

# Type catalogue of the thick-headed flies (Diptera, Conopidae) in the collection of the Museum für Naturkunde Berlin

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## Abstract

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## Key Words

*Asiconops*

*Conops*

new synonym

new subgenus position

*Physocephala*

*Siniconops*

Type material of thick-headed flies (Diptera, Conopidae) in the collection of the Museum für Naturkunde Berlin (ZMHB) is documented. The entire collection holds primary type material (i.e. holotypes, lectotypes, syntypes) of 73 species. Five *Conops* species with previously unknown subgenus belong to the subgenus *Asiconops*: *C. frontosus* Kröber, 1916; *C. indicus* Kröber, 1916; *C. maculiventris* Kröber, 1916; *C. nigrofasciatus* Kröber, 1916; and *C. punctifrons* Kröber 1916. Two new synonyms are introduced: *Conops vaginalis* Rondani, 1865 syn. nov. of *Conops truncatus* Loew, 1847 and *Siniconops fuscatus* Qiao & Chao, 1998 syn. nov. of *Physocephala sepulchralis* Brunetti, 1912.

## Introduction

The recently published catalogue of Conopidae lists the depositories of primary type material based on published information (Stuke 2017). This present paper presents a revised catalogue of the type material of Conopidae deposited in the collection of the Museum für Naturkunde, Leibniz Institute for Evolution and Biodiversity Science, Berlin, Germany (ZMHB).

Due to impressive historical and recent research in Diptera at the museum, several dipterists have added type material to the collection, including Hermann Loew (1807–1879; 10 species), Theodor Becker (1840–1928; 10 species); Anton Ferdinand Franz Karsch (1853–1936; 2 species), Oswald Duda (1869–1941; 1 species), Otto Kröber (1882–1969; 41 species and 2 lost species) and Jens-Hermann Stuke (1967; 9 species).

The Berlin collection is one of the most important for Conopidae worldwide, containing primary type ma-

terial of some 73 species. Only the Natural History Museum (London; formerly the British Museum, Natural History) and the National Museum of Natural History (Smithsonian Institute) (Washington, DC) hold more type material.

## Methods

The original labels are listed as citations. The labels are listed and numbered in the order found, commencing with the uppermost. Line breaks on labels are indicated by a slash (“ / “), but if there are “/” signs on the labels themselves, these are included without spaces before and after. If text on labels could not be identified properly the line is marked by “[?]”. The interpretation of cited locations is given in Table 1. The following acronyms are used for collections mentioned in the text:

- MNHN** Muséum National d'Histoire Naturelle (Paris, France)
- NHML** Natural History Museum (London, UK)
- NMW** Naturhistorisches Museum (Vienna, Austria)
- SDEI** Senckenberg Deutsches Entomologisches Institut (Müncheberg, Germany)
- USNM** Smithsonian Institution National Museum of Natural History; formerly, United States National Museum (Washington DC, USA)
- ZMHB** Museum für Naturkunde, Leibniz Institute for Evolution and Biodiversity Science (Berlin, Germany)
- ZMUC** University of Copenhagen, Zoological Museum (Copenhagen, Denmark)

## Results

### *Abrachyglossum capitatum* (Loew, 1847)

*Conops capitatus* Loew 1847: 2; type localities: "Vaterland: Es scheint nicht über das Alpengebiet hinauszugehen und kömmt auch im schlesischen Gebirge vor." – available, valid.

♀ syntype: (1) "Reinerz / 13/7 41"; (2) "*Brachyglossum* ♀ / *capitatum* Lw / O. Kröber det. 1912"; (3) "*Abrachyglossum* / *capitatum* ♀ / Stuke det. 2004".

♂ syntype: (1) "Riesengeb. / VII"; (2) "*capitatus* / Loew"; (3) "*Abrachyglossum* / *capitatum* ♂ / Stuke det. 2004".

♂ syntype: (1) "Altenbg. / 7/8"; (2) "Coll. / Gerst."; (3) "*Brachyglossum* ♂ / *capitatum* Lw / O. Kröber det. 1912"; (4) "*Abrachyglossum* / *capitatum* ♂ / Stuke det. 2004".

Loew (1847) described only the female of *A. capitatum* but obviously had several specimens at hand because he gave a range for the distribution of the new species. In ZMHB there are only three specimens likely to have been collected before 1847, and which, therefore, should be accepted as syntypes.

### *Australoconops perbellus* (Kröber, 1939)

*Conops perbellum* Kröber 1939b: 601–602; type locality: "W. Australien, Marloo Station, Wurarga" – available, valid.

♂ holotype: (1) "Type"; (2) "Typus"; (3) "W. Australien / Marloo Station / Wurarga 8.1935 / Gebr. Goerling S. G."; (4) "*Conops* / *perbellum* / ♂ Kröb."

### *Australoconops pseudocellifer* (Kröber, 1939)

*Conops pseudocellifer* Kröber 1939b: 601; type locality: "Neuholland" – available, valid.

♀ holotype: (1) "Type"; (2) "5518"; (3) "Typus"; (4) "*Conops* / *pseudocellifer* / 1938 ♀ Krb"; (5) "*Conops* ♀ / *aurosa* Herm / O. Kröber det. 1914"; (6) "*aureorufa* / Macq. / Nov.Holl. Schultz".

### *Australoconops uncinatus* (Kröber, 1939)

*Conops uncinatus* Kröber 1939b: 603–604; type localities: "S. W. Australien, Kalamunda", "Port Philipp" – available, valid.

♀ syntype: (1) "3039"; (2) "Typus"; (3) "*Conops* / *unicinatus* / n sp"; (4) "*pica* / *pica* et *aureorufa* / Macq. ? / Pt. Phil. Coulon".

Kröber (1939) described the material he used for the description of *A. uncinatus* as follows: "♂♀. ♀ als *pica* von mir beschrieben. Type: Berlin. ♂ von S. W. Australien, Kalamunda, 9.iii.–11.iii. Type: London" [♂♀. ♀ described as *pica* by me. Type: Berlin. ♂ from S. W. Australia, Kalamunda, 9.iii.–11.iii. Type: London]. Schneider (2010) and Stuke (2017) misinterpreted this statement and suggested only "Australien, Kalamunda" as the type locality. In fact Kröber (1916) also redescribed "*Conops picus* Mcq." [= *Australoconops picus* (Macquart, 1851)] and gave "Port Philipp" as the location. Therefore "Port Philipp" should be treated as a second locus typicus and the specimen described above regarded as the female syntype of *A. uncinatus*.

### *Brachyceraea brevicornis* (Loew, 1847)

*Conops brevicornis* Loew 1847: 23; type locality: "Brusa im nördlichen Kleinasien" – available, valid.

♂ holotype: (1) "Brusa / 8/42 A. m"; (2) "Coll. / H. Loew"; (3) "Typus"; (4) "*Brachyceraea* ♂ / *brevicornis* LW" / O. Kröber det 1912".

### *Conops acuticornis* Loew, 1847

*Conops acuticornis* Loew 1847: 8-9; type localities: "Das Alpengebiet; auch in Württemberg und Schlesien" – available, invalid: junior synonym of *Conops ceriaeformis* Meigen, 1824.

♂ syntypus: (1) "Märkl."; (2) "Coll. / H. Loew"; (3) "Typus"; (4) "*Conopilla* ♂ / *ceriaeformis* mg / O. Kröber det 1912"; (5) "Zool. Mus. / Berlin"; (6) "*Conops* ♂ / *ceriaeformis* / Stuke det. 2003".

♂ syntypus: (1) "Siles. / Sellind."; (2) "Coll. / H. Loew"; (3) "Paratypus"; (4) "*Conopilla* ♂ / *ceriaeformis* mg / O. Kröber det 1912"; (5) "Zool. Mus. / Berlin"; (6) "*Conops* ♂ / *ceriaeformis* / Stuke det. 2003".

♂ syntypus: (1) "cc. *C. signat* / v. Roser \* / Stuttg."; (2) "Coll. / H. Loew"; (3) "Paratypus"; (4) "*Conopilla* ♂ / *ceriaeformis* mg / O. Kröber det 1912"; (5) "Zool. Mus. / Berlin"; (6) "*Conops* ♂ / *ceriaeformis* / Stuke det. 2003".

### *Conops atrimanus* Kröber, 1939

*Conops apicalis* var. *atrimanus* Kröber 1939a: 379; type locality: "Uam, Kamerun" – available, invalid: junior synonym of *Conops ferruginosus* Kröber, 1915.

♀ holotype: (1) "S. O. Kamerun / Uam-Gebiet / G. Tessmann S. G. / bei Bossum [written perpendicularly] / 29.6.14 [written perpendicularly]"; (2) "*Conops apicalis* / var *atrimanus* Krb. / det. Kröber 1938".

**Table 1.** Historical locations on labels mentioned in the text and their modern interpretation.

Adeleide	Adelaide [Australia, South Australia]
Alai Geb.	Alay Mountains [Kyrgyzstan & Tajikistan]
Altenbg.	Altenburg [Germany, Thuringia]
Amboin.	Amboina [Indonesia, Maluku Islands]
Argentinien / Prov. Buenos Aires	Buenos Aires Province [Argentina]
Asia minor / Taurus cilic.	Central Taurus Mountains [Turkey]
Assam	Assam [India]
Astrabad	Gorgan [Iran, Golestan Province]
Asuncion, / Paraguay	Asunción [Paraguay]
Asuncion, / Paraguy / Villa Morra	Villa Morra, neighborhood of Asunción [Paraguay]
Bampur	Bampur, town and river [Iran, Sistan and Baluchestan Province]
Basman	Bazman, town and mountain [Iran, Sistan and Baluchestan Province]
Berlin	Berlin [Germany]
Betschmanaland-Prot. / Kalahari / Severelela - Kooa	between "Severelela" and "Kooa" in the Kalahari Desert [Botswana]
Bozen	Bolzano [Italy, South Tyrol]
Brusa	Bursa [Turkey, Bursa Province]
Carolina	North- and South Carolina [USA]
Costa Rica / S. Jose	San José [Costa Rica]
Dalmat.	Dalmatia [Croatia]
Dech-i-Papid (=Дех-и-Пабид)	Deh-e Pabid, village NW Eskelabad 28°37'N 60°47'E [Iran, Sistan and Baluchestan Province]
Dus-ab (=Дузъ-абъ)	Zahedan town [Iran, Sistan and Baluchestan Province]
Georgia	Georgia [USA]
Graecia	[Greece]
Hungria	[Hungaria]
Kala-i-bid (=Кала-и Бидъ)	Qal'eh-ye Bid, village, 28°39'N 60°22'E [Iran, Sistan and Baluchestan Province]
Kärnten / s. Mauthen	Mauthen [Austria, Carinthia]
Kirman (=Кирманъ, = Кирм.)	Kerman Province, in historical borders [Iran]
Kriviput	Krivi Put [Croatia]
Ku-i-Murgak (=Ку-и-Мургакъ)	Kuh-e Murgak mountain E of Bazman, 28°00'N 60°20'E [Iran, Sistan and Baluchestan Province]
Kyusyu / Mt. Kujyu / Oita Pref.	Mount Kujū [Japan, Kyushu Island]
Lindi, Ostafrika	Lindi [Tanzania, Lindi Region]
Mattogrosso	[Brasil, Mato Grosso]
Mersina	Mersin [Turkey, Province Mersin]
Morea mer., Tayget.	Taygetos Mountains [Greece, southern Peloponnes]
N-Argentinien / Salta 2500 m	Salta [Argentina, Salta Province]
NE-Kreta, oberhalb / Chersónissos	Chersónissos [Greece, Crete]
Nimptsch / Schles.	Niemcza [Poland, Lower Silesian Province]
Nov.Holl.	Nova Hollandia [Australia]
NW.-D: Döttlingen / [Oldenburg]	Döttlingen [Germany, Lower Saxony]
Nyassa-See / Langenburg	Lumbila town at Lake Nyasa [Tanzania, Ludewa District]
Ober. Aeg	Upper Egypt [Egypt]
Ost-Afrika / Lindi	Lindi [Tanzania, Lindi Region]
Paraguay / San Bernardino	San Bernardino [Paraguay, Dep. Cordillera]
Pt. Phil.	Port Phillip [Australia, Victoria]
Pungo Andongo	Pungo-Andongo [Angola, Province of Malanje]
Ragusa	Ragusa [Italy, Sicily]
Reinerz	Duszniki-Zdrój [Poland, Lower Silesian Province]
Riesengeb.	Riesengebirge = Krkonoše Mountains [Czech Republic & Poland]
San João / d. Rey	São João del Rei [Brazil, Southeast]
Sansibar / 6°S	Zanzibar at 6°S [Tanzania]
Sarepta	Sarepta = Volgograd [Russia, Volgograd Oblast]
Schwegyin	Shwegyin [Myanmar, Bago Region]
S.Cruz	Santa Cruz de Tenerife [Spain, Canary Islands]
Sikhim	Sikhim [India]
Siles.	Silesia [Poland & Czech Republic]
S. O. Kamerun / Uam-Gebiet	[Cameroon, North Region]
S. O. Kamerun / Uam-Gebiet / bei Bossum	Bossum [Cameroon, North Region]
Spoletto	Spoletto [Italy, Province Perugia]
Ssargad (=Саргад, = Саргадъ)	Sarhad, landscape (mountain plateau) between Zahedan and Iran Shar [Iran, Sistan and Baluchestan Province]
Stuttg.	Stuttgart [Germany]
Sutschan / Ussuri	Partisansk [Russia, Far East, Primorje]
Syrakus	Syracuse [Italy, Sicily]
Takao	Kaohsiung [Taiwan]
Togo / Bismarckburg	Bismarckburg, a former colonial station close to Yégué [Togo, Region Centrale, Pref. Sotouboua]
Toyenmongai bei / Tainan Formosa	central part of Tainan [Taiwan]
Triest	Trieste [Italy]
Tunisi / dint	[Tunisia]
Ungarn	[Hungary]
Usambara	Usambara Mountains [Tanzania]
W. Australien / Marloo Station / Wurarga	Marloo Station, Wurarga [Australia, Western Australia]
W. Sumatra / Bungus / Bucht Padang	Bungus Bay [Indonesia, Sumatra]
Wustung / b. Habelschwerdt	Stara Bystrzyca close Bystrzyca Kłodzka [Poland, Lower Silesian Province]

***Conops bipunctatus* Loew, 1852**

*Conops bipunctatus* Loew 1852: 659; locus typicus not given – available, invalid: junior primary homonym of *Physocephala bipunctata* (Macquart, 1844), senior synonym of *Conops rondanii* Bezzi, 1901.

♀ holotype: (1) “3037”; (2) “Typus”; (3) “*Conops* / (*Smithiconops*) / *rondanii* / Stuke det. 2003”.

***Conops braunsii* Kröber, 1915**

*Conops braunsii* Kröber 1915a: 44; type locality: “Lindi, Ostafrika, Bothaville” – available, valid

♀ holotype: (1) “Ost-Afrika / Lindi / Fülleborn S.”; (2) “Type”; (3) “*Conops* ♀ / *braunsii* Kröb. / O. Kröber det. 1914”; (4) “Zool. Mus. / Berlin”.

***Conops camaronensis* Kröber, 1939**

*Conops camaronensis* Kröber 1939a: 380; type locality: “Uam v.” – available, valid.

♂ syntype: (1) “Type”; (2) “S. O. Kamerun / Uam-Gebiet / G. Tessmann S. G. / 29.6.14 [written perpendicularly]”; (3) “Typus”; (4) “*Conops camaronensis* [sic!] / Krb. / det. Kröber 1938”.

♀ syntype: (1) “Type”; (2) “S. O. Kamerun / Uam-Gebiet / G. Tessmann S. G. / 29.6.14 [written perpendicularly] / bei Bossum [written perpendicularly]”; (3) “Typus”; (4) “*Conops camaronensis* [sic!] / Krb. / det. Kröber 1938”.

***Conops ferruginosus* Kröber, 1915**

*Conops ferruginosus* Kröber 1915a: 40; type locality: “Kap der guten Hoffnung” – available, valid.

♀ holotype: (1) “3036”; (2) “*Conops* ♀ / *ferruginosa* Kröb. / O. Kröber det. 1914”; (3) “Type”; (4) “Zool. Mus. / Berlin”.

***Conops frontosus* Kröber, 1916**

*Conops frontosus* Kröber 1916: 57; type locality: “Sikkim” – available, valid.

♂ holotype: (1) “Sikkim / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Conops* ♂ / *frontosus* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

*C. frontosus* belongs in the subgenus *Asiconops*.

***Conops indicus* Kröber, 1916**

*Conops indicus* Kröber 1916: 45; type locality: “Sikkim, Darjeeling” – available, valid.

♂ syntype: (1) “? Sikkim ? / Coll. Bingham”; (2) “*Conops* ♂ / *indicus* Krb. / O. Kröber det. 1914”; (3) “Zool. Mus. / Berlin”.

♂ syntype: (1) “? Sikkim ? / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Conops* ♂ / *indicus* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

♀ syntype: (1) “? Sikkim ? / Coll. Bingham”; (2) “*Conops* ♀ / *indicus* Kröb. / O. Kröber det. 1914”; (3) “Zool. Mus. / Berlin”.

♀ syntype: (1) “? Sikkim ? / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Conops* ♀ / *indicus* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

Bases on the information in the original description there should be 2 male and 5 female syntypes in the ZMHB. Therefore, 3 females are lost. *C. indicus* belongs in the subgenus *Asiconops*.

***Conops insignis* Loew, 1848**

*Conops insignis* Loew 1848: 300–301; type locality: “Ragusa” – available, valid.

♂ holotype: (1) “Ragusa / Sturm”; (2) “Coll. / H. Loew”; (3) “Type”; (4) “*Conops* ♂ / *insignis* Lw. / O. Kröber det 1912”; (5) “Zool. Mus. / Berlin”; (6) “*Conops* ♂ / *insignis* / Stuke det. 2003”.

***Conops laetus* Becker, 1922**

*Conops laeta* Becker 1922: 200–201; type locality: “Sarepta, Süd-Russland” – available, invalid: junior synonym of *Conops insignis* Loew 1848.

♀ holotype: (1) “Sarepta / 30225”; (2) “Typus”; (3) “*Con. laeta* / Beck / det. Becker”; (4) “Zool. Mus. / Berlin”; (5) “*Conops* ♀ / *insignis* / Stuke det. 2003”.

The specimen is almost completely destroyed.

***Conops maculiventris* Kröber, 1916**

*Conops maculiventris* Kröber 1916: 50–51; type locality: “Sikkim; Birma, Carina Cheba” – available, valid.

♂ syntype: (1) “Sikkim / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Conops* ♂ / *maculiventris* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

Based on the information in the original description there should be a male and a female syntype, but only the male syntype was found. *C. maculiventris* belongs in the subgenus *Asiconops*.

***Conops minor* Becker, 1922**

*Conops minor* Becker 1922: 201–202; type localities: “Sarepta, Bozen, Ungarn, Griechenland” – available, invalid: junior primary homonym of *Physocephala minor* (Walker, 1852), junior synonym of *Conops flavifrons* Meigen, 1804.

♂ syntype: (1) “Bozen / 4.7.96 / Frieze”; (2) “42201”; (3) “Zool. Mus. / Berlin”; (4) “*Conops* / *flavifrons* ♂ / Stuke det. 2003”; (5) “Syntypus / *Conops minor* / Becker, 1922 / labelled by Stuke 2003”.

♂ syntype (1) “Ungarn / 40873”; (2) “Zool. Mus. / Berlin”; (3) “*Conops* / *flavifrons* ♂ / Stuke det. 2003”; (4) “Syntypus / *Conops minor* / Becker, 1922 / labelled by Stuke 2003”.

♂ syntype: (1) “Graecia / 54367”; (2) “*minor* / Beck.”; (3) “Zool. Mus. / Berlin”; (4) “*Conops* / *flavifrons* ♀ / Stuke det. 2003”; (5) “Syntypus / *Conops minor* / Becker, 1922 / labelled by Stuke 2003”.



Based on the original description there should be 7 female and 3 male syntypes. There is additional material in the collection which might represent further syntypes, but all of these additional specimens were identified by Kröber in 1912 as *C. flavifrons*, and it therefore seems improbable that Becker described from these specimens.

#### ***Conops nigrofasciatus* Kröber, 1916**

*Conops nigrofasciatus* Kröber 1916: 46–47; type locality: “Schwegyin bei Rangoon” – available, valid.

♀ holotype: (1) “Schwegyin / 11.97 / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Conops* ♀ / *nigrofasciatus* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

*C. nigrifrons* belongs in the subgenus *Asiconops*.

#### ***Conops punctifrons* Kröber, 1916**

*Conops punctifrons* Kröber 1916: 52; type locality: “Sikim” – available, valid.

♀ holotype: (1) “Sikhim / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Conops* ♀ / *punctifrons* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

*C. punctifrons* belongs in the subgenus *Asiconops*.

#### ***Conops rugifrons* Karsch, 1888**

*Conops rugifrons* Karsch 1888: 381; type locality: “Usambara” – available, valid.

♂ holotype: (1) “Type”; (2) “Usambara / C. W. Schmidt / Febr - März 86”; (3) “*Conops* / *rugifrons* N.”.

#### ***Conops sareptanus* Becker, 1922**

*Conops sareptana* Becker 1922: 202; type locality: “Sarepta” – available, invalid: junior synonym of *Conops silaceus* Wiedemann, 1824.

♀ holotypus: (1) “Sarepta / 30227”; (2) “Typus”; (3) “*sareptana* Beck.”; (4) “Zool. Mus. / Berlin”.

Contrary to the original description, the holotype is a female.

#### ***Conops stylatus* Kröber, 1915**

*Conops stylatus* Kröber 1915a: 56–57; type localities: “Belgischer Kongo; Kibimbi 2.II., Kilwa 19.I.”, “Sansibar” – available, invalid: junior synonym of *Conops elegans* Meigen, 1804.

♂ syntype: (1) “7354”; (2) “Type”; (3) “*Conops* ♂ / *stylatus* Krb. / O. Kröber det. 1914”; (4) “Sansibar / 6°s. Hildebr.”; (5) “*Conops* / *elegans* / Stuke det. 2003”.

#### ***Conops vitellinus* Loew, 1847**

*Conops vitellinus* Loew 1847a: 4–5; type locality: “Gegend von Triest” – available, valid.

♂ holotype: (1) “Triest / 13/9 Zllr.”; (2) “Coll. / H. Loew”; (3) “Typus”; (4) “*Conops* ♂ / *vitellinus* Lw. / O. Kröber det 1912”; (5) “Zool. Mus. / Berlin”; (6) “*Conops* ♂ / *vitellinus* / Stuke det. 2003”.

#### ***Dalmannia confusa* Becker, 1922**

*Dalmannia confusa*: 294; type locality: “Kroatien, Kriviput” – available, invalid: junior synonym of *Dalmannia dorsalis* (Fabricius, 1794)

♂ holotype: (1) “Kriviput / 31.5.90”; (2) “Kroatien / 400/2.”; (3) “Typus”; (4) “*D. confusa* / Beck. / det. Becker”.

#### ***Deleskampomyia fasciata* Kröber, 1940**

*Deleskampomyia fasciata* Kröber 1940a: 71–72; type locality: “W. Australia, Marloo Stat., Wurarga” – available, valid.

♂ holotype: (1) “Type”; (2) “Typus”; (3) “W. Australien / Marloo Station / Wurgara 8.-9. 35 / A. Goerling S. G.”; (4) “*Deleskampe-* / *myia fasciata* / ♂ Krb”.

#### ***Leopoldius valvatus* (Kröber, 1914)**

*Brachyglossum valvatum* Kröber 1914: 186; type locality: “Sarepta” – available, valid.

♀ lectotype designated by Stuke et al. (2015): (1) “Sarepta Christoph”; (2) “nov. sp.”; (3) “*Brachyglossum valvatum* Kröb. ♀ / O. Kröber det. 1912”; (4) “Zool. Mus. Berlin”; (5) “Lectotypus / *Brachyglossum valvatum* / Kröber, 1914 / des. Stuke & Clements 2015”.

#### ***Myopa argentata* Stuke, 2005**

*Myopa argentata* Stuke 2005: 543–545; type locality: “Griechenland, Thessalia, Prov. Magnesia, Peninsula Pilio, Platanius 60 km SE Volos, Afilianes, 39°09'5"N, 23°17'0"E, 200 m” – available, valid

♂ holotype: (1) “Greece: Thessalia / Prov. Magnesia, Peninsula Pilio / Platanius (Πλατανιάς) 60 km / SE Volos (Βολος), Afilianes / 39°09'5N, 023°17'0E / 15.IV.2003 200 m / leg. C. Lange & J. Ziegler”; (2) “Holotypus / *Myopa argentata* / spec. nov. ♂ / Stuke det. 2003”.

#### ***Myopa clauseni* Stuke & Clements, 2008**

*Myopa clauseni* Stuke & Clements 2008: 10–12; type locality: “Greece: NE-Crete, upper part of Chersónissos, at 100–200m [35,34°N, 25,49°E]” – available, valid.

♀ holotype: (1) “NE-Kreta, oberhalb / Chersónissos, / 100-200 m / leg. Claußen 18.4.1987”; (2) “*Myopa* ♀ / *polystigma* Rond. / det. Claußen 1988”; (3) “Holotypus / *Myopa clauseni* / spec. nov. ♀ / Stuke & Clements / det. 2004”.

#### ***Myopa hirsuta* Stuke & Clements, 2008**

*Myopa hirsuta* Stuke & Clements 2008: 12–14; type locality: “Germany: Döttlingen (52,94°N, 8,38°E)” – available, valid.

♂ holotype: (1) “NW.-D: Döttlingen / [Oldenburg] 30.4.1978 / leg. Barkemeyer”; (2) “Holotypus / *Myopa hirsuta* / spec. nov. ♂ / Stuke & Clements / det. 2004”.

***Myopa maetai* Stuke, 2003**

*Myopa maetai* Stuke 2003: 413–417; type locality: “Japan; Kyusyu, Oita Pref., Mt. Kuju” – available, valid.

♂ holotype: (1) “Kyusyu / Mt. Kuju / Oita Pref. / 23–24.iv.1996 / Col. Y. Maeta”; (2) [Japanese text]; (3) “Holotypus / *Myopa maetai* / spec. nov. ♂ / Stuke det. 2002”.

***Myopa nigrifacies* Becker, 1922**

*Myopa dorsalis* Fbr. var. *nigrifacies* Becker 1922: 289; locus typicus not given – available, invalid: junior synonym of *Myopa dorsalis* Fabricius, 1794.

Holotype of unknown sex: (1) “Asia minor / Taurus cilic. / 1895. Holtz”; (2) “39487”; (3) “var. *nigrifacies*”; (4) “Zool. Mus. / Berlin”.

Becker (1922) only described *M. nigrifacies* as one of his couplets in his key to *Myopa*, without any additional information concerning origin, sex, or number of specimens he had at hand. Kröber (1939a) subsequently identified and characterized the type specimen thus: “nur Thoraxrest mit beiden Flügeln vorhanden” [“only the thorax remaining, with both wings present”]. There are only four specimens of *M. dorsalis* from the Becker collection at ZMHB. Three of these can be excluded as type material of *M. nigrifacies* because they do not fit with the original description. The only remaining specimen is, in fact, the poor remnant described by Kröber, which has to be interpreted as the holotype of *M. nigrifacies*, with the sex not identified.

***Myopa strandi* Duda, 1940**

*Myopa polystigma* var. *strandii* Duda 1940: 397–398; type localities: “Nimptsch”, “Habelschwerdt (Mittelschlesien)” [Poland] – available, invalid: junior synonym of *Myopa vicaria* Walker, 1849.

♂ syntype: (1) “18 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♂ / Walker 1849 / det.: Flügel 2009”.

♂ syntype: (1) “18 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♂ / Walker 1849 / det.: Flügel 2009”.

♂ syntype: (1) “17 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* / D ♂ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♂ / Walker 1849 / det.: Flügel 2009”.

♂ syntype: (1) “20 4 12”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♂ / Walker 1849 / det.: Flügel 2009”.

♂ syntype: (1) “20 4 12”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♂ / Walker 1849 / det.: Flügel 2009”.

♂ syntype: (1) “20 4 12”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♀ [sic.] d. Duda”; (4) “Typus”;

(5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♂ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “17 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♀ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “20 4 12”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ [sic.] d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “18 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ [sic.] d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “18 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♀ d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “22 3 12”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ [sic.] d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “17 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ [sic.] d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “21 4 11”; (2) “Nimptsch / Schles. Duda”; (3) “*Strandi* D / ♂ [sic.] d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

♀ syntype: (1) “26 4 24”; (2) “Wustung / b. Habelschwerdt / I. Duda”; (3) “*Strandi* / D / ♂ [sic.] d. Duda”; (4) “Typus”; (5) “Zool. Mus. / Berlin”; (6) “*Myopa vicaria* ♀ / Walker 1849 / det.: Flügel 2009”.

***Myopotta horrida* (Becker, 1922)**

*Myopa horrida* Becker 1922: 290–291; type locality: “Griechenland, S. Morea, Taygetos” – available, invalid: junior synonym of *Myopotta rubripes* (Villeneuve, 1909).

♀ holotype: (1) “Morea mer., Tayget.”; (2) “Holtz”; (3) “49312”; (4) “Typus”; (5) “*horrida* / Beck / det. Becker”.

***Physocephala assamensis* Kröber, 1915**

*Physocephala assamensis* Kröber 1915b: 121–122; type locality: “Assam” – available, valid.

♀ holotype: (1) “Assam”; (2) “Type”; (3) “Typus”; (4) “*Physocephala* ♀ / *assamensis* Krb. / O. Kröber det. 1914”.

***Physocephala aterrима* Kröber, 1915**

*Physocephala aterrима* Kröber 1915b: 122–123; type locality: “Sikkim” [India] – available, valid.

♂ syntype: (1) “Sikkim / Coll. Bingham”; (2) “*Physocephala* ♂ / *aterrима* Krb. / O. Kröber det. 1914”.

♀ syntype: (1) “Sikhim / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Physocephala* ♀ / *aterrima* Krb. / O. Kröber det. 1914”.

Kröber (1915b) stated in the original description that the type material was in his own collection.

### *Physocephala aureopygia* Kröber, 1915

*Physocephala aureopygia* Kröber 1915b: 123–124; type locality: “Sikkim, Cap York” – available, valid.

♂ syntype: (1) “Sikhim / Coll. Bingham”; (2) “*Physocephala* / *aureopygia* Krb.”.

♂ syntype: (1) “Sikhim / Coll. Bingham”; (2) “*Physocephala* ♂ / *aureopygia* Krb. / O. Kröber det. 1914”.

♂ syntype: (1) “Sikhim / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Physocephala* ♂ / *aureopygia* Krb. / O. Kröber det. 1914”.

♀ syntype: (1) “? Sikhim ? / Coll. Bingham”; (2) “Type”; (3) “Typus”; (4) “*Physocephala* ♀ / *aureopygia* Krb. / O. Kröber det. 1914”.

♀ syntype: (1) “Sikhim / E. Gutman, S. V.”; (2) “*Physocephala* ♀ / *aureopygia* Krb. / O. Kröber det. 1914”.

As with *P. aterima*, Kröber (1915b) stated in the original description that the type material was in his own collection.

### *Physocephala bicolor* Kröber, 1915

*Physocephala bicolor* Kröber 1915b: 136–137; type locality: “Matto Grosso” – available, valid.

♂ holotype: (1) “Mattogrosso / Rohde.”; (2) “Type”; (3) “*Physocephala* ♂ / *bicolor* Kröb. / O. Kröber det. 1914”.

### *Physocephala bimarginipennis* Karsch, 1887

*Physocephala bimarginipennis* Karsch 1887: 10; type locality: “Pungo-Andongo” – available, valid.

♀ holotype: (1) “Pungo Andongo / A. v. Homayer”; (2) “11031”; (3) “*Physocephala* / *bimarginipennis* / n. sp.”; (4) “Holotypus”.

### *Physocephala castanoptera* (Loew, 1853)

*Conops castanopterus* Loew 1853: 33; type locality: “Savanah”, “Carolina” – available, invalid: junior synonym of *Physocephala sagittaria* (Say, 1823).

1♀ syntype: (1) “Carolina, Germar”; (2) “Coll. / H. Loew”; (3) “Type”; (4) “*Conops* / *castanopterus*”; (5) “*Physocephala* ♀ / *sagittaria* Say / O. Kröber det 1913”.

Stuke (2017) wrongly listed this species as a nomen dubium when in fact it is a junior synonym of *P. sagittaria*, as first suggested by Kröber (1915c).

### *Physocephala curticornis* Kröber, 1915

*Physocephala curticornis* Kröber 1915d: 54–55; type locality: “Ungarn”, “Ungarn: Cinkota” – available, invalid: junior synonym of *Physocephala vittata* (Fabricius, 1794).

♀ syntype: (1) “Hungria”; (2) “antennis / brevi ♂ / tur”; (3) “Type”; (4) “*Physocephala* ♀ / *curticornis* Kröb. / O. Kröber det. 1912”.

The syntype reported here has no abdomen and the sex can therefore only be inferred from Kröber’s identification label. The specimen was previously overlooked in the study reported by Stuke (2016) although the synonymy was assumed. The short antennae for which the species was described are a morphological aberration.

### *Physocephala fraterna* (Loew, 1847)

*Conops fraternus* Loew 1847a: 18–19; type locality: “Kleinasien, Griechenland, Dalmatien und ganz Italien, von Zeller by Syrakus, Rom und in der Gegend von Spoleto gefangen” – available, invalid: junior synonym of *Physocephala vittata* (Fabricius, 1794).

♂ syntype: (1) “Dalmat.”; (2) “[?] abd. segm. 5”; (3) “*Physocephala* ♂ / *fraterna* Lw. / O. Kröber det. 1912”; (4) “? Typus”.

♂ syntype: (1) “Syrakus / 17/6. Zllr.”; (2) “*Physocephala* ♂ / *fraterna* Lw. / O. Kröber det. 1912”; (3) “? Typus”.

♂ syntype: (1) “Syrakus / 4/5. Zllr.”; (2) “var. aurat. / fronteni / gra”; (3) “*Physocephala* ♂ / *fraterna* Lw. / O. Kröber det. 1912”; (4) “? Typus”.

♂ syntype: (1) “Syrakus / 4/5. Zllr.”; (2) “var. aurat. / fronteni / gra”; (3) “*Physocephala* ♂ / *fraterna* Lw. / O. Kröber det. 1912”; (4) “? Typus”.

♀ syntype: (1) “Rom / 26/8. Zllr.”; (2) “*Physocephala* ♀ / *fraterna* Lw. / O. Kröber det. 1912”; (4) “? Typus”.

♀ syntype: (1) “Syrakus / 20/4. Zllr.”; (2) “*Physocephala* ♀ / *fraterna* Lw. / O. Kröber det. 1912”; (3) “? Typus”.

♀ syntype: (1) “Spoleto / 4/9. Zllr.”; (2) “*Physocephala* ♀ / *fraterna* Lw. / O. Kröber det. 1912”; (3) “? Typus”.

♀ syntype: (1) [no text, labelled only with a light blue triangle meaning the material was collected from Asia Minor by Loew 1841–42]; (2) “*Physocephala* ♀ / *fraterna* Lw. / O. Kröber det. 1912”.

♂ syntype: (1) [no text, labelled only with a light blue triangle meaning the material was collected from Asia Minor by Loew 1841–42]; (2) “*Physocephala* ♂ / *fraterna* Lw. / O. Kröber det. 1912”.

♀ syntype: (1) [no text, labelled only with a light blue square with a black triangle, meaning the material was collected from Rhodes by Loew in 1842]; (2) “*Physocephala* ♀ / *fraterna* Lw. / O. Kröber det. 1912”.

♂ syntype: (1) “Astrabad / Christoph”; (2) “*Physocephala* ♂ / *fraterna* Lw. / O. Kröber det. 1912”.

### *Physocephala furax* Becker, 1913

*Physocephala furax* Becker 1913a: 612–613; type locality: “Pers.-Beludshistan, zwischen Dus-abad und Kala-i-bid, Ssargad, Kirman” – available, invalid: junior synonym of *Physocephala antiqua* (Wiedemann, 1830).



♂ lectotype designated by Stuke (2015): (1) “Дузъ-абъ–Кала / -и Бидъ. Саргадъ / *Кирманъ* 15/23.VI98”; (2) “Эксп. В. Персію / 1898 / *Зарудный*”; (3) “Typus”; (4) “*Physocephala / furax* Beck / det. Becker”; (5) “Lectotypus / *Physocephala furax* / Becker & Stein, 1915 / des. Stuke, 2015”.

### *Physocephala maculigera* Kröber, 1915

*Physocephala truncata* Lw. var. *maculigera* Kröber 1915d: 71; type localities: “Oberägypten, Tunis, Sinai, Syrien, Algir, Biskra”, “Tunis, Oberägypten, Syrien, Algier, Constantine, Biskra” – available, invalid; junior synonym of *Physocephala vittata* (Fabricius, 1794).

♂ syntype: (1) “*Physocephala* ♂ / *maculigera* Kröb. / O. Kröber det. 1912”; (2) “*Physocephala / maculigera* ♂ / Stuke det. 2004”.

♂ syntype: (1) “Tunisi / dint 1882 / G. e L. Doria”; (2) “113.”; (4) “*Physocephala* ♂ / *maculigera* Kröb. / O. Kröber det. 1912”; (5) “*Physocephala / maculigera* ♂ / Stuke det. 2004”; (6) “? Typus”.

♂ syntype: (1) “Ober. Aeg.”; (2) “Variet. ae- / gyptiaca”; (3) “*Physocephala* ♀ / *maculigera* Kröb. / O. Kröber det. 1912”; (4) “*Physocephala / maculigera* ♀ / Stuke det. 2004”; (5) “? Typus”.

♀ syntype: (1) “*Physocephala* ♀ / *maculigera* Kröb. / O. Kröber det. 1912”; (2) “*Physocephala / maculigera* ♀ / Stuke det. 2004”.

♀ syntype: (1) “*Physocephala* ♀ / *maculigera* Kröb. / O. Kröber det. 1912”; (2) “*Physocephala / maculigera* ♀ / Stuke det. 2004”.

♀ syntype: (1) “Ober. Aeg.”; (2) “*Physocephala* ♀ / *maculigera* Kröb. / O. Kröber det. 1912”; (3) “*Physocephala / maculigera* ♀ / Stuke det. 2004”; (4) “? Typus”.

♀ syntype: (1) “Ober. Aeg.”; (2) “*Physocephala* ♀ / *maculigera* Kröb. / O. Kröber det. 1912”; (3) “*Physocephala / maculigera* ♀ / Stuke det. 2004”; (4) “? Typus”.

♀ syntype: (1) “Tunisi / dint 1881 / G. e L. Doria”; (2) “113.”; (4) “*Physocephala* ♀ / *maculigera* Kröb. / O. Kröber det. 1912”; (5) “*Physocephala / maculigera* ♀ / Stuke det. 2004”; (6) “? Typus”.

### *Physocephala persica* Becker, 1913

*Physocephala persica* Becker 1913a: 609–610 + pl. xiv; type localities: “Pers.-Beludshistan, Kirman, aus der Umgegend von Bampur und Basman, sowie zwischen Ku-i-Murgak und Dech-i-Papid, 21.VII.–18.VIII.1898; ferner aus der Umgebung von Kunscha, 6.V.1901” – available, invalid; junior synonym of *Physocephala pusilla* (Meigen, 1804).

♂ syntype: (1) “Ку-и-Мургакъ / Дэх-и-Пабид Сар-гад *Кирм.* 14/18 VIII98”; (2) “Эксп. В. Персію / 1898 / *Зарудный*”; (3) “Typus”; (4) “*Physocephala / persica* Beck / det. Becker”.

From the original description there should be four syntypes. The sex was not given in the original description.

### *Physocephala rubicunda* Kröber, 1915

*Physocephala rubicunda* Kröber 1915c: 94; type locality: “Südafrika” – available, invalid; junior synonym of *Physocephala maculipes* (Bigot, 1887).

♂ holotype: (1) “3055”; (2) “Type”; (3) “*Physocephala* ♂ / *rubicunda* Krb. / O. Kröber det. 1914”.

### *Physocephala rufithorax* Kröber, 1915

*Physocephala rufithorax* Kröber 1915b: 138–139; type localities: “Paraguay-Asuncion, Villa Morra, 29. XL, Brasil-Sta. Catharina; Peru-Madre de Dios.” – available, valid.

♀ holotype: (1) “Type”; (2) “Asuncion, / Paraguay / Villa Morra / 29.11.1905 / J. O. Anisits [written perpendicularly]”; (3) “*Physocephala* ♀ / *rufithorax* Kröb / O. Kröber det. 1914”.

### *Physocephala schmideggeri* Stuke, 2017

*Physocephala schmideggeri* Stuke 2017: 613–619; type locality: “United Arab Emirates / Wadi Wurayah 25,40 N / 46,28 E” – available, valid.

♂ holotype: (1) “United Arab Emirates / Wadi Wurayah 25,40 N / 46,28 E lg. Schmid-Egger / 11.-19. III.2009 uae8”; (2) “Holotypus / *Physocephala / schmideggeri* / spec. nov. ♂ / des. Stuke 2014”.

### *Physocephala sumatrensis* Kröber, 1915

*Physocephala sumatrensis* Kröber 1915b: 119–120; type locality: “Sumatra, Padang Bungus-Bucht” – available, valid.

♂ holotypus: (1) “W. Sumatra 1.-6 / XII.08 Bungus / Bucht Padang / Schoede S. G.”; (2) “Type”; (3) “Typus”; (4) “*Physocephala* ♂ / *sumatrensis* Krb. / O. Kröber det. 1914”.

### *Physocephala truncata* (Loew, 1847)

*Conops truncatus* Loew 1847: 21; type locality: “Sicilien; von Zeller zweimal im Juni bei Syrakus gefangen” – available, valid.

♂ syntypus: (1) “Syrakus / 17/6 Zllr.”; (2) “*Physocephala* ♂ / *truncata* Lw / O. Kröber det. 1912”; (3) “*Physocephala / truncata* ♂ / Stuke det. 2004”; (4) “? Typus”.

♂ syntypus: (1) “Syrakus / 17/6 Zllr.”; (2) “*Physocephala* ♂ / *truncata* Lw / O. Kröber det. 1912”; (3) “*Physocephala / truncata* ♂ / Stuke det. 2004”; (4) “? Typus”.

These two syntypes have been previously overlooked. Unfortunately, they have been misinterpreted and are not a colour morph of *P. vittata* as proposed by Stuke (2016) but are in fact conspecific with *Physocephala vaginalis* (Rondani, 1865). This synonymy was overlooked because whilst the female of *P. vaginalis* is easily identified due to its long theca, it is very difficult to recognise the male. Only by using the key of Stuke (2016) can males of *P. vittata* and *P. vaginalis* be accurately separated. *Conops vaginalis* Rondani 1865 is therefore placed as junior synonym of *Conops truncatus* Loew 1847 (**syn. nov.**).



***Physocephala unicolor* Kröber, 1915**

*Physocephala unicolor* Kröber 1915b: 145; type locality: “Paraguay, San Bernardino” – available, valid.

♂ holotypus: (1) “Paraguay / San Bernardino / K. Fiebrig S. V. / 18.IV. [written perpendicularly]”; (2) “*Hyptis vestita* / Infloreszens”; (3) “Type”; (4) “*Physocephala* ♀ [sic] / *unicolor* Krb. / O. Kröber det. 1914”; “Zool. Mus. / Berlin”. The abdomen is broken off and glued on a piece of paper which is pinned separately, bearing the label: “abd. of type / *Physocephala* / *unicolor* Krb.”.

***Physocephala vespiformis* Kröber, 1915**

*Physocephala vespiformis* Kröber 1915b: 135–136; type localities: “Paraguay Asuncion, San João; Surinam, Juanjui-Amazonas.” – available, invalid: junior synonym of *Physocephala aurifrons* (Walker, 1849).

♀ syntype: (1) “Type”; (2) “Asuncion, / Paraguay / 1906 / J. D. Anisits [written perpendicularly]”; (3) “*Physocephala* ♀ / *vespiformis* Kröb. / O. Kröber det. 1914”; (4) “Zool. Mus. / Berlin”.

♀ syntype: (1) “3011”; (2) “*Physocephala* ♀ / *vespiformis* Kröb. / O. Kröber det. 1914”; (3) “Cotype”.

♀ syntype: (1) “San João / d. Rey. / Sello.”; (2) “Cotype”; (3) “*Physocephala* ♀ / *vespiformis* Kröb. / O. Kröber det. 1914”.

Kröber (1915b) stated in the original description that the “Type” is in ZMHB and identified an unknown number of females from different locations. The three syntypes listed here conform with the stated loci typici and therefore all of these specimens should be treated as syntypes.

***Physoconops (Pachyconops) gracilior* (Kröber, 1915)**

*Conops gracilior* Kröber 1915e: 150–151; type locality: “Paraguay, San Bernardino” – available, valid.

♂ syntype: (1) “Paraguay / San Bernardino / K. Fiebrig S. V. / 3.iv. [written perpendicularly]”; (2) “Type”; (3) “*Conops* ♂ / *gracilior* Kröb. / O. Kröber det. 1914”.

♂ syntype: (1) “Paraguay / San Bernardino / K. Fiebrig S. V. / 11.iv. [written perpendicularly]”; (2) “*Hyptis vestita* / Infloreszens”; (3) “*Conops* ♂ / *gracilior* Kröb. / O. Kröber det. 1914”.

♂ syntype: (1) “Paraguay / San Bernardino / K. Fiebrig S. V. / I. [written perpendicularly]”; (2) “*Conops* ♂ / *gracilior* Kröb. / O. Kröber det. 1914”.

♀ syntype: (1) “Paraguay / San Bernardino / K. Fiebrig S. V. / 7.iv. [written perpendicularly]”; (2) “Type”; (3) “*Conops* ♀ / *gracilior* Kröb. / O. Kröber det. 1914”.

***Physoconops longistylus* (Kröber, 1915)**

*Conops longistylus* Kröber 1915e: 149–150; type locality: “S. João del Rey - Brasilien” – available, valid.

♀ syntype: (1) “3022”; (2) “S. João d. Rey. / Sello.”; (3) “*Conops* ♀ / *longistylus* Kröb. / O. Kröber det. 1914”.

***Physoconops perbellum* Kröber, 1939**

*Physoconops perbellum* Kröber 1939c: 467–468; type locality: “Argentinien, Buenos Aires” – available, invalid: junior synonym of *Physoconops hermanni* (Kröber, 1915).

♂ holotype: (1) “Type”; (2) “Argentinien / Prov. Buenos Aires / 1.4.10 [written perpendicularly]”; (3) [illegible text]; (4) “Typus”; (5) “*Physoconops* / *perbellum* / n. sp.”.

***Physoconops striatifrons* (Kröber, 1915)**

*Conops striatifrons* Kröber 1915e: 132; type localities: “Georgia, Texas (?)”, “Lincoln Nebraska” VIII., Georgia” – available, invalid: junior synonym of *Physoconops nigri-manus* (Bigot, 1887).

1 ♂ syntype: (1) “Georgia / Morrison”; (2) “7864”; (3) “Type”; (4) “*Conops* ♂ / *striatifrons* Krb. / O. Kröber det. 1914”; (5) “Zool. Mus. / Berlin”.

Kröber (1915e) did not state the exact number of syntypes he used for the description, but it is likely that he had only the female mentioned above plus another female which was in his collection and which was almost certainly destroyed during World War II.

***Physoconops varipes* (Kröber, 1915)**

*Conops angustus* var. *varipes* Kröber 1915e: 153–154; type locality: “Paraguay, San Bernardino” – available, valid.

♂ holotypus: (1) “Paraguay / San Bernardino / K. Fiebrig S. V. / 11.XII. [written perpendicularly]”; (2) “*Conops angustus* / Kröb. var. ♂ / O. Kröber det. 1914”.

***Pleurocerina nigrifacies* (Kröber, 1940)**

*Paraconops nigrifacies* Kröber 1940a: 66; type locality: “W. Australien, Marloo Stat., Wurarga” – available, valid.

♂ holotype: (1) “Type”; (2) “Typus”; (3) “W. Australien / Marloo Station / Wurarga 8.-9. 35 / A. Goerling S. G.”; (4) “*Paraconops* / *nigrifacies* / ♂ Kröb”.

***Pleurocerinella bartaki* Stuke, 2009**

*Pleurocerinella bartaki* Stuke 2009: 212–215; type locality: “Botswana: Betschmanaland Prot. / Kalahari / Severelela - Kooa” – available, valid.

♂ holotype: (1) “Betschmanaland-Prot. / Kalahari / Severelela - Kooa / XI.04 / L. Schultze S.”; (2) “*Pleurocerinella* / *dioctriaeformis* Brun.”; (3) “Zool. Mus. / Berlin”; (4) “Holotypus / *Pleurocerinella* / *bartaki* / Stuke det. 2009”.

***Pseudophysocephala caenoneura* Kröber, 1939**

*Pseudophysocephala caenoneura* Kröber 1939a: 385; type locality: “Nyassa See, Langenberg [sic!]” – available, valid.

♀ holotype: (1) "Type"; (2) "Nyassa-See / Langenburg / 26.VII.-8.VIII. 98 / Fülleborn S."; (3) "Typus"; (4) "*Pseudophysocephala / stylata* Kb. / det. Kröber 1938"; (5) "Zool. Mus. / Berlin".

#### ***Pseudophysocephala constricta* (Kröber, 1915)**

*Physocephala constricta* Kröber 1915c: 85-86; type locality: "Cap." – available, valid

♀ lectotype designated by Camras (2001): (1) "3053"; (2) "Type"; (3) "*Physocephala* ♀ / *constricta* Krb. / O. Kröber det. 1914".

Camras (2001) referred to the specimen listed here as a lectotype, stating: "The female of *constricta* is designated as the holotype as important characters are in that sex." This comment is interpreted as a lectotype designation by Stuke (2017).

#### ***Pseudophysocephala fenestralis* Kröber, 1939**

*Pseudophysocephala fenestralis* Kröber 1939a: 386-387; type localities: "Cape Prov., George", "Nyassasee, Langenburg" – available, valid.

♂ syntype: (1) "Type"; (2) "Nyassa-See / Langenburg / 14.V.1899/ Fülleborn S."; (3) "Typus"; (4) "*Pseudophysocephala / fenestralis* Krb. / det. Kröber 1938".

#### ***Pseudophysocephala nitida* (Kröber, 1915)**

*Conops nitidus* Kröber 1915a: 54-55; type locality: "Togo, Bismarcksburg" – available, valid.

♂ holotype: (1) "Togo / Bismarckburg / 2.-18.vi.93 / L. Conradt S."; (2) "*Conops* ♂ / *nitidus* Kröb/ O. Kröber det. 1914"; (3) "Cotype"; (4) "Zool. Mus. Berlin"; (5) "*Pseudophysocephala / nitidus* / Kröber / det. Camras, 2000".

In addition to the male holotype there is also a female specimen in the collection at ZMHB bearing the same labels as the holotype. In the original description only the male sex was described and it was not stated whether or not there was more than one specimen available at the time. Kröber (1915) did, however, mention elsewhere in the same paper that in several cases he had more than one specimen of a sex at hand. On this basis we currently assume that the male specimen in the ZMHB is the holotype. On the other hand, Camras (2001) reported three syntypes, comprising the specimens from the Berlin collection together with another male deposited at USNM.

#### ***Pseudophysocephala stylata* Kröber, 1939**

*Pseudophysocephala stylata* Kröber 1939a: 385-386; type locality: "Langenberg [sic!]" – available, invalid: junior synonym of *Pseudophysocephala caenoneura* Kröber, 1939.

♂ holotype: (1) "Type"; (2) "Nyassa-See / Langenburg / 1.-26.VII.98 / Fülleborn S."; (3) "Typus"; (4) "*Pseudophysocephala / stylata* Krb."; (5) "Zool. Mus. / Berlin"; (6) "*Pseudophysocephala / caenoneura* Kröber / det. Camras 1999".

#### ***Sicus alpinus* Stuke, 2002**

*Sicus alpinus* Stuke 2002: 246-251; type locality: "Austria, Kärnten, in the south of Mauthen" – available, valid.

♀ holotype: (1) "Kärnten / s. Mauthen / 13.-16.7.1939 / Zwick"; (2) "Holotypus / *Sicus alpinus* spec. / nov. ♀ / Stuke det. 2002".

#### ***Sicus nigricans* Kröber, 1939**

*Sicus ferrugineus* L. var. *nigricans* Kröber 1939a: 370; type locality: "Sutschan, Ussuri" – available, invalid: junior synonym of *Sicus nishitapensis* (Matsumura, 1916).

♂ holotype: (1) "Sutschan / Ussuri"; (2) "*Sicus / nigricans* Kröb."; (3) "Holotypus"; (4) "*Sicus nishitapensis* ♂ / Stuke det. 2003".

#### ***Siniconops curtirostris* (Kröber, 1916)**

*Conops curtirostris* Kröber 1916: 52-53 [as "*Conops celebensis* Mej."]; type locality: "Sikkim"; available, invalid: junior synonym of *Siniconops sepulchralis* (Brunetti, 1912).

5♂♂ syntypes: (1) "Sikhim / Coll. Bingham"; (2) "*Conops* ♂ / *curtirostris* Kröb. / O. Kröber det. 1914"; (3) "Zool. Mus. / Berlin".

♂ syntypes: (1) "? Sikhim ? / Coll. Bingham"; (2) "*Conops* ♂ / *curtirostris* Kröb. / O. Kröber det. 1914"; (3) "Zool. Mus. / Berlin".

♂ syntype: (1) "Sikhim / Coll. Bingham"; (2) "Type"; (3) "Typus"; (4) "*Conops* ♂ / *curtirostris* Kröb. / O. Kröber det. 1914"; (5) "Zool. Mus. / Berlin".

♀ syntype: (1) "Sikhim / Coll. Bingham"; (2) "*Conops* ♀ / *curtirostris* Kröb. / O. Kröber det. 1914"; (3) "Zool. Mus. / Berlin".

♀ syntype: (1) "Sikhim / Coll. Bingham"; (2) "Type"; (3) "Typus"; (4) "*Conops* ♀ / *curtirostris* Kröb. / O. Kröber det. 1914"; (5) "Zool. Mus. / Berlin".

This material was overlooked by Stuke (2018) in his review of the genus *Siniconops*. According to the original description Kröber examined 8 males and 3 female specimens of this species. Presumably Kröber kept one pair, which was destroyed with his collection, and only these 7 males and 2 females remain. There are also a further 2 males and 1 female with the same collecting labels but lacking Kröber's identification label. These specimens were probably not examined by Kröber, however, and are very unlikely to be syntypes.

This long series of this species was not previously known and indicates some variation concerning the yellow marking on the hind margins of tergites 2-4 (varying from no yellow hind margins to distinctly yellow hind margins), the colouration of the legs (from light brown to almost completely black) and the colouration of the claws (from having a distinct brown base with a black tip to being completely black). *Siniconops fuscatus* Qiao & Chao, 1998 falls within the variation of this species. There is no

difference in the shape of the theca between the female syntypes of *S. curtirostris* and the female specimens of *S. fuscatus* reported by Stuke (2018). Therefore, these two species should be treated as conspecific, and *Siniconops fuscatus* Qiao & Chao, 1998 placed as junior synonym of *Physocephala sepulchralis* Brunetti 1912 (**syn. nov.**), along with *S. curtirostris*.

### ***Siniconops nigripes* (Kröber, 1913)**

*Conops nigripes* Kröber 1913: 278–279; type localities: “Taihorinsho XI. und Sokutsu IX.”, “Toyenmongei bei Tanan (Formosa)”, “Kosempo”, “Tapani und Koshun” – available, valid.

♂ syntype: (1) “Toyenmongai bei / Tainan Formosa / Rolle V.1910”; (2) “*Conops / nigripes* Kröb. / O. Kröber det. 1912”; (3) “Zool. Mus. / Berlin”.

♂ syntype: (1) “Toyenmongai bei / Tainan Formosa / Rolle V.1910”; (2) “*Conops / nigripes* Kröb. / O. Kröber det. 1912”; (3) “Zool. Mus. / Berlin”.

### ***Zodion asiaticum* Becker, 1922**

*Zodion asiaticum* Becker 1922: 283; type locality: “Alai Gebirge, S.-Sibirien” – available, invalid: junior synonym of *Zodion cinereum* (Fabricius, 1794).

♂ holotype: (1) “Alai Geb. / VII.1903”; (2) “508/6.”; (3) “Typus”; (4) “*asiaticum* / Beck. / det. Becker”; (5) “Zool. Mus. / Berlin”.

### ***Zodion caesium* Becker, 1908**

*Zodion caesium* Becker 1908: 90–91; type locality: “St. Cruz” – available, valid.

♂ holotype: (1) “S. Cruz / 47401”; (2) “Type”; (3) “*caesium* / Beck. / det. Becker”; (4) “*Zodion / caesium* / Type Beck. 1908 / Dr. Theod. Becker det.”.

### ***Zodion grisescens* Kröber, 1939**

*Zodion grisescens* Kröber 1939d: 537; type locality: “N. Argentinien, Salta” – available, invalid: junior synonym of *Zodion aureopygium* Kröber, 1915.

♂ holotype: (1) “Type”; (2) “N-Argentinien / Salta 2500 m / [illegible text] / J. Steinbach S.V. / III-IV 1905” [written perpendicularly]; (3) “Typus”; (4) “*Zodion / grisescens* / ♂ n. sp. Krb”.

### ***Zodion hauseri* Stuke, 2014**

*Zodion hauseri* Stuke 2014: 240–243; type locality: “Kazakhstan 29.–31.V.2001 / Charyn Valley W Chundza / 650 m 43°37’N, 79°21’E” – available, valid.

♂ holotype: (1) “Kazakhstan 29.–31.V.2001 / Charyn valey W Chundza / 650m 43°37’N, 79°21’E / leg. M. Hauser”; (2) “Holotypus / *Zodion hauseri* / spec. nov. ♂ / des. Stuke 2014”.

### ***Zodion malayensis* Stuke, 2004**

*Zodion malayensis* Stuke 2004: 187–188; type locality: “Malaysia, Pahang / 30 km, NE Raub, IV.-V., ET / 3°56’N, 101°38’E – available, valid.

♀ holotype: (1) “Malaysia, Pahang / 30 km, NE Raub, –300m / Lata Lembik, IV.-V., ET / 3°56’N, 101°38’E, 2002 / E. Jendenk + O. Šauša leg.”; (2) “Holotypus / *Zodion malayensis* / spec. nov. ♀ / Stuke det. 2004”.

### ***Zodion pulchrum* Loew, 1868**

*Zodion pulchrum* Loew 1868: 384–385; locus typicus not given – available, invalid: junior synonym of *Zodion erythrurum* Rondani, 1865.

♂ holotype: (1) “Mersina / Lederer”; (2) “coll. / H. Loew”; (3) “Typus”; *Zodion / pulchrum* / Loew\*\*.

“Mersina in Cilien” is the historical name of Mersin on the Mediterranean coast of Turkey, and not in Italy as wrongly stated by Stuke (2017).

### **Specimens in ZMHB not justifiably assigned as type material**

#### ***Conops rufifrons* Doleschall, 1857**

*Conops rufifrons* Doleschall 1857: 412–413; type locality: “Amboina”. – available, valid.

Kröber (1916) mentioned 2 male and 3 female types in the ZMHB. Of these, the following material was found in the collection: 1 ♀ with (1) “*Conops* ♀ / *rufifrons* Dol. / O. Kröber det. 1914”; (2) “Zool. Mus. / Berlin”; 1 ♂ with (1) “3035”; (2) “*Conops* ♂ / *rufifrons* Dol. / O. Kröber det. 1914”; (3) “*rufifrons* / Dolesch.\* / Amboin. Felder.”; (4) “Zool. Mus. / Berlin”. There was no information in the original description concerning the number or sex of the types. Horn et al. (1990) stated that the material collected in Java by Doleschall is in the Museum of Vienna. Therefore, there is doubt as to the actual depository of the type material; this requires further investigation.

#### ***Conops satanicus* Bigot, 1887**

*Conops satanicus* Bigot 1887a: 43; type locality: “Australie” – available, valid.

A ♀ specimen is present in ZMHB with the labels: (1) “Type”; (2) “5517”; (3) “Adeleide / Schumb.”; “Typus”; (5) “*Conops* T7 / *satanicus* Big.”. The holotype of *C. satanicus* is in NHML (Schneider 2010), so the Berlin specimen cannot be type material.

#### ***Myopa fasciata* Meigen, 1804**

*Myopa fasciata* Meigen 1804: 286; incomplete information about the *locus typicus* [“Sie ist nicht selten” and “Eine Abänderung aus Frankreich”] – available, valid.

Three specimens are currently assigned as type material: 1 ♂, 2 ♀: (1) “Berlin / Erichson S.”; (2) “Type” [rotes Etikett]; (3) “*Myopa / fasciata* / Stuke det. 2002”. The male and female syntypes are all in MNHN (Stuke 2017)



and there is no reason to believe the specimens in the ZMHB might be additional type specimens.

### ***Physocephala amoena* – invalid collection name**

As far as we are aware there is no conopid known by this name in the published literature (Stuke 2017) and therefore it is interpreted as a collection name only. The female specimen of *Physocephala pusilla* (Meigen, 1804) in the collection which is labelled “Typus” under this name is therefore not a type specimen.

### ***Physocephala annulata* Kröber, 1913**

*Physocephala annulata* Kröber 1913: 281; type locality: “Anping / VII., Takao” [Taiwan] – available, invalid: junior synonym of *Physocephala limbipennis* de Meijere, 1910.

Two males deposited in the ZMHB have labels that fit with the locus typicus: (1) “Takao / 1.9.07”; (2) “Type”; (3) “*Physocephala* / *annulata* Kröb. / O. Kröber det. 1912”; one of these specimens also has a fourth label: (4) “*Physocephala* / *annulata* / Kröb.”. From the original description an unknown number of male and female syntypes should be in the collection “Deutsches Ent. Museum”. In fact there are 4 male syntypes in the SDEI (Rohlfien and Ewald 1975), and therefore the material of ZMHB cannot be interpreted as type material.

### ***Physoconops excisus* (Wiedemann, 1830)**

*Conops excisa* Wiedemann 1830b: 234; type locality: “Savannah”; HT ♂ [ZMUC, Parson 1948] – available, valid.

The male holotype of *P. excisus* is deposited in ZMUC (Parson 1948), and there is no reason to believe that one of two specimens in ZMHB from Loew’s collection might be type material. ♂: (1) “3018”; (2) “*Conops* ♂ / *excisus* Lw / O. Kröber det. 1913”; ♀: (1) “3018”; (2) “*Conops* ♀ / *excisus* Lw / O. Kröber det. 1913”.

### ***Pseudophysocephala platycephala* (Loew, 1853)**

*Conops platycephalus* Loew 1853: 35; locus typicus not given – available, valid.

There is one specimen in the ZMHB which is labelled as a type as follows: (1) “3054”; (2) “Type”; (3) “*Physocephala* ♂ / *platycephala* Lw. / O. Kröber det. 1914”; (3) “Zool. Mus. / Berlin”; (4) “Allotype ♂ / *Physocephala* / *Platycephala* / (Loew) / det. Kröber, 1915”. This specimen belongs to *P. platycephala* and was mentioned by Camras (2001) as “other type from the Berlin Museum”. This specimen is not mentioned in the original description and is therefore not type material. The female holotype of *P. platycephala* is deposited in ZMUC (Camras 2001).

### ***Zodion pictum* Schiner, 1868**

*Zodion pictum* Schiner 1868b: 370; type locality: “Columbien” – available, valid.

A male labelled (1) “Cotype”; (2) “Paratypus”; (3) “Costa Rica / S. Jose / 5. 25. / H. Schmidt”; (4) [blank blue label]; (5) “*Zodion* / *pictum* / Wd” is not type material because the locality data on the label does not fit with the original description. The holotype is deposited in the NMW (Kröber 1915e).

### **Type material lost from the ZMHB**

Kröber (1939a) reported some Conopidae types which he could not find in the Berlin collection where he had expected them to be: *Conops pugioniformis* (Becker, 1913), *Conops ruficornis* Becker, 1913, *Physocephala detecta* Becker, 1913, *Physocephala laeta* Becker, 1913, *Physocephala punctithorax* Becker, 1913, and *Physocephala zarudnyi* Becker, 1913. All of these species were collected by N. Zarudny, and the material was sent back to Saint Petersburg after description. This material is now deposited in the collection of the Russian Academy of Sciences, Zoological Institute, Saint Petersburg (Narchuk and Ovtshinnikova pers. comm. in an email dated January 2019). There are only two species of which type material appears to have been lost from the ZMHB collection.

### ***Physoconops fenestratus* (Kröber, 1915)**

*Conops fenestratus* Kröber 1915e: 134–135; type locality: “Lincoln, Nebraska” – available, invalid: junior synonym of *Physoconops brachyrhynchus*.

Kröber (1915) described the female and male of *P. fenestratus* but referred only to a female “Type” which was deposited in the “Kgl. zool. Mus. Berlin.”. Therefore the male specimen should be interpreted as a paratype and the female specimen as a holotype. Only one female specimen was found in the collection: (1) “7703”; (2) “Dallas, / Texas Boll”; (3) “*Conops* ♀ / *fenestratus* Krb. / O. Kröber det. 1914”; (4) “Zool. Mus. / Berlin”. This specimen does not appear to be the male holotype due to wrong collecting site data. The type material of *P. fenestratus* seems therefore to be lost.

### ***Sicus indicus* Kröber, 1940**

*Sicus indicus* F. Kröber 1940b: 244; type locality: “Himalaya” – available, valid: not recognized (nomen dubium).

Based on information in the original description, the male holotype of *S. indicus* should be in the ZMHB collection but could not be found there.

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