

## Checklist of the Anostraca

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### Abstract

In this checklist, we number the named anostracan fauna of the world at 258 species and seven subspecies organized in 21 genera. The list contains all species described through 31 December 1993, and those new species names made available in previous pages of this volume. The most species rich genus is *Streptocephalus* with 58 described species level taxa. *Chirocephalus* with 43, *Branchinecta* 35, and *Branchinella* 33 occupy the next three places. With the exception of *Branchipodopsis* and *Eubbranchipus* each having 16 species, all the other genera include less than 10 species each. The need for zoogeographic study of these animals is demonstrated by the fact that almost 25% of the named taxa are known only from their type localities.

### Introduction

We present a complete listing of species in the crustacean order Anostraca as of 31 December 1993, and those described in the preceding pages of this symposium volume. The list is alphabetical by genus, then species, and lastly subspecies when such are described. Subgenus is included when this category has been described and we consider the case for establishing it justified; however, notation of subgenus does not alter the order of listing. Following each name, we include notes on type material, type locality, geographic distribution, actions of the International Commission on Zoological Nomenclature, new synonyms, sources of synonymies, and other information we consider pertinent and helpful. We also point out problem areas needing study. Much of the information on Daday's syntypes came from Forró & Brtek (1984).

During preparation of the checklist, we critically evaluated each species using the best information available to us. In cases where we consider the available information indicates nominal species belong to the same taxon, we synonymize them. We also change taxa from the subspecies to the species category when we consider the available evidence favors such a move. When the status of a taxon is questionable and needs study, we point this out. We do not list manuscript names, nomina nuda, as such names are not valid scientific names because they fail to conform to the

requirements of the International Code of Zoological Nomenclature for availability as species names.

This checklist recognizes 258 species and seven subspecies arranged in 21 genera; however, its authors disagree on the number of valid genera. The checklist follows Belk (1995; this volume) in considering *Drepanosurus* Simon, 1886 and *Siphonophanes* Simon, 1886 as synonyms of *Eubbranchipus* Verrill, 1870 and in reestablishing them as subgenera. Brtek considers all three to be separate valid genera as characterized in Brtek (1966).

### Confusing names in the genus *Artemia*

In his publications on *Artemia*, Dr Cesare Artom of Italy used a number of names to differentiate various populations and subpopulations. While doing this, he created potential nomenclatural problems by presenting these names in the style of scientific names. However, an examination of his work indicates that he did not intend these names to be available names of species or subspecies as the concept of availability is presented in the International Code of Zoological Nomenclature, Third Edition (the Code). Commenting on Artom's names, Bond (1934) noted that Artom 'used his terms as conveniences'. More recently, Barigozzi (1974) pointed out that Artom often introduced names which were styled like scientific names and then never used them again. Barigozzi went on to note that Artom thought of *Artemia salina* (Linnaeus, 1758) as a com-

posite of several entities with no clearly differentiating biological characteristics, a 'specie collettiva'. Artom (1921) provides additional evidence of his inconsistent use of names in scientific format. In this paper, he refers to the parthenogenetic *Artemia* from Capodistria, Italy variously as *Capodistria tetrapolidae partenogenetic*, '*Artemia bivalens di Capodistria*', and '*Artemia salina bivalens di Capodisytria*'.

Artom (1906) poses a potential nomenclatural problem that generated considerable correspondence between us. In the 1906 paper, Artom points to the existence of what he calls two varieties of *Artemia*, one sexual and one parthenogenetic. He refers to the sexual variety as '*Artemia di Cagliari*' (page 5) and later as '*Artemia salina di Cagliari*' (page 8)). He refers to the parthenogenetic variety as '*Artemia partenogenetica di Capodistria*' without ever differentiating the typeface from the other type used in the sentence. He thus seems to be using '*Artemia partenogenetica*' as a name of convenience with no intent of making the name available as this concept is currently defined in the Code. Supporting this interpretation is the fact Artom never directly referred to '*Artemia partenogenetica*' as a new species. He consistently referred to the parthenogenetic form as a variety. Thus, we conclude that even though Artom (1906) began use of the name which Barigozzi (1974) styled as the nomen nudum (the Code p. 260) '*Artemia parthenogenetica*', it was Bowen and Sterling (1978) that ultimately, and in a somewhat oblique way when compared with the typical new species publication, made the name *Artemia parthenogenetica* available (the Code Chapter IV).

Unfortunately, Barigozzi (1980) advocated a return to the ways of Artom by suggesting vernacular names (the Code p. 259) be written in scientific style. What is most damaging, Barigozzi did this in a paper treating problems of systematics in the genus *Artemia* which is included in a major international symposium volume devoted to *Artemia* biology. His suggestion can only lead to nomenclatural problems and confusion; it must be avoided. We appeal to all anostracan workers to carefully follow the rules for naming taxa agreed to by our profession in the International Code of Zoological Nomenclature. Vernacular or common names are useful in many situations and they present no problem so long as they are not written to look like scientific names (the Code p. 259). That is, so long as they are not Latin or latinized binomina or trinomina. In fact, we urge the use of obviously vernacular names (for example, White-pool brine shrimp) or designations such as *Artemia* sp. 1 anytime the taxonomic status of a taxon

is unclear. This will avoid the creation of extensive synonymies.

### Nomina dubia

A number of nominal species in the genus *Artemia* must be considered nomina dubia (the Code p. 260) given our current understanding of the genus as a complex of sibling species (Browne & Bowen, 1990) and the lack of detailed evaluation of the populations and specimens upon which these binomina were suggested. The nomina dubia which were listed by Daday (1910) as synonyms of *Artemia salina* (Linnaeus, 1758) are: *A. arietina* Fischer, 1851; *A. asiatica* Walter, 1887; *A. australis* Sayce, 1903; *A. eulimene* Leach, 1819; *A. koppeniana* Fischer, 1851; *A. milhausenii* (Fischer, 1834); *A. oudneyi* (Lievin, 1856); *A. proxima* (King, 1855); and *A. westraliensis* Sayce, 1903. Two nomina dubia treated by Daday (1910) as synonymous members of a separate species of *Artemia* are: *A. dybowski* (Grochowski, 1896) and *A. jelskii* Grube, 1874. One nomen dubium published before 1910, but not listed in Daday (1910) is *Artemia cagliaritana* Samter & Heymons, 1902. One published since Daday's monograph, *A. odessensis* Barigozzi, 1980, is also a nomen nudum and is thus not an available name since it failed to conform to Article 13 of the Code.

The nomina dubia in other genera are: *Branchinella northamensis* Dakin, 1914 (only one female known); *Branchinella tenuis* (Henry, 1924) (described in *Branchinecta*, only one incomplete male and three females known); *Streptocephalus archeri* Sars, 1896 (The tetrahedral eggs reported by Sars for the single laboratory cultured female on which this species is described could be the result of his culture from soil collected in Australia being contaminated with an egg or larva of an African species belonging to the subgenus *Parastreptocephalus* Brendonck, Hamer, and Thiery, 1992. Sars worked with pool-soils from both Africa and Australia. However, the females reported by Linder (1941:234) at the British Museum and collected from the same Rockhampton area in Queensland, Australia that Sars' mud sample came from suggest this is a problem in need of careful study because of its important implications for anostracan zoogeography.); and *Streptocephalus chappuisi* Brehm, 1935 (based on unidentifiable immature specimens).

**List of species***Artemia franciscana* Kellogg, 1906

TYPES: none designated.

TYPE LOCALITY: salt works at Redwood City, San Francisco Bay, California, USA.

DISTRIBUTION: Canada, western USA, Mexico, West Indies; introduced in many parts of the world as reported for example in Clark and Bowen (1976).

COMMENTS: synonymy complex see Belk & Bowen (1990); on Official List with endorsement it be given precedence over *gracilis* Verrill, 1869 (Opinion 1704).

*Artemia gracilis* Verrill, 1869

TYPES: syntypes (396, 397) Peabody Museum of Natural History, New Haven, Connecticut, USA.

TYPE LOCALITY: wooden tubs on railroad bridge near New Haven, Connecticut, USA.

DISTRIBUTION: known only from type locality; may be extinct see Belk & Bowen (1990).

COMMENTS: On Official List with endorsement that it not be given priority over *franciscana* Kellogg, 1906 (Opinion 1704).

*Artemia monica* Verrill, 1869.

TYPE: syntypes (395) Peabody Museum of Natural History, New Haven, Connecticut, USA.

TYPE LOCALITY: Mono Lake, Mono County, California, USA.

DISTRIBUTION: endemic to Mono Lake, California, USA.

COMMENTS: was listed by Daday (1910) as a synonym of *A. salina* causing misidentification in some publications; being considered for threatened species listing under U.S.A. Endangered Species Act.

*Artemia parthenogenetica* Bowen & Sterling, 1978

TYPE: none designated.

TYPE LOCALITY: none designated.

DISTRIBUTION: southern Africa, throughout southern Europe, and across the midlatitudes of Asia to Japan (Browne, 1992); Australia, probably introduced by Europeans (Geddes, 1983).

COMMENTS: the name *parthenogenetica* was first suggested by Barigozzi (1974) as a nomen nudum and thus not made available by his publication.

*Artemia persimilis* Piccinelli & Prosdocimi, 1968

TYPE: Civil Museum of Natural History of Verona, Italy.

TYPE LOCALITY: Salinas Grandes de Hidalgo, Argentina.

DISTRIBUTION: Salinas Grandes de Hidalgo, Argentina and San Bartolomeo, Sardinia, Italy. Barigozzi (1989) suggested the population in San Bartolomeo may have died out. Thiery & Robert (1992) think the populations in Sardinia, Italy may belong to this species. The identity of the Sardinian *Artemia* populations needs careful study.

COMMENTS: Is this an Old World species or a New World species? How did it end up in both regions? These are questions worthy of investigation.

*Artemia salina* (Linnaeus, 1758)

TYPE: none designated.

TYPE LOCALITY: salt works at Lymington, England.

DISTRIBUTION: currently confused; natural range probably Africa, Europe, Middle East; study needed.

COMMENTS: on Official List (Opinion 1301); synonymy currently unsettled, binomina *A. salina* and *A. tunisiana* are being used for the same populations by different authors. Bowen & Sterling (1978) suggested the binomen *A. salina* be restricted to the extinct population at Lymington, England. This suggestion is not an option under the International Code of Zoological Nomenclature. If *tunisiana* and *salina* prove to be names for the same taxon, *salina* has priority and *tunisiana* becomes a synonym.

*Artemia sinica* Cai, 1989

TYPE: none designated.

TYPE LOCALITY: Yun Cheng salt lake, Shanghai Province, China.

DISTRIBUTION: known only from type locality.

COMMENTS: surname for authorship taken from redescription (Cai, 1989); species status questioned by Sorgeloos (1991) who presents information that it may prove to be a synonym of *Artemia urmiana*.

*Artemia tunisiana* Bowen & Sterling, 1978

TYPE: none designated.

TYPE LOCALITY: Tunis, Tunisia.

DISTRIBUTION: currently unsettled, binomina *A. salina* and *A. tunisiana* are being used for the same populations by different authors.

COMMENTS: status currently unsettled and in need of careful study; Barigozzi (1989) questions the validity of *tunisiana*, Thiery & Robert (1992) support it. Browne & Bowen (1991) restate the argument for abandoning the name *salina* for all but the extinct population at Lymington, England and replacing use of *salina* with *tunisiana* for all Mediterranean biparental populations. This approach is not an option under the International Code of Zoological Nomenclature. If *tunisiana* and *salina* are names for the same taxon, *salina* has priority and *tunisiana* becomes a synonym.

*Artemia urmiana* Gunther, 1899

TYPE: none designated.

TYPE LOCALITY: Lake Urmia, Iran.

DISTRIBUTION: known only from type locality.

COMMENTS: Sorgeloos (1991) presents information suggesting *Artemia sinica* may prove to be a synonym.

*Artemiopsis bungei* Sars, 1897

TYPE: (4675) Zoological Institute of the Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Sagastyr at the mouth of the Lena River, Yakut, Russia.

DISTRIBUTION: Lena delta, coast of Buor-Khaja bay, Jana delta, islands and coast of Jana bay, New Siberian islands, and Vrangal Island, Russia (Vekhoff, 1990).

COMMENTS: subspecies *plovornini* is probably an independent species.

*Artemiopsis bungei plovornini* Jaschnov, 1925

TYPE: none designated.

TYPE LOCALITY: Belushiy Peninsula on the south island of Novaya Zemlya.

DISTRIBUTION: Vaigatch Island and southern island of the Nowaya Zemlya archipelago, Russia (Vekhoff, 1990).

COMMENTS: this subspecies will likely prove to be an independent species once adequate comparative material is examined.

*Artemiopsis stefanssoni* Johansen, 1921

TYPE: syntypes (1660, 1661, 1662) Victoria Memorial Museum, Ottawa, Ontario, Canada.

TYPE LOCALITY: a large tundra pond near Bernard Harbor, Northwest Territories, Canada.

DISTRIBUTION: Alaska, USA, Canada; Greenland.

COMMENTS: full description published in Johansen (1922); Hartland-Rowe & Anderson (1968) synonymize *Artemiopsis stefanssoni groenlandicus* Linder, 1932.

*Branchinecta achalensis* Cesar, 1985

TYPE: holotype (18-VI-83 No. 2) and paratypes La Plata Museum of Natural History, La Plata, Argentina.

TYPE LOCALITY: La Posta, Pampa de Achala, Cordoba Province, Argentina (Cesar, 1989).

DISTRIBUTION: Buenos Aires and Cordoba provinces, Argentina.

COMMENTS: none.

*Branchinecta belki* Maeda-Martínez, Obregón-Barboza & Dumont, 1992

TYPE: holotype (251277), allotype (251278), and paratypes (251279) Smithsonian Institution Washington D.C., USA; additional paratypes (285, 286) Universidad Juarez del Estado, Durango, Mexico.

TYPE LOCALITY: ephemeral pond south of Federal highway 40 about 80 km west of Saltillo, Coahuila, Mexico.

DISTRIBUTION: southern Coahuila, Mexico.

COMMENTS: none.

*Branchinecta campestris* Lynch, 1960

TYPE: holotype (104128), paratypes (104129) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: an alkaline pond 12 miles south of the town of Moses Lake, Grant County, Washington, USA.

DISTRIBUTION: Washington, Oregon (Michael Fugate unpublished), California, Wyoming, Texas, USA; Alberta, British Columbia, Saskatchewan, Canada.

COMMENTS: none.

*Branchinecta coloradensis* Packard, 1874

TYPE: neotype (109476), neoparatypes (109477) National Museum of Natural History, Smithsonian Institution, Washington D.C., USA.

TYPE LOCALITY: original Colorado, USA no exact location given. neotype locality a pond about 1 km northeast of the University of Wyoming Science Summer Camp, Medicine Bow Mountains, Wyoming, USA.

DISTRIBUTION: western Canada and western USA.

COMMENTS: redescribed by Lynch (1964), complex synonymy discussed.

*Branchinecta conservatio* Eng, Belk & Eriksen, 1990

TYPE: holotype (216105), paratypes (216106) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA. Additional paratypes (050153) California Academy of Sciences, San Francisco, California, USA.

TYPE LOCALITY: Olcott Pool at The Nature Conservancy's Jepson Prairie Preserve, Solano County, California, USA.

DISTRIBUTION: California, USA.

COMMENTS: candidate for endangered species listing under USA Endangered Species Act (Federal Register 57(90): 19856–19863)

*Branchinecta cornigera* Lynch, 1958

TYPE: holotype (100912), paratypes (100913) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a pond about 13.7 km southeast of Creston in Lincoln County, Washington, USA.

DISTRIBUTION: Oregon, Washington, USA.

COMMENTS: none.

*Branchinecta dissimilis* Lynch, 1972

TYPE: holotype (138888), paratypes (138889) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a pond 18.5 km south of Burns, Harney County, Oregon, USA.

DISTRIBUTION: Oregon, California, USA.

COMMENTS: none.

*Branchinecta ferox* (Milne-Edwards, 1840)

TYPE: none designated.

TYPE LOCALITY: Odessa, south Ukraine.

DISTRIBUTION: steppes and steppe-like parts of the Mediterranean region of Europe and North Africa; extending in Europe through the Pannonian lowland, and Black Sea and Caspian Sea regions into the Tsheljabinsk region of South Transuralia and the Perm-district in Russia (Petkovski, 1991).

COMMENTS: described in *Branchipus*; transferred to *Branchinecta* by Simon (1886); redescribed by Petkovski (1991); use caution in evaluating reports

as history of confusion exists between *ferox* and *orientalis* which were first clearly distinguished by Brtek (1962); no accurate synonym available.

*Branchinecta gaini* Daday, 1910b

TYPE: syntypes (D1912-37; I/A 36) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: Petermann Island, Antarctica (65° 10' 34" S; 66° 32' 30" W)

DISTRIBUTION: Petermann Island, South Shetland Islands, South Orkney islands, South Georgia in Antarctica.

COMMENTS: redescribed by Linder (1941), but see Cohen, (1992); life cycle study Jurasz *et al.* (1983).

*Branchinecta gigas* Lynch, 1937

TYPE: holotype (72572) and paratypes National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: temporary alkali ponds in the Upper Grand Coulee, 30.5 km north of Coulee City, Grant County, Washington, USA.

DISTRIBUTION: western Canada and western USA.

COMMENTS: none.

*Branchinecta granulosa* Daday, 1902

TYPE: syntypes (D1203-1901; I/A 184) Hungarian Natural History Museum, Budapest, Hungary; in poor condition.

TYPE LOCALITY: Amenkelt, Santa Cruz Province, Argentina.

DISTRIBUTION: Chubut and Santa Cruz Provinces, Argentina.

COMMENTS: redescribed by Cohen (1992); Cohen (this volume) synonymizes *Branchinecta santacrucensis* Cesar, 1987.

*Branchinecta iheringi* Lilljeborg, 1889

TYPE: syntypes Zoological Museum of the University of Uppsala, Sweden.

TYPE LOCALITY: freshwater pools in Rio Grande do Sul, Brazil.

DISTRIBUTION: type locality and Chubut Province, Argentina.

COMMENTS: redescribed by Cesar (1988).

*Branchinecta leonensis* Cesar, 1987

TYPE: holotype (15-5-82 No. 3), paratypes (15-5-82 No. 4) La Plata Museum of Natural History, La Plata, Argentina.

TYPE LOCALITY: Laguna Grande near Cerro Leon, Santa Cruz Province, Argentina.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinecta lindahli* Packard, 1883

TYPE: neotype (109475), paraneotypes (109478) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: original a pool near Wallace, Wallace County, Kansas, USA; neotype locality a pond 16 km east of Garden City, Finney County, Kansas, USA.

DISTRIBUTION: Alberta, Canada through the Great Plains and western United States into northern Mexico.

COMMENTS: redescribed by Lynch (1964), complex synonymy discussed.

*Branchinecta longiantenna* Eng, Belk & Eriksen, 1990

TYPE: holotype (216107), paratypes (216108) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA. Additional paratypes (050151) California Academy of Sciences, San Francisco, California, USA.

TYPE LOCALITY: a seasonally astatic pool in the Slanted Rocks Area, Souza Ranch, Contra Costa County, California, USA.

DISTRIBUTION: California, USA.

COMMENTS: candidate for endangered species listing under USA Endangered Species Act (Federal Register 57(90): 19856–19863).

*Branchinecta lynchi* Eng, Belk & Eriksen, 1990

TYPE: holotype (216109), paratypes (216110) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA. Additional paratypes (050152) California Academy of Sciences, San Francisco, California, USA.

TYPE LOCALITY: a seasonally astatic pool in the Slanted Rocks Area, Souza Ranch, Contra Costa County, California, USA.

DISTRIBUTION: California, USA.

COMMENTS: candidate for endangered species listing under USA Endangered Species Act (Federal Register 57(90): 19856–19863).

*Branchinecta mackini* Dexter, 1956

TYPE: holotype (99216), allotype (99217), paratypes (99218) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a playa southeast of East McNett Place in Esmeralda County, Nevada, USA.

DISTRIBUTION: Alberta and Saskatchewan, Canada; western USA; Baja California, Mexico (Brown *et al.*, 1993).

COMMENTS: none.

*Branchinecta mexicana* Maeda-Martínez, Obregón-Barboza & Dumont, 1993

TYPE: holotype (251912), allotype (251913), and paratypes (251914) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA; additional paratypes Escuela Superior de Biología, Universidad Juárez del Estado de Durango, Mexico.

TYPE LOCALITY: a temporary pond in a grass prairie beside Federal Highway 119 at 8 km north of Tlaxco, Tlaxcala in front the town of Rafael Avila Camacho, Puebla, Mexico.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinecta minuta* Smirnov, 1948

TYPE: syntypes (45974) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: several temporary pools at Novomoskovsk, Russia.

DISTRIBUTION: Samara River valley at Novomoskovsk, Russia.

COMMENTS: none.

*Branchinecta orientalis* Sars, 1901

TYPE: syntypes (9663) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Lake Chuntu-nor, 50–60 km south of Buir-nor, eastern Mongolia.

DISTRIBUTION: from east Mongolia, through Tibet, Kashmir, the Pamirs, Afghanistan, Iran, the southern Russian steppes, and the Wallachian and Pannonian lowland to Spain (Petkovski, 1991).

COMMENTS: redescribed by Petkovski (1991); use caution in evaluating reports as history of confusion exists between *orientalis* and *ferox* which were first clearly distinguished by Brtek (1962); Brtek (1975) and Petkovski (1991) independently synonymized

*Branchinecta cervantesi* Margalef, 1947.

*Branchinecta packardi* Pearse, 1912

TYPE: syntypes (98382) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a pool at La Junta, Colorado, USA.

DISTRIBUTION: Alberta and Saskatchewan, Canada through the Great Plains and Rocky Mountain-Great Basin region of the United States into northern Mexico.

COMMENTS: redescribed by Lynch (1964), complex synonymy discussed.

*Branchinecta paludosa* (Müller, 1788)

TYPE: syntypes (3352) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Greenland.

DISTRIBUTION: most widespread anostracan in tundra pools and lakes of the Arctic; northern Eurasia with southern relict occurrence in Tatras Mountains of Poland (population now extinct) and Slovakia; Greenland; northern North America (see Vekhoff, 1990) with southern extension through Alberta and Saskatchewan into Montana, Wyoming, Colorado and Utah? (not confirmed), USA (see Saunders *et al.* 1993).

COMMENTS: described in *Cancer*; transferred to *Branchipus* by Kröyer (1838); transferred to *Branchinecta* by Sars (1874); for synonymy see Linder (1941).

*Branchinecta paludosa tjanshanica* Akatova, 1987

TYPE: none designated.

TYPE LOCALITY: a pool in glacial moraine in the central Tjan-Shan Mountain, Kirghizstan.

DISTRIBUTION: known only from the type locality.

COMMENTS: probably an independent species.

*Branchinecta palustris* Biraben, 1946

TYPE: holotype, allotype, paratypes (13.507) La Plata Museum of Natural History, La Plata, Argentina. Additional paratypes (25998) Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: Laguna La Escondida on the road to Conesa in Rio Negro Province, Argentina.

DISTRIBUTION: Rio Negro Province, Argentina.

COMMENTS: redescribed by Cohen (1981).

*Branchinecta papillosa* Biraben, 1946

TYPE: holotype, allotype, paratypes (13.504) La Plata Museum of Natural History, La Plata, Argentina. Additional paratypes Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: freshwater pools near the Senguer River 20 km from Colonia Sarmiento, Chubut Province, Argentina.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinecta pollicifera* Harding, 1940

TYPE: holotype and paratypes (1941.5.21.1–5) British Museum (Natural History), London, England.

TYPE LOCALITY: ponds at altitude of 3840 m on west side of Lake Titicaca, Capachica Peninsula, Peru.

DISTRIBUTION: Capachica Peninsula, Peru and near Cochabamba, Bolivia at an altitude of 2570 m.

COMMENTS: types examined by Belk, genus correct; however, unique features like two processes on basal penis point to need for new generic diagnosis.

*Branchinecta potassa* Belk, 1979

TYPE: holotype (151426), paratypes (151427, 151428) National Museum of Natural History, Smithsonian Institution, Washington D.C., USA.

TYPE LOCALITY: McKeel Pond, Valentine Wildlife Refuge, Cherry County, Nebraska, USA.

DISTRIBUTION: Cherry and Sheridan counties in Nebraska (Fugate, 1992).

COMMENTS: none.

*Branchinecta prima* Cohen, 1983

TYPE: holotype (31445), paratypes (31446) Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: lake number 1, Meseta de Somuncura, Rio Negro Province, Argentina.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinecta rocaensis* Cohen, 1982

TYPE: holotype (30489), paratypes (30490) Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: a temporary pond about 60 km northeast of the city of General Roca, between the Colorado River and the Negro River, Rio Negro Province, Argentina.

DISTRIBUTION: Buenos Aires, La Pampa, and Rio Negro provinces, Argentina (Cesar, 1989).

COMMENTS: none.

*Branchinecta sandiegonensis* Fugate, 1993

TYPE: holotype (256557), allotype (256558), and paratypes Smithsonian Institution, Washington D.C., USA; additional paratypes Los Angeles County Museum of Natural History, Los Angeles, California, USA and the Hungarian Museum of Natural History Budapest, Hungary.

TYPE LOCALITY: an extensive network of vernal pools on Del Mar Mesa, San Diego County, California, USA (32°51'N, 117°15'W).

DISTRIBUTION: from within 50 km of the Pacific Ocean from Santa Barbara, California, USA to Valle de las Palmas, Baja California, Mexico.

COMMENTS: none.

*Branchinecta skorikowi* (Daday, 1910)

TYPE: syntypes (9669) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: a lake on the right bank of the Zelenaja River, Kolyma district, Russia (67°N, 162°E).

DISTRIBUTION: northern part of Jugor Peninsula, Vaigatch Island and southern island of Nowaya Zemlya Archipelago, Lena Delta and bank of Buor-Khaja Bay, Jana Delta, islands and coast of Jana Bay, New Siberian Islands, lower part of Koljma River basin (Vekhoff, 1990).

COMMENTS: described as type species of the genus *Artemiella*, transferred to *Branchinecta* by Linder (1941); the relationship between this taxon and *B. tolli* needs careful comparative study.

*Branchinecta somuncurensis* Cohen, 1983

TYPE: holotype (31444) Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: Meseta de Somuncura, Rio Negro Province, Argentina.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinecta tarensis* Biraben, 1946

TYPE: holotype, allotype, paratypes (13.500) La Plata Museum of Natural History, La Plata, Argentina; additional paratypes Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: freshwater pools a few km from Lake Tar in the Lake San Martin area, Santa Cruz Province, Argentina.

DISTRIBUTION: known only from type locality.

COMMENTS: none

*Branchinecta tolli* (Sars, 1897)

TYPE: syntypes (3361) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: a pond on the Jana Delta, Russia.

DISTRIBUTION: Lena Delta and coast of Buor-Khaja Bay, Jana Delta, islands and coast of Jana Bay, New Siberian Islands (Vekhoff, 1990).

COMMENTS: described in *Branchiopsyllus*, transferred to *Branchinecta* by Daday (1910); redescription in Vekhoff (1989); the relationship between this taxon and *B. skorikowi* needs careful comparative study.

*Branchinecta valchetana* Cohen, 1981

TYPE: holotype (30273), allotype (30275), paratypes (30274 & 30276) Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina. Additional paratypes La Plata Museum of Natural History, La Plata, Argentina.

TYPE LOCALITY: a temporary pool beside Road 251 between Conesa and San Antonio Oeste, Rio Negro Province, Argentina.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinecta vuriloche* Cohen, 1985

TYPE: holotype (32.010), allotype (32.011) Argentine Museum of Natural History 'Bernardino Rivadavia', Buenos Aires, Argentina.

TYPE LOCALITY: San Carlos de Bariloche, Rio Negro Province, Argentina.



DISTRIBUTION: San Carlos de Bariloche and Raimunda Lake, Meseta de Somuncura, Rio Negro Province, Argentina.

COMMENTS: none.

*Branchinectella media* Schmankewitsch, 1873

TYPE: none designated.

TYPE LOCALITY: Odessa, south Ukraine.

DISTRIBUTION: from the Kulund-Steppe in the headwaters of the Ob River through the Tsheljabinsk region of Transuralia and the lowlands of the Aral, Caspian, and Black Sea regions; in the western Mediterranean in North Africa and the Iberian Peninsula; Jaschnov (1940) reports a disjunct polar occurrence in Novaya Zemlya, Russia.

COMMENTS: for synonymy see Brtek (1966); new synonyms *Branchinectella gurneyi* Smirnov, 1932 and *Branchinectella arctica* Jaschnov, 1940. Vekhoff (1993) reports *media* has broadest temperature tolerance known for an anostracan.

*Branchinella acacioidea* Belk & Sissom, 1992

TYPE: holotype (251304), paratypes (251303) National Museum of Natural History, Smithsonian Institution Washington, D.C., USA.

TYPE LOCALITY: a roadside pool 22.2 km east of US 77 in Riviera on south side of Texas 285, Brooks County, Texas, USA (27°14'25"N, 98°00'40"W).

DISTRIBUTION: Brooks, Hidalgo, and Kleberg Counties, Texas, USA.

COMMENTS: none.

*Branchinella affinis* Linder, 1941

TYPE: Zoological Museum Uppsala.

TYPE LOCALITY: Large shallow pond 5 miles south of Deniliquin, New South Wales, Australia.

DISTRIBUTION: New South Wales, Victoria, Western Australia, Australia (Geddes 1981, 1983).

COMMENTS: for synonymy see Geddes (1981).

*Branchinella alachua* Dexter, 1953

TYPE: holotype (93538), paratypes (93539) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: Alachua County, Florida, USA.

DISTRIBUTION: Alachua and Lee counties, Florida; Lee County record based on (8508) Peabody Museum of Natural History, New Haven, Connecticut, USA.

COMMENTS: see notes in Belk & Sissom (1992).

*Branchinella apophysata* Linder, 1941

TYPE: Zoological Museum Uppsala, Sweden.

TYPE LOCALITY: a shallow pool, Mount Margaret, Laverton, West Australia, Australia.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinella arborea* Geddes, 1981

TYPE: holotype (P.19230), allotype (P.19231) and paratypes (P.19232) Australian Museum, Sydney, Australia.

TYPE LOCALITY: a pool 18 km north of Coolabah, New South Wales, Australia (146°41'E, 31°00'S).

DISTRIBUTION: restricted area of northwestern New South Wales & western Queensland, Australia (Geddes 1981, 1983; Timms, 1993).

COMMENTS: Geddes (1981) notes care must be taken that identification is made only on fully adult specimens.

*Branchinella australiensis* (Richters, 1876)

TYPE: none designated.

TYPE LOCALITY: Peak Downs, Queensland, Australia (148°W, 23°S).

DISTRIBUTION: throughout Australia (Geddes, 1981, 1983).

COMMENTS: described in *Branchipus*; transferred to *Chirocephalus* by Claus (1886); transferred to *Branchinella* by Sayce (1903); redescription and synonymy in Geddes (1981).

*Branchinella basispina* Geddes, 1981

TYPE: holotype (P.228419), female allotype (P.28420), and paratypes (p.28421) Australian Museum, Sydney, Australia; additional paratypes Western Australian Museum, Perth, Australia.

TYPE LOCALITY: Homestead dam, Balladonia Station, Western Australia, Australia (123°52'E, 32°28'S).

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchinella buchananensis* Geddes, 1981

TYPE: none designated.

**TYPE LOCALITY:** Lake Buchanan, Queensland, Australia (145 °52'E, 21 °36'S).

**DISTRIBUTION:** Lake Buchanan, Queensland and the Paroo district, New South Wales, Australia (Timms, 1993).

**COMMENTS:** described as a subspecies of *nichollsi*; we consider the differences indicate species ranking.

*Branchinella chudeaui* (Daday, 1910)

**TYPE:** syntypes Museum of Natural History, Paris (Linder, 1941) and Hungarian Natural History Museum (D1912-93; I/A-73).

**TYPE LOCALITY:** Simbidissi, Niger.

**DISTRIBUTION:** African countries of Chad, Niger, Senegal and Gambia.

**COMMENTS:** described in *Branchinellites*; transferred to *Branchinella* by Linder (1941).

*Branchinella compacta* Linder, 1941

**TYPE:** holotype and paratypes at Zoological Museum, Uppsala, Sweden.

**TYPE LOCALITY:** Lake Kariah near Camperdown, Victoria, Australia.

**DISTRIBUTION:** several slightly saline localities in Victoria, Australia (Geddes, 1981, 1983).

**COMMENTS:** none.

*Branchinella denticulata* Linder, 1941

**TYPE:** holotype and paratypes at Western Australian Museum, Perth, Australia and paratypes at Zoological Museum, Uppsala, Sweden.

**TYPE LOCALITY:** Lake Gidgee, Kalgoorlie, West Australia, Australia.

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** none.

*Branchinella dubia* (Schwartz, 1917)

**TYPE:** syntypes at Royal Museum, Stockholm, Sweden.

**TYPE LOCALITY:** Noonkambata, West Australia, Australia.

**DISTRIBUTION:** northwestern and northern Australia (Geddes, 1981, 1983).

**COMMENTS:** described in *Podochirus*; transferred to *Branchinella* by Smirnov (1932).

*Branchinella frondosa* Henry, 1924

**TYPE:** Australian Museum, Sydney, Australia.

**TYPE LOCALITY:** Yass, New South Wales, Australia.

**DISTRIBUTION:** New South Wales and Western Australia, Australia (Geddes, 1981, 1983).

**COMMENTS:** redescription and synonymy in Geddes (1981).

*Branchinella hardingi* (Qadri & Baqai, 1956)

**TYPE:** none designated.

**TYPE LOCALITY:** temporary ponds near Malir Police Station, about 16 km from Karachi, Karachi District, Pakistan.

**DISTRIBUTION:** type locality and Chhatarpur District, Madhya Pradesh, India (Tiwari, 1971).

**COMMENTS:** described in *Streptocephalus*; redescription and transferred to *Branchinella* based on Indian material by Tiwari (1971). Belk compared specimens given Walter G. Moore by I. U. Baqai (DB 729) with the material discussed by Tiwari (1971) (Indian Museum C999/2) and found they belong to the same taxon.

*Branchinella hattahensis* Geddes, 1981

**TYPE:** none designated.

**TYPE LOCALITY:** Hattah Lakes, Victoria, Australia (142 °21'E, 34 °44'S).

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** described as a subspecies of *nichollsi*; we consider the differences indicate species ranking.

*Branchinella kugenumaensis* (Ishikawa, 1895)

**TYPE:** syntypes? (44076) Zoological Institute, Academy of Science, St. Petersburg, Russia.

**TYPE LOCALITY:** rain-water pools at Kugenuma, Sagami and paddy fields at Yoshiwaratambo, Japan.

**DISTRIBUTION:** Lowlands of east and south Asia; from middle and southern parts of Japan through Korea, China, Pakistan, and India.

**COMMENTS:** described in *Branchipus*; transferred to *Branchinella* by Daday (1910). We agree with Radhakrishna & Prasad (1976) in not accepting the subspecies *madurai* Raj (1961); Belk compared specimens from several collections made in India (including pools around Madurai) and Japan. Tiwari (1965) synonymized *Streptocephalus karachiensis* Qadri & Baqai, 1956. Belk studied specimens (DB 730) given to Walter G. Moore by I. U. Baqai who identified them as *S. karachiensis* collected in Karachi District,

Pakistan (the type locality); they are *B. kugenumaensis*.

*Branchinella latzi* Geddes, 1981

TYPE: holotype (P.19224), allotype (P.19225), and paratypes (p.19226) Australian Museum, Sydney, Australia.

TYPE LOCALITY: Mt. Allen Station, North-west Territory, Australia (131 °57'E, 22 °23'S).

DISTRIBUTION: restricted distribution in central Australia (Geddes, 1983).

COMMENTS: none.

*Branchinella lithaca* (Creaser, 1940)

TYPE: holotype (79294) and paratypes (79295) National Museum of Natural History, Smithsonian Institution, Washington D.C., USA.

TYPE LOCALITY: Stone Mountain, DeKalb County, Georgia, USA.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Chirocephalus*; transferred to *Branchinella* by Dexter (1953); see notes in Belk & Sissom (1992).

*Branchinella longirostris* Wolf, 1911

TYPE: syntypes (16321) Zoological Museum, Berlin, Germany; Geddes (1981) reported they are disintegrated.

TYPE LOCALITY: Boorabbin, West Australia.

DISTRIBUTION: restricted to Western Australia (Geddes, 1983).

COMMENTS: none.

*Branchinella lyrifera* Linder, 1941

TYPE: holotype and paratypes Zoological Museum, Uppsala, Sweden.

TYPE LOCALITY: a pool near Wilcannia, New South Wales, Australia.

DISTRIBUTION: widely distributed over inland Australia (Geddes, 1983; Timms, 1993).

COMMENTS: none.

*Branchinella minuta* Roen, 1952

TYPE: Zoological Museum of the University of Copenhagen, Denmark.

TYPE LOCALITY: a ditch in Pei-tai-ho, North China.

DISTRIBUTION: known only from type locality.

COMMENTS: drawing in description looks like it could be of an immature male.

*Branchinella mira* (Gurney, 1931)

TYPE: syntypes (1928.2.23.27-41) British Museum (Natural History), London, England.

TYPE LOCALITY: pools at Makthlawaiya and Nanahua, Paraguay.

DISTRIBUTION: known only from type localities.

COMMENTS: described in *Dendrocephalus*; Belk examined syntypes and supports transfer here to *Branchinella*.

*Branchinella nichollsi* Linder, 1941

TYPE: holotype and paratypes Western Australian Museum, Perth, Australia; paratypes Zoological Museum, Uppsala, Sweden.

TYPE LOCALITY: Lake Gidgee, Kalgoorlie, West Australia, Australia.

DISTRIBUTION: known only from type locality.

COMMENTS: we do not accept subspecies status for this taxon as proposed by Geddes (1981).

*Branchinella occidentalis* Dakin, 1914

TYPE: West Australian Museum, Perth, Australia.

TYPE LOCALITY: Lake Violet, Wiluna in central West Australia, Australia.

DISTRIBUTION: Queensland, New South Wales, South Australia, and Western Australia, Australia (Geddes, 1981; Timms, 1993).

COMMENTS: described as a subspecies of *Branchinella australiensis*; changed to species rank by Linder (1941); synonymy in Geddes (1981).

*Branchinella ondonguae* (Barnard, 1924)

TYPE: syntypes British Museum (Natural History), London, England (Linder, 1941); South African Museum, Cape Town, South Africa (Barnard, 1929).

TYPE LOCALITY: Ondongua and Ongka, Ovamboland, Namibia.

DISTRIBUTION: Namibia and Somalia (Barnard 1929).

COMMENTS: described in *Branchinellites*; transferred to *Branchinella* by Linder (1941).

*Branchinella ornata* Daday, 1910

TYPE: uncertain situation; Linder (1941) refers to 4 animals he says Daday saw at the Zoological Museum, Berlin, Germany (12571, 12572) as syntypes; Barnard (1929) reported type material at Senckenberg Museum, Germany; collection (9630) Zoological Institute, Academy of Science, St. Petersburg, Russia is also labeled syntypes.

TYPE LOCALITY: Pfanne van Kang, Namibia.

DISTRIBUTION: Namibia and Botswana, South Africa (Barnard, 1929); Sambhar Lake, Rajasthan, India (Tiwari, 1958).

COMMENTS: two new synonyms, *Branchinella biswasi* Tiwari, 1958 and *Branchinella sambhari-ana* Baid, 1975. Belk compared type material of these two with specimens of two populations of *ornata* from southern Africa. Tiwari's three points of difference (p. 587) do not separate these nominal forms. Baid's paratypes at the British Museum (Natural History) demonstrate misleadingly contracted frontal processes (Belk & Esparza, 1995).

*Branchinella pinnata* Geddes, 1981

TYPE: holotype, allotype, and paratypes Australian Museum, Sydney, Australia.

TYPE LOCALITY: a pool 10 km north of Hatchers Creek Mine, Northern Territory, Australia.

DISTRIBUTION: Northern Territory and Queensland, Australia (Geddes, 1983); New South Wales, Australia (Timms, 1993).

COMMENTS: none.

*Branchinella proboscida* Henry, 1924

TYPE: Australian Museum, Sydney, Australia.

TYPE LOCALITY: Dubbo and Goorimpa Station, Paroo River, New South Wales, Australia.

DISTRIBUTION: New South Wales and Northern Territory, Australia (Geddes, 1983).

COMMENTS: additional descriptive information in Geddes (1981).

*Branchinella simplex* Linder, 1941

TYPE: holotype and paratypes at Western Australian Museum, Perth, Australia.

TYPE LOCALITY: Lake Kofar, Western Australia, Australia.

DISTRIBUTION: Lakes Kofar and Annean Western Australia, Australia (Geddes, 1981, 1983).

COMMENTS: saline water form.

*Branchinella spinosa* (Milne-Edwards, 1840)

TYPE: none designated.

TYPE LOCALITY: Hadjibe a saline lake at Odessa, Ukraine.

DISTRIBUTION: saline waters in Eurasia from Spain, France, and the islands of Sardinia and Cyprus, through Asiatic Turkey and the Black, Caspian, and Aral Sea regions eastward to Kazakhstan and Afghanistan; in Africa north of the Sahara (Linder, 1941) (Mura, 1986) (Thiery & Gasc, 1991) (Alonso, 1985) and Makarikari Saltpan, Botswana (Brtek, 1967).

COMMENTS: described in *Branchipus*; transferred to *Branchinecta* by Simon (1886); transferred to *Branchinella* by Daday (1910); synonymy in Linder (1941).

*Branchinella sublettei* Sissom, 1976

TYPE: holotype (143958), allotype (143959), and paratypes (143960) National Museum of Natural History, Smithsonian Institution, Washington D.C., USA.

TYPE LOCALITY: near Tahoka, Lynn County, Texas, USA.

DISTRIBUTION: western Texas, USA (Belk & Sissom, 1992).

COMMENTS: none.

*Branchinella wellardi* Milner, 1929

TYPE: Geddes (1981) could not locate any.

TYPE LOCALITY: Dalgara Station, Yalgoo, West Australia.

DISTRIBUTION: known only from type locality.

COMMENTS: see notes in Geddes (1981).

*Branchinella yunnanensis* Shen, 1949

TYPE: location of type material not stated by Shen; may have been Institute of Zoology, National Academy of Peiping, China.

TYPE LOCALITY: a lotus pond near the English Garden outside the north city gate at Kunming, China.

DISTRIBUTION: Yunnan Province, China.

COMMENTS: none.

*Branchipodopsis abiadi* (Brauer, 1877)

TYPE: none designated.

TYPE LOCALITY: Tura el Chadra, Bahr-al-Abjad region, Sudan.

**DISTRIBUTION:** Sudan and the Rio de Oro region of Western Sahara.

**COMMENTS:** described in *Branchipus*; transferred to *Branchinecta* by Simon (1886); transferred to *Eubranchinella* by Daday (1910); transferred to *Branchipodopsis* by Linder (1941); eastern and western specimens need to be compared.

*Branchipodopsis acanthopenes* (Malhotra & Duda, 1970)

**TYPE:** holotype at Department of Zoology, University of Jammua & Kashmir, Srinagar, India.

**TYPE LOCALITY:** paddy fields in Kashmir Valley, Kashmir, India.

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** described in *Branchinecta*; transferred to *Branchipodopsis* as a synonym of *Branchipodopsis affinis* by Tiwari (1972); we consider the evidence for synonymy with *affinis* lacking and maintain the taxon as a separate species in need of reevaluation.

*Branchipodopsis affinis* Sars, 1901

**TYPE:** none designated.

**TYPE LOCALITY:** between lakes Gorpo-nor and Lyksen-nor on the western slope of Chingan Mountain at 20 km south of Luch-Suma, Mongolia.

**DISTRIBUTION:** steppe zones of east and central Asia; northern China, Mongolia, Chita area of Transbaikalia (Vekhoff, 1992); Kashmir, India (Bond, 1934).

**COMMENTS:** new synonym, *Mongolobranchipus talkohryncewiczii* Dybowski, 1928; Vekhoff (1992) reports several generations per season in ephemeral and persistent populations, and presents a supplemental description.

*Branchipodopsis browni* Barnard, 1924

**TYPE:** (A-6705) South African Museum, Cape Town, South Africa.

**TYPE LOCALITY:** Kalkfontein South, Great Namaqualand, Namibia.

**DISTRIBUTION:** southern Namibia and Karoo, South Africa (Hamer & Appleton, submitted).

**COMMENTS:** none.

*Branchipodopsis candea* Löffler, 1968

**TYPE:** none designated.

**TYPE LOCALITY:** a pool at Sudeck-Tarn (1°N, 35°E), Mt. Elgon, Uganda.

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** none.

*Branchipodopsis drepane* Barnard, 1929

**TYPE:** South African Museum, Cape Town, South Africa.

**TYPE LOCALITY:** near Gibeon, Great Fish River, Great Namaqualand, Namibia.

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** none.

*Branchipodopsis hodgsoni* Sars, 1898

**TYPE:** syntypes (A-1488) South African Museum, Cape Town, South Africa.

**TYPE LOCALITY:** a shallow lake near Port Elizabeth, Cape of Good Hope, South Africa.

**DISTRIBUTION:** southeastern Cape coastal region, South Africa (Hamer & Appleton, submitted).

**COMMENTS:** synonymy in Barnard (1929); Sars observed in his aquarium that eggs of this species hatched as they were deposited.

*Branchipodopsis kalaharensis* Daday, 1910

**TYPE:** Senckenberg Museum, Frankfurt, Germany; (12580) Zoological Museum, Berlin, Germany.

**TYPE LOCALITY:** Kalahari Desert, Botswana.

**DISTRIBUTION:** Botswana (Hamer & Appleton, submitted).

**COMMENTS:** none.

*Branchipodopsis kaokoensis* Barnard, 1929

**TYPE:** presumed syntypes (2.25.42-45) British Museum (Natural History) London, England.

**TYPE LOCALITY:** Choabendus, about 185 km northwest of Outjo, Namibia.

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** none.

*Branchipodopsis karroensis* Barnard, 1929

**TYPE:** syntypes (A-5919) South African Museum, Cape Town, South Africa; (1932.2.25.36-40) British Museum (Natural History) London, England.

**TYPE LOCALITY:** Hoogevald, Beaufort West Division, South Africa.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchipodopsis natalensis* Barnard, 1929

TYPE: syntypes (1384) Natal Museum, Pletermaritzburg, Natal, South Africa; lost according to Hamer & Appleton (submitted).

TYPE LOCALITY: Van Reenen, Orange Free State, South Africa.

DISTRIBUTION: Orange Free State, South Africa (Seaman & Kok, 1987); Natal (Hamer & Appleton, submitted).

COMMENTS: none.

*Branchipodopsis scambus* Barnard, 1929

TYPE: Albany Museum, Grahamstown; South Africa; lost according to Hamer & Appleton (submitted).

TYPE LOCALITY: Grahamstown, Cape of Good Hope, South Africa.

DISTRIBUTION: known only from the vicinity of Grahamstown in the eastern Cape.

COMMENTS: none.

*Branchipodopsis simplex* Barnard, 1924

TYPE: syntypes (A-6006) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Eunda about 161 km north-northwest of Ondongua, Botswana.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Branchipodopsis terpogossiani* Smirnov, 1936

TYPE: (14473) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Sardarabad, Armenia.

DISTRIBUTION: Little Caucasus, Armenia.

COMMENTS: Hartland-Rowe (1968) considered this species synonymous with *Branchipodopsis affinis* on the basis of what we consider weak evidence; the situation needs restudy.

*Branchipodopsis tridens* Daday, 1910

TYPE: Senckenberg Museum, Frankfurt, Germany.

TYPE LOCALITY: Kalahari Desert, Botswana.

DISTRIBUTION: wide spread in western half southern Africa (Barnard 1929) (Seaman & Kok, 1987).

COMMENTS: Michelle Hamer (personal communication) reports much variation in antennal characteristics; significance of this needs to be investigated.

*Branchipodopsis wolfi* Daday, 1910

TYPE: Senckenberg Museum, Frankfurt, Germany.

TYPE LOCALITY: Kalahari Desert, Botswana.

DISTRIBUTION: wide spread in southern Africa, also recorded from east Africa (Barnard, 1929) and Uganda in central Africa (Hamer & Appleton, submitted).

COMMENTS: Michelle Hamer (personal communications) notes no specimens exist to support Barnard's (1929) report of this species in North Africa and that variation in antennal characteristics should be investigated.

*Branchipus blanchardi* Daday, 1908

TYPE: neotype (EMAH 008) Department of Ecology, Barcelona University, Barcelona, Spain.

TYPE LOCALITY: a pond near Cristol Lake, High Alps, France.

DISTRIBUTION: High Alps of France and Italy (Thiery & Gasc, 1991) (Alonso, 1989).

COMMENTS: Alonso (1989) and Thiery & Gasc (1991) independently synonymized *Branchipus alpinus* Colosi, 1922; redescribed under synonym *alpinus* by Cottarelli (1966).

*Branchipus cortesi* Alonso & Jaume, 1991

TYPE: holotype, allotype, and paratypes (20.4.292) National Museum of Natural Sciences, Madrid, Spain; additional paratypes (EMAP 009) Department of Ecology, Barcelona University, Barcelona, Spain.

TYPE LOCALITY: Charca Gris, Almaraz, Caceres, Spain.

DISTRIBUTION: southwestern Spain.

COMMENTS: none.

*Branchipus intermedius* Orghidan, 1947

TYPE: none designated.

TYPE LOCALITY: Tecuci, eastern Romania.

DISTRIBUTION: Romania.

COMMENTS: none.

*Branchipus laevicornis* Daday, 1912

TYPE: syntypes (D 1912-89; IA-91) Hungarian Natural History Museum, Budapest, Hungary and

(43552) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Eregli, Turkey.

DISTRIBUTION: western Turkey.

COMMENTS: none.

*Branchipus pasai* Cottarelli, 1969

TYPE: holotype Institute of Zoology, University of Rome, Italy; paratypes National Museum of Natural History, Paris, France, and Zoological Museum, University of Florence, Florence, Italy, and Civil Museum of Natural History, Verona, Italy.

TYPE LOCALITY: Cala Pisana, Isle Lampedusa, Pelagic Archipelago.

DISTRIBUTION: North Africa, Arabian Peninsula, and the Pelagic Archipelago (Cottarelli & Mura 1983).

COMMENTS: probably a synonym of *B. schaefferi*; detailed comparison is needed.

*Branchipus schaefferi* Fischer, 1834

TYPE: none designated; description based on Schaeffer's description of *Apus pisiformis* (Schaeffer, 1752).

TYPE LOCALITY: Regensburg, Germany; Schaeffer's locality for *Apus pisiformis* (Schaeffer, 1752).

DISTRIBUTION: northern Africa as far south as 15 °N; Israel and Jordan; Armenia; moderate zone of continental Europe eastward from the central area of the Don River, Russia; Mediterranean islands of Malta, Sicily, and Sardinia; Gurney (1906) gives a disjunct record from the Sind Desert, Pakistan (specimens checked by Belk at Indian Museum). Löffler (1993) considers it extinct in the Pannonian Region.

COMMENTS: Daday (1910) and many authors misinterpret *Cancer stagnalis* Linnaeus, 1758 as *B. schaefferi*; however, *Cancer stagnalis* is a synonym of *Tanyastix stagnalis* (Linnaeus, 1758). Petrov & Marincek (1991), they also make the 'stagnalis error', suggest *Branchipus visnyai* Kertész, 1956 is a synonym of *B. schaefferi* even though Cottarelli (1969) maintains it is a full species. We consider sufficient evidence is lacking to make a determination at this time. A detailed comparison of *B. schaefferi* with both *B. visnyai* and *B. pasai* is needed.

*Branchipus visnyai* Kertész, 1956

TYPE: none designated.

TYPE LOCALITY: Tekovske Luzany (formerly Nagysalloy), Slovakia.

DISTRIBUTION: Slovakia, Hungary, Italy, Sardinia, Malta, and Algeria.

COMMENTS: described as a variety of *Branchipus stagnalis* (actually *B. schaefferi*); changed to species category by Cottarelli (1969); detailed comparison with *B. schaefferi* is needed.

*Chirocephalus appendicularis* Vavra, 1905

TYPE: syntypes Natural History Museum, Wien, Austria and (9644) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Saryk-Gol, a crater lake at 2229 m elevation in Northwest Erciyas, Turkey.

DISTRIBUTION: Turkey, Syria, and Lebanon.

COMMENTS: none.

*Chirocephalus bairdi* (Brauer, 1877)

TYPE: syntypes (1879.II.13) Natural History Museum, Wien, Austria and (9627) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Jerusalem, Israel.

DISTRIBUTION: Israel from east of the Dead Sea to east of Lake Kinneret (Dimentman, 1981) and between the eastern Mediterranean coast and a line from Lake Kinneret through the Jordan River, the Dead Sea, and Turkey (G. Mura, unpublished information).

COMMENTS: described in *Branchipus*; transferred to *Chirocephalus* by Simon (1886).

*Chirocephalus bobrinskii* (Alcock, 1898)

TYPE: syntypes (814/10) Indian Museum, Calcutta, India.

TYPE LOCALITY: Chakmaktin Lake in the Little Pamir, East Afghanistan.

DISTRIBUTION: Pamir in Afghanistan, Alai Mountains in Kyrgyzstan and a small brackish lake near Maraldy Lake 80 km east of Pavlodar in Kazakhstan (Vekhoff, 1992) and a steppe pool near Aralsk in Kazakhstan (Smirnov, 1948).

COMMENTS: described in *Branchipus*; transferred to *Chirocephalus* by Daday (1910:212); Kemp (1911) list *Chirocephalus altaicus* Daday, 1910 as synonymous; Vekhoff (1992) presents a supplemental description under the synonym *C. altaicus*.

*Chirocephalus brevivalpis* (Orghidan, 1953)

TYPE: none designated.

TYPE LOCALITY: Timisoara, Romania.

DISTRIBUTION: a restricted area in western Romania on into the former Yugoslavia as far west

as Kupinovo (Petkovski, 1991) (Petrov & Marincek, 1991).

COMMENTS: described in *Palpicephalus*; transferred to *Chirocephalus* by Brtek (1966).

*Chirocephalus carnuntanus* (Brauer, 1877)

TYPE: syntypes (1879.II.14) Natural History Museum, Wien, Austria.

TYPE LOCALITY: Parndorf, northeast Austria.

DISTRIBUTION: Pannonian lowland from northeast Austria where Löffler (1993) considers it extinct, southern Moravia, southern Slovakia, Hungary, western Romania and north Serbia; found outside the Pannonian lowland only in the north Czechian lowland at Slany.

COMMENTS: described in *Branchipus*; transferred to *Chirocephalus* by Simon (1886); for synonymy see Brtek (1966).

*Chirocephalus chyzeri* Daday, 1890

TYPE: syntypes (D 805-1887, I/A-175) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: Kralovsky Chlmec (formerly Kiraly-Helmecz), southeast Slovakia.

DISTRIBUTION: southeast Slovakia and Romania.

COMMENTS: described as *Chirocephalus diaphanus* var. *chyzeri*; changed to species category by Brtek (1962).

*Chirocephalus croaticus* Steuer, 1899

TYPE: syntypes (1895.II.7-8) Natural History Museum, Wien, Austria.

TYPE LOCALITY: Blatasee, Croatia.

DISTRIBUTION: known only from type locality.

COMMENTS: described as *Chirocephalus diaphanus* var. *croatica*; changed to species category by Brtek (1966) who also synonymized *C. spinicaudatus* var. *croatica* Daday 1910:204. Locality shown in Fig. 1 of Petrov & Marincek (1991) is an error.

*Chirocephalus diaphanus* Prevost, 1803

TYPE: none designated.

TYPE LOCALITY: Montauban, south France.

DISTRIBUTION: temperate and subtropical zones of Europe, Africa and Asia Minor. In Europe, from Spain north through France and adjacent parts of Switzerland, Belgium, Netherlands, Germany as far as the Rhine River, southern Great Britain, Italy and

Sicily, the Balkan Peninsula and Crete. In Asia Minor, Caucasus region, Turkey, Syria, Jordan and Israel. In Africa, Morocco, Algeria, and Tunisia.

COMMENTS: we doubt the validity of subspecies ranking for *Chirocephalus diaphanus carinatus* Daday, 1910 and *Chirocephalus diaphanus romanicus* Stoicescu, 1992; for synonyms see Brtek (1966).

*Chirocephalus diaphanus carinatus* Daday, 1910

TYPE: syntypes (D 1912-59, I/A-60) Hungarian Natural History Museum, Budapest, Hungary and (43542) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Thessaloniki, Greece.

DISTRIBUTION: unclear, probably Balkan Peninsula.

COMMENTS: validity of this subspecies is uncertain and is in need of study.

*Chirocephalus diaphanus romanicus* Stoicescu, 1992

TYPE: holotype (49.505) allotype (49.506) and paratypes Natural History Museum 'Grigore Antipa', Bucarest, Romania.

TYPE LOCALITY: temporary pond at Oltenita, Calarasi Department, Romania.

DISTRIBUTION: temporary pools in southern Romania and alpine pools in the Bucegi Mountains, Romania.

COMMENTS: validity of this subspecies is uncertain and is in need of study.

*Chirocephalus festae* Colosi, 1922

TYPE: none designated.

TYPE LOCALITY: Rahuna nel Merg, (Al Merj) Cyrenaika, Libya.

DISTRIBUTION: known only from type locality.

COMMENTS: reevaluation of this taxon needed.

*Chirocephalus hardingi* Brtek, 1965

TYPE: holotype and allotype British Museum (Natural History), London, England.

TYPE LOCALITY: south coast of Bali.

DISTRIBUTION: known only from type locality.

COMMENTS: none.



*Chirocephalus horribilis* Smirnov, 1948

TYPE: syntypes (4500) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Lake Sarpa near the village of Tshapurnica, Volgograd district, Russia.

DISTRIBUTION: area around lakes Sarpa and Elton in the southern Volga Basin, Russia.

COMMENTS: none.

*Chirocephalus jaxartensis* (Smirnov, 1948)

TYPE: holotype (43562) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: steppe pool near Aralsk, Kazakhstan.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Pristicephalus* on the basis of one male specimen.

*Chirocephalus josephinae* (Grube, 1853)

TYPE: syntypes (1862) Natural History Museum, Wien, Austria.

TYPE LOCALITY: Tartu (formerly Dorpat), Estonia.

DISTRIBUTION: from western Poland through Estonia, Ukraine, and Russia as far east as the Lena River and Lake Baikal.

COMMENTS: described in *Branchipus*; transferred to *Pristicephalus* by Daday (1910); transferred to *Chirocephalus* by Brtek (1966).

*Chirocephalus kerkyrensis* Pesta, 1936

TYPE: none designated; however, syntypes may be at the Natural History Museum, Wien, Austria.

TYPE LOCALITY: Kerkyra Island, Greece.

DISTRIBUTION: island of Kerkyra, Greece and state of Latium, Italy (Mura, Rinaldi & Rota, 1987).

COMMENTS: we accept the synonymy proposed by Cottarelli and Mura (1979) for *Chirocephalus stellae* Brtek, 1966 which was first described as a subspecies of *Chirocephalus kerkyrensis* and later changed to species category by Brtek (1968).

*Chirocephalus longicornis* (Smirnov, 1930)

TYPE: syntypes (9840) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: village of Staraya Devica in the lowlands of Lake Chanka in the area of the Ussuri River in the southeastern most part of Russia.

DISTRIBUTION: Sakhalin Island and the lowlands of the Ussuri River, Russia; Mongolia.

COMMENTS: described in *Pristicephalus*, transferred to *Chirocephalus* by Brtek (1966)

*Chirocephalus ludmilae* Vekhoff, 1992

TYPE: holotype Moscow University Zoological Museum, Moscow, Russia; paratype Institute of Nature Conservation and Reserves, Moscow, Russia.

TYPE LOCALITY: spring periodical pool 10 km from the town of Samtredia on the eastern seaboard of the Black Sea in west Georgia.

DISTRIBUTION: known only from the type locality.

COMMENTS: described from only two males, female is unknown; detailed comparison with closely related *Chirocephalus paphlagonicus* Cottarelli, 1971 is necessary.

*Chirocephalus marchesonii* Ruffo & Vesentini, 1957

TYPE: syntypes Civic Museum of Natural History, Verona, Italy.

TYPE LOCALITY: Lago di Pilato on Monti Sibillini, Appennino Umbro-Marchigiano, Italy.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Chirocephalus mongolianus* Uéno, 1940

TYPE: none designated.

TYPE LOCALITY: Sisunite, Manchuria, north-east China.

DISTRIBUTION: known only from type locality.

COMMENTS: only two male specimens known.

*Chirocephalus nankinensis* (Shen, 1933)

TYPE: holotype and allotype (12576) Zoological Museum, Fan Memorial Institute of Biology, Peiping, China.

TYPE LOCALITY: Tangshan, Nanking, China.

DISTRIBUTION: southeastern China; Hangchow (Hu & Hwang, 1957), Nanking, Loong-Tan, Bo-Wa-Shun, and Soochow, China (Hsü 1933).

COMMENTS: described in *Eubranchipus*; transferred to *Chirocephalus* by Hsü (1933).

*Chirocephalus neumanni* Hartland-Rowe, 1967

TYPE: holotype (1964.4.26.1) and paratypes (1967.4.26.2, 3, 4) British Museum (Natural History), London, England. Additional paratypes (B-9 and

D-9) Department of Zoology, The Hebrew University of Jerusalem and (N.S. 1295, 1296, 1301, 1302, & 1303) Department of Zoology, Tel-Aviv University, Israel.

TYPE LOCALITY: Gaash, Israel.

DISTRIBUTION: Israel north of Jerusalem (Dimentman, 1981).

COMMENTS: none.

*Chirocephalus orghidani* Brtek, 1966

TYPE: none designated.

TYPE LOCALITY: Naipu, Bucuresti region, Romania.

DISTRIBUTION: south Romanian lowland.

COMMENTS: for synonymy see Brtek (1966).

*Chirocephalus paphlagonicus* Cottarelli, 1971

TYPE: holotype and paratypes Zoological Institute of Rome, Rome, Italy; additional paratypes Civic Museum of Natural History, Verona, Italy and British Museum (Natural History), London, England and National Museum of Natural History, Paris, France.

TYPE LOCALITY: Kastamonu (Black Sea region), Turkey.

DISTRIBUTION: western part of Asian Turkey.

COMMENTS: none.

*Chirocephalus pelagonicus* Petkovski, 1986

TYPE: holotype, allotype, and 30 paratypes Macedonian Natural History Museum, Skopje, Macedonia.

TYPE LOCALITY: alkaline pond in the Pelagorian Plain by the Prilep-Krushevo road near the village of Golemo Konjari, Macedonia.

DISTRIBUTION: known only from type locality (Petrov & Marinček, 1991).

COMMENTS: none.

*Chirocephalus povolnyi* Brtek, 1967

TYPE: holotype, allotype, and paratypes Entomology Department, Moravian Museum, Brno, Czechia; 3 paratypes Hornonitrianske Museum, Prievidza, Slovakia.

TYPE LOCALITY: Dasht-i-Nawar (3000 m marker), Ghazni Province, Afghanistan.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Chirocephalus priscus* (Daday, 1910)

TYPE: syntypes (7906/10, 7907/10, 7910/10) Indian Museum, Calcutta, India; National Museum of Natural History Paris, France; Hungarian Natural History Museum, Budapest, Hungary; Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Daday's material came from four localities in the western Himalayas; he did not designate one as the type locality.

DISTRIBUTION: Suka Tal (= Naini Tal) and Bhowali Bazar in Kumaon and Sargodha District, Punjab, Pakistan; states of Himachal Pradesh and Punjab, India (Belk & Esparza, 1995).

COMMENTS: described in *Pristicephalus*; transferred to *Chirocephalus* by Brtek (1966).

*Chirocephalus recticornis* (Brauer, 1877)

TYPE: syntypes (1879.1.6 + 17) Natural History Museum, Wien, Austria.

TYPE LOCALITY: Tunis, Tunisia.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Branchipus*; transferred to *Chirocephalus* by Brtek (1966).

*Chirocephalus reiseri* Marcus, 1913

TYPE: none designated.

TYPE LOCALITY: a temporary pool above Crno Jezero (= Black Lake) at 1650 m elevation on Treskavica Mountain south of Sarajevo, between the Anna and Katharina hills, Bosnia and Hercegovina.

DISTRIBUTION: two sites (Treskavica and Zelengora Mountains) in the former Yugoslavia (Petrov & Marinček, 1991).

COMMENTS: a detailed comparison with *Chirocephalus salinus* is needed.

*Chirocephalus ripophilus* (Lepeschkin, 1921)

TYPE: none designated.

TYPE LOCALITY: Jaroslavl (north of Moscow), Russia.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Pristicephalus* as a variety of *P. josephinae*; transferred to *Chirocephalus* by Brtek (1966); changed to species ranking here.

*Chirocephalus robustus* Müller, 1966

TYPE: none designated.

TYPE LOCALITY: none designated.

DISTRIBUTION: Cluj and Brasov regions, Romania.

COMMENTS: described as a subspecies of *Chirocephalus spinicaudatus*; changed to species category by Brtek (1971).

*Chirocephalus ruffoi* Cottarelli & Mura, 1984

TYPE: Civil Museum of Natural History of Verona, Italy.

TYPE LOCALITY: Piano di Pollino, Appennino Calabro-Lucano, Italy (Mura, 1986).

DISTRIBUTION: type locality and Appennino Tosco-Emiliano.

COMMENTS: none.

*Chirocephalus salinus* Daday, 1910

TYPE: syntypes Museum of Natural History Paris, France and (D 1912-54, I/A-55) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: salt pools at Le Croisic in western France.

DISTRIBUTION: Le Croisic and the islands of Corsica, France (Thiery & Gasc, 1991) and Sardinia, Italy (Mura, 1986).

COMMENTS: described as a subspecies of *Chirocephalus diaphanus*; changed to species category by Cottarelli & Mura (1973); *Chirocephalus reiseri* may prove to be synonymous.

*Chirocephalus shadini* (Smirnov, 1928)

TYPE: syntypes (1448) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Murom, Russia.

DISTRIBUTION: from Ural (Ufa) through central and northern Russia to Poland, Slovakia, Hungary, and into northeastern Austria (Löffler, 1993).

COMMENTS: described as a variety of *Pristicephalus josephinae*; changed to species category by Smirnov (1948); transferred to *Chirocephalus* by Brtek (1966); see synonymy in Brtek (1966).

*Chirocephalus sibyllae* Cottarelli & Mura, 1975

TYPE: Institute of Zoology of Rome, Italy.

TYPE LOCALITY: a temporary pond at 1800 m in Palazzo Borghese, Massiccio del Vettore, Monti Sibillini, Appennino Umbro-Marchigiano (Mura, 1986).

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Chirocephalus sinensis* Thiele, 1907

TYPE: syntypes (12350) Zoological Museum Berlin, Germany.

TYPE LOCALITY: Sha-Shi valley of upper Jinsha Jiang (= Yantsekiang), China.

DISTRIBUTION: type locality and Yu-Wha-Tae and Nanking, China (Hsü, 1933)

COMMENTS: none.

*Chirocephalus skorikowi* Daday, 1912

TYPE: none designated.

TYPE LOCALITY: Kumnuh district, Daghستان, Russia.

DISTRIBUTION: Caucasus and Transcaucasia at upper reaches of Bolshaya Laba, Karachai-Cherkessia, Stavropol Province, Russia; near Kumukh, Daghستان, Russia; in Georgia at Lake Levangol and Tskhra-Tskaro Pass near Bakuriani (Vekhoff, 1992)

COMMENTS: supplemental description in Vekhoff (1992).

*Chirocephalus slovacicus* Brtek, 1971

TYPE: holotype and allotype Slovak National Museum of Natural History, Bratislava, Slovakia; paratypes Hornonitrianske Museum, Prievidza, Slovakia and National Museum of Natural History, Paris, France and British Museum (Natural History), London, England and Zoological Institute, Academy of Science St. Petersburg, Russia.

TYPE LOCALITY: temporary pool at Jesenske, Slovakia.

DISTRIBUTION: Rimava River basin in southern Slovakia.

COMMENTS: none.

*Chirocephalus spinicaudatus* Simon, 1886

TYPE: syntypes National Museum of Natural History, Paris, France.

TYPE LOCALITY: Ivry, now the District of Paris, France.

DISTRIBUTION: vicinity of Paris, France (Nourisson & Thiery, 1988).

COMMENTS: we do not accept the synonymy presented by Nourisson & Thiery (1988) as to the subspecies *C. diaphanus chyzeri* and *C. spinicaudatus croaticus* which we treat here as separate species level taxa.

*Chirocephalus tauricus* Pesta, 1921

TYPE: syntypes Natural History Museum, Wien, Austria.

TYPE LOCALITY: Toros Daglari (= Taurus) Mountains, Turkey.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Chirocephalus tereki* Brtek, 1984

TYPE: holotype and allotype (VII/a-3405) Hornonitrianske Museum, Prievidza, Slovakia; paratypes (T.C.368-369) Slovak National Museum, Bratislava, Slovakia.

TYPE LOCALITY: a glacier lake at an altitude of 3600 m below Lenin Peak, Trans-Alai Ridge, Pamir Mountains, Tajikistan (39°30'N, 73°E).

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Chirocephalus turkestanicus* Daday, 1910

TYPE: holotype (D 1213-1902, I/A-154) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: Kubergenty, Kirgizistan.

DISTRIBUTION: known only from type locality.

COMMENTS: name based on one male specimen.

*Chirocephalus vornatscheri* Brtek, 1968

TYPE: holotype and allotype Natural History Museum, Wien, Austria.

TYPE LOCALITY: Izmir, Turkey.

DISTRIBUTION: western Turkey.

COMMENTS: none.

*Chirocephalus vornatscheri bulgaricus* Flössner, 1980

TYPE: none deposited in a public institution; author's collection.

TYPE LOCALITY: Ropotamo lowland below the village of Jasna Poljana, Strandza Hills, Bulgaria.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Chirocephalus wangi* Hsü, 1933

TYPE: none designated.

TYPE LOCALITY: Hsü's home-garden at Da-In-Hsü village in Lu-Hoo, China.

DISTRIBUTION: Lu-Hoo and Jou-Chia-Wa village near Ox-Head-Hill, Nanking, China.

COMMENTS: none.

*Chirocephalus weisigi* Smirnov, 1933

TYPE: syntypes (14492) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Lenkoran, Transcaucasia, Azerbaijan.

DISTRIBUTION: Lenkoran, Apsheron Peninsula at Baku, and the Caucasus, Azerbaijan.

COMMENTS: none.

*Dendrocephalus affinis* Pereira, 1984

TYPE: holotype (XI-1328), allotype (XI-1329), and paratypes XI-1327) Museum of Biology, Central University of Venezuela, Caracas, Venezuela; additional paratypes (191248) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: temporary pool near the cemetery at Carrasquero, Zulia, Venezuela.

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Dendrocephalus argentinus* Pereira & Belk, 1987

TYPE: holotype (XI-2081), allotype (XI-2082), and paratypes (XI-2083) Museum of Biology, Central University of Venezuela, Caracas, Venezuela; additional paratypes (216165) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a road materials pit beside Route 1 at 13 km south of Andalgala, Catamarca, Argentina.

DISTRIBUTION: Catamarca and La Rioja Provinces in Argentina and at Fortin Nueva, Department of Asuncion, Paraguay.

COMMENTS: none.

*Dendrocephalus brasiliensis* Pesta, 1921

TYPE: paratypes (Acqu-IV-1906) Natural History Museum, Wien, Austria.

TYPE LOCALITY: Bahia Piahuy Province, Brazil.

DISTRIBUTION: Bahia Piahuy Province, Brazil south to central Rio Negro Province, Argentina (Cesar, 1989).

COMMENTS: Linder (1941) synonymized *D. ornatus* Lutz, 1929.

*Dendrocephalus cervicornis* (Weltner, 1890)

TYPE: syntypes (8182) Zoological Museum, Berlin, Germany.

TYPE LOCALITY: saline pools at Totoralejos, Cordoba Province, Argentina.

DISTRIBUTION: from Salta Province to Rio Negro Province, Argentina (Cesar, 1989).

COMMENTS: described in *Branchipus*; transferred to *Dendrocephalus* by Daday (1910).

*Dendrocephalus cornutus* Pereira & Belk, 1987

TYPE: holotype (231564), allotype (231565), and paratypes (231566) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: 8 km southwest of Liberia, Costa Rica.

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Dendrocephalus geayi* Daday, 1908

TYPE: syntypes? Museum of Natural History, Paris, France.

TYPE LOCALITY: between the Apure and Guanaparo rivers, Guanaparo and Corzito, Llanos, Venezuela.

DISTRIBUTION: widespread in Venezuela (Pereira, 1983).

COMMENTS: none.

*Dendrocephalus sarmentosus* Pereira & Belk, 1987

TYPE: holotype (059607); allotype and paratypes (021587) California Academy of Sciences, San Francisco, California, USA.

TYPE LOCALITY: Rainwater pools in the arid coastal zone at Academy Bay, Santa Cruz Island, Galapagos Islands, Ecuador.

DISTRIBUTION: known only from Santa Cruz Island.

COMMENTS: supplemental description in Brendonck, Thiery & Coomans (1990).

*Dendrocephalus spartaenovae* Margalef, 1961

TYPE: holotype Institute for Fisheries Investigations, Barcelona, Spain.

TYPE LOCALITY: El Hato pool on Cubagua Island, Nueva Esparta, Venezuela.

DISTRIBUTION: the states of Nueva Esparta, Lara, Sucre, and Falcon, Venezuela (Pereira, 1983).

COMMENTS: none.

*Dendrocephalus venezolanus* Pereira, 1984

TYPE: holotype (XI-1159), allotype (XI-1160) and paratypes (XI-1142) Museum of Biology, Central University of Venezuela, Caracas, Venezuela; additional paratypes National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: temporary roadside pool between Calabozo and Paso del Caballo, Guarico, Venezuela.

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Dexteria floridana* (Dexter, 1953)

TYPE: holotype (93535), allotype (93536), and paratypes (93537) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a temporary pool about 6 km south of Gainesville, Florida, USA.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Eubbranchipus*; transferred to its own genus, *Dexteria*, by Brtek (1965).

*Eubbranchipus (D.) birostratus* (Fisher, 1851)

TYPE: syntypes (3347) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Harkov (= Charkov), Ukraine

DISTRIBUTION: steppe and wood-steppe zone of Eurasia from the Dnieper River on the west to the Yenisei and Angara rivers on the east.

COMMENTS: described in *Branchipus*; transferred to *Chirocephalus* by Baird (1852); transferred to *Chirocephalopsis* by Daday (1910); transferred to *Drepanosurus* by Brtek (1966); transferred to *Eubbranchipus* subgenus *Drepanosurus* Simon, 1886 by Belk (this volume).

*Eubbranchipus bundyi* Forbes, 1876

TYPE: none designated.

TYPE LOCALITY: Jefferson, Wisconsin, USA.

**DISTRIBUTION:** widespread across Canada and the northern USA as far south as the mountains of Arizona, USA.

**COMMENTS:** transferred to *Pristicephalus* by Creaser (1935); transferred to *Chirocephalopsis* by Linder (1941); transferred back to *Eubbranchipus* by Brtek (1966). Type collection 11015 at the Zoological Museum, Berlin, Germany labeled *Branchipus gelidus* Hay, 1889 are actually *E. bundyi*.

*Eubbranchipus (D.) claviger* (Fischer, 1851)

**TYPE:** syntypes (3347) Zoological Institute, Academy of Science, St. Petersburg, Russia.

**TYPE LOCALITY:** a pool on the bank of the Nizhnaya Taymyra River, Taymyr Peninsula, in the northern part of Asian Russia.

**DISTRIBUTION:** northern part of Taimir Peninsula, Russia (Vekhoff, 1990).

**COMMENTS:** described in *Branchipus*; transferred to *Chirocephalus* by Baird (1852); transferred to *Chirocephalopsis* by Daday (1910); transferred to *Drepanosurus* by Brtek (1966); transferred to *Eubbranchipus* subgenus *Drepanosurus* Simon, 1886 by Belk (this volume).

*Eubbranchipus (S.) grubii* (Dybowski, 1860)

**TYPE:** none designated.

**TYPE LOCALITY:** Berlin, Germany.

**DISTRIBUTION:** France, Germany, Denmark, Poland, Lithuania, Czechia, Austria, Slovakia, Hungary, Romania, and Ukraine (Rylov, 1936); central part of European Russia (Vekhoff, 1986); the Afghanistan record of Daday (1910) is questionable.

**COMMENTS:** described in *Branchipus*; transferred to *Chirocephalus* by Claus (1886); transferred to *Chirocephalopsis* by Herzog (1935); transferred back to *Chirocephalus* by Kapler (1940); transferred to *Siphonophanes* by Brtek (1966); transferred to *Eubbranchipus* subgenus *Siphonophanes* Simon, 1886 by Belk (this volume).

*Eubbranchipus (D.) hankoi* (Dudich, 1927)

**TYPE:** syntypes Hungarian Natural History Museum, Budapest, Hungary.

**TYPE LOCALITY:** Tekovske Luzany (was Nagysallo), Slovakia.

**DISTRIBUTION:** southern Slovakia, northern Hungary, and the lowland at Slany in northern Czechia.

**COMMENTS:** described in *Chirocephalopsis*; transferred to *Drepanosurus* by Brtek (1966);

transferred to *Eubbranchipus* subgenus *Drepanosurus* Simon, 1886 by Belk (this volume); for synonymy see Brtek (1966).

*Eubbranchipus holmanii* (Ryder, 1879)

**TYPE:** syntypes (ANSP CA4439) Academy of Natural Sciences, Philadelphia, Pennsylvania, USA.

**TYPE LOCALITY:** ditches in the vicinity of Woodbury, New Jersey, USA.

**DISTRIBUTION:** New York west to Minnesota and south to northern Alabama, USA.

**COMMENTS:** described in *Chirocephalus*; transferred to *Eubbranchipus* by Daday (1910); transferred to *Pristicephalus* by Mattox 1936; transferred back to *Eubbranchipus* by Linder (1941).

*Eubbranchipus intricatus* Hartland-Rowe, 1967

**TYPE:** holotype and allotype (6112), paratypes (6111, 6113-6118) National Museum of Canada, Ottawa, Ontario, Canada, additional paratypes (1966.11.28.1-4) British Museum (Natural History) London, England.

**TYPE LOCALITY:** about 26 km west of Calgary, Alberta, Canada.

**DISTRIBUTION:** the provinces of Alberta, Saskatchewan, and Manitoba, Canada and the state of Massachusetts, USA.

**COMMENTS:** Brtek (1966) incorrectly described *intricatus* as *E. gelidus* (Hay, 1889).

*Eubbranchipus moorei* Brtek, 1967

**TYPE:** holotype (c/18) and paratype (c/19) Slovak National Museum, Bratislava, Slovakia; additional paratypes (VII-a-1001/1-6) Vlastivedne Museum, Bojnice, Slovakia.

**TYPE LOCALITY:** St. Tammany Parish, Louisiana, USA.

**DISTRIBUTION:** in the Gulf Coastal Plain south of latitude 31° 30' from St. Tammany Parish, Louisiana to Baker County, Georgia, USA (Belk & Milne, 1984).

**COMMENTS:** misidentified as *E. holmani* by W. G. Moore in papers published before 1967.

*Eubbranchipus neglectus* Garman, 1926

**TYPE:** none designated.

**TYPE LOCALITY:** the bluegrass region of Kentucky, USA.

**DISTRIBUTION:** northern Ohio, Kentucky, and Alabama, USA.

COMMENTS: incorrectly listed as a subspecies of *E. vernalis* by Brtek (1966); misidentified as *E. vernalis* in Modlin (1982, 1983, 1985) and Belk & Milne (1984); use caution in evaluating records of *E. vernalis* south of the New England states, USA; see Belk & Mura (in prep.).

*Eubbranchipus oregonus* Creaser, 1930

TYPE: holotype (52983), allotype (52984), and paratypes (52713) Museum of Zoology, University of Michigan, Ann Arbor, Michigan, USA; additional paratypes National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a supposedly spring-fed pond near Portland, Oregon, USA.

DISTRIBUTION: from British Columbia, Canada south to northern California, USA with one disjunct record from Oklahoma, USA (Eng, Belk & Eriksen, 1990).

COMMENTS: none.

*Eubbranchipus ornatus* Holmes, 1910

TYPE: none designated.

TYPE LOCALITY: small pools near Madison, Wisconsin, USA.

DISTRIBUTION: provinces of Alberta and Manitoba, Canada; Wisconsin west to Montana and south to Nebraska, USA.

COMMENTS: none.

*Eubbranchipus (D.) rostratus* (Daday, 1910)

TYPE: syntypes (9638) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Sakhar-Urjakh, Great Ljachov Island, New Siberian Islands, Russia.

DISTRIBUTION: Polar Siberia from the mouth of the Kolyma River to the New Siberian Islands.

COMMENTS: described in *Chirocephalopsis*; transferred to *Drepanosurus* by Brtek (1966); transferred to *Eubbranchipus* subgenus *Drepanosurus* Simon, 1886 by Belk (this volume).

*Eubbranchipus serratus* Forbes, 1876

TYPE: none designated.

TYPE LOCALITY: pools near Norman, Illinois, USA.

DISTRIBUTION: British Columbia, Canada; in the USA from east to west coasts with southern most populations in Arizona, Oklahoma, and Virginia.

COMMENTS: none.

*Eubbranchipus (D.) uchidai* (Kikuchi, 1957)

TYPE: holotype Zoological Institute, Faculty of Science, Hokkaido University, Japan and paratypes Biological Institute, Faculty of Liberal Arts, Ibaraki University, Japan.

TYPE LOCALITY: snow-melt pool at Zenibako, Japan 16 km west of Sapporo, Japan.

DISTRIBUTION: known only from the area around Sapporo, Hokkaido, northern Japan.

COMMENTS: described from males only in *Chirocephalopsis*; transferred to *Eubbranchipus* by Moryia (1985) who also described the female. Recognized here as a member of the subgenus *Drepanosurus* Simon, 1886.

*Eubbranchipus (D.) vladimiri* (Vekhoff & Vekhova, 1992)

TYPE: none designated.

TYPE LOCALITY: a temporary pool near the Kljasma River, Vladimir region of central Russia.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Drepanosurus*; transferred to *Eubbranchipus* subgenus *Drepanosurus* Simon, 1886 by Belk (this volume).

*Eubbranchipus vernalis* (Verrill, 1869)

TYPE: syntypes (6632, 95?) Peabody Museum of Natural History, New Haven, Connecticut, USA.

TYPE LOCALITY: New Haven Connecticut, USA.

DISTRIBUTION: Ontario, Canada; New England states west as far as Illinois and south to Tennessee, USA. All records south of New England states have the potential of confusion with *E. neglectus* and should be viewed with caution.

COMMENTS: described in *Branchipus*; transferred to *Eubbranchipus* by Verrill (1870).

*Linderiella africana* Thiery, 1986

TYPE: holotype and allotype (VIIIta-3595) Hornonitrianske Museum, Prievidza, Slovakia; additional paratypes National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA, and Scientific Institute of Morocco, Rabat, Morocco.

TYPE LOCALITY: Daya (= temporary pond in Arabic) Mertissiliouine in the Moyen Atlas Mountains 12 km south of Azrou at an elevation of 1860 m (33 ° 17'N, 5 ° 11'W).

DISTRIBUTION: Moyen Atlas Mountains in Daya Mertissiliouine and Daya Azigza, Morocco.

COMMENTS: none.

*Linderiella massaliensis* Thiery & Champeau, 1988

TYPE: holotype and allotype (Bp.532, 533) National Museum of Natural History, Paris, France; paratypes (231283) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: Petit Laucien a temporary lake 300 m above sea level in the south of Provence, France.

DISTRIBUTION: between Marseille and Cannes, Provence, France.

COMMENTS: none.

*Linderiella occidentalis* (Dodds, 1923)

TYPE: syntypes (52030) Museum of Zoology, University of Michigan, Ann Arbor, Michigan, USA.

TYPE LOCALITY: Stanford University campus, Palo Alto, California, USA.

DISTRIBUTION: California, USA (Eng, Belk & Eriksen, 1990); reported in error from Spain by Alonso (1985) due to misidentification.

COMMENTS: described in *Branchinecta*; transferred to *Pristicephalus* by Linder (1941), to *Eubranchipus* by Pennak (1953) to *Linderiella* by Brtek (1964); candidate for endangered species listing under USA Endangered Species Act (Federal Register 57(90): 19856–19863).

*Metabranchipus patrizii* Masi, 1925

TYPE: syntypes Civil Museum of Natural History of Genova, Genova, Italy.

TYPE LOCALITY: Faehia, Somalia.

DISTRIBUTION: known only from the type locality.

COMMENTS: none

*Parartemia contracta* Linder, 1941

TYPE: holotype and paratypes Zoological Museum, Uppsala, Sweden; additional paratypes Royal Museum, Stockholm, Sweden; National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA; and Western Australian Museum, Perth, Australia.

TYPE LOCALITY: salt-pans at Cowcowing near Wyalkatchem, Western Australia, Australia.

DISTRIBUTION: known from the type locality (Geddes, 1983) and adjacent acid salt lakes (Conte & Geddes, 1988).

COMMENTS: This species is restricted to acid lakes with pH below 5.0.

*Parartemia cylindrifera* Linder, 1941

TYPE: holotype and paratypes Western Australian Museum, Perth, Australia.

TYPE LOCALITY: Lake Bidy, Western Australia, Australia.

DISTRIBUTION: southwest of Western Australia and southeast of South Australia, Australia (Geddes, 1983).

COMMENTS: none.

*Parartemia extracta* Linder, 1941

TYPE: holotype and paratypes Western Australian Museum, Perth, Australia; one additional paratype Zoological Museum, Uppsala, Sweden.

TYPE LOCALITY: Minnivale, Western Australia, Australia.

DISTRIBUTION: southwest of Western Australia, Australia (Geddes, 1983).

COMMENTS: none.

*Parartemia informis* Linder, 1941

TYPE: holotype and paratypes Western Australian Museum, Perth, Australia; additional paratypes Zoological Museum, Uppsala, Sweden.

TYPE LOCALITY: Lake Monger, Western Australia, Australia.

DISTRIBUTION: southwest of Western Australia, Australia (Geddes, 1983).

COMMENTS: none.

*Parartemia longicaudata* Linder, 1941

TYPE: holotype and paratypes Zoological Museum, University, Perth, Australia.

TYPE LOCALITY: Pink Lake, Esperance, Western Australia.

DISTRIBUTION: southwest of Western Australia, Australia (Geddes, 1983).

COMMENTS: none.

*Parartemia minuta* Geddes, 1973

TYPE: holotype (P17918), allotype (P17919), and paratypes (P17920) Australian Museum, Sydney, Australia.

TYPE LOCALITY: Lake Buchanan, Queensland, Australia.



**DISTRIBUTION:** Lake Buchanan, Queensland (Geddes, 1983) and Paroo district, New South Wales, Australia (Timms, 1993).

**COMMENTS:** none.

*Parartemia serventyi* Linder, 1941

**TYPE:** holotype Western Australian Museum, Perth, Australia; paratypes National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA and Zoological Museum, Uppsala, Sweden.

**TYPE LOCALITY:** Lake Gilmore, Western Australia, Australia.

**DISTRIBUTION:** south central of Western Australia, Australia (Geddes, 1983).

**COMMENTS:** none.

*Parartemia zietziana* Sayce, 1903

**TYPE:** syntypes South Australian Museum, Adelaide and National Museum, Melbourne, Australia.

**TYPE LOCALITY:** brackish water swamp near Lake Alexandrina, South Australia, Australia.

**DISTRIBUTION:** southern South Australia, Victoria, and Tasmania, Australia (Geddes, 1983).

**COMMENTS:** redescribed in Linder (1941).

*Phallocryptus wrighti* (Smirnov, 1948)

**TYPE:** none designated.

**TYPE LOCALITY:** Las Encadenadas near Saavedra, Buenos Aires Province, Argentina.

**DISTRIBUTION:** Buenos Aires, Catamarca, Cordoba, and La Pampa, Argentina (Cesar, 1989).

**COMMENTS:** described in *Branchinella*; new synonym *Phallocryptus salinicola* Biraben, 1951; The unique structure of the basal part of the penes, different from that found in *Branchinella* or other described genera, indicates Biraben was correct about this species representing a new genus.

*Polyartemia forcipata* Fischer, 1851

**TYPE:** syntypes (4677) Zoological Institute, Academy of Science, St. Petersburg, Russia.

**TYPE LOCALITY:** small lakes on the Siberian tundra at the Taimyr and Boganida Rivers, Russia.

**DISTRIBUTION:** arctic and subarctic regions of Eurasia: from northern Scandinavia to the Chukotski Peninsula and in the most eastern part southward through the Kamchatka Peninsula to Paramushir Island in the Kuril Islands (Vekhoff, 1993).

**COMMENTS:** none.

*Polyartemiella hazeni* (Murdock, 1884)

**TYPE:** syntypes (7929-7931) (7931 dried and useless) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

**TYPE LOCALITY:** tundra at Point Barrow, Alaska, USA.

**DISTRIBUTION:** Amguyema River Valley, Chukotsk Peninsula, Russia; Alaska, USA; Yukon Territory and Northwest Territories, Canada (Vekhoff, 1990); an unusual disjunct record from the stomach of a rainbow trout (*Salmo gairdneri* Richardson) caught in Wampus Creek, Alberta, Canada (53 °07'N, 117 °19'W) (Daborn, 1976).

**COMMENTS:** described in *Polyartemia*; transferred to *Polyartemiella* by Daday (1910).

*Polyartemiella judayi* Daday, 1910

**TYPE:** syntypes (D 1912-4; I/A-4) Hungarian Natural History Museum, Budapest, Hungary.

**TYPE LOCALITY:** St. Paul Island, Pribilof Islands, Alaska, USA.

**DISTRIBUTION:** known only from type locality.

**COMMENTS:** none.

*Streptocephalus annanarivensis* Thiele, 1907

**TYPE:** Zoological Institute, Academy of Science, St. Petersburg, Russia.

**TYPE LOCALITY:** Annanarivo, Madagascar.

**DISTRIBUTION:** known only from the type locality.

**COMMENTS:** described as a subspecies of *Streptocephalus distinctus*, changed to species category by Brtek (1974).

*Streptocephalus antillensis* Mattox, 1950

**TYPE:** holotype (91085) and paratypes (91086) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

**TYPE LOCALITY:** Mona Island, Puerto Rico, USA.

**DISTRIBUTION:** known only from pools on Mona Island, Puerto Rico, USA.

**COMMENTS:** none.

*Streptocephalus areva* Brehm, 1954

**TYPE:** none designated.

**TYPE LOCALITY:** Tabriz (= Tauris), Estakhr Chah, Iran.

**DISTRIBUTION:** Iran and Afghanistan.

COMMENTS: described as a subspecies of *Streptocephalus auritus* (Koch, 1841) which is a synonym of *Streptocephalus torvicornis*, changed to species category by Brtek (1974).

*Streptocephalus bidentatus* Hamer & Appleton, 1993

TYPE: holotype (A40820) and paratypes (A40821) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: large temporary pool south of Skukuza, Kruger National Park, South Africa (25 °03'S, 31 °38'E).

DISTRIBUTION: northeastern South Africa and Swaziland.

COMMENTS: none.

*Streptocephalus bimarisi* Gurney, 1909

TYPE: syntypes British Museum (Natural History), London, England.

TYPE LOCALITY: Oued Tindja, Tunisia.

DISTRIBUTION: known only from the type locality.

COMMENTS: *Streptocephalus chappuisi* Brehm, 1935 which was described from juvenile specimens may be synonymous.

*Streptocephalus bourquinii* Hamer & Appleton, 1993

TYPE: holotype (A40832) and paratypes (A40833) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Hluhluwe Game Reserve, Natal, South Africa.

DISTRIBUTION: northeastern Natal, South Africa and Swaziland.

COMMENTS: none.

*Streptocephalus bouvieri* Daday, 1908

TYPE: syntypes National Museum of Natural History, Paris, France.

TYPE LOCALITY: Kousseri, Mission Chari-Chad, Chad.

DISTRIBUTION: southwestern Chad and northern Uganda.

COMMENTS: none.

*Streptocephalus cafer* (Lovén, 1847)

TYPE: Stockholm Museum, Stockholm, Sweden.

TYPE LOCALITY: Transvall Province, South Africa (Barnard, 1929).

DISTRIBUTION: widely distributed in Africa south of 13° south latitude and on Madagascar (Guérine Meneville, 1829).

COMMENTS: described in *Branchipus*, transferred to *Streptocephalus* by Baird (1852).

*Streptocephalus cirratus* Daday, 1908

TYPE: National Museum of Natural History, Paris, France.

TYPE LOCALITY: Bloemfontein, South Africa.

DISTRIBUTION: Highveld region of South Africa.

COMMENTS: none.

*Streptocephalus cladophorus* Barnard, 1924

TYPE: syntypes (A6702) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Owuthija, Ovamboland, Namibia.

DISTRIBUTION: Namibia, South Africa, and Zimbabwe.

COMMENTS: none.

*Streptocephalus coomansi* Brendonck & Belk, 1993

TYPE: holotype (56850) Allotype (56851) Koninklijk Museum voor Central Africa, Tervuren, Belgium.

TYPE LOCALITY: Administration Pool, Kenyatta University College, Thika Rd. Nairobi, Kenya (1 °17'S, 36 °05'E).

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Streptocephalus dendrophorus* Hamer & Appleton, 1993

TYPE: holotype (A40827) and paratypes (A40828) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: temporary pool on the Makatini Flats, Natal, South Africa (27 °24'S, 32 °10'E).

DISTRIBUTION: northeastern Natal, South Africa.

COMMENTS: none.

*Streptocephalus dendyi* Barnard, 1929

TYPE: syntypes (6279) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Rondebosch Camp Ground, Cape Town, South Africa.

DISTRIBUTION: southern Cape region, South Africa.

COMMENTS: none.

*Streptocephalus dichotomus* Baird, 1860

TYPE: none designated.

TYPE LOCALITY: India, exact locality not given, found alive in a pail of milk.

DISTRIBUTION: widespread in India and Pakistan with one disjunct record from Yangon, Burma (Belk & Esparza, 1995).

COMMENTS: Gurney (1906) synonymized *Streptocephalus bengalensis* Alcock, 1896 after examining the syntypes; Belk studied these syntypes (1329-42/10) Indian Museum, Calcutta, India and agrees.

*Streptocephalus distinctus* Thiele, 1907.

TYPE: syntypes Zoological Museum, Berlin, Germany and (9616) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Annarivo, Madagascar.

DISTRIBUTION: Madagascar.

COMMENTS: none.

*Streptocephalus dorotheae* Mackin, 1942

TYPE: syntypes (79019) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a temporary pond about 32 km south of Santa Fe, New Mexico, USA.

DISTRIBUTION: from the panhandle regions of Texas and Oklahoma into New Mexico, Arizona, and southern Utah, USA with disjunct records from Wyoming, USA and southern Baja California, Mexico (Maeda-Martinez *et al.*, 1992).

COMMENTS: none.

*Streptocephalus dregei* Sars, 1899

TYPE: male completely dried (A1485) South African Museum, Cape Town, South Africa; female British Museum (Natural History), London, England.

TYPE LOCALITY: Port Elizabeth, South Africa.

DISTRIBUTION: southeast Cape Province, South Africa.

COMMENTS: none.

*Streptocephalus echinus* Bond, 1934

TYPE: holotype (C3611/1) paratypes (C3612/1) Indian Museum, Calcutta, India.

TYPE LOCALITY: a tank at the town of Godavari, West Godavari District, Andhra Pradesh state, India (17 °N, 81 °45'E).

DISTRIBUTION: Andhra Pradesh and Chingleput District, Tamil Nadu, India (Belk & Esparza, 1994).

COMMENTS: described as a subspecies of *S. simplex*; Brtek (1974) suggested *echinus* should probably be considered a separate species, Belk agrees after collecting and examining specimens from three populations, electrophoretic studies by Munuswamy (1982) also support species ranking.

*Streptocephalus gauthieri* Brtek, 1974

TYPE: none designated.

TYPE LOCALITY: Mortcha pool between Fada and Oum Chalouba, Chad.

DISTRIBUTION: known only from type locality.

COMMENTS: description based on information and illustration of *Streptocephalus* sp. in Gauthier (1939).

*Streptocephalus gracilis* Sars, 1898

TYPE: male, completely dried, (1487) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Port Elizabeth, South Africa.

DISTRIBUTION: Port Elizabeth and Cape Town, South Africa.

COMMENTS: none.

*Streptocephalus guzmani* Maeda-Martinez, Belk, Oregon-Barboza & Dumont, 1995

TYPE: holotype (259672) Allotype (259673) paratypes (259674-5) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: An ephemeral pool on the south side of E. Refugio bridge, 70 km east of Torreon, Coahuila, Mexico.

DISTRIBUTION: Rio Nazas and Rio Aguanaval basins in Coahuila, Mexico.

COMMENTS: none.

*Streptocephalus indistinctus* Barnard, 1924

TYPE: syntypes (A6692) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Ongka, Ovamboland, Namibia.

DISTRIBUTION: northern Namibia with single reports from Zimbabwe, Rhodesia and the border between Botswana and Transvall Province, South Africa.

COMMENTS: none.

*Streptocephalus jakubskii* Grochmalicki, 1921

TYPE: syntypes British Museum (Natural History), London, England.

TYPE LOCALITY: little pools on the Ussangu steppe, Tanzania.

DISTRIBUTION: known only from type locality.

COMMENTS: currently only young specimens are in the syntype material; however, Grochmalicki (1921) illustrated species specific adult characters and stated that numerous adult and juvenile specimens were present in his collection.

*Streptocephalus javanensis* Brehm, 1955

TYPE: none designated.

TYPE LOCALITY: Purwakarta, Java, Indonesia (Vaas, 1952).

DISTRIBUTION: known only from type locality.

COMMENTS: drawings of male antennae in Vaas (1952) do not agree with those in Brehm (1955); Brehm's could be of an immature specimen given stubby look of cercopods and relative size of hand compared with distal segment of antenna; or two species may be involved; the situation needs study. Drawing in Vaas (1952) shows anomalous thumb on left hand.

*Streptocephalus (P.) kaokoensis* Barnard, 1929

TYPE: syntypes South African Museum, Cape Town, South Africa reported by Brendonck *et al.* (1992) to be in very bad condition with many dried out.

TYPE LOCALITY: Kaokoveld north of Kamanyab, Namibia.

DISTRIBUTION: central Namibia.

COMMENTS: redescribed and assigned to subgenus *Parastreptocephalus* in Brendonck *et al.* (1992).

*Streptocephalus kargesi* Spicer, 1985

TYPE: holotype (204931) paratypes (204932) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: 11.3 km south of Lake Catemaco, El Encinal, Veracruz, Mexico (18 °18'N, 95 °04'W).

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Streptocephalus (P.) lamellifer* Thiele, 1900

TYPE: syntypes (10.255) Zoological Museum of Humboldt University, Berlin, Germany and (9618) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Sumpf der Massai, Njika, Tanzania.

DISTRIBUTION: northeastern Tanzania.

COMMENTS: redescribed and assigned to subgenus *Parastreptocephalus* in Brendonck *et al.* (1992).

*Streptocephalus linderi* Moore, 1966

TYPE: holotype (113041) paratypes (113042) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a cattle tank about 50 km west of Ozona, Crockett County, Texas, USA.

DISTRIBUTION: southwest Texas, USA and northeast Mexico.

COMMENTS: none.

*Streptocephalus longimanus* Bond, 1934

TYPE: syntypes (3580) Peabody Museum of Natural History, New Haven, Connecticut, USA.

TYPE LOCALITY: Mahabalipuram, Tamil Nadu, India.

DISTRIBUTION: Chingleput and Ramanathapuram districts, Tamil Nadu, India (Belk & Esparza, 1995).

COMMENTS: described as a subspecies of *S. simplex*; Brtek (1974) suggested *longimanus* should probably be considered a separate species, Belk agrees after collecting and examining specimens from eight populations, electrophoretic studies by Munuswamy (1982) also support species ranking.

*Streptocephalus mackini* Moore, 1966

TYPE: holotype (113039) paratypes (113040) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a roadside pool about 25 km south of Arteaga, Coahuila, Mexico.

DISTRIBUTION: southwestern USA and much of Mexico (Maeda-Martinez, 1991).

COMMENTS: none.

*Streptocephalus macrourus* Daday, 1908

TYPE: syntypes (male) National Museum of Natural History, Paris, France; (female) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Bloemfontein, Orange Free State, South Africa.

DISTRIBUTION: southern Africa.

COMMENTS: none.

*Streptocephalus mattoxi* Maeda-Martinez, Belk, Oregon-Barboza & Dumont, 1995

TYPE: holotype (259676) Allotype (259677) paratypes (259678-9) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a playa 12.4 km south of Sarita on the east side of US 77, Kenedy County, Texas, USA.

DISTRIBUTION: Kenedy County in south Texas, USA.

COMMENTS: none.

*Streptocephalus moorei* Belk, 1973

TYPE: holotype (141454) paratypes (141455) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA; additional paratypes (VII/a-2510) Hornonitrianske Museum, Prievidza, Slovakia.

TYPE LOCALITY: a natural depression pool about 16 km north of Jimenez, Chihuahua, Mexico (27°20'N, 104°55'W).

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Streptocephalus namibiensis* Hamer & Brendonck, 1993

TYPE: holotype (51312) paratypes (51294) State Museum, Windhoek, Namibia.

TYPE LOCALITY: Nyae-Nyae Pan, Bushmanland, Namibia (19°46'S, 20°30'E).

DISTRIBUTION: the Transvaal Highveld, South Africa; Gobabis in central and Bushmanland in northern Namibia; Makarikari Pan area in northern Botswana.

COMMENTS: none.

*Streptocephalus neumanni* Thiele, 1904

TYPE: syntypes (11137) Zoological Museum, Berlin, Germany.

TYPE LOCALITY: Harro Rufa, Ennia Gallaland, Ethiopia.

DISTRIBUTION: African type locality and several localities in Arabia.

COMMENTS: none.

*Streptocephalus ovamboensis* Barnard, 1924

TYPE: syntypes (A6691) South African Museum.

TYPE LOCALITY: Ukualonkathi, Ovamboland, Namibia.

DISTRIBUTION: Namibia and Cape Province, South Africa.

COMMENTS: none.

*Streptocephalus papillatus* Sars, 1906

TYPE: none designated.

TYPE LOCALITY: Hanover, Cape Province, South Africa.

DISTRIBUTION: southern Cape Province, South Africa.

COMMENTS: none.

*Streptocephalus potosinensis* Maeda-Martinez, Belk, Oregon-Barboza & Dumont, 1995

TYPE: holotype (259680) Allotype (259681) paratypes (259682-3) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a pool 6.1 km east of Ciudad del Maiz, San Luis Potosi, Mexico.

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Streptocephalus proboscideus* (Frauenfeld, 1873) TYPE: syntypes (?) (1879.I;19) Museum of Natural History, Vienna, Austria.

TYPE LOCALITY: Khartoum, Sudan.

DISTRIBUTION: Sudan south to Namibia and South Africa.

COMMENTS: described in *Branchipus*; transferred to *Streptocephalus* by Simon (1886); redescribed by Brendonck (1989).

*Streptocephalus propinquus* Brady, 1916

TYPE: none designated.

TYPE LOCALITY: Inkenjeni Mountain near the Mahlabatini Magistracy, Zululand.

DISTRIBUTION: known only from type locality.

COMMENTS: immature specimens, Barnard (1929) considered this binomen a synonym of *Streptocephalus cafer* or *Streptocephalus indistinctus*; however, Brtek (1974) considered enough key characters are present in Brady's drawings to differentiate the taxon as a valid species.

*Streptocephalus purcelli* Sars, 1898

TYPE: syntypes (1478) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Green Point Common, Cape Town, South Africa.

DISTRIBUTION: western Cape Province, South Africa.

COMMENTS: Barnard (1929) synonymized *S. Purcelli sarsi* Daday, 1910 considering its unique features to be a result of abnormality.

*Streptocephalus rothschildi* Daday, 1908

TYPE: syntypes (235) National Museum of Natural History, Paris, France and (D1912-109;I/A-110) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: Tehoba, Ethiopia (Abyssinia).

DISTRIBUTION: northeast Africa.

COMMENTS: none.

*Streptocephalus rubricaudatus* (Klunzinger, 1867)

TYPE: none designated.

TYPE LOCALITY: a clay pool at Kosseir near the Red Sea, Egypt.

DISTRIBUTION: Algeria, Libya, Egypt, Chad, and Sudan.

COMMENTS: described in *Branchipus*; transferred to *Streptocephalus* by Simon (1886); once synonymized with *S. torvicornis* by Brtek (1962); later differences were noted and now considered a separate taxon Brtek (1974), Mertens & Dumont (1989).

*Streptocephalus rugosus* Brehm, 1960

TYPE: none designated.

TYPE LOCALITY: Anjohimavo, Madagascar.

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Streptocephalus sealii* Ryder, 1879

TYPE: syntypes (ANSP CA 4452) Academy of Natural Sciences, Philadelphia, Pennsylvania, USA; Moore (1966) reported these specimens were fragmentary and not useful.

TYPE LOCALITY: Woodbury, New Jersey, USA.

DISTRIBUTION: widespread in North America from southern Canada through the United States into southern Mexico.

COMMENTS: for synonymy see Moore (1966); populations in Arizona and California, USA may be a separate sibling species (Belk *et al.*, 1990).

*Streptocephalus similis* Baird, 1852

TYPE: syntypes British Museum (Natural History), London, England.

TYPE LOCALITY: Santa Domingo.

DISTRIBUTION: islands of Santa Domingo, Puerto Rico, and Antigua; northeastern Mexico and south Texas, USA.

COMMENTS: this is not the African taxon in Cannici (1941).

*Streptocephalus simplex* Gurney, 1906

TYPE: syntypes (5217/10) Indian Museum, Calcutta, India.

TYPE LOCALITY: Kutch District, Gujarat state, India.

DISTRIBUTION: southern Arabia near Aden, Pakistan, and northern India (Belk & Esparza, 1995).

COMMENTS: new synonyms, *S. simplex arabicus* Bond, 1934 and *S. simplex simplex* Bond, 1934; Belk examined numerous specimens from Arabia and India finding all of the characters listed by Bond were variable and not useful in defining separate taxa.

*Streptocephalus spinicaudatus* Hamer & Appleton, 1993

TYPE: holotype (A40829) and paratypes (A40830) South African Museum, Cape Town, South Africa.

TYPE LOCALITY: Umtata Dam, Transkei (31°30'S, 28°36'E).

DISTRIBUTION: eastern Cape Province, South Africa and Transkei.

COMMENTS: none.

*Streptocephalus spinifer* Gurney, 1906

TYPE: none designated and none at the Indian Museum, Calcutta, India.

TYPE LOCALITY: a muddy pool at the Cotton Experiment Station at Maha Ilupalama in North-Central Province, Sri Lanka.

DISTRIBUTION: Sri Lanka and southern India (Radhakrishna & Prasad, 1976) (Belk & Esparza, 1995).

COMMENTS: none.

*Streptocephalus spinosus* Daday, 1908

TYPE: syntypes National Museum of Natural History, Paris, France and (D 1912-97; I/A-99) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: Catat, Madagascar.

DISTRIBUTION: known only from the type locality.

COMMENTS: none.

*Streptocephalus (P.) sudanicus* Daday, 1910

TYPE: National Museum of Natural History, Paris, France and (6942) Zoological Institute, Academy of Science, St. Petersburg, Russia.

TYPE LOCALITY: Nioro, Sudan.

DISTRIBUTION: Senegal, Mali, Niger, Chad, and Sudan (Brendonck *et al.*, 1992).

COMMENTS: redescribed and assigned to subgenus *Parastreptocephalus* in Brendonck *et al.* (1992).

*Streptocephalus texanus* Packard, 1871

TYPE: syntypes (4421) Zoological Museum, Berlin, Germany.

TYPE LOCALITY: near Clifton, Bosque County, Texas, USA (Geiser, 1933).

DISTRIBUTION: widely distributed in the United States west of the Mississippi River and as far south in Mexico as the state of Oaxaca.

COMMENTS: for synonymy see Moore (1966).

*Streptocephalus torvicornis torvicornis* (Waga, 1842)

TYPE: none designated.

TYPE LOCALITY: near Warsaw, Poland.

DISTRIBUTION: Eastern Europe and the Ponto-Caspian Region (Dumont *et al.*, 1995).

COMMENTS: described in *Branchipus*, transferred to *Streptocephalus* by Baird (1852).

*Streptocephalus torvicornis bucheti* Daday, 1910

TYPE: syntypes National Museum of Natural History, Paris, France; (D1212-106; I/A-109) Hungarian Natural History Museum, Budapest, Hungary; (VII/a-2776) Hornonitrianske Museum, Prievidza, Slovakia.

TYPE LOCALITY: daya Sidi Kassem and Arzila, Morocco.

DISTRIBUTION: Iberia and western North Africa (Dumont *et al.*, 1995).

COMMENTS: raised form subspecies to species category by Brtek (1974); see Dumont *et al.* (this volume) for additional information.

*Streptocephalus trifidus* Hartland-Rowe, 1969

TYPE: holotype and paratypes (1934.2.28.1-6) British Museum (Natural History), London, England.

TYPE LOCALITY: Hwange (= Wankie) National Park, Zimbabwe.

DISTRIBUTION: Zimbabwe.

COMMENTS: none.

*Streptocephalus vitreus* (Brauer, 1877)

TYPE: syntypes (1879.I.18) Natural History Museum, Wien, Austria.

TYPE LOCALITY: Tura el Chadra at Bahr el Abiad, Sudan.

DISTRIBUTION: Chad, Sudan, Kenya, Tanzania, and Zimbabwe.

COMMENTS: described in *Branchipus*; transferred to *Streptocephalus* by Simon (1886).

*Streptocephalus woottoni* Eng, Belk & Eriksen, 1990

TYPE: holotype (234417) paratypes (234418) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA; additional paratypes (064927) California Academy of Sciences, San Francisco, California, USA.

TYPE LOCALITY: an astatic swale pool between Murrieta Hot Springs Golf Course and California Highway 79, 5.3 km northeast of Interstate Highway 15, Riverside County, California, USA (33°32'N, 117°09'W).

DISTRIBUTION: Riverside County, California south onto the San Diego Mesa system in San Diego County, California, USA and northern Baja California, Mexico (Brown *et al.*, 1993).

COMMENTS: listed as an endangered species by the United States Fish and Wildlife Service (Feder-

al Register 58(147): 41384–41392).

*Streptocephalus zeltneri* Daday, 1910

TYPE: syntypes National Museum of Natural History, Paris, France.

TYPE LOCALITY: Yelimane, Sudan.

DISTRIBUTION: Sudan and Senegal.

COMMENTS: none.

*Streptocephalus (P.) zuluensis* Brendonck & Hammer, 1992

TYPE: holotype (MLH 17A), allotype (MLH 17B), and paratypes (MLH 18) Albany Museum, Grahamstown, South Africa.

TYPE LOCALITY: pools on Makatini Flats, Natal, South Africa (32 ° 15'S, 27 ° 14'E).

DISTRIBUTION: known only from the type locality.

COMMENTS: described in the subgenus *Parastreptocephalus* in Brendonck *et al.* (1992).

*Tanymastigites brteki* Thiery, 1986

TYPE: holotype (436) National Museum of Slovakia, Bratislava, Slovakia; paratypes (VII/a 3560) Hornonitrianske Museum, Prievidza, Slovakia and (Bp. 376) National Museum of Natural History, Paris, France.

TYPE LOCALITY: Daya (= temporary pond in Arabic) Mertissiliouine in the Moyen Atlas Mountains 12 km south of Azrou at an elevation of 1860 m, Morocco (33 ° 10'N, 5 ° 10'W).

DISTRIBUTION: Moyen Atlas Mountains, Morocco.

COMMENTS: none.

*Tanymastigites cyrenaica* Brtek, 1972

TYPE: holotype (1927.11.24.9) and allotype (1927.11.24.10) British Museum (Natural History), London, England; additional paratypes (VII/a - 2303) Hornonitrianske Museum, Prievidza, Slovakia.

TYPE LOCALITY: Barka Plateau, Cyrenaica, Libya.

DISTRIBUTION: known only from type locality.

COMMENTS: none.

*Tanymastigites jbiletica* Thiery & Brtek, 1985

TYPE: holotype (370) allotype (371) Slovak National Museum, Bratislava, Slovakia.

TYPE LOCALITY: L'Ghdira daya (= temporary pond in Arabic) in the Jubilet mountain range at 480 m

beside the Louihat to Sidi Chiker track 60 km west of Marrakech, Morocco (31 ° 56'30"N, 8 ° 24'W).

DISTRIBUTION: northwest Morocco (Thiery, 1986).

COMMENTS: none.

*Tanymastigites mzabica* (Gauthier, 1928)

TYPE: none designated.

TYPE LOCALITY: Mzab, Algeria.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Tanymastix*, transferred to *Tanymastigites* by Brtek (1972).

*Tanymastigites perrieri* (Daday, 1910)

TYPE: syntypes National Museum of Natural History, Paris, France and (D 1912-90; I/A-92) Hungarian Natural History Museum, Budapest, Hungary.

TYPE LOCALITY: Regio Dayas, Tilremt, Algeria.

DISTRIBUTION: known only from type locality.

COMMENTS: described in *Tanymastix*, transferred to *Tanymastigites* by Brtek (1972).

*Tanymastix affinis* Daday, 1910

TYPE: syntypes National Museum of Natural History, Paris, France.

TYPE LOCALITY: Tanger, Morocco.

DISTRIBUTION: northwestern Morocco (Thiery, 1986).

COMMENTS: none.

*Tanymastix motasi* Orghidan, 1945

TYPE: none designated.

TYPE LOCALITY: Comana, Vlasca District, Romania.

DISTRIBUTION: type locality and Macedonia (Petkovski, 1995).

COMMENTS: none.

*Tanymastix stagnalis* (Linnaeus, 1758)

TYPE: none designated.

TYPE LOCALITY: Uppsala, Sweden.

DISTRIBUTION: North Africa, Ireland, and continental Europe as far southeast as Macedonia; Löffler (1993) considers it extinct in the Pannonian Region.

COMMENTS: described in *Cancer*; transferred to *Tanymastix* by Simon (1886); Brtek (1962) syn-



onymized *Tanymastix lacunae* (Guerin, 1829).

*Tanymastix stellae* Cottarelli, 1967

TYPE: none designated.

TYPE LOCALITY: Orosei, Sardinia, Italy.

DISTRIBUTION: islands of Sardinia and Capraia, Italy and Corsica, France (Thiery & Gasc, 1990).

COMMENTS: Cottarelli & Mura (1973) reported that the population at the type locality may be destroyed as a result of habitat alteration.

*Thamnocephalus mexicanus* Linder, 1941

TYPE: holotype and paratypes (16356) Zoological Museum, Berlin, Germany; additional paratypes Zoological Museum, Uppsala, Sweden.

TYPE LOCALITY: Movano, Coahuila, Mexico.

DISTRIBUTION: Arizona and south Texas, USA; northern Mexico (Maeda-Martinez, 1991).

COMMENTS: described as a subspecies of *T. platyurus*, changed to species category by Moore & Young (1964).

*Thamnocephalus platyurus* Packard, 1877

TYPE: syntypes Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA and possible syntypes (58809) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: Ellis, Kansas, USA.

DISTRIBUTION: widespread in western United States and in northern Mexico (Maeda-Martinez, 1991).

COMMENTS: none.

*Thamnocephalus venezuelensis* Belk & Pereira, 1982

TYPE: holotype (XI-1086), allotype (XI-1087), and paratypes (XI-1088) Museum of Biology, Central University of Venezuela, Caracas, Venezuela; additional paratypes (184951) National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA.

TYPE LOCALITY: a temporary pool in the state of Zulia, Venezuela beside the road to Guarero 3.2 km east of the border with Colombia (11°20'N, 72°05'W).

DISTRIBUTION: states of Falcon and Zulia, Venezuela.

COMMENTS: none.

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