

MAX BÄNNINGER: HIS COLLECTION AND PUBLICATIONS
(COLEOPTERA: CARABIDAE)

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ABSTRACT

Max Bänninger (1884-1964), an amateur Coleopterist from Switzerland, focused his attention on the more primitive tribes of Carabid beetles. His geographic perspective was global; his scope was taxonomy. He spent little time writing of natural history aspects and worked within the classifications erected by others. He mainly described new taxa, provided keys to species, and discussed characteristics useful for identification. His collection was donated to the Entomologisches Institut, Eidgenössische Technische Hochschule, Zürich, Switzerland upon his death, where it has been excellently maintained in a room separate from the general collection. Bänninger's annotated publications are housed with the collection. The collection consists of over 30 drawers of material, 22 of which house *Nebria* specimens; the remainder are *Omophron*, Scaritini, Ozaenini, and various other groups. There are 39 primary types, 281 cotypes, and 126 secondary types. Much of this material was the basis of Bänninger's 44 publications.

INTRODUCTION

Max Bänninger (1884-1964) was an amateur Swiss Coleopterist who specialized in the more primitive groups of Carabidae. He was typical of many amateur European taxonomists; that is, very good and very prolific at his hobby. He wrote 44 articles, a few of which were monographic in scope, and he described many new taxa. His collection contains many types of *Nebria* and scaritine species and a few of other groups, and it will need to be consulted by future workers. Therefore, on the basis of data gathered on a visit to the Entomologisches Institut, Eidgenössische Technische Hochschule, Zürich, Switzerland by one of us (TLE), we provide a list of types in Bänninger's collection and their current status. We also provide, for the first time (since there has been no published "science" obituary), a complete list of Bänninger's publications. Hence, we write not of the man, since we know little of him, but of his works.

Bänninger's approach was strictly taxonomic; his papers contain no notes on natural history. Nor did he spend much time on higher classification and phylogeny. He used existing classifications, trying to fit in his new species as best he could. He usually provided descriptive keys, but rarely provided an illustration. His discussions of species characteristics were quite elaborate, but these were never synthesized into phylogenies. Bänninger attempted to study his chosen taxa on a global scale or at least throughout the entire range of the taxa; thus, his limits were taxonomic rather than geographic.

Bänninger's collections are in excellent condition although he received material from many different sources. We found no evidence that he trav-

eled far afield to get his own tropical material, but he seems to have obtained much of his own European alpine material. Thus we know that he was familiar with carabids in their native habitat to some extent, but these field data were not used in his studies.

Bänninger's work spans the time between the old codes of nomenclature and the modern ones. Most of his early attempts at species descriptions do not discuss type material; by the 1950's (later than most) he was designating at least some Holotypes. Therefore many of his descriptions resulted in cotype standard bearers, the cotypes being placed in his own collection and those of other institutions and individuals. Lectotypes should be selected from among these cotypes when revisions are made, and they should be selected from Bänninger's collection in Zürich wherever possible. Throughout the collection are several specimens labeled by Bänninger as *new species*; unfortunately these never made their way to publication.

METHODS

The list of Bänninger collection types that follows was recorded directly from labels in his collection (e.g., Figure 1). Each name was subsequently checked at its original description and type status determined. The collection label and type status given here may not agree, due to divergence between old and modern concepts. Only when the original description indicates that a specimen is unique or when the author declares a holotype do we consider it a holotype; all other type-specimens are considered cotypes or cotype series. One lectotype, *Ozaena convexa*, is selected here for immediate use in another publication. Eleven cases of "manuscript names" were found, especially with K. Kult material. It is also evident from the collection that Kult borrowed material in the past and had not returned it by the time the collection was studied by us.

We also list other types in Bänninger's collection that came from exchanges Bänninger made with other coleopterists. Both date and page references are given. These names can be found in most catalogues; therefore, we do not give a bibliography other than that of Bänninger.

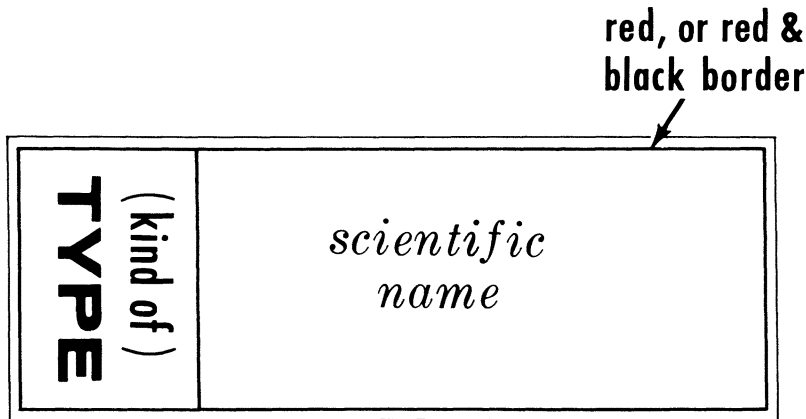


Fig. 1. Example of Bänninger type label.

In order to properly study Bänninger material, it is best to visit the collection in Zürich personally. A small, congenial staff facilitates direct access to the specimens, but is unable to make general loans by mail. In addition, it is easier to understand Bänninger's taxonomic treatments by viewing his material in context, using his annotated papers, and studying his marked, yet undescribed, new species.

PRIMARY AND SECONDARY TYPES IN THE BÄNNINGER COLLECTION AT ZÜRICH

- Ardistomis balthasari* Kult, 1950:309 (1 Paratype).
A. marani Kult, 1950:315 (1 Paratype).
A. nigroclarus Darlington, 1939:83 (2 Paratypes).
Aspidoglossa korschefskyi Kult, 1950:318 (1 Cotype).
Camptodontus straneoi Kult, Manuscript name.
C. zischkai Kult, Manuscript name.
Chondressus granulatus Bänninger, 1929:165 (2 Cotypes).
C. langenhani Bänninger, 1933:95 (1 Cotype).
C. semigranulatus Bänninger, 1929:166 (Holotype: Gabon).
C. semigranulatus singularis Bänninger, 1935:156 (3 Cotypes).
Clivina baenningeri Kult, 1951:22, 24 (1 Paratype).
C. cubae Darlington, 1934:68 (1 Paratype).
C. integra Andrewes, 1929:354 (1 Cotype).
C. jedlickai Kult, Manuscript name.
C. passatii Kult, Manuscript name.
C. pseudoattenuata Kult, Manuscript name.
C. sagittaria Bates, 1892:275 (1 Cotype).
C. saigonica Kult, 1951:19, 22 (1 Paratype).
C. urophthalmoides Kult, 1947:34 (1 Cotype).
Coryza semirubra Andrewes, 1926:71 (1 Cotype).
Crepidopterus gallienii Alluaud, 1902:123 (1 Cotype).
C. morosus Bänninger, 1934:129 (Holotype: Antsihanaka, Madagascar).
C. sublevipennis Alluaud, 1930:12 (1 Cotype).
C. venator atrox Bänninger, 1934:130 (Holotype: Tananarive, Madagascar).
Dinoscaris detriei corniculatus Basilewsky, 1972:221 (1 Paratype).
Distichus amazonicus Bänninger, 1933:93 (Holotype: Teffé, Brazil; 1 Paratype).
D. borneensis Bänninger, 1928:65 (5 Cotypes).
D. differens Bänninger, Manuscript name.
D. evasus Bänninger, 1931(1932):200 (2 Cotypes).
D. semicarinatus argentinus Bänninger, 1933:92 (3 Cotypes).
D. siciliensis Bänninger, Manuscript name.
Dyscherus mocquersyi Bänninger, 1934:128 (2 Cotypes).
D. nigrita Bänninger, 1934:125 (2 Cotypes).
D. pseudomandibularis Bänninger, 1934:124 (Holotype: Morafenobe am Manambaho, Madagascar).
D. pseudomodus Bänninger, 1933:85 (Holotype: Mahatsinjo, Madagascar).
D. razananae Alluaud, 1934:590 (1 Cotype).
D. rugatus Bänninger, 1934:126 (Holotype: Tananarive, Madagascar).
Dyschirius kaliki Kult, 1949:130 (1 Cotype).
D. ludersi Wagner, 1915:304 (1 Cotype).
D. neeresheimeri Wagner, 1915:241, 301 (2 Cotypes).

- Elaphrus atratulus* Wagner, 1917:259 (1 Cotype).
E. cupritarsis Bänninger, 1917(1919):148 (3 Cotypes).
- Eustra chinensis* Bänninger, 1949:134 (Holotype: Shanghai, China).
- Gehringia olympica* Darlington, 1933:111 (1 Paratype).
- Glyptogrus bidentatus* Bänninger, 1956:401 (1 Paratype).
G. porosus Bänninger, 1935:150 (1 Cotype).
- Goniotropis cayennensis* Bänninger, 1949:134 (Holotype: St. Laurent du Maroni, Guayana).
G. kuntzeni Bänninger, 1927:204 (Holotype: Canelas, Durango, Mexico).
- Haplogaster elongata* Bänninger, 1931:190 (Holotype: Khasi Hills, India).
H. himalayica Bänninger, 1935:148 (1 Cotype).
H. lobicollis Bänninger, Manuscript name.
H. manipurensis Bänninger, 1931:190 (1 Cotype).
- Haplotrachelus laevis* Bänninger, 1931(1932):193 (Holotype: "Capland").
H. planatus Bänninger, 1935:149 (1 Cotype).
H. pondoanus Bänninger, 1935:150 (1 Cotype).
- Leistus angustus* Reitter, 1883:40 (2 Cotypes).
L. atticus Reitter, 1885:215 (1 Cotype).
L. baenningeri Roubal, 1926:191 (1 Cotype).
L. denticollis Reitter, 1887:527 (1 Cotype).
L. ellipticus Reitter, 1906:259 (1 Cotype).
L. frater Reitter, 1897:121 (1 Cotype).
L. kashmirensis Andrewes, 1927:65 (1 Cotype).
L. lenkoranus Reitter, 1885:217 (1 Cotype).
L. montanus mimganashi Bänninger, Manuscript name.
L. noesskei Bänninger, 1931:181 (2 Cotypes).
L. osseticus Reitter, 1909:53 (2 Cotypes).
L. punctatus Reitter, 1885:214 (1 Cotype).
L. roubali Mañan, 1941:86 (1 Cotype).
L. spinangulus Reitter, 1913:170 (1 Cotype).
L. sutomorensis Reitter, 1905:215 (1 Cotype).
L. yunnanus Bänninger, 1925:335 (Holotype: Pe Yen Tsing, Yunnan, China).
- Loricera mirabilis* Jedlicka, 1932:107 (2 Cotypes).
L. stevensi Andrewes, 1920:449 (1 Cotype).
- Mamboicus methneri* Bänninger, 1929:164 (1 Cotype).
M. ochryopoides Bänninger, 1929:161 (1 Cotype).
- Mecynoscara ambreanus* Bänninger, 1933:86 (1 Cotype).
- Menigiis burgeoni* Bänninger, 1931:195 (2 Cotypes).
M. camerunensis Bänninger, 1929:128 (Holotype: Joko, Cameroon; 2 Paratypes).
M. congoensis Bänninger, 1929:123 (Holotype: Fort Sibut, Congo; 1 Paratype).
M. hintzi Bänninger, 1929:127 (2 Cotypes).
M. hintzi major Bänninger, 1937:21 (2 Paratypes).
M. phillipsi Bänninger, 1929:122 (3 Cotypes).
- Mesus rugatifrons baenningeri* Kult, Manuscript name.
M. zischkari Kult, Manuscript name.
- Metrius contractus planatus* Van Dyke, 1925:122 (1 Paratype).
M. sericeus Rivers, 1900:389 (1 Cotype).
- Mouhotia gloriosa* Castelnau, 1862:306 (1 Cotype).
- Mystropomus regularis* Bänninger, 1943:658 (1 Paratype).
- Nebria acuta* Lindroth, 1961:71 (2 Paratypes).
N. aetolica Apfelbeck, 1901:427 (3 Cotypes).
N. aetolica macedonica rambouseki Mañan, 1938:57 (1 Cotype).

- N. aetolica olympica* Mařan, 1938:52, 55 (2 Cotypes).
N. aetolica vermionica Mařan, 1938:53, 58 (1 Cotype).
N. albrunensis Bänninger, Manuscript name.
N. anthracina Morawitz, 1862:197 (1 Cotype).
N. apicalis Breit, 1914:160 (1 Cotype).
N. appalachia Darlington, 1931:153 (2 Paratypes).
N. aprutiana Bänninger, 1922:80 (1 Cotype).
N. araschinica Reitter, 1892:66 (3 Cotypes).
N. aterrima Fiori, 1896:17 (2 Cotypes).
N. belloti Franz, [Cited by Jeanne 1966:10] (2 Paratypes).
N. bourderyi Maindron, 1906:250 (1 Cotype).
N. castanea raetzeri Bänninger, 1932:115 (Holotype: Chasseral, Switzerland; 1 Paratype).
N. castanea sumavica Obenberger, 1922:13 (2 Cotypes).
N. cechenoides Reitter, 1885:353 (1 Cotype).
N. chalceola Bates, 1883:219 (1 Cotype).
N. danieli Bänninger, Manuscript name.
N. doderoi Bänninger, 1924:101 (7 Cotypes).
N. elbursiaca Bodemeyer, 1927:178 ("Type").
N. haberhaueri Heyden, 1889:325 (1 Cotype).
N. hyantis Reitter, 1899:195 (1 Cotype).
N. japonica Bates, 1883:218 (3 Cotypes).
N. kaninense Winkler, Manuscript name.
N. klapperichi Bänninger, 1955:48 (1 Cotype).
N. komita Winkler, Manuscript name.
N. kubanensis Lutshnik, 1921:17 (1 Cotype).
N. lideri Reitter, Manuscript name.
N. livida angulata Bänninger, 1949:127 (Holotype: Seoul, Korea; 1 Paratype).
N. macrocephala Breit, 1914:158 (1 Cotype).
N. macrogona Bates, 1873:235 (1 Cotype).
N. maroccana Antoine, 1925:19 (1 Cotype).
N. matejkai Mařan, Manuscript name.
N. merditana Apfelbeck, 1906:1661 (2 Cotypes).
N. microcephala Daniel, 1891:41 (2 Cotypes).
N. nigra Bänninger, 1921:155 (2 Cotypes).
N. norica Schaubberger, 1927:173 (5 Cotypes).
N. novaki Vzetecka, 1928:110 (2 Cotypes).
N. paradisi Darlington, 1931:24 (3 Paratypes).
N. pazi Seidlitz, 1867:178 (1 Cotype).
N. pedemontana Vuillefroy, 1868:289 (Holotype: Piemont).
N. peyerimhoffi Alluaud, 1923:151, 152 (1 Cotype).
N. plagiata Bänninger, 1923:140 (2 Cotypes).
N. pulcherrima Bates, 1873:236 (1 Cotype).
N. pulchrior Maindron, 1906:226 (2 Cotypes).
N. radjabii Mařan, Manuscript name.
N. roborowskii orientalis Bänninger, 1949:129 (Holotype: Liangchow, Kansu, China; 11 Paratypes).
N. reflexa Bates, 1883:218 (2 Cotypes).
N. sajanica Bänninger, 1931(1932):178 (2 Cotypes).
N. shibanaii Ueno, 1955:45 (2 Paratypes).
N. simulator Bänninger, 1933:82 (3 Cotypes).
N. snowi Bates, 1883:219 (1 Cotype).
N. svanetica Jureček, 1922:29 (2 Cotypes).
N. tenuissima Bänninger, 1925:4 (2 Cotypes).
N. ticinensis Bänninger, Manuscript name.
N. tristicula Reitter, 1888:82 (2 Cotypes).
N. vandykei Bänninger, 1928:5 (specimens labelled Lectotype: Paradise Valley, Mt. Rainier, Washington; 2 Paralectotypes labelled same by D. H. Kavanaugh).
N. viridipennis Reitter, 1885:353 (1 Cotype).
N. yunnana Bänninger, 1928:4 (2 Cotypes).
N. yunnana pallidipennis Bänninger, 1928:4 (3 Cotypes).
Notiophilus ovalis Breit, 1914:163, 164 (1 Cotype).
N. specularis Bates, 1881:19 (2 Cotypes).

- Omophron affinis* Bänninger, 1918:105 (2 Cotypes).
O. baenningeri Dupuis, 1912:60 (2 Cotypes).
O. baenningeri Krause, 1915:169 (2 Cotypes).
O. capicola o'neili Bänninger, 1949:131 (1 Paratype).
O. congoensis Delève, 1924:107 (1 Cotype).
O. dissimilis Delève, 1924:108 (1 Cotype).
O. distinctum Bänninger, 1918:99 (2 Cotypes).
O. horni Bänninger, Manuscript name.
O. lunatus Bänninger, 1918:104 (3 Cotypes).
O. stictus Andrewes, Manuscript name.
O. testudo Andrewes, 1919:293 (1 Cotype).
O. utensis Casey, 1913:43 (2 Cotypes).
- Oxydrepanus jedlickai* Kult, Manuscript name.
O. korschefskyi Kult, Manuscript name.
- Oxylobus fugiens* Andrewes, 1929:305 (1 Cotype).
O. rugatus Bänninger, 1928:64 (1 Cotype).
O. rugiceps Andrewes, 1929:310 (1 Cotype).
- Ozaena convexa* Bänninger, 1927:196
 Lectotype, male, here selected and so labelled by T. L. Erwin, 1976.
 Type-locality: Corumba, Mato Grosso, Brazil. Plus 2 paralectotypes from the same locality. This species ranges north to Costa Rica.
- O. elevata* Bänninger, 1956:399 (2 Paratypes).
O. grossa Bänninger, 1927:196 (Holotype: Tacaagle, Argentina).
O. panamensis Bänninger, 1949:133 (1 Paratype).
- Pamborus pradierei darlingtoni* Bänninger, 1943:655 (8 Paratypes).
P. punctatus Darlington, 1961:6 (1 Paratype).
P. transitus Darlington, 1961:3 (4 Paratypes).
P. tropicus Darlington, 1961:4 (2 Paratypes).
- Pasimachus ambiguus* Bänninger, 1950:507 (1 Cotype).
P. imitator Bänninger, 1950:491 (1 Cotype).
P. pacificus Bänninger, 1950:506 (1 Cotype).
P. tolucanus durangoensis Bänninger, 1950:494 (3 Cotypes).
P. velutinus Van Dyke, 1943:21 (1 Paratype).
- Pelophila ulkei* Horn, 1870:105 (4 Cotypes).
- Salcedia schoutedeni nigeriensis* Alluaud, 1932:2 (1 Cotype).
- Scarites aberdarensis* Alluaud, 1917:85 (1 Cotype).
S. aberdarensis neavei Bänninger, 1929:171 (Holotype: Mt. Kenya, Africa; 3 Paratypes).
S. alluaudi Bänninger, 1935:94 (1 Paratype).
S. angolanus Bänninger, 1933:99 (1 Cotype).
S. anomalus Andrewes, 1930:131 (1 Cotype).
S. bokalensis Bänninger, 1931:209 (1 Cotype).
S. bottegoi Bänninger, 1937:477 (1 Cotype).
S. bruchi Bänninger, 1931:210 (2 Paratypes).
S. carbonarius Bänninger, 1935:158 (Holotype: without locality label).
S. cylindriciformis Bänninger, 1933:121 (Holotype: Brazil).
S. danforthi Darlington, 1939:80 (1 Paratype).
S. darlingtoni Bänninger, 1935:159 (1 Cotype).
S. defletus Bänninger, 1933:115 (1 Cotype).
S. derogatus Andrewes, 1929:254 (1 Cotype).
S. dubiosus Andrewes, 1929:261 (1 Cotype).
S. edentatus Bänninger, 1931:204 (1 Cotype).
S. elgonensis Bänninger, 1935:95 (6 Cotypes).
S. feanus Bänninger, 1937:476 (2 Cotypes).
S. ferus Bänninger, 1933:114 (Holotype: West Katanga; 2 Paratypes).
S. fleischeri Reitter, 1899:5 (2 Cotypes).
S. hutchinsi marakwetensis Bänninger, 1935:96 (5 Paratypes).
S. hypocrita Bänninger, 1929:169 (1 Cotype).

- S. hypsipus* Alluaud, 1917:83 (1 Cotype).
S. israelita Reitter, 1899:7 (1 Cotype).
S. jeanneli Bänninger, 1935:93 (1 Cotype).
S. kenyensis Alluaud, 1917:85 (2 Cotypes).
S. kiliuaniis Bänninger, Manuscript name.
S. klapperichi Bänninger, 1955:49 (1 Paratype).
S. leleupi Basilewsky, 1960:70 (2 Paratypes).
S. mahratta Andrewes, 1929:281 (1 Cotype).
S. mandarinus Bänninger, 1928:66 (Holotype: Fokien, China; 1 Paratype).
S. molussus makondanus Bänninger, 1931:206 (1 Cotype).
S. molussus molossulus Bänninger, 1933:100 (Holotype: Nordspitze des Nyassa-Sees-Lake Malawi, Africa; 2 Paratypes).
S. montanus Bänninger, 1931:202 (1 Cotype).
S. montivagus Bänninger, 1935:157 (2 Cotypes).
S. nitidulus discoidalis Bänninger, 1938:107 (1 Cotype).
S. octocostatus Bänninger, 1933:96 (Holotype: Bealanana, Madagascar).
S. paraguayensis Bänninger, 1928:66 (3 Paratypes).
S. passaloides reductus Bänninger, 1933:114 (4 Paratypes).
S. perrieri Fairmaire, 1901:104 (2 Cotypes).
S. senegalensis Bänninger, 1933:113 (Holotype: Rio Geba, Portuguese Guinea).
S. senegalensis lunicollis Bänninger, 1933:108 (2 Paratypes).
S. seyrigi Bänninger, 1934:130 (1 Cotype).
S. striolifrons Fairmaire, 1901:102 (1 Cotype).
S. sulcatus fokienensis Bänninger, 1931:208 (2 Paratypes).
S. terricola aethiopicus Bänninger, 1933:119 (10 Cotypes).
S. uluguruensis Bänninger, 1935:156 (3 Cotypes).
S. usambarensis Bänninger, 1929:169 (3 Paratypes).
- Schizogenius arimao* Darlington, 1934:71 (1 Paratype).
S. baenningeri Kult, 1950:148 (1 Paratype).
S. brazilensis Kult, Manuscript name.
S. elongatus Kult, 1950:146 (1 Paratype).
S. ploceki Kult, Manuscript name.
- Siagona kulla* Andrewes, 1921:411 (1 Cotype).
S. navicularis Bänninger, 1933:83 (Holotype: "Susa, West Persia").
S. polita Andrewes, 1921:180 (1 Cotype).
- Storthodontus ambreanus* Boileau, 1902:126 (Holotype: Montagne d'Ambre, Madagascar).
S. boileui Alluaud, 1930:13 (1 Cotype).
S. bresseti Boileau, 1902:127 (Lectotype: Sud de la Baie d'Antongil, Madagascar. Basilewsky, 1973).
S. camuseti Boileau, 1902:125 (Holotype: region d'Ambre, Madagascar).
S. coquereli amplipennis Bänninger, 1938:68 (14 Cotypes).
S. detriei Alluaud, 1902:124 (1 Cotype).
S. sakalava Alluaud, 1902:125 (1 Cotype).
- Taeniolobus bonariensis uberabaensis* Bänninger, 1941:68 (Holotype: Uberaba, Minas Gérias, Brazil; 3 Paratypes).
T. cubanus Bänninger, 1937:321 (5 Cotypes).
T. dubius Bänninger, 1941:67 (3 Cotypes).
T. furcatus Bänninger, 1941:69 (2 Cotypes).
T. mandibularis Bänninger, 1929:124 (1 Cotype).
T. meridionalis Bänninger, 1941:68 (2 Cotypes).
T. obliteratedus Bänninger, 1941:66 (Holotype: Alto Itatiaya, southwest of Rio de Janeiro, Brazil).
T. pronotalis Bänninger, 1941:70 (Holotype: Passa Quatro, Minas Gérias, Brazil).
T. schubarti Bänninger, 1939:151 (1 Cotype).
T. seriepunctatus Bänninger, 1933:88 (Holotype: Espirito Santo, Brazil; 2 Paratypes).
T. setosus Bänninger, 1941:67 (Holotype: Mar de Hespanha, Minas Gérias, Brazil).
T. theimei Bänninger, 1933:90 (1 Cotype).
T. vilcanotanus Bänninger, 1931(1932):198 (1 Cotype).
- Tibioscarites excisomandibularis* Bänninger, 1929:120 (2 Paratypes).

Tonkinoscaris excisicollis Bänninger, 1956:407 (1 Paratype).

Tropopsis biguttatus immaculatus Bänninger, 1927:207 (1 Cotype).

Typhloscaris gracilis Bänninger, 1929:119 (1 Cotype).

T. microphthalmus Bänninger, 1929:85, 119 (2 Cotypes).

GENERAL COLLECTION

Asaphidion fragile Andrewes, 1925:55 (1 Cotype).

A. ornatum Andrewes, 1925:57 (1 Cotype).

Colfax stevensi Andrewes, 1920:505 (1 Cotype).

Coscinia funerulus Fairmaire, 1886:440 ("Type").

Cyclosomus inustus Andrewes, 1923:465 (1 Cotype).

Desera crassa Andrewes, 1931:477 (1 Cotype).

Feroniola kulti Straneo, [?] (1 Paratype).

Lesticus overbecki Emden, Manuscript name.

Phloeozeteus basharicus Andrewes, Manuscript name.
(specimen missing from pin)

LIST OF PUBLICATIONS BY M. BÄNNINGER

1915. Zur Kenntnis der Gattung *Omophron* Latr. (Paläarktische Arten.). *Deutsche Entomologische Zeitschrift* 59(III):225-234.
- 1917(1919). Dritter Beitrag zur Kenntnis der Carabidae. Gattungen *Omophron* und *Elaphrus*. *Archiv für Naturgeschichte*, Abt. A, 83(7):143-150.
1918. Zweiter Beitrag zur Kenntnis der Carabinae. Gattung *Omophron* (Col.). *Deutsche Entomologische Zeitschrift* 62(I/II):97-109.
1921. Vierter Beitrag zur Kenntnis der Carabinae. (Col.). Gattungen *Omophron* und *Nebria*. *Entomologische Mitteilungen* 10(4):112-120; 10(5):151-156.
1922. Über *Nebria (Helobia) brevicollis* F. und *iberica* Oliveira. 5. Beitrag zur Kenntnis der Carabinae. *Entomologische Blätter* 18(2):77-83.
1923. Versuch einer Bestimmungstabelle der zentral- und ost-asiatischen *Nebria*-Arten ohne gelbe Flügeldecken-zeichnung, nebst Bemerkungen über einige andere Formen. (6. Beitrag zur Kenntnis der Carabinae). *Koleopterologische Rundschau* 10(4):129-142.
1924. Di alcune specie di *Nebria* e *Leistus* della regione mediterranea. 8. Contributo alla Conoscenza dei Carabini (Col.). *Bollettino della Societa Entomologica Italiana* LVI:97-106.
- 1925a. Zur Kenntnis der schweizerischen Carabinae mit Berücksichtigung der Gattung *Bembidion*. *Schweizer Entomologischer Anzeiger* 4(1-3):1-5, 13-15, 17-19.
- 1925b. Neunter Beitrag zur Kenntnis der Carabinae: die *Nebriini*. *Entomologische Mitteilungen* 14(2):180-195; 14(3/4):256-281; 14(5/6):329-343.
- 1927a. Die *Ozaenini* (Col. Carab.). 10. Beitrag zur Kenntnis der Carabinae. *Deutsche Entomologische Zeitschrift* 71(3):177-216.
- 1927b. Zur Erforschung der Persischen Golfes *Cicindis John-Beckeri* n. sp. (Carabid., Col.). *Supplementa Entomologica* 16:119-121.
- 1928a. Systematisches Verzeichnis der Gattung *Siagona* sowie einige neue *Ozaenini* und *Scaritini* (Col. Carab.). *Entomologische Blätter* 24(2):55-68.

- 1928b. Ueber die Nebriini. 13. Beitrag zur Kenntnis der Carabinae. *Koleopterologische Rundschau* 14(1):1-7.
- 1929a. (with F. Netolitsky and E. Schaubberger) Entomologische Ergebnisse der schwedischen Kamtchatka-Expedition 1920-1922. 18. Carabidae. *Arkiv för Zoologi* 20B(4):1-5.
- 1929b. Über die Scaritini des kontinentalen Afrika. 15. Beitrag zur Kenntnis der Carabinae. *Entomologische Blätter* 25(2):79-90; 25(3):118-129; 25(4):161-172.
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