEUS. All the types of species described from the Caucasus have been examined. I have personally verified the presence in the Caucasus of 29 species while the following 3 have been taken from literature sources: Agathidium haemorrhoum ERICHSON (in my opinion its presence in the Caucasus requires confirmation), Cryptoplastus successor REITTER (it is probably synonymous with Cyrtoplastus seriepunctatus BRISOUT but at present REITTER's type cannot be located to confirm this suspicion) and Agathidium nigrinum STURM.

Localities of the material studied are listed in the section "Collecting localities" and their geographical situation is indicated in Fig. 126. The number in parentheses given at each locality corresponds to the number given to each species in the systematic part.

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A b b r e v i a t i o n s:

3rd/2nd:	length ratio between 3rd and 2nd antennal segment
AC:	Collection of F. ANGELINI
FC:	Collection of H. FRANZ
IPE:	Institut für Pflanzenschutzforschung, Eberswalde
IRSNB:	Institut Royal des Sciences Naturelles de Belgique, Bruxelles
KC:	Collection of S. M. JABLOKOFF-KHNZORIAN
MCSNG:	Museo Civico di Storia Naturale, Genova
MCSNV:	Museo Civico di Storia Naturale, Verona
MNHNP:	Museum für Naturkunde der Humboldt-Universität, Berlin
NMP:	Národní Muzeum v Praze
NMW:	Naturhistorisches Museum, Wien
SNMB:	Slovenské Národni Muzeum, Bratislava
SMNS:	Staatliches Museum für Naturkunde, Stuttgart
TMB:	Természettudományi Múzeum, Budapest
ZMM:	Zoological Museum, Moscow

KEY TO THE ANISOTOMINI KNOWN FROM THE CAUCASUS

1 Antennal club five-segmented (Figs 7-8). Clypeal margin weakly emarginate (Fig. 1), supraocular carina absent, temples absent, elytra with series of punctures (Caucasian species) tarsal formula ♂ 5-5-4, ♀ 5-4-4 or 4-4-4. Genus Anisotoma PANZER, 1797 2

\- Antennal club four- or three-segmented (Figs 9-18) 3

2 Elytra with reddish-brown humeral spots, with dense puncturation and eight complete series of large punctures double the size of those in the interstices. Dorsum reddish-brown or black, anterior part of head, sides of pronotum and two large humeral spots reddish-brown; antennae testaceous with antennal club darker; head and pronotum with very superficial

wrinkles, elytra without wrinkles; whole dorsum with clear puncturation; 3rd/2nd=1.3, pronotum more than twice as wide as head, very transverse, slightly convex end with truncate lateral outline; elytra a little broader than pronotum and a little longer than broader, slightly convex; humeral angles obtuse, clearly marked; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 23-24; spermatheca: Fig. 31. Length 3.1-4.7 mm ..... humeralis (FABRICIUS, 1792)

- Elytra without humeral spots, unicoloured, with nine complete series of punctures. Dorsum dark reddish-brown or black; antennae testaceous with segments 9 and 10 darker; head and pronotum with clear wrinkles, elytra without wrinkles; puncturation clear on whole dorsum: head and pronotum with punctures moderately large, superficial, separated from each other by 1-5 times their own diameter, elytra with puncturation very variable on the interstices; punctures of striae large and clearly impressed; 3rd/2nd=1; pronotum almost twice as broad as head, very transverse and not very convex, with truncate lateral outline; elytra a little broader than pronotum and a little longer than broad, moderately convex; humeral angles obtuse, clearly marked; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 25-26; spermatheca: Fig. 32. Length 3.1-3.6 mm ..... orbicularis (HERBST, 1792)

3 Antennal club four-segmented (Figs 9-10). Genus Amphycillis ERICHSON, 1845 4
- Antennal club three-segmented (Figs 11-18) 5

4 Dorsum black with sides of pronotum and apex of elytra reddish-brown; elytra with punctured striae. Antennae uniformly testaceous, rarely with segments 9 and 10 infuscated; microreticulation absent; puncturation double on whole dorsum, irregular: head and pronotum with punctures moderately large, variously separated from each other, elytra with punctures larger and more impressed than those on pronotum, separated from each other as on pronotum; series of punctures on the elytra short and irregular, especially in the examples with more sparse puncturation; 3rd/2nd=1.2 (Fig. 9); pronotum very transverse and moderately convex, with truncate lateral outline; elytra a little broader than pronotum and a little longer than broader, very convex, with humeral angles obtuse, clearly marked; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 27-28; spermatheca: Fig. 33. Length 2.9-3.4 mm ..... globiformis (SAHLBERG, 1833)
- Pronotum reddish, head and elytra black; elytra without series of punctures. Antennae testaceous, rarely with segments 9 and 10 infuscated; microreticulation absent; puncturation clear and double on whole dorsum; head and pronotum with punctures moderately large, clearly impressed, separated from each other by 1-2 times their own diameter, elytra with punctures equal in size but sparse, smaller punctures fewer and more scattered; 3rd/2nd=1.7 (Fig. 10); pronotum very transverse, not very convex, with truncate lateral outline; elytra broader than pronotum and very convex, a little longer than broader, with humeral angle obtuse, clearly marked, tarsal formula ♂ 5-5-4, ♀ 4-4-4. Head: Fig. 2; male copulatory organ: Figs 29-30; spermatheca: Fig. 34. Length 3.2-4.0 mm .. globus (FABRICIUS, 1792)

5 Clypeal margin weakly emarginate, elytra with six punctured striae. Genus Cyrtoplastus REITTER, 1884. Dorsum black with sides reddish-brown, antennae testaceous with club darker; puncturation very superficial on whole dorsum, elytra with six punctured striae and with superficial punctures in the interstices; sutural striae clear but short. Length 2.6 mm ..... successor REITTER, 1898
- Clypeus more or less deeply excavate (Figs 3-6); elytra without well defined series of punctures Genus Agathidium PANZER, 1797 6

6 Elytra with humeral angles obtuse (Fig. 21), metasternum without femoral lines (Fig. 19) 7
- Elytra with humeral angles broadly rounded (Fig. 22), metasternum with femoral lines complete or incomplete (Fig. 20) Subgenus Agathidium s. str. 21

7 Head clearly widest behind eyes (Fig. 3) Subgenus Cyphoceble THOMSON, 1859. Dorsum uniformly dark reddish-brown; antennae testaceous with darker antennal club; whole dorsum with puncturation double: on head pronotum punctures clear, impressed, separated from each other by 1-5 times their own diameter, the secondary punctures 5 times smaller and separated from each other by 1-3 times their own diameter; on elytra principal punctures are almost twice as large as those on pronotum and separated from each other by 2-3 times their own diameter, secondary punctures very scattered and superficial; 3rd/2nd=1.8 to 2 (Fig. 11); clypeal line fine but distinct; pronotum 1.5 times as broad as head, very transverse and not very convex, truncate in lateral outline; elytra a little broader than pronotum, as broad as long and moderately convex; sutural striae clear and confined to the apical half of elytra; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 41-42; spermatheca: Fig. 35. Length 3.4-4.7 mm ..... nigrinum STURM, 1807

\- Head widest at or a little behind eyes (Fig. 4) Subgenus Neoceble GOZIS, 1886 8

8 Elytra with sutural striae 9

\- Elytra without sutural striae 20

9 Dorsum microreticulate 10

\- Dorsum without microreticulation 11

10 3rd/2nd=1.5, length 3.3-3.5 mm, antennae testaceous with darker club, head without microreticulation. Dorsum dark reddish-brown, pronotum with superficial microreticulation, elytra without microreticulation; puncturation clear on whole dorsum, but closer on head; clypeal line superficial; pronotum 1.5 times as broad as head, not very convex and moderately transverse, lateral outline broadly rounded; elytra a little broader than pronotum, longer than broad and moderately, convex; sutural striae clear, confined to the apical half of elytra; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 43-44; spermatheca: Fig. 36 ..... nasicorne REITTER, 1884

\- 3rd/2nd=1, length 2.2-2.9 mm, antennae uniformly testaceous, head and pronotum with microreticulation. Dorsum black with sides of pronotum and apical half of elytra reddish-brown; head and elytra clearly punctured: punctures large and deeply impressed, separated from each other by their own diameter on head, 1-2 times their own diameter on elytra, pronotum with small superficial punctures, separated from each other by 1-3 times their own diameter; clypeal line clear; pronotum 1.4 times as broad as head, moderately transverse and not very convex; lateral outline truncate; elytra a little broader than pronotum, nearly as broad as long and very convex; sutural striae superficial, confined to the apical third; membraneous wings present; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 45-46; spermatheca: Fig. 37 ..... haemorrhoum ERICHSON, 1845

11 3rd/2nd=1 (Fig. 12) 12

\- 3rd/2nd greater than 1 (Figs 13-16) 13

12 Antennae testaceous with black club. Dorsum uniformly black, sides of pronotum lighter; puncturation clear and regular on whole dorsum: punctures large, well-impressed, separated from each other by 2-5 times their own diameter; clypeal line fine but distinct; pronotum 1.5 times as broad as head, very transverse and moderately convex; elytra a little broader than pronotum and very convex; sutural striae within the apical half; hind wings absent; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 47-48; spermatheca: Fig. 38. Length 2.90-3.45 mm ..... brisouti REITTER, 1884

\- Antennae uniformly testaceous. Dorsum of head and pronotum light reddish-brown, elytra darker; microreticulation absent or present in vague traces only; whole dorsum with puncturation fine and sparse; clypeal line fine but distinct; pronotum 1.7 times as broad as head, moderately transverse and convex, anterior margin slightly curved, lateral outline broadly rounded; elytra a little broader than pronotum, as broad as long and very

convex; sutural striae distinctly impressed, within the apical half; hind wings absent; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 49-50; spermatheca: Fig. 39. Length 3.35-3.45 mm ..... tenuicorne REITTER, 1884

13 Head widest a little behind eyes (Fig. 4) 14
- Head widest at eyes 15

14 Colouration of dorsum very variable: head black, pronotum reddish-brown, elytra black with two reddish-brown spots extending from humerus to apex, or whole dorsum reddish-brown to black; antennae testaceous with segments 9 and 10 darker; head and pronotum with superficial puncturation, punctures small, separated from each other by 1-8 times their own diameter; elytra with puncturation more irregular, punctures as on head but more sparse; clypeal line superficial, not very distinct; head with two anterior-lateral dimples; 3rd/2nd=1.2; pronotum 1.45 times as broad as head, moderately transverse and convex, lateral outline truncate; elytra a little broader than pronotum, a little longer than broader, very convex; sutural striae clearly impressed, extending to middle of elytra or a little further; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 51-52; spermatheca: Fig. 40. Length 2.5-3.3 mm ..... plagiatum (GYLLENHAL, 1810)
- Head and pronotum reddish, elytra black. Antennae testaceous with darker club; punctures of head and pronotum moderately large, clearly impressed, separated from each other by 3-4 times their own diameter; elytra with punctures larger than those of the pronotum, separated from each other by twice own diameter, clypeal line not very distinct; 3rd/2nd=2; pronotum 1.5 times as broad as head, moderately transverse and not very convex; elytra as broad as pronotum, a little longer than broader, not very convex sutural striae extending beyond apical half; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 53-54; spermatheca: Fig. 65. Length 2.9-4.0 mm ..... nigripenne (FABRICIUS, 1792)

15 Antennae with club black. Dorsum black with sides of pronotum and apex of elytra lighter; puncturation fine and sparse on head and pronotum; punctures small, weakly impressed, separated from each other by 3-6 times their own diameter; elytra with puncturation more evident: punctures larger, more impressed, separated from each other by 1-3 times their own diameter and superficial furrow are interposed; clypeal line fine and superficial, not very distinct; 3rd/2nd=1.3 (Fig. 13); pronotum 1.5 times as broad as head; moderately transverse and convex; elytra a little broader than pronotum, as broad as long, very convex; sutural striae clearly impressed, within the apical half; hind wings present; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 55-56; spermatheca: Fig. 66. Length 2.2-3.3 mm ..... confusum BRISOUT, 1863
- Antennae testaceous with segments 9 and 10 darker 16

16 Head with clearly impressed puncturation. Dorsum black with sides reddish-brown; whole dorsum with puncturation: on pronotum and elytra more superficial than on head; clypeal line fine and superficial; 3rd/2nd=1.7; pronotum 1.5 times as broad as head; moderately transverse and convex; anterior margin slightly curved, lateral outline truncate; elytra a little broader than pronotum, slightly broader than long, moderately convex; sutural striae clearly impressed, within the apical third; membraneous wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 57-58; spermatheca: Fig. 67. Length 2.45-2.85 mm ..... pseudobescidicum ANGELINI & DE MARZO, 1983
- Head with sparse superficial puncturation 17

17 Sutural striae clearly impressed and long, extending the apical half. Dorsum black with sides of pronotum, elytral apex and sutura lighter; whole dorsum with sparse superficial puncturation: head with punctures moderately large but superficial, separated from each other by 2-4 times their own diameter; pronotum and elytra with punctures as on head but sparser, elytra with puncturation double, interposed superficial and irregular fur-

rows; clypeal line fine and superficial, not very evident; 3rd/2nd=1.7 (Fig. 14); pronotum 1.4 times as broad as head; moderately transverse and not very convex; elytra a little broader than pronotum, as broad as long, moderately convex; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 59-60; spermatheca: Fig. 68. Length 2.1-2.9 mm ..... rotundatum (GYLLENHAL, 1827)
- Sutural striae short, within the apical third or less 18

18 Sutural striae reaching the apical third. Dorsum uniformly reddish-brown, puncturation superficial and sparse on head and pronotum: punctures fine, superficial, spaced from each other by 3-4 times their own diameter, elytra with smaller superficial punctures spaced from each other by 4-10 times their own diameter; clypeal line fine, superficial, not very evident; 3rd/2nd=1.4; pronotum 1.4 times as broad as head, moderately transverse and convex; elytra a little broader than pronotum, as broad as long and very convex; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 61-62; spermatheca: Fig. 69. Length 2.90-3.35 mm ..... nudum HAMPE, 1870
- Sutural striae shorter than the apical third 19

19 3rd/2nd=2 (Fig. 15), length 2.2-3.1 mm. Dorsum uniformly dark reddish-brown or black, puncturation superficial and sparse on head and pronotum: punctures small, superficial, separated from each other by 2-6 times their own diameter, elytra with punctures smaller and weaker than those of pronotum; clypeal line fine and superficial, not very evident; pronotum 1.5 times as broad as head, very transverse and not very convex; elytra a little broader than pronotum, as broad as long, very convex; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 63-64; spermatheca: Fig. 70 ..... mandibulare STURM, 1807
- 3rd/2nd=1.5 (Fig. 16), length 3.2-3.5 mm. Dorsum black with sides of pronotum and suture reddish-brown; punctures of head superficial, small, separated from each other by 3-4 times their own diameter, sparser and more superficial on pronotum, microscopic on elytra; clypeal line fine, superficial and not very evident, at the middle with a little, raised tooth; pronotum 1.6 times as broad as head, very transverse and not very convex, anterior margin slightly curved, lateral outline truncate; elytra a little broader than pronotum and little broader than long, moderately convex; sutural striae very superficial, not reaching the apical third; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 71-72; spermatheca: Fig. 77 ..... fronticorne REITTER, 1897

20 Dorsum uniformly black, microreticulation impressed on head and pronotum, head with clypeal line clearly impressed, 3rd/2nd=1.35; antennae testaceous with segments 9 and 10 darker. Microreticulation superficial or in traces on elytra; puncturation impressed on head and elytra: punctures moderately large, separated from each other by 1-3 times their own diameter on head, 2-4 times on elytra; pronotum with punctures small, superficial, separated from each other by 2-8 times their own diameter; pronotum 1.6 times as broad as head, very transverse and not very convex; elytra a little broader than pronotum, as long as broad and very convex; hind wings present; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 73-74; spermatheca: Fig. 78. Length 2.5-3.3 mm ..... marginatum STURM, 1807
- Dorsum uniformly reddish-brown, microreticulation uniform and superficial on whole dorsum, head with clypeal line superficial, not at all evident, 3rd/2nd=1.1, antennae uniformly testaceous. Puncturation superficial on head and elytra, punctures small, separated from each other by 1-3 times their own diameter, pronotum with smaller and weaker punctures; pronotum 1.4 times as broad as head, moderately transverse and convex, anterior margin slightly curved, lateral outline broadly rounded; elytra as broad as pronotum, a little broader than long, very convex; hind wings present; tarsal formula ♂ 5-5-4, ♀ 4-4-4. Male copulatory organ: Figs 75-76; spermatheca: Fig. 79. Length 2.80-2.95 mm ..... clavulum REITTER, 1888

21 Elytra with sutural striae 22
- Elytra without sutural striae 29

22 Dorsum with microreticulation 23
- Dorsum without microreticulation. Dorsum uniformly black, antennae uniformly testaceous; puncturation clear and impressed on whole dorsum: punctures large, clearly impressed, separated from each other by 2-3 times their own diameter; clypeal line very superficial, not very evident; 3rd/2nd=2 (Fig. 17), pronotum 1.5 times as broad as head, moderately transverse and convex, lateral outline very broadly rounded; elytra a little broader than pronotum, as broad as long, moderately convex; sutural striae clearly impressed, extending beyond middle; hind wings present; tarsal formula ♂ 5-5-4, ♀ 5-4-4: male hind femora with strong tooth at the posterior margin: Fig. 104. Head: Fig. 5; male copulatory organ: Figs 80-81; spermatheca: Fig. 92. Length 3.3-4.4 mm ..... atrum (PAYKULL, 1798)

23 Whole dorsum with microreticulation 24
- Dorsum only in part microreticulate 27

24 Head with superficial clypeal line. Dorsum uniformly reddish-brown, antennae uniformly testaceous; microreticulation impressed and uniform on whole dorsum; head with puncturation superficial, punctures separated from each other by 3-6 times their own diameter, pronotum with puncturation more superficial, elytra with punctures more than twice as large than those on head, superficial, spaced from each other by 2-4 times their own diameter; 3rd/2nd=1.5; pronotum 1.6 times as broad as head, moderately transverse and convex; anterior margin slightly curved, lateral outline very broadly rounded; elytra as broad as pronotum, as broad as long and moderately convex; sutural striae superficial, not at all evident, within the apical half; tarsal formula ♂ 5-5-4, ♀ 5-4-4; male hind femora rounded at the posterior margin: Fig. 105. Male copulatory organ: Figs 82-83; spermatheca: Fig. 93. Length 3.3-3.6. mm ..... mequignoni ROUBAL, 1911
- Head without clypeal line or with only vague traces 25

25 3rd/2nd=1.45. Dorsum uniformly reddish-brown, antennae testaceous, whole dorsum with uniform and superficial microreticulation and clear puncturation: elytra with punctures larger and more deeply impressed than those of head and pronotum; clypeal line in traces not entire; pronotum 1.6 times as broad as head, moderately transverse and convex; elytra as broad as pronotum, a little longer than broad, moderately convex; sutural striae extending a little beyond the apical third; tarsal formula ♂ 5-5-4, ♀ 5-4-4; male hind femora with distal tooth. Male copulatory organ: Figs 84-85; spermatheca: Fig. 94. Length 2.5-3.6 mm ..... seminulum (LINNAEUS, 1758)
- 3rd/2nd=2 26

26 Larger: 3.2-3.5 mm. Whole dorsum black, antennae uniformly testaceous; puncturation only on head and pronotum: punctures small and superficial, separated from each other by 2-5 times their own diameter; whole dorsum with uniform and clear microreticulation; pronotum 1.4 times as broad as head, moderately transverse and convex; anterior margin scarcely curved, lateral outline very broadly rounded; elytra a little narrower than pronotum, as broad as long; sutural striae clear within the apical half; male hind femora rounded at posterior margin: Fig. 106; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 86-87; spermatheca: Fig. 95 ..... suturale REITTER, 1877
- Smaller: 2.8-2.9 mm. Head and pronotum dark reddish-brown, elytra black with apex and sutura reddish-brown; antennae uniformly testaceous; whole dorsum with uniform and impressed microreticulation; puncturation only head and pronotum: punctures small, superficial, separated from each other by 4-5 times their own diameter; pronotum 1.5 times as broad as head, moderately transverse and convex; anterior margin scarcely curved, lateral outline very broadly rounded; elytra a little narrower than pronotum, as broad as long, not very convex; sutural striae very superficial, short, not reaching apical half; male hind femora with tooth at posterior margin: Fig. 107; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 88-89; spermatheca: Fig. 96 ..... caspicum REITTER, 1877

27 Elytra with traces of microreticulation. Whole dorsum dark reddish-brown or black, antennae testaceous with segments 9 and 10 darker; punctures superficial and sparse on head and pronotum, elytra with punctures more than twice the diameter of those on head, separated from each other by 3-5 times their own diameter; microreticulation uniform and superficial on head, more superficial on pronotum; 3rd/2nd=1.5; clypeal line very superficial, hardly evident; pronotum 1.5 times as broad as head, moderately transverse and convex, anterior margin scarcely curved, lateral outline much broadly rounded; elytra a little broader than pronotum, little broader than long, not very convex; sutural striae superficial, within the apical third; hind wings present; male hind femora with distal tooth; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 90-91; spermatheca: Fig. 97. Length 2.7-3.3 mm ..... badium ERICHSON, 1845
- Elytra without microreticulation 28

28 3rd/2nd=1.25, male copulatory organ as in Figs 114-115. Dorsum uniformly dark reddish-brown or with elytra black, antennae testaceous with segments 9 and 10 darker; microreticulation superficial on head, more superficial on pronotum; head and pronotum with small superficial punctures, separated from each other by 3-4 times their own diameter, elytra with punctures more than twice the diameter of those on head, superficial, separated from each other by 2-4 times their own diameter; clypeal line absent or in traces; pronotum 1.5 times as broad as head, slightly transverse and moderately convex; anterior margin scarcely curved, lateral outline much broadly rounded; elytra slightly broader than pronotum, as broad as long, moderately convex; sutural striae evidently impressed, within the apical half; hind wings present; male hind femora with tooth at posterior margin: Fig. 108; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Spermatheca: Fig. 98. Length 3.3-3.5 mm ..... caucasicum REITTER, 1884
- 3rd/2nd=1.5 male copulatory organ as in Figs 116-117. Dorsum uniformly reddish-brown or black, antennae testaceous with segments 9 and 10 darker; head and pronotum with punctures impressed and uniform, elytra with punctures more than twice the diameter of those on head, separated from each other by 2-3 times their own diameter and superficial and irregular furrows interposed; microreticulation evident and uniform on head, more superficial on pronotum; clypeal line very superficial, hardly visible; pronotum 1.6 times as broad as head, moderately transverse and convex, lateral outline very broadly rounded; elytra a little broader than pronotum, as broad as long, not very convex; sutural striae very superficial, within the apical third; hind wings present; male hind femora with distal tooth: Fig. 109; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Spermatheca: Fig. 99. Length 2.8-3.7 mm ..... pisanum BRISOUT, 1872

29 Dorsum with microreticulation 30
- Dorsum without microreticulation. Head dark reddish-brown pronotum and elytra black with sides and suture reddish-brown; antennae testaceous; whole dorsum with small superficial punctures, separated from each other by 3-6 times their own diameter; clypeal line very superficial, hardly visible; 3rd/2nd=1.7; pronotum 1.5 times as broad as head, slightly transverse and moderately convex, anterior margin scarcely curved, lateral outline much broadly rounded; elytra a little more narrower than pronotum, as broad as long, not very convex; hind wings absent; male hind femora with tooth at the posterior margin (Fig. 110); tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 118-119; spermatheca: Fig. 100. Length 3.65-3.75 mm ..... circassicum REITTER, 1888

30 Antennae testaceous with club infuscated to black, dorsum uniformly black. Puncturation present only on head and elytra: punctures small and superficial, separated from each other by 3-10 times their own diameter; whole dorsum with evident uniform microreticulation; clypeal line absent; 3rd/2nd=1.3 (Fig. 18); pronotum 1.65 times as broad as head, slightly transverse and moderately convex, lateral outline very broadly rounded; elytra a little broader than pronotum, as broad as long, moderately con-

vex; male hind femora rounded at posterior margin: Fig. 111; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Head: Fig. 6; male copulatory organ: Figs 120-121; spermatheca: Fig. 101. Length 2.7-3.4 mm ..... laevigatum ERICHSON, 1845

- Antennae uniformly testaceous, whole dorsum reddish-brown 31

31 Larger: 3.55-3.70 mm, clypeal line present, 3rd/2nd=1. Head with large but superficial punctures, separated from each other by 1-3 times their own diameter, pronotum with punctures as on head but more sparse, elytra with very sparse puncturation; whole dorsum with uniform superficial microreticulation; pronotum 1.5 times as broad as head, moderately transverse and convex, anterior margin scarcely curved, lateral outline very broadly rounded; elytra slightly narrower than pronotum, a little longer than broad, moderately convex; hind wings vestigial; male hind femora rounded at posterior margin: Fig. 112; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 122-123; spermatheca: Fig. 102 ..... filicorne REITTER, 1888

- Smaller: 2.20-2.65 mm, clypeal line absent, 3rd/2nd=1.4. Whole dorsum with superficial and sparse puncturation and with uniform evident microreticulation; pronotum 1.5 times as broad as head, moderately transverse and convex, anterior margin scarcely curved, lateral outline very broadly rounded; elytra a little narrower than pronotum, as broad as long, not very convex; hind wings absent; male hind femora with tooth at posterior margin: Fig. 113; tarsal formula ♂ 5-5-4, ♀ 5-4-4. Male copulatory organ: Figs 124-125; spermatheca: Fig. 103 ..... lederi REITTER, 1888

COLLECTING LOCALITIES
(Fig. 126)*

1 - European USSR, Krasnodar prov., 2-10 Km south Ubinskaja, Severskaja, 300-450 m (4, 29)**
2 - European USSR, Krasnodar prov., Belorechensk (30)
3 - European USSR, Krasnodar prov., between Psebaj and Sedok, 650 m (31)
4 - European USSR, Krasnodar prov., Pslukh, 20 Km from Krasnaja Poljana, 1000 m (31)
5 - European USSR, Krasnodar prov., Krasnaja Poljana, 600-700 m, (2,4,9,10, 11,14,15,20,21,23,26,29,31,32)
6 - European USSR, Krasnodar prov., Adler, banks river Mzymta, ca. 1000 m (20,29)
7 - European USSR, Carachaevo-Cherkessy prov. (Circassien REITTER's)(2,4,7, 11,15,20,21,23,25,26,27,28,29,30,31,32)
8 - European USSR, Carachaevo-Cherkessy prov., Teberda, ca. 1000-1500 m. (1,2,4,22,25,26,27,30)
9 - European USSR, Carachaevo-Cherkessy prov., Dombaj (11)
10 - European USSR, Kislovodsk, 800 m (30)
11 - European USSR, Kabardino-Balkartsy, Bakan Valley between Elbrus and Tyrny-Auz, 1500-1550 m (30)
12 - European USSR, Kabardino-Balkartsy, 5 Km south Cegem, 1700 m (30)
13 - Georgia (Grusia),Abkhazy, Pskhu, Bzyb Valley, 700-050 m (29)
14 - Georgia, Abkhazy, Lake Ritsa, 950-1100 m (31)
15 - Georgia, Abkhazy, Lake Amtkel, 16 Km north Tsebelda, 550 m, (31)
16 - Georgia, Abkhazy, Gvandra, ca. 1500 m (1,2)
17 - Georgia, Mounts Svanetskij (Swanetien REITTER's), ca. 1000-1200 m (1,2, 4,22,27,28,29,31,32)
18 - Georgia, Sataplia State Reserve, Kutaisi, 400 m (2)
19 - Georgia, Adzhartsy, Batumi, 10-20 m (22,24,25,27)
20 - Georgia, Abastumani (Abastuman REITTER's), ca. 1500 m (1,4,14,24,25,26, 27)

*Geographical names by "Atlante Internazionale del Touring Club Italiano", Milano, 1977, Ed. VIII: 64-65 and 69-71.
**See numeration of species in "Key to Anisotomini known from the Caucasus"; numbers in parentheses correspond to those species in the systematic part.

21 - Georgia, 15 Km west Adigeni, 1500-1700 m (24)
22 - Georgia, Borzhomi, 1000 m (24,27)
23 - Georgia, Bakuriani (11)
24 - Georgia, 8 Km south-east Akhaldaba, 1000 m (14)
25 - Georgia, Jugo-Osetiny, Mounts Suramskij, Rikoti Pass, 1000 m (27)
26 - Georgia, Kazbegi, 1700-2000 m (4,14,23,30)
27 - Georgia, Ananuri (22)
28a - Georgia, Algeti State Reserve, west Manglisi, 1400-1450 m (4,24,25,30)
28b - Georgia, Algeti State Reserve, north Manglisi, 1400-1500 m (1,4,11,20, 21,24,30)
29 - Georgia, Martkopi (25,30)
30 - Georgia, Mariamdjvari State Reserve, ENE Sagaredzo, 1150-1250 m (4,30)
31a - Georgia, Mounts Kakhetinskij (Kachetien REITTER's), Shuante (30)
31b - Georgia, Magalakhari pass between Akhmeta and Tianeti, 1200 m (14)
31c - Georgia, Babaueri State Reserve, 16 Km ENE Akhmeta, 500 m (4)
32 - Georgia, Batsaro State Reserve, 20 Km north Akhmeta, 800-850 m (25)
33 - Georgia, Babaueri State Reserve, 16 Km ENE Akhmeta, 500 m (20)
34 - Georgia, north Kvareli, 700-750 m 20)
35 - Armenia, Amasija (24)
36a - Armenia, Privolnoie, Stepanavan, ca. 1500 m (23)
36b - Armenia, Ekhekaut, 20 Km north Kirovakan, 1200-1250 m (4)
37a - Armenia, Stepanavan, 1600-1650 m (14)
37b - Armenia, Rszalv, Stepanavan, 1500 m (19)
38a - Armenia, Kirovakan, 1600 m (4)
38b - Armenia, Vardanidzor, Kirovakan (27)
39a - Armenia, Achtala, Alaverdi, 1500 m (11,14)
39b - Armenia, Odzun, west Alaverdi, 1500-1550 m (1,4,22)
39c - Armenia, south-west Shnokh, between Alaverdi and Bagratashen (4)
40 - Armenia, Berdavan, 10 Km north Noemberjan, 900-950 m (4)
41 - Armenia, Tsakhkavan, 850-900 m (4)
42 - Armenia, west Shamshadyn, between Idzhevan and Berd, 1500-1600 m (1,2, 11,27)
43 - Armenia, Kirants, Idzhevan, 1500 m (11,12,14,23,27)
44a - Armenia, Dilizhan (12)
44b - Armenia, Dilizhan State Reserve, Agartsyn, 1350-1400 m (21)
45 - Armenia, Shurmech, Goris (22,30)
46 - Armenia, Kafan Distr., Shikahoh State Reserve, between Tsav and Shikahoh, 900-950 m (30)
47 - Armenia, Megri Distr., SSE Lichk, River Valley, 1530 m (30)
48 - Nakhicevan, south Bichenek pass, 1900 m (30)
49 - Azerbajdzhan, Turshau, 15 Km south Susa, 1700 m (30)
50 - Azerbajdzhan, Mounts Karabakh, between Dashalty and Susa, 1100-1300 m (21)
51 - Azerbajdzhan, Drnbon, 30 Km WSW Mardakert, 800-850 m (4)
52 - Azerbajdzhan, 15 Km WSW Mardakert, 1100 m (30)
53 - Azerbajdzhan, Lesser Istisu, between Kel'badzhar and Istisu, 1550 m (20)
54 - Azerbajdzhan, Chilisa, 7 Km north Kel'badzhar, 1450-1500 m (4,30)
55 - Azerbajdzhan, Bash-Layski, 20 Km NNW Sheki, 1250 m (30)
56 - Azerbajdzhan, south-west Kuba, 750 m (4,30)
57 - Azerbajdzhan, 12 Km est Ismailly, Girdyman-Chay Valley, 850-880 m (14)
58 - Azerbajdzhan, Talysh, Alekseevka, ca. 1000 m (18,22)
59 - Azerbajdzhan, Lerik, ca. 1000 m (3,7,16,23,25,26,28)
60 - Azerbajdzhan, Talysh, (3,5,14,25,)
61 - Azerbajdzhan, Lenkoran, (7,12,15,23,25,26,30)
62 - Azerbajdzhan, Lenkoran, Kora (25)

SYSTEMATIC PART

1. Anisotoma humeralis (FABRICIUS, 1792)
(Figs 1, 7, 23-24, 31)

Sphaeridium humerale FABRICIUS, 1792: 79.
Anisotoma humerale: ILLIGER 1798: 76; WHEELER 1979: 290.

M a t e r i a l: European USSR: Teberda (SNMB); Georgia: Gvandra (TMB), Svanetskij Mounts (TMB), Abastumani (MNHNP), Algeti State Reserve, north Manglisi (AC); Armenia: Odzum, west Alaverdi (SMNS), west Shamshadyn, between Idzhevan and Berd (SMNS); Meskisches (f. typ. and f. globosa HERBST)(IPE; MNHNP), Prijet, Vallis Klich (TMB).

D i s t r i b u t i o n: Whole Europe from Spain to Fennoscandia and Urals to east, south to Italy and Greece; Caucasus.

2. Anisotoma orbicularis (HERBST, 1792)
(Figs 8, 25-26, 32)

Tetratoma orbicularis HERBST, 1792: 91.
Anisotoma orbicularis: ILLIGER 1798: 79; WHEELER 1979: 275.

M a t e r i a l: Caucasus (SNMB; TMB; IPE); European USSR: Krasnaja Poljana (SNMB), Carachaevo-Cherkessy (SNMB; MNHNP), Teberda (SNMB); Georgia: Gvandra (TMB), Svanetskij Mounts (TMB), Sataplia State Reserve, Kutaisi (SMNS), Ananuri (FC), Zeraboseli, Kintrish State Reserve (AC); Armenia: west Shamshadyn, between Idzhevan and Berd (SMNS); Azerbajdzhan: Lenkoran (MCSNG).

D i s t r i b u t i o n: Europe from Spain and England to Poland and Rumania, south to Italy and Albania; Caucasus, north Iran, Turkey.

3. Amphycillis globiformis (SAHLBERG, 1833)
(Figs 9, 27-28, 33)

Anisotoma globiformis SAHLBERG, 1833: 468.
Amphycillis globiformis: ERICHSON 1845: 94.

M a t e r i a l: Azerbajdzhan: Lerik, 1 ex. (TMB), Talysh, 1 ex. (IPE), Lenkoran, 2 exx. (MNHNP).

D i s t r i b u t i o n: Whole Europe from France to Sweden, Poland and Crimea, south to Italy and Greece; Caucasus, north Iran.

4. Amphycillis globus (FABRICIUS, 1792)
(Figs 2, 10, 29-30, 34)

Sphaeridium globus FABRICIUS, 1792: 78.
Amphycillis globus: ERICHSON, 1845: 93.

M a t e r i a l: Caucasus (f. typ. and f. ferrugineus STURM) (SNMB; TMB; IPE; MNHNP); European USSR: 2-10 Km south Ubinskaja (SMNS), Krasnaja Poljana (f. typ. and f. ferrugineus STURM)(AC; SMNS; SNMB); Psulukh, 20 Km E Krasnaja Poljana (f. ferrugineus STURM)(SMNS); Carachaevo-Cherkessy (AC; TMB; MNHNP), Teberda (SNMB); Georgia: Svanetskij Mounts (AC; TMB; MNHNP; MCSNV), Abastumani (MCSNV), Kazbegi (FC), Ananuri (FC), Algeti State Reserve, west Manglisi (SMNS, ZMM), Algeti State Reserve, north Manglisi (SMNS), Mariamdjvari State Reserve, ENE Sagaredzo (AC; SMNS; ZMM), Babaueri State Reserve, 16 Km ENE Akhmeta (SMNS); Dagestan (MCSNV); Saguramo State Reserve, north-east Mtskkota, Zedazeni (SMNS); Armenia: Ekhekaut, 20 Km north Kirovakan (AC; SMNS; ZMM), Kirovakan (SMNS), Odzun, west Alaverdi (ZMM), south-west Shnokh, between Alaverdi and Bagratashen (SMNS), Berdavan, 10 Km north Noemberjan (AC; SMNS), Tsakhkavan (SMNS); Azerbajdzhan: Drnbon (AC; SMNS), Chilisa, 7 Km north Kel'badzhar (SMNS; ZMM), south-west Kuba (SMNS); Helonolof (SNMB); Meskisches (f. typ. and f. ferrugineus STURM) (TMB).

D i s t r i b u t i o n: Whole Europe from Spain to European USSR, south to Italy and Greece; Caucasus, Turkey, Siberia.

5. Cyrtoplastus successor REITTER, 1898

Cyrtoplastus successor REITTER, 1898: 51.

M a t e r i a l: I have not examined any specimens of this species nor could I find the type that, in all probability, no longer exists. It is very probably synonymous with C. seriepunctatus BRISOUT.

D i s t r i b u t i o n: Caucasus (Talysh, loc. typ. REITTER 1898, l.c.; endemic).

6. Agathidium (Cyphoceble) nigrinum STURM, 1807
(Figs 3, 11, 21, 35, 41-42)

Agathidium nigrinum STURM, 1807: 56.
Agathidium (Cyphoceble) nigrinum: HLISNIKOVSKY 1964: 16.

M a t e r i a l: I have not examined any specimens from the Caucasus, region of cited by HATCH (1929: 78); but I think citation of such an unmistakable species is quite reliable; it is however surprising that this species was absent from the abundant material collected by various researchers and examined by me.
D i s t r i b u t i o n: Whole Europe from France and England to Finland and European USSR, south to Italy and Greece; Caucasus.

7. Agathidium (Neoceble) nasicorne REITTER, 1884
(Figs 36, 43-44).

Agathidium nasicorne REITTER, 1884b: 115.
Agathidium (Neoceble) nasicorne: HLISNIKOVSKY 1964: 94.

M a t e r i a l: European USSR: Carachaevo-Cherkessy (AC); Azerbajdzhan: Lerik (holotypus ♂ and 1 ♀ paratypus labelled "Caspi-M.Gebiet, Liryk, Leder (REITTER)" in REITTER's coll. in TMB); Lenkoran, 6 exx. (AC; TMB; IPE; MNHNP); Meskisches, 1 ex., leg. Leder-Reitter (MNHNP).
D i s t r i b u t i o n: Caucasus (endemic).

8. Agathidium (Neoceble) haemorrhoum ERICHSON, 1845
(Figs 37, 45-46)

Agathidium haemorrhoum ERICHSON, 1845: 104.
Agathidium (Neoceble) haemorrhoum: HLISNIKOVSKY 1964: 48.

M a t e r i a l: I have not yet examined specimens of this species from the Caucasus; from this Region it is recorded by REITTER in SCHNEIDER & LEDER (1877: 148) and HORION (1949: 164); I think that these citations need confirmation for it could have been confused with other species.
D i s t r i b u t i o n: Southern central Europe from Spain and France to Poland and Rumania; Caucasus.

9. Agathidium (Neoceble) brisouti REITTER, 1884
(Figs 12, 38, 47-48)

Agathidium brisouti REITTER, 1884a: 58.
Agathidium (Neoceble) brisouti: HLISNIKOVSKY 1964: 85; ANGELINI 1988: 11.
Agathidium (Neoceble) tenuicorne REITTER, sensu HLISNIKOVSKY 1964: 51.

M a t e r i a l: European USSR: Krasnaja Poljana (as A. tenuicorne REITTER in HLISNIKOVSKY's coll. in NMP).
D i s t r i b u t i o n: South-eastern Europe: Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, Italy, Albania, Greece, Bulgaria; Caucasus.

10. Agathidium (Neoceble) tenuicorne REITTER, 1884
(Figs 39, 49-50)

Agathidium tenuicorne REITTER, 1884b: 114.
Agathidium (Neoceble) tenuicorne: HLISNIKOVSKY 1964: 51.
Agathidium (Neoceble) lgockianum HLISNIKOVSKY, 1964: 103.

M a t e r i a l: Caucasus (Neotypus ♂ labelled "Kaukas, Leder" in GROUVELLE/REITTER's coll. in MNHNP; 1 ♂ and 1 ♀ in MNHNP; 1 ♀ in TMB; 1 ♂ and 2 ♀ in AC); European USSR: Krasnaja Poljana (holotypus ♂ of A. lgockianum HLISNIKOVSKY in HLISNIKOVSKY's coll. in NMP); Georgia: Svanetskij Mounts, 1 ♂ (AC); Meskisches, 1 ♀, leg. Leder-Reitter (TMB).

D i s t r i b u t i o n: Caucasus (endemic).

11. Agathidium (Neoceble) plagiatum (GYLLENHAL, 1810) (Figs 4, 40, 51-52)

Anisotoma plagiatum GYLLENHAL, 1810: 575.
Agathidium (Neoceble) plagiatum: HLISNIKOVSKY 1964: 80; ANGELINI 1988: 13.
Agathidium (Neoceble) signatipenne HLISNIKOVSKY, 1964: 73.
Agathidium (Neoceble) roubali HLISNIKOVSKY, 1964: 101.
Agathidium (Cyphoceble) besucheti HLISNIKOVSKY, 1972: 829.

M a t e r i a l: Caucasus (TMB); European USSR: Krasnaja Poljana (holotypus ♂ of A. roubali HLISNIKOVSKY in HLISNIKOVSKY's coll. in NMP; AC; SNMB); Carachaevo-Cherkessy (holotypus ♀ of A. signatipenne HLISNIKOVSKY in HLISNIKOVSKY's coll. in NMP), Teberda (SNMB), Dombaj (TMB), Georgia: Bakuriani (KC), Algeti State Reserve, north Manglisi (AC; SMNS); Armenia: Achtala, Alaverdi (KC), west Shamshadyn, between Idzhevan and Berd (AC; SMNS; ZMM), Kirants, Idzhevan (KC); Meskisches (TMB).

D i s t r i b u t i o n: Whole Europe from Spain to the European USSR (Petersburg reg.) and Ukraine, south to Sicily and Greece; Caucasus, north Iran, Turkey.

12. Agathidium (Neoceble) nigripenne (FABRICIUS, 1792) (Figs 53-54, 65)

Sphaeridium nigripenne FABRICIUS, 1792: 82.
Agathidium nigripenne: ILLIGER 1798: 84.
Agathidium (s. str.) nigripenne: HLISNIKOVSKY 1964: 150.
Agathidium (Neoceble) nigripenne: ANGELINI 1986: 150.

M a t e r i a l: Caucasus (IPE; MNHNP); Armenia: Idzhevan, Kirants (KC); Dilizhan (TMB); Azerbajdzhan: Caspi-M.Gebiet (SNMB).

D i s t r i b u t i o n: Whole Europe from France to Fennoscandia and Ukraine, south to Sicily (I have not personally examined specimens from Spain, Bulgaria, Albania and Greece); Caucasus.

13. Agathidium (Neoceble) confusum BRISOUT, 1863 (Figs 13, 55-56, 66)

Agathidium confusum BRISOUT, 1863: 9.
Agathidium (Neoceble) confusum: HLISNIKOVSKY 1964: 90.

M a t e r i a l: Caucasus, 1 ♂ leg. Leder (REITTER's coll. in TMB, sub. A. mandibulare STURM).

D i s t r i b u t i o n: Whole Europe from France and England to the Ural Mountains, south to Alps, Yugoslavia, Rumania and Ukraine; Caucasus, Siberia, Mongolia, Japan.

14. Agathidium (Neoceble) pseudobescidicum ANGELINI & DE MARZO, 1983 (Figs 57-58, 67)

Agathidium (Neoceble) pseudobescidicum ANGELINI & DE MARZO, 1983: 61.

M a t e r i a l: Caucasus (AC; TMB; MNHNP); European USSR: Krasnaja Poljana (SMNS), Teberda (AC); Georgia: Abastumani (IPE), 8 Km south-east Akhaldaba (SMNS), Kazbegi (FC), Kakhetinskij Mounts, Shuante (AC), Magalakhari pass between Akhmeta and Tianeti (AC); Dagestan (TMB); Armenia: Stepanavan (SMNS), Achtala, Alaverdi (KC), Idzhevan (KC), Armenija Mounts (TMB); Azerbajdzhan: 12 Km est Ismailly, Girdyman-Chay Valley (AC; SMNS), Talysh (AC); Gud-Gara at south Kreuz pass (AC; KC); Meskisches (IPE).

D i s t r i b u t i o n: Turkey, Caucasus, the Crimea, Carpathian Mountains (Iassinia).

15. Agathidium (Neoceble) rotundatum (GYLLENHAL, 1827)
(Figs 14, 59-60, 68)

Anisotoma rotundatum GYLLENHAL, 1827: 513.
Agathidium rotundatum: ERICHSON 1845: 101.
Agathidium (Neoceble) rotundatum: HLISNIKOVSKY 1964:92; ANGELINI 1986: 151.
Agathidium rotundulum REITTER, 1884b: 116.

M a t e r i a l: Caucasus (SNMB; TMB); European USSR: Krasnaja Poljana (SNMB), Carachaevo-Cherkessy (MNHNP); Azerbajdzhan: Lenkoran (MNHNP); Meskisches (MCSNG).
D i s t r i b u t i o n: Whole Europe from Spain and England to Fennoscandia, south to southern Italy and Bulgaria (I have not personally examined specimens from Yugoslavia, Albania, Greece); Caucasus.

16. Agathidium (Neoceble) nudum HAMPE, 1870
(Figs 61-62, 69)

Agathidium nudum HAMPE, 1870: 333.
Agathidium (Neoceble) nudum: HLISNIKOVSKY 1964: 43.

M a t e r i a l: Azerbajdzhan: Lerik (1 ♂ labelled "Caspi-M.Gebiet, Lyrik, leg. Leder-Reitter", sub. A. tenuicorne REITTER in REITTER's coll. in TMB).
D i s t r i b u t i o n: Italy, Austria, Yugoslavia, Rumania, Hungary, Czechoslovakia; Caucasus.

17. Agathidium (Neoceble) mandibulare STURM, 1807
(Figs 15, 63-64, 70)

Agathidium mandibulare STURM, 1807: 58.
Agathidium (Neoceble) mandibulare: HLISNIKOVSKY 1964: 96.

M a t e r i a l: Caucasus, 2 ♂ (TMB); Meskisches, 1 ex. (IPE).
D i s t r i b u t i o n: Whole Europe from Spain to Fennoscandia, Poland and Ukraine, south to Italy, Greece and Crete; Caucasus.

18. Agathidium (Neoceble) fronticorne REITTER, 1897
(Figs 16, 71-72, 77)

Agathidium fronticorne REITTER, 1897: 122.
Agathidium (Neoceble) fronticorne: HLISNIKOVSKY 1964: 79.

M a t e r i a l: Azerbajdzhan: Talysh (holotypus ♂ labelled "Talysh, Rost" in coll. NMW); Alekseevka, Talysh, 4 exx. (AC; KC).
D i s t r i b u t i o n: Caucasus (endemic).

19. Agathidium (Neoceble) marginatum STURM, 1807
(Figs 19, 73-74, 78)

Agathidium marginatum STURM, 1807: 62.
Agathidium (Neoceble) marginatum: HLISNIKOVSKY 1964:109; ANGELINI 1988: 13.
Agathidium (Neoceble) turkestanicum HLISNIKOVSKY, 1964: 106.
Agathidium (Neoceble) reticulatum HLISNIKOVSKY, 1964: 106.

M a t e r i a l: Caucasus (AC; MNHNP; TMB); Georgia: Kazbegi (AC); Armenia: Stepanavan, Rszalv (KC).
D i s t r i b u t i o n: Whole Europe from Spain to Fennoscandia, to south to Sicily and Greece; Turkey, Syria, north Iran, Caucasus, Turkestan, Siberia, Mongolia.

20. Agathidium (Neoceble) clavulum REITTER, 1888
(Figs 75-76, 79)

Agathidium nudum var. clavulum REITTER, 1888: 156.
Agathidium (Neoceble) nudum ssp. clavulum: HLISNIKOVSKY 1964: 44.
Agathidium (Neoceble) clavulum: ANGELINI 1988: 12
Agathidium (Neoceble) roubalianum HLISNIKOVSKY, 1964: 112.

M a t e r i a l: Caucasus (AC; TMB); European USSR: Krasnaja Poljana (holotypus ♂ of A. roubalianum HLISNIKOVSKY in HLISNIKOVSKY's coll. in MNHNP; AC), Adler, banks river Mzymta (KC), Carachaevo-Cherkessy (holotypus ♀ of A. clavulum REITTER in REITTER's coll. in TMB; MNHNP); Georgia: Suramskij Mounts, Jugo-Osetiny, Rikoti Pass (AC), Algeti State Reserve, north Manglisi (SMNS); Babaueri State Reserve, 16 Km ENE Akhmeta (AC), north Kvareli (SMNS; ZMM); Azerbajdzhan: Caspi-M.Gebiet, Hamarat (TMB); Meskisches (AC).
D i s t r i b u t i o n: Caucasus, north Iran.

21. Agathidium (s. str.) atrum (PAYKULL, 1798)
(Figs 5, 17, 22, 80-81, 92, 104)

Sphaeridium atrum PAYKULL, 1798: 67.
Agathidium atrum: STEPHENS 1829: 180.
Agathidium (s. str.) atrum: HLISNIKOVSKY 1964: 157.

M a t e r i a l: Caucasus (1 ♂ and 1 ♀ as A. caucasicum REITTER paratypus in REITTER's coll. in TMB); European USSR: Krasnaja Poljana (SNMB), Carachaevo-Cherkessy (IPE); Georgia: Algeti State Reserve, north Manglisi (AC); Armenia: Dilizhan State Reserve, Agartsyn (SMNS); Azerbajdzhan: Karabakh Mounts, between Dashalty and Susa (SMNS).
D i s t r i b u t i o n: Whole Europe from Spain to Fennoscandia; Caucasus, Turkey, Siberia.

22. Agathidium (s. str.) mequignoni ROUBAL, 1911
(Figs 82-83, 93, 105)

Agathidium mequignoni ROUBAL, 1911: 49.
Agathidium (s. str.) mequignoni: HLISNIKOVSKY 1964: 221; ANGELINI 1988: 16.
Agathidium (s. str.) melichari HLISNIKOVSKY, 1964: 205.
Agathidium (s. str.) orientale HLISNIKOVSKY, 1964: 212.

M a t e r i a l: Caucasus (AC); European USSR: Krasnaja Poljana (holotypus ♂ of A. mequignoni ROUBAL in ROUBAL's coll. in SNMB; AC); Teberda (holotypus ♂ and 1 paratypus of A. melichari HLISNIKOVSKY in TMB; AC; IPE); Georgia: Batumi (FC), Ananuri (AC; FC); Armenia: Odzum, west Alaverdi (SMNS), Shurmech, Goris (KC); Azerbajdzhan: Talysh, Alekseevka (KC); Tbatani (IPE).
D i s t r i b u t i o n: Caucasus, Turkestan (Jssyk-Kul., Terski-Tau, holotypus ♀ of A. orientale HLISNIKOVSKY, Siberia, Vladivostok; Novosibirsk).

23. Agathidium (s. str.) seminulum (LINNAEUS, 1758)
(Figs 84-85, 94)

Silpha seminulum LINNAEUS, 1758: 360.
Agathidium seminulum: STURM 1807: 59.
Agathidium (s. str.) seminulum: HLISNIKOVSKY 1964: 203; ANGELINI 1988: 17.
?Agathidium siculum BRISOUT: REITTER, 1888: 156.

M a t e r i a l: Caucasus (TMB); European USSR: Carachaevo-Cherkessy (TMB), Teberda (SNMB); Georgia: Svanetskij Mounts (MNHNP), Kazbegi (FC); Armenia: Privolnoie, Stepanavan (KC), Idzhevan (KC); Azerbajdzhan: Lerik (TMB), Lenkoran (AC; MNHNP; TMB); Transcaspia (MCSNV); Meskisches (MNHNP).
D i s t r i b u t i o n: Whole Europe from Spain to Lapland and Ural Mountains, Turkey, Caucasus; HEYDEN (1880-81: 87) recorded it from Siberia but this needs confirmation since it could prove to be A. jurecekianum HLISNIKOVSKY or A. mequignoni ROUBAL; these species are very similar to A. seminulum LINNAEUS.

24. Agathidium (s. str.) suturale REITTER, 1877
(Figs 86-87, 95, 106)

Agathidium suturale REITTER, 1877: 147.
Agathidium (s. str.) suturale: HLISNIKOVSKY 1964: 216.

M a t e r i a l: Georgia: Batumi (AC; FC), Abastumani (AC; TMB; IPE; MCSNG; NMW), 15 Km west Adigeni (SMNS), Borzhomi (holotypus o labelled "Caucasus, Borshom, Dr. Schneider" in REITTER's coll. in TMB), Algeti State Reserve, west Manglisi (AC; SMNS; ZMM), Algeti State Reserve, north Manglisi (SMNS); Armenia: Amasija (IPE); Meskisches (AC; IPE; MNHNP); Kintrisch State Reserve, Zeraboseli (AC; SMNS).
D i s t r i b u t i o n: Caucasus, Turkey.

25. Agathidium (s. str.) caspicum REITTER, 1877.
(Figs 88-89, 96, 107)

Agathidium caspicum REITTER, 1877: 83.
Agathidium (s. str.) caspicum: HLISNIKOVSKY 1964: 210.

M a t e r i a l: Caucasus (NMW); European USSR: Carachaevo-Cherkessy (NMW), Teberda (SNMB); Georgia: Adzartsy, Batumi (AC; FC), Abastumani (NMW), Algeti State Reserve, west Manglisi (AC), Martkopi (MNHNP), Batsaro State Reserve, 20 Km north Akhmeta (SMNS); Azerbajdzhan: Lerik (holotypus o and 3 paratypus oo labelled "Caspi-M.Gebiet, Liryk, Leder-Reitter-" in REITTER's coll. in TMB; AC; IRSNB; IPE, MNHNP; NMW), Talysh (AC), Lenkoran (1 o paratypus labelled "Lenkoran, Leder-Reitter-" in REITTER's coll. in TMB; AC), Lenkoran, Kora (SNMB).
D i s t r i b u t i o n: Caucasus, north Iran.

26. Agathidium (s. str.) badium ERICHSON, 1845
(Figs 20, 90-91, 97)

Agathidium badium ERICHSON, 1845: 98.
Agathidium (s. str.) badium: HLISNIKOVSKY 1964: 140; ANGELINI 1988: 15.
Agathidium (s. str.) bodemeyeri HLISNIKOVSKY, 1964: 164.

M a t e r i a l: European USSR: Krasnaja Poljana (SNMB), Carachaevo-Cherkessy (IPE), Teberda (SNMB); Georgia: Abastumani (IPE); Armenia: Armenija Mounts (IPE); Azerbajdzhan: Lerik (IPE), Lenkoran (SNMB).
D i s t r i b u t i o n: Whole Europe from France and England to Finland and Ukraine; Caucasus, Turkey.

27. Agathidium (s. str.) caucasicum REITTER, 1884
(Figs 98, 108, 114-115)

Agathidium caucasicum REITTER, 1884b: 111.
Agathidium (s. str.) caucasicum: HLISNIKOVSKY 1964: 152, ANGELINI 1986:153.
Agathidium (s. str.) edmundi HLISNIKOVSKY, 1964: 156 (pars.)

M a t e r i a l: Caucasus: holotypus ♂ and 1 ♀ paratypus labelled "Kaukas, Leder" in REITTER's coll. in TMB; paratypus ♀ of A. edmundi HLISNIKOVSKY in TMB; IPE; MCSNG; NMW); European USSR: Carachaevo-Cherkessy (AC), Teberda (SNMB); Georgia: Svanetskij Mounts (1 ♀ paratypus labelled "Caucasus, Swanetien, Leder-Reitter" in REITTER's coll. in TMB; AC; IPE; NMW), Adzartsy, Batumi (AC; SMNS), Abastumani (1 ♀ paratypus labelled "Abastuman, Leder-Reitter" in REITTER's coll. in TMB; AC; MCSNG; NMW), Borzhomi (KC), Jugo-Osetiny, Suramskij Mounts, Rikoti Pass (SMNS), Kintrisch State Reserve, Zeraboseli (SMNS); Dagestan (1 ♂ and 1 ♀ paratypus labelled "Daghestan, Leder-Reitter" in REITTER's coll. in TMB); Armenia: Vardanidzor, Kirovakan (KC), west Shamshadyn, between Idzhevan and Berd (AC; SMNS), Kirants, Idzhevan (KC); Meskisches (AC; TMB; MNHNP); Lomis (SNMB).
D i s t r i b u t i o n: Caucasus, Turkey.

28. Agathidium (s. str.) pisanum BRISOUT, 1872
(Figs 99, 109, 116-117)

Agathidium pisanum BRISOUT, 1872: 180.
Agathidium (s. str.) pisanum: HLISNIKOVSKY 1964: 224; ANGELINI 1986: 156.
Agathidium (s. str.) edmundi HLISNIKOVSKY, 1964: 156 (pars.)

M a t e r i a l: European USSR: Carachaevo-Cherkessy (IPE); Georgia: Svanetskij Mounts (IPE); Azerbajdzhan: Lerik (holotypus ♀ of A. edmundi HLISNIKOVSKY labelled "Caspi-M.Gebiet, Lyrik, Leder-Reitter" in coll. TMB).
D i s t r i b u t i o n: Europe except the Iberian Peninsula, France, Britain and the Netherlands; Caucasus, Turkey, Siberia (Perm).

29. Agathidium (s. str.) circassicum REITTER, 1888
(Figs 100, 110, 118-119)

Agathidium circassicum REITTER, 1888: 154.
Agathidium (s. str.) circassicum: HLISNIKOVSKY 1964: 184.
Agathidium circassicum var. laeticolor REITTER, 1888: 155 (syn. n.).

M a t e r i a l: Caucasus (AC; TMB); European USSR: south Ubinskaja, Sevenskaja (SMNS), Krasnaja Poljana (AC; SNMB), Adler, banks River Mzymta (KC), Carachaevo-Cherkessy (holotypus ♂ and 2 ♂♂ paratypus labelled "Caucasus occ., Circassien, Leder-Reitter" in REITTER's coll. in TMB; holotypus ♀ and 1 ♀ paratypus of A. circassicum var. laeticolor REITTER in REITTER's coll. in TMB; AC; IPE; MNHNP; NMW); Georgia: Abkhazy, Pskhu, Bzyb Valley (AC; SMNS), Svanetskij Mounts (IPE); Abchasia (AC).
D i s t r i b u t i o n: Caucasus, the Crimea (Iaila).

30. Agathidium (s. str.) laevigatum ERICHSON, 1845
(Figs 6, 18, 101, 111, 120-121)

Agathidium laevigatum ERICHSON, 1845: 98.
Agathidium (s. str.) laevigatum: HLISNIKOVSKY 1964: 216; ANGELINI 1988: 15.
Agathidium (s. str.) teberdense HLISNIKOVSKY, 1964: 214.
Agathidium (s. str.) laevigatum ssp. sibiricum HLISNIKOVSKY, 1964: 218.
Agathidium (s. str.) laevigatum ssp. kostelniki HLISNIKOVSKY, 1964: 218.
Agathidium (s. str.) languidum HLISNIKOVSKY, 1967: 247.

M a t e r i a l: Caucasus (AC; TMB); European USSR: Belorecensk (SMNS), Carachaevo-Cherkessy (MNHNP), Teberda (holotypus ♂ of A. teberdense HLISNIKOVSKY in HLISNIKOVSKY's coll. in NMP; SNMB), Kislovodsk (SNMB), Bakan Valley between Elbrus and Tyrny-Auz (SMNS), 5 Km south Cegem (AC; SMNS); Georgia Kazbegi (FC), Algeti State Reserve, west and north Manglisi (AC; SMNS), Martkopi (TMB), Kakhetinskij Mounts, Shuante (FC), Mariamdjvari State Reserve, ENE of Sagaredzo (SMNS), Dagestan (AC; TMB; IPE); Armenia: Shurmech, Goris (KC), Shikahoh State Reserve, between Tsav and Shikahoh (SMNS), SSE Lichk, River Valley (SMNS); Nakhichevan: south Bichenek Pass (SMNS); Azerbajdzhan: Turshau, 15 Km south Susa (AC; ZMM), 15 Km WSW Mardakert (SMNS), lesser Istisu, between Kel'badzhar and Istisu (AC; ZMM), Chilisa, 7 Km north Kel'badzhar (AC; ZMM), Bash-Layski, 20 Km NNW Sheki (SMNS), south-west Kuba (SMNS), Lenkoran (MNHNP); Meskisches (MNHNP).
D i s t r i b u t i o n: Whole Europe, Caucasus, Turkey, Cyprus, Siberia, Mongolia, Nepal, Darjeeling, Bhutan; the ssp. meridianum HLISNIKOVSKY in north Africa and the Canary Islands.

31. Agathidium (s. str.) filicorne REITTER, 1888.
(Figs 102, 112, 122-123)

Agathidium filicorne REITTER, 1888: 154.
Agathidium (s. str.) filicorne: HLISNIKOVSKY 1964: 219.

M a t e r i a l: European USSR: between Psebaj and Sedok (AC; SMNS), Krasnaja Poljana (AC; SNMB; SMNS), Carachaevo-Cherkessy (holotypus ♂ and 1 ♂, 2 ♀ paratypus labelled "Caucas occ., Circassien, Leder-Reitter" in TMB; AC; IPE; MNHNP; NMW); Georgia: Lake Ritsa (AC; SMNS), Lake Amtkel, 16 Km north Tsebella (SMNS), Svanetskij Mounts (AC; IPE).
D i s t r i b u t i o n: Caucasus (endemic).

32. Agathidium (s. str.) lederi REITTER, 1888
(Figs 103, 113, 124-125)

Agathidium lederi REITTER, 1888: 155.
Agathidium (s. str.) lederi: HLISNIKOVSKY 1964: 222.

M a t e r i a l: European USSR: Krasnaja Poljana (SNMB), Carachaevo-Cherkessy (holotypus ♂, 1 ♂ and 3 ♀♀ paratypus labelled "Caucas occ., Circassien, Leder-Reitter" in REITTER's coll. in TMB; AC; IPE; MNHNP); Georgia: Svanetskij Mounts (MNHNP).
D i s t r i b u t i o n: Caucasus (endemic).

FAUNISTICAL REMARKS

The Anisotomini fauna of the Caucasus is composed as follows: Anisotoma (2 spp.), Amphycillis (2 spp.), Cyrtoplastus (1 sp.), Agathidium (27 spp.: 1 sp. of subgenus Cyphoceble, 14 spp. of subgenus Neoceble and 12 spp. of Agathidium s. str.). The contrast in generic and subgeneric composition between faunae of the Caucasus and the neighbouring Turkey is evident from Table 1. It is clear from Table 1 that there is a great deal of similarity between the Caucasian fauna and that of the Middle European countries (Germany, for example) or the Mediterranean Region (Italy, Yugoslavia). As regards the number of species, the subgenus Neoceble surpasses Agathidium s. str. in these regions. On the other hand, only Turkey and North Africa exceed the Caucasus in the number of endemic species. High level of endemicity is a general characteristic of the regions situated at the margins of the area of distribution of such tribes like Anisotomini.

As far as the morphology is concerned, the Caucasian Anisotomini share in no particular feature except for Agathidium fronticorne REITTER whose male possesses a prominent horn at the centre of the clypeal line.

Altimetric distribution of some of the most significant and interesting Anisotomini from the Caucasus is demonstrated in Table 2.

Endemic species: Cyrtoplastus successor REITTER, Agathidium nasicorne REITTER, A. tenuicorne REITTER, A. fronticorne REITTER, A. filicorne REITTER, A. lederi REITTER, species present only in the Caucasus and in one of the adjacent region: Agathidium clavulum REITTER (north Iran), A. suturale REITTER (Turkey), A. caspicum REITTER (north Iran), A. caucasicum REITTER (Turkey), A. circassicum REITTER (the Crimea).

Genera and subgenera	Caucasus			Turkey			Yugosl.			Italy			Germany			N Africa		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Anisotomini	32	6	5	33	16	6	28	2		39	5	1	27			17	14	
Amphycillis	2			1			2			2			2					
Anisotoma	2			2			4			4			4					
Cyrtoplastus	1	1								1			1			1	1	
Agathidium	27	5	5	30	16	6	22	2		32	5	1	20			16	13	
subg. Cyphoceble	1						2			3			3					
subg. Neoceble	14	3	1	7	3	3	12	1		16		1	10			4	2	
subg. Ag.s.str.	12	2	4	23	13	3	8	1		13	5		7			12	11	

Table 1. Anisotomini from the Caucasus, Turkey, Yugoslavia, Italy, Germany and North Africa. 1= total number of species, 2= endemic species, 3= species present only in the Caucasus and adjacent regions

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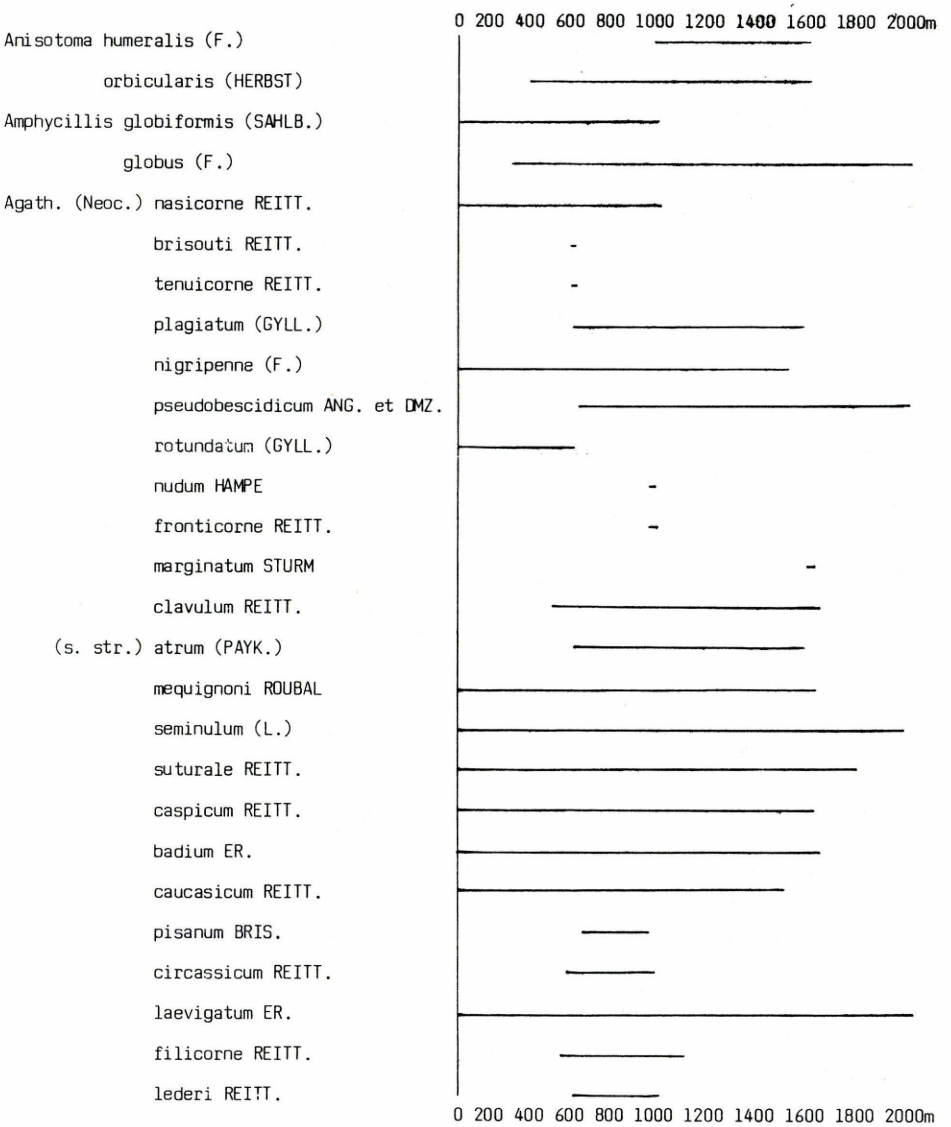


Table 2. Altimetric distribution of some Anisotomini from the Caucasus

FIGURE LEGENDS

Figs 1-6. Head: 1= Anisotoma humeralis F., 2= Amphycillis globus F., 3= Agathidium nigrinum STURM, 4= A. plagiatum GYLL., 5= A. atrum PAYK., 6= A. laevigatum ER.

Figs 7-18. Antenna: 7= Anisotoma humeralis F., 8= A. orbicularis HERBST, 9= Amphycillis globiformis SAHLB., 10= A. globus F., 11= Agathidium nigrinum STURM, 12= A. brisouti REITT., 13= A. confusum BRIS., 14= A. rotundatum GYLL., 15= A. mandibulare STURM, 16= A. fronticorne REITT., 17= A. atrum PAYK., 18= A. laevigatum ER.

Figs 19-30: Figs 19-22. Meso- and metasternum: 19= Agathidium marginatum STURM, 20= A. badium ER. - Elytra, lateral view: 21= A. nigrinum STURM, 22= A. atrum PAYK. - Figs 23-30. Male copulatory organ, lateral view and ventral view of apex: 23-24= Anisotoma humeralis F., 25-26= A. orbicularis HERBST, 27-28= Amphycillis globiformis SAHLB., 29-30= A. globus F

Figs 31-40. Spermatheca: 31= Anisotoma humeralis F., 32= A. orbicularis HERBST, 33= Amphycillis globiformis SAHLB., 34= A. globus F., 35= Agathidium nigrinum STURM, 36= A. nasicorne REITT., 37= A. haemorrhoum ER., 38= A. brisouti REITT., 39= A. tenuicorne REITT., 40= A. plagiatum GYLL.

Figs 41-52. Male copulatory organ, lateral view and ventral view of apex: 41-41= Agathidium nigrinum STURM, 43-44= A. nasicorne REITT., 45-46= A. haemorrhoum ER., 47-48= A. brisouti REITT., 49-50= A. tenuicorne REITT., 51-52= A. plagiatum GYLL.

Figs 53-64. Male copulatory organ, lateral view and ventral view of apex: 53-54= Agathidium nigripenne F., 55-56= A. confusum BRIS., 57-58= A. pseudobescidicum ANG. & DMZ., 59-60= A. rotundatum GYLL., 61-61= A. nudum HAMPE, 63-64= A. mandibulare STURM

Figs 65-79: Figs 65-70. Spermatheca: 65= Agathidium nigripenne F., 66= A. confusum BRIS., 67= A. pseudobescidicum ANG. & DMZ., 68= A. rotundatum GYLL., 69= A. nudum HAMPE, 70= A. mandibulare STURM. - Figs 71-79. Male copulatory organ, lateral view and ventral view of apex: 71-72= Agathidium fronticorne REITT., 73-74= A. marginatum STURM, 75-76= A. clavulum REITT. - Spermatheca: 77= A. fronticorne REITT., 78= A. marginatum STURM, 79= A. clavulum REITT.

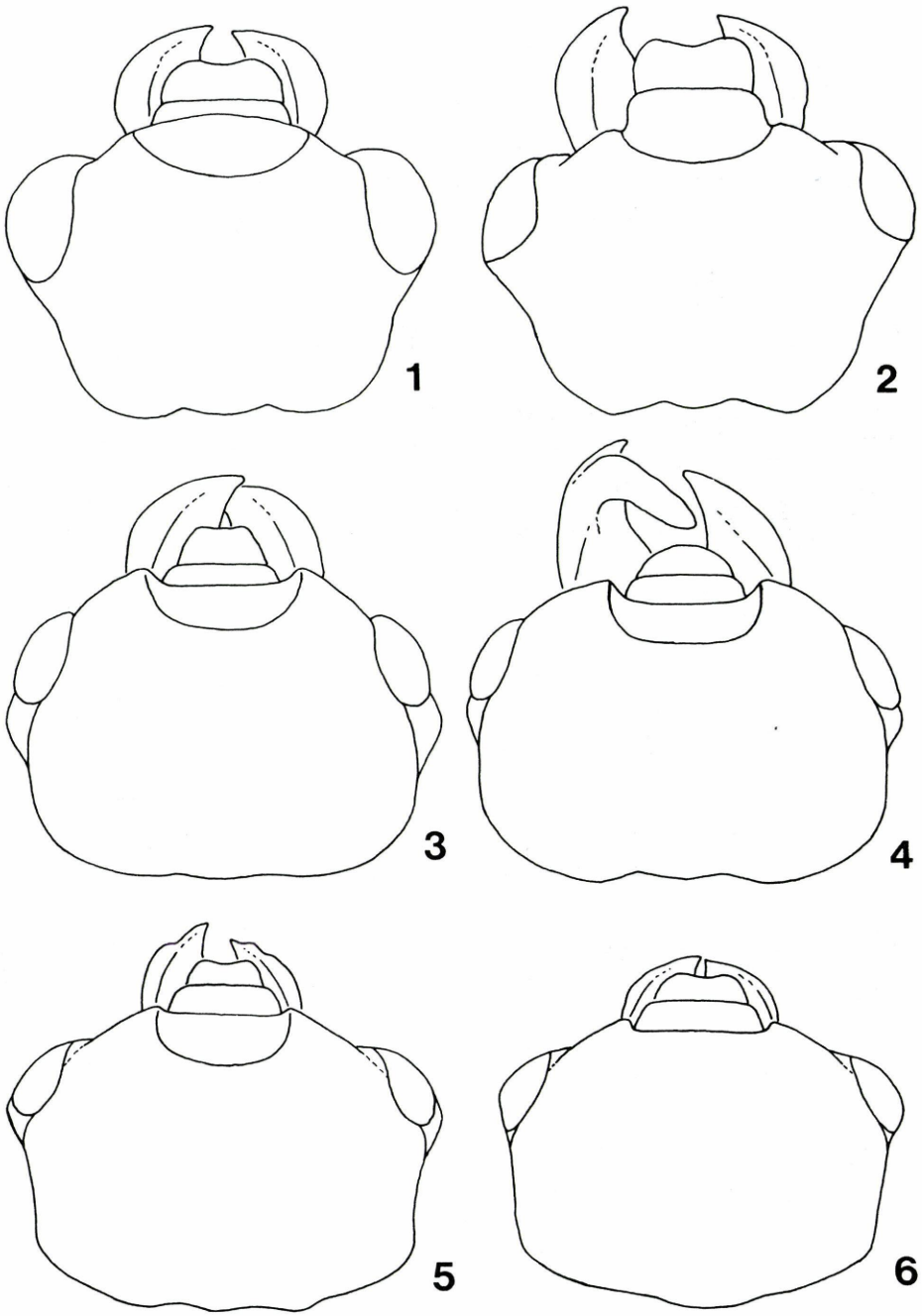
Figs 80-91. Male copulatory organ, lateral view and ventral view of apex: 80-81= Agathidium atrum PAYK., 82-83= A. mequignoni ROUBAL, 84-85= A. seminulum L., 86-87= A. suturale REITT., 88-89= A. caspicum REITT., 90-91= A. badium ER.

Figs 92-103. Spermatheca: 92= Agathidium atrum PAYK., 93= A. mequignoni ROUBAL, 94= A. seminulum L., 95= A. suturale REITT, 96= A. caspicum REITT., 97= A. badium ER., 98= A. caucasicum REITT., 99= A. pisanum BRIS., 100= A. circassicum REITT., 101= A. laevigatum ER., 102= A. filicorne REITT., 103= A. lederi REITT.

Figs 104-113. Male hind femora: 104= Agathidium atrum PAYK., 105= A. mequignoni ROUBAL, 106= A. suturale REITT., 107= A. caspicum REITT., 108= A. caucasicum REITT., 109= A. pisanum BRIS., 110= A. circassicum REITT., 111= A. laevigatum ER., 112= A. filicorne REITT., 113= A. lederi REITT.

Figs 114-125. Male copulatory organ, lateral view and ventral view of apex: 114-115= Agathidium caucasicum REITT., 116-117= A. pisanum BRIS., 118-119= A. circassicum REITT., 120-121= A. laevigatum ER., 122-123= A. filicorne REITT., 124-125= A. lederi REITT.

Fig. 126. Collecting localities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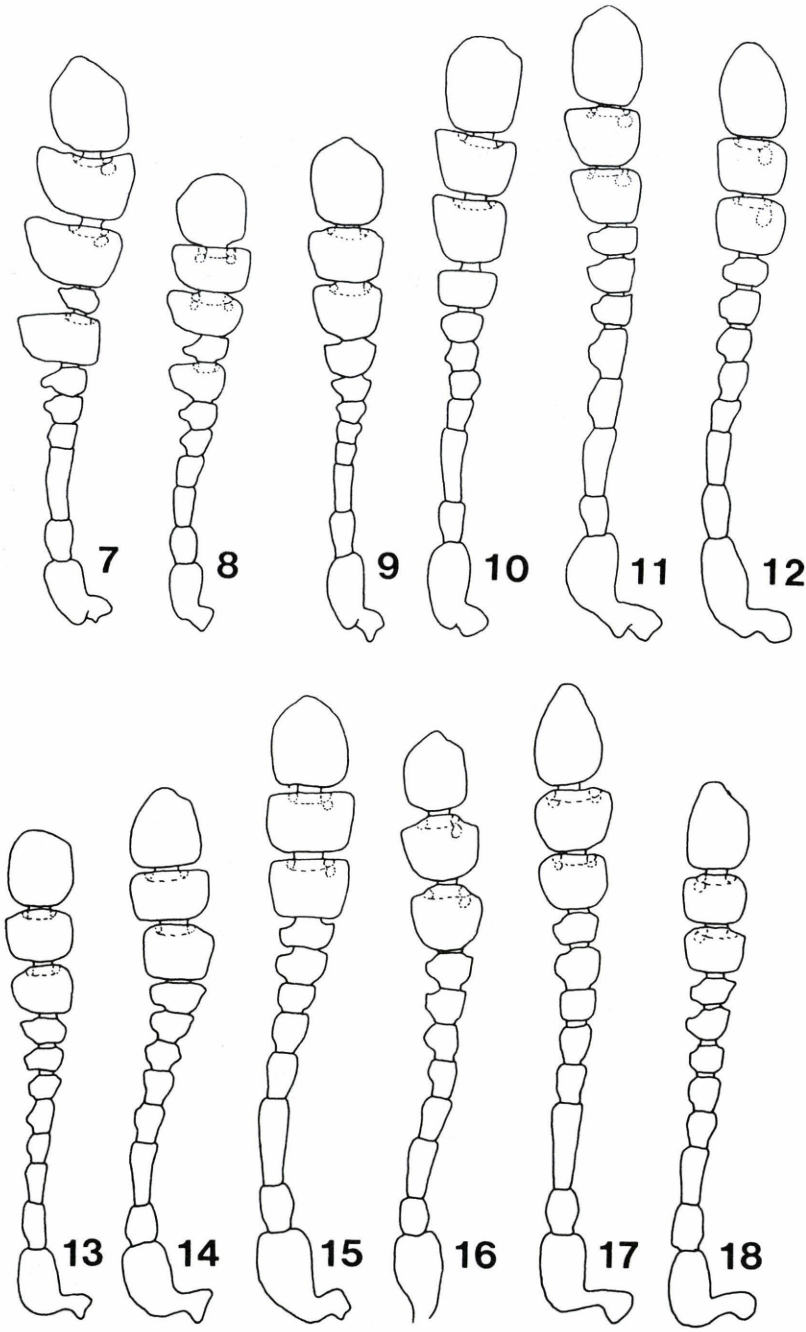
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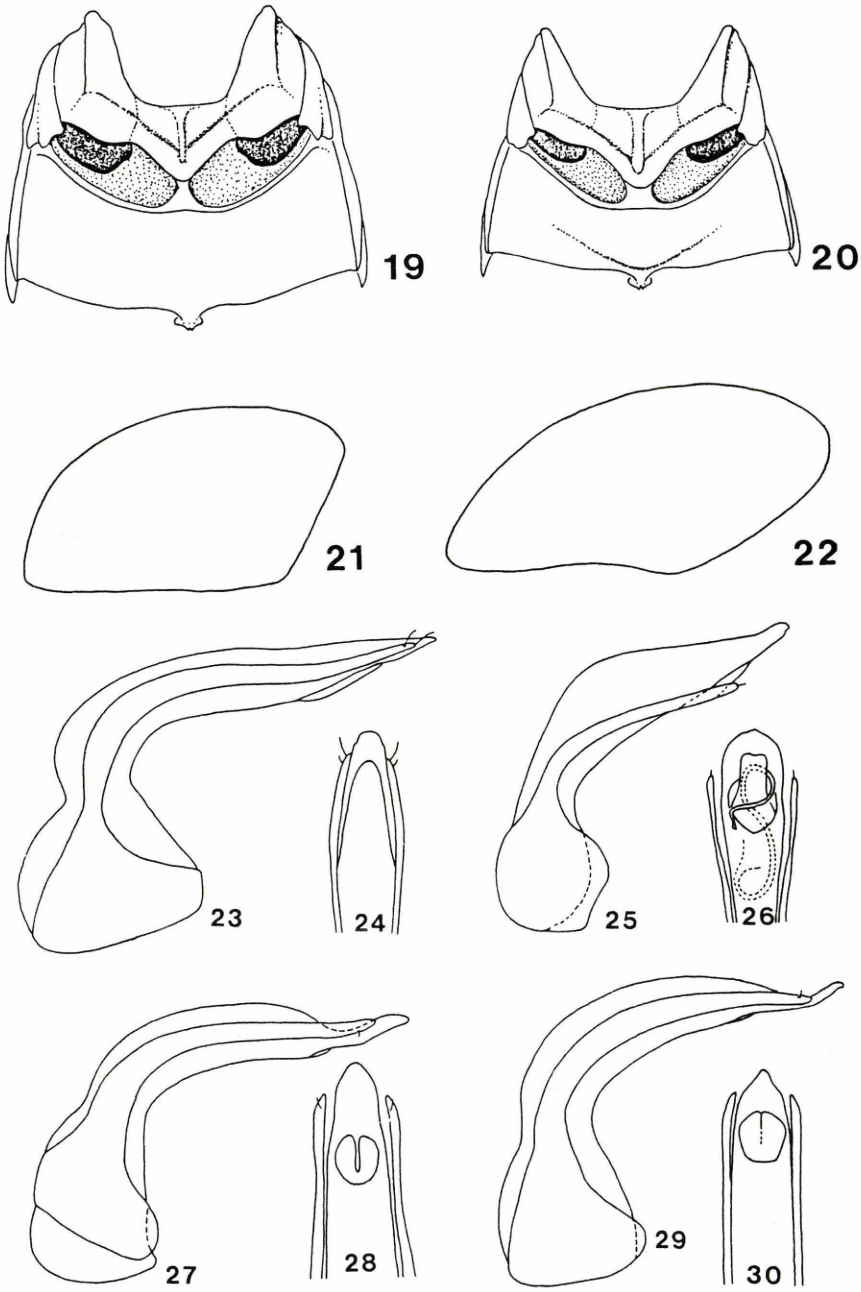
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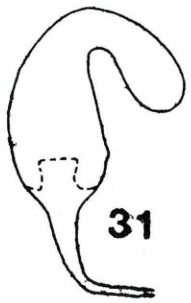
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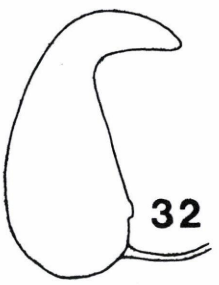
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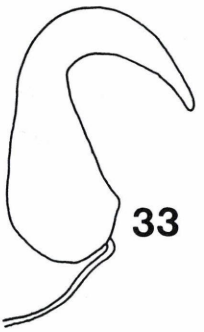
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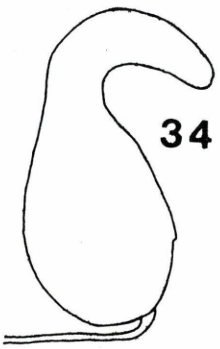
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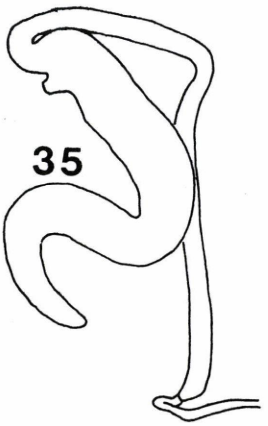
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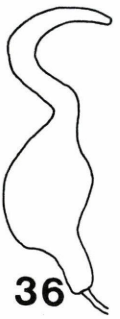
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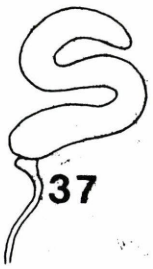
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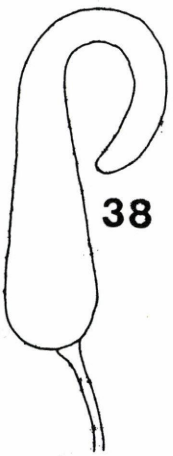
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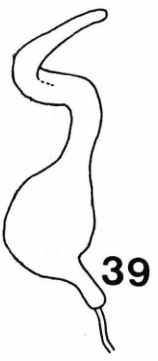
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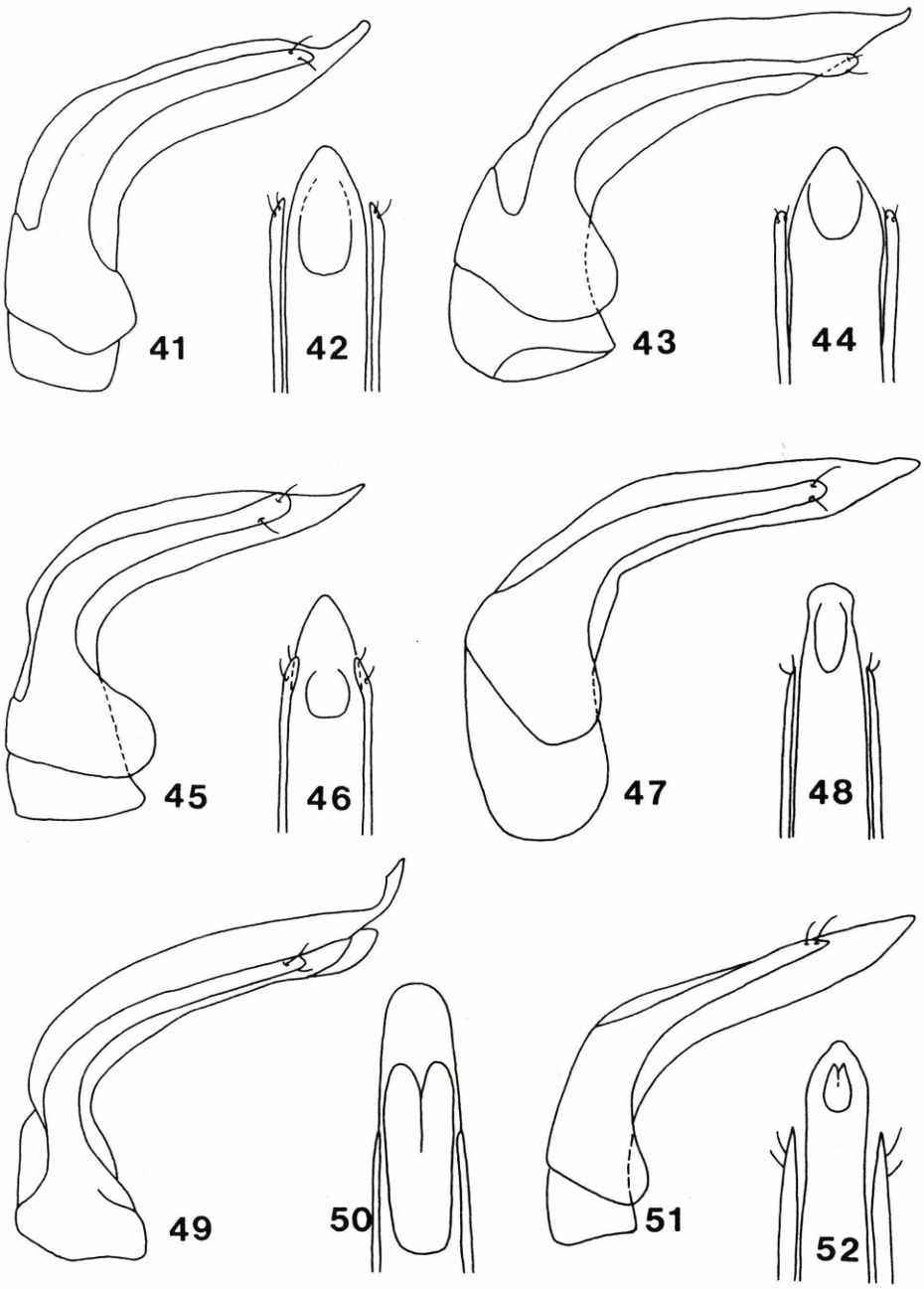
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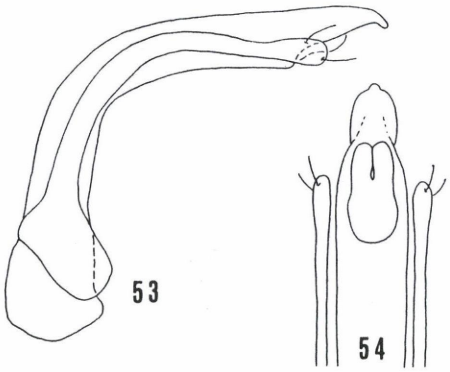
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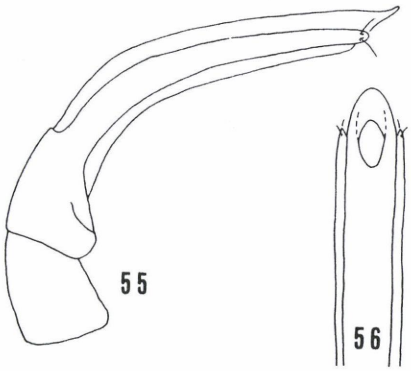
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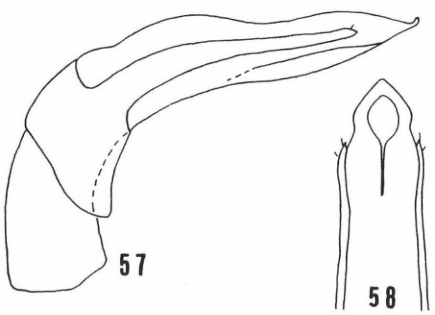
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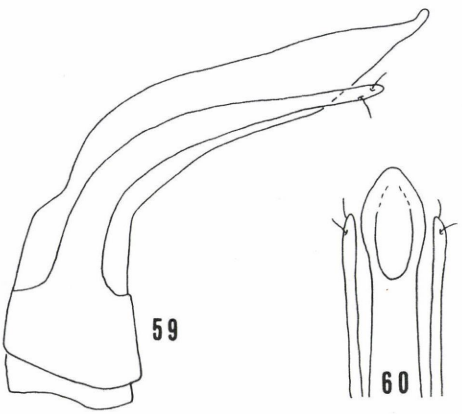
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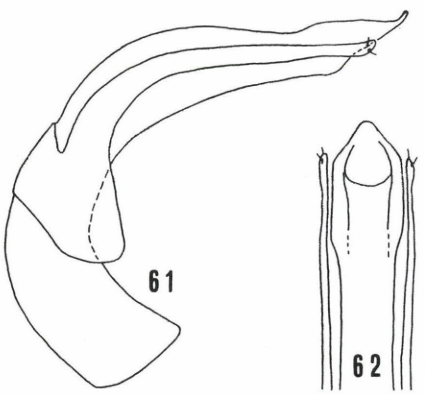
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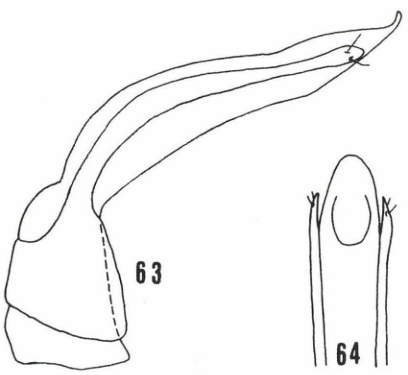
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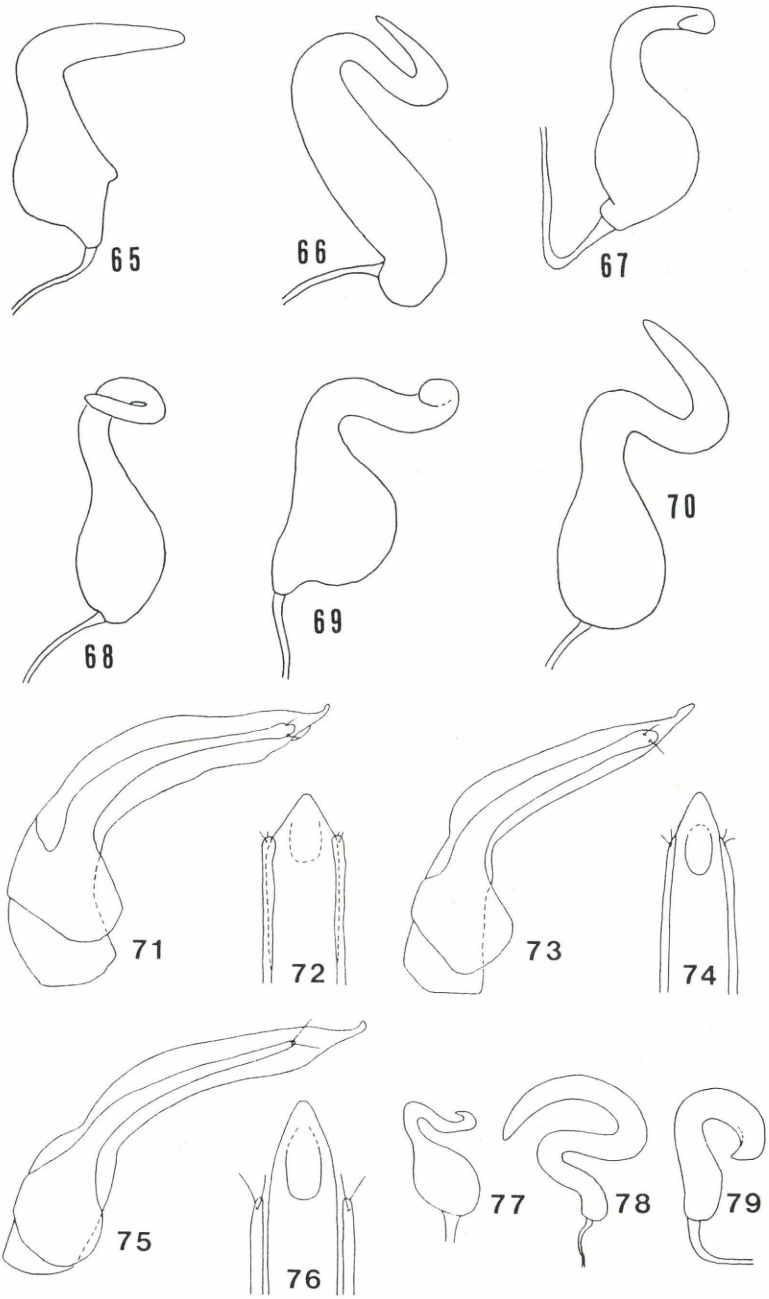
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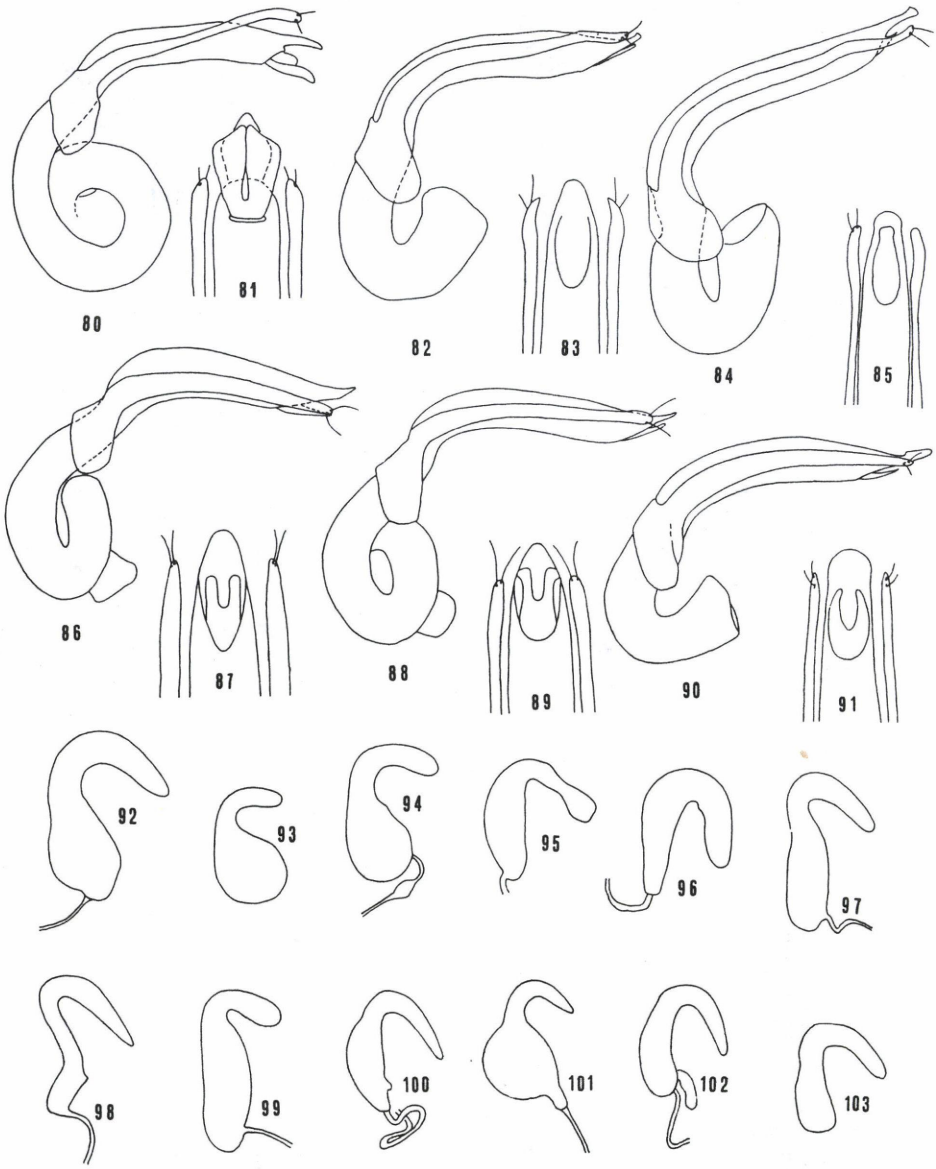
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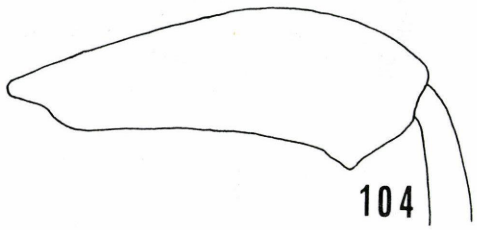

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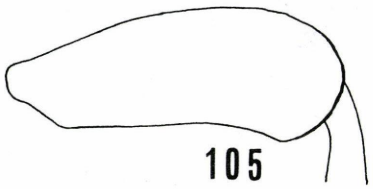

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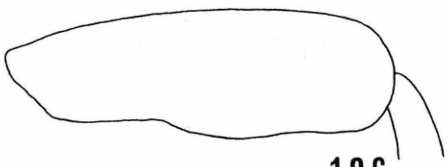

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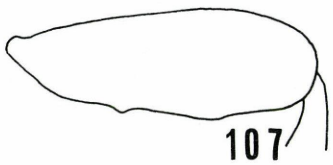

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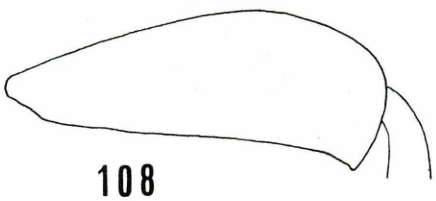

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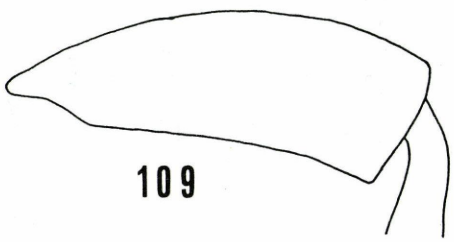

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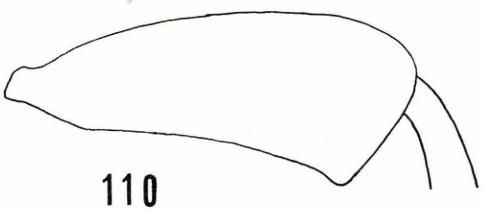

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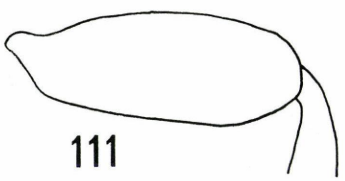

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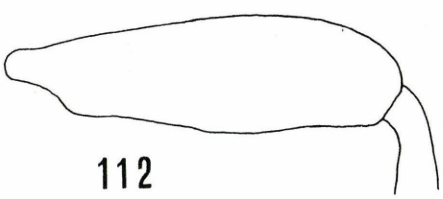

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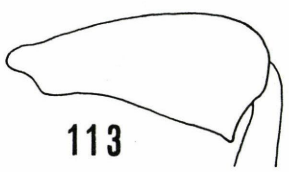

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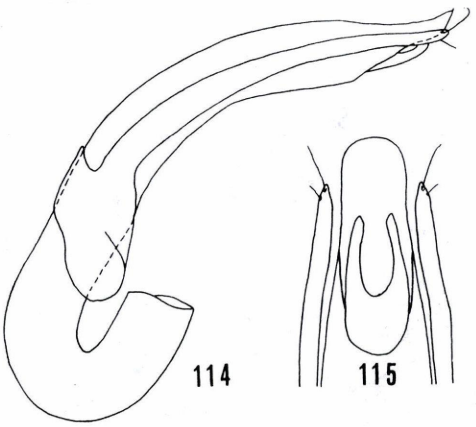
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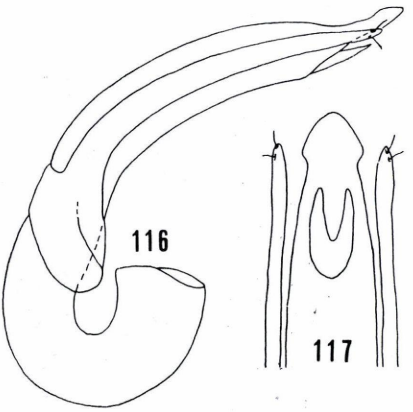
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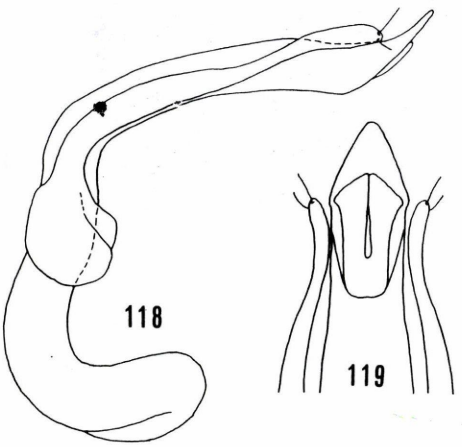
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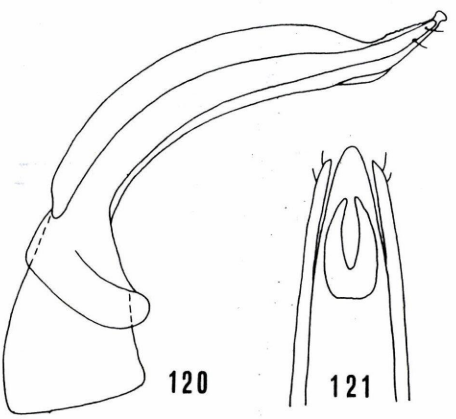
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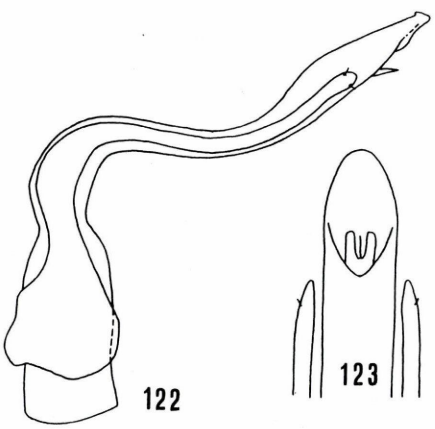
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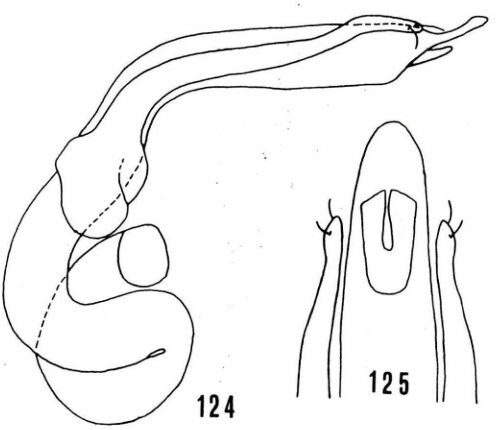
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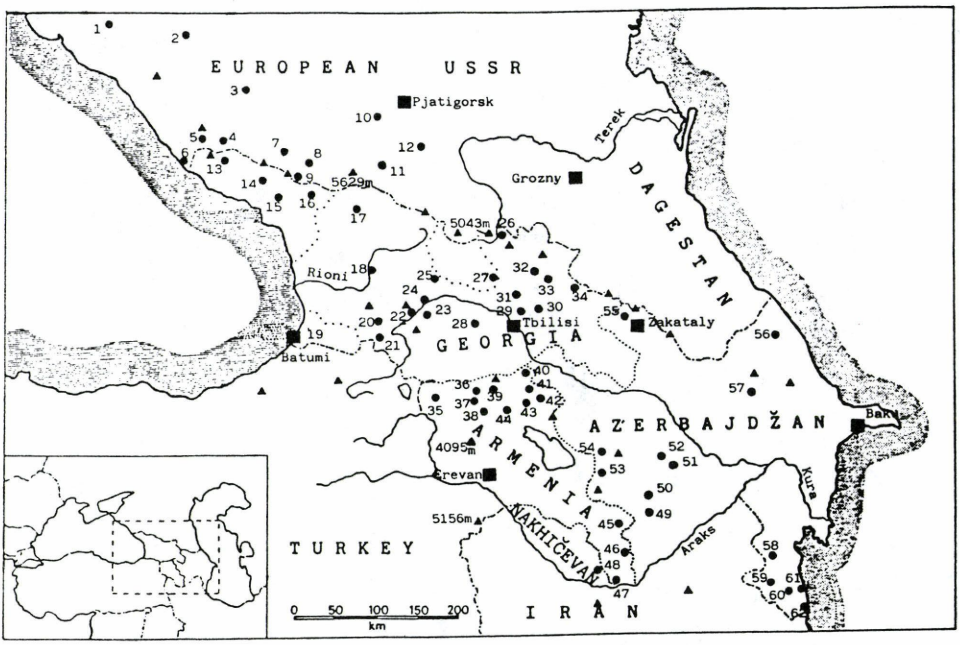

Fig. 126. Collecting localities