

Catalogue of type specimens of invertebrates in the collection of the Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil.

I. Acanthocephala, Nematoda, and Rotifera

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ABSTRACT. The catalogue of type specimens of the phyla Acanthocephala, Nematoda and Rotifera deposited in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Brazil, is presented and updated to July, 2005. A total of three holotypes and six lots of paratypes of three species of Acanthocephala; nine holotypes and 16 lots of paratypes of nine species of Nematoda; and 12 holotypes, six lectotypes, nine lots of paratypes and five lots of paralectotypes of 23 species and subspecies of Rotifera are listed. Specific and subspecific names are listed alphabetically within family, followed by bibliographic citation, original genus name, status of type, collection number, locality data (host and site of infection for parasitic species), and remarks where appropriate. A list of references containing the papers in which the taxa were first described is furnished.

KEY WORDS. Amazon Region; Aschelminthes; INPA; parasitology; taxonomy.

RESUMO. Catálogo dos espécimes-tipo de invertebrados da coleção do Instituto Nacional de Pesquisas da Amazônia, Manaus, Brasil. I. Acanthocephala, Nematoda e Rotifera. É apresentado o catálogo dos espécimes-tipo dos filos Acanthocephala, Nematoda e Rotifera depositados na Coleção de Invertebrados do Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Brasil, atualizado até julho de 2005. É relacionado um total de três holótipos e seis lotes de parátipos de três espécies de Acanthocephala; nove holótipos e 16 lotes de parátipos de nove espécies de Nematoda; e 12 holótipos, seis lectótipos, nove lotes de parátipos e cinco lotes de paralectótipos de 23 espécies e subespécies de Rotifera. São listados alfabeticamente em cada família os nomes das espécies e subespécies, seguidos da citação bibliográfica, nome original do gênero, categoria do tipo, número de registro na coleção, dados de localidade (hospedeiro e sítio de infecção no caso de espécies parasitas) e comentários quando pertinentes. São relacionados, na lista de referências, os artigos nos quais a descrição original dos táxons foi publicada.

PALAVRAS-CHAVE. Aschelminthes; INPA; parasitologia; Região amazônica; taxonomia.

The biological collections of the Instituto Nacional de Pesquisas da Amazônia (INPA) are a significant resource of information about Amazonian biodiversity. The strengths of the collections lie in the fauna and flora of the western Brazilian Amazon, but many groups are represented from all over the Amazon region. In 1994, an institutional program was created to improve curatorial procedures, to establish and unify curatorial policies, and to integrate activities of the various botanical, microbiological and zoological collections of the Institute. The Collection of Invertebrates assembles the holdings of 14 invertebrate groups: Acanthocephala, Annelida, Arachnida, Chilopoda, Crustacea, Diplopoda, Insecta, Mollusca, Nematoda, Platyhelminthes, Pauropoda, Porifera, Rotifera, and Symphyla, each one organized independently. Except for Insecta, all others are organized according to lots.

The Collection of Invertebrates was formally established in October, 1976 (RATCLIFFE 1978, RATCLIFFE & PENNY 1978a). Its first catalogue of type specimens appeared soon afterwards (RATCLIFFE & PENNY 1978b) and included primary and secondary types of 139 species, 33 (23.7%) of which pertaining to four non-insect groups. Five years later, the catalogue published by RAFAEL *et al.* (1983) listed type specimens for 334 species, with 81 pertaining to six non-insect taxa. Updates of this catalogue were restricted to the types of the Crustacea collection (MAGALHÃES *et al.* 1988), and to the types of the Tabanidae (Diptera) collection (HENRIQUES 1995). During the last two decades the collection has grown quickly and the number of type specimens increased substantially since the publication of the last catalogue. The large number of types currently deposited in the collection would make it impractical to prepare a comprehensive listing of all type speci-

mens of invertebrates in a single volume. Therefore, it was decided that listings for each group should appear separately in a sequentially numbered series of catalogues in the order that each subcollection is reorganized. These listings were prepared both to cope with the Recommendation 72F.4 of the International Code of Zoological Nomenclature (ICZN 1999) and as a preparation for databasing the collections.

In this report, the first of a series, the putative type specimens included in the phyla Acanthocephala, Nematoda and Rotifera, deposited in the Collection of Invertebrates at INPA, and whose descriptions were published up to 31 July 2005 are covered.

MATERIAL AND METHODS

The holdings of Acanthocephala, Nematoda and Rotifera in the Invertebrate Collection resulted from the systematic and faunistic studies of INPA's researchers and collaborators. The material came primarily from field work of the scientific staff of INPA and of foreign institutions working in collaboration with INPA, particularly the "Max-Planck-Institut für Limnologie, Arbeitsgruppe Tropenökologie" (Plön, Germany) (ADIS *et al.* 1985). All specimens are preserved as microscope slide preparations, except for some Nematoda specimens stored in glass vials and preserved in 70% ethanol. All material is available for consultation, except when otherwise noted.

Each collection has its own numbering system encompassing both type and non-type specimens. The registration number is prefaced by the acronym "INPA". Specimens from the same lot (i.e., coming from the same collecting event) preserved on separated microscope slides are differentiated by lower case letters (e.g., INPA 002a-b). Because the registration system was established together with the present reorganization of these collections, the numbers that appeared in the descriptions of some species actually correspond to other numbering systems (collector's field number or author's personal control number, for instance).

The catalogue is arranged alphabetically from high to low taxonomic rank. Original spelling and combinations were preserved and no attempt was made to update eventual changes in synonymies or new generic combinations. Information for each entry is presented in the following format: species and subspecies (where noted), author(s), year of publication, followed by page number in which the species description first appeared, figure(s), and the genus (subgenus). Primary type status: sex, INPA and respective collection number of the specimen, mode of preparation (in case of being in vials), locality (country, state/department/province, specific locality). In the case of parasitic species, the name and authority of the host fish species and site of infection, when available, is provided between brackets. For secondary types, only the number and sex of specimens, and INPA collection number(s) are usually provided. The categories for primary and secondary types used follows the definitions of Articles 73-75 of the ICZN (1999). Re-

marks sections are inserted where necessary and include additional discussion such as nomenclatural questions, indication of missing and exchanged types, and discrepancies between information in the original publication and those found when the lots were inventoried, particularly those concerning the number of specimens and their collection numbers.

Bibliographic information includes publications in which the species was described and those that mention deposition of the type(s) in INPA's Invertebrate Collection. The following abbreviations were used: (CHIOC) Coleção Helmintológica do Instituto Oswaldo Cruz, Rio de Janeiro, Brazil; (HWML) University of Nebraska State Museum, The Harold W. Manter Laboratory of Parasitology, Lincoln, USA; (INPA) Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil; (IPASCR) Institute of Parasitology, Academy of Sciences of the Czech Republic, Helminthological Collection, České Budejovice, Czech Republic; (KBIN) Royal Belgian Institute for Natural Sciences, Brussels, Belgium; (MZUSP) Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil; (NHML) The Natural History Museum, London, England; (RUCA) Department of Biology, (FEP) University of Antwerp, Belgium (collection W.H. De Smet); (RUG) University of Gent, Belgium; (SMF) Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt/Main, Germany.

RESULTS

As of July 2005, the Acanthocephala collection was composed of five nominal fish parasite species and included 10 lots (3 of holotypes; 6 of paratypes) with 36 specimens; the Nematoda collection had 11 nominal fish parasite species and included 33 lots (9 of holotypes; 16 of paratypes), with 134 specimens; the Rotifera collection had 73 free-living nominal species and subspecies and included 95 lots (12 of holotypes; 6 of lectotypes; 9 of paratypes; 5 of paralectotypes), with 96 specimens and one trophi preparation. Material of 42 out of the 95 species of Rotifera listed by ADIS *et al.* (1985) as having been deposited by the scientific staff and associates of the Max-Planck Institut für Limnologie (Plön, Germany) between 1940 and 1982 in INPA's collection was not found. This material may have either been misplaced in the Collection or perhaps it is still being kept by specialists.

Specimens of two Rotifera species were listed in former catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983) as being holotypes. A closer examination of the data associated to these material revealed that they cannot be considered as such. The material is the following:

Lepadella benjamini brasiliensis Koste, 1972. The slide INPA 009 has a left label with the identification and a handwritten number "12", and a right label with the data "Fundort: Santarem Amazonas, Dat.: 1.VII.46, leg. H. Sioli, Glyz. Gel.". ADIS *et al.* (1985) mentioned that the specimen in this slide is the holotype. However, KOSTE (1972: 401) did not designate a holotype, and the material he examined came from different localities: "Rio Branco vor Boa Vista, 17.IX.1941" (locality # 46) and "Wasser des Rio Curuá, bei Alenquer, 15.VII.1946" (locality #

66). It seems that the specimen in slide INPA 009 was not originally included in the type material and, therefore, should not be the holotype. The syntypes were not located.

Lepadella monodactyla caudata Koste, 1972. The slide INPA 011 has a left label with the identification and a handwritten number "15", and a right label with the data "Fundort: Igarapé Curui, Dat.: 17.X.59, leg. H. Sioli, Glyz. Gel., II/71" (Igarapé Curui is a southern tributary of the Amazon river between Santo Antônio do Içá and São Paulo da Olivença, state of Amazonas, Brazil). ADIS *et al.* (1985) mentioned that the specimen in this slide is the holotype. However, KOSTE (1972: 405) did not designate a holotype and he did not include this locality among the occurrences of the material mentioned by him in the original description of this subspecies, which were "Poço II bei Maués, 26.i.1941" (locality # 25), "Rio Cupari, lower Rio Tapajós, 29.vii.1946" (locality # 70), and "Rio Maués-açú, 15.xi.1959" (locality # 156). It seems that the specimen in slide INPA 011 was not originally included in the type material and, therefore, should not be the holotype. Once again, the destination of the syntypes is unknown.

ALTHERR (1972, 1977) described several new species of Nematoda from a collection made by W. Sattler in 1961 in interstitial waters near Benfica (01°18'S, 48°18'W) in the vicinity of Belém, state of Pará, Brazil, and stated that the types were deposited at INPA. However, these types have never been found in the Collection of Invertebrates at INPA and they were not listed in its two former catalogues of type specimens (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). Edmond Altherr died in November of 1976, and he probably did not have the opportunity to send these types back to INPA. The specimens should still be deposited in the "Service de Nématologie" of the "Station Fédérale de Recherches Agronomiques de Changins", in Nyon, Switzerland, as VALLOTTON (1979) mentioned that Altherr bequeathed his type collection to that institution. The types stated by ALTHERR (1972, 1977) as being deposited at INPA are the following:

Dorylaimida: Actinolaimidae

Actinolaimus fritschi Altherr, 1972: 153. Holotype: male, slide "Amaz. 1.41"

Dorylaimida: Belondiridae

Oxydiroides siolii Altherr, 1972: 162. Holotype: female, slide "Amaz. 1.25"

Dorylaimida: Dorylaimidae

Laimydorus longissimicaudatus Altherr, 1977: 146. Holotype: female, slide "Amaz.Sa/1. No. 2"

Dorylaimida: Nygolaimidae

Nygolaimus (Clavicaudoides) heynsi Altherr, 1972: 166. Holotype: female, slide "Amaz. 1.27"

Dorylaimida: Oxydiridae

Oxydirus husmanni Altherr, 1972: 160. Syntypes: male, slide "Amaz. 1.24"; female, slide "Amaz. 1.22"; juvenile, slide "Amaz. 1.14"

Dorylaimida: Tylencholaimidae

Chitwoodius undulatus Altherr, 1977: 148. Holotype: female, slide "Amaz. 3. Prép. No. 17"

Enoplida: Prismatolaimidae

Onchulus filicaudatus Altherr, 1972: 142. Holotype: female.

Pseudonchulus inermis Altherr, 1972: 146. Holotype: female.

Paronchulus straticaudata Altherr, 1972: 145. Holotype: male, slide "Amaz. 1.6"

Mononchida: Anatonchidae

Anatonchus monohystera Altherr, 1977: 151. Syntypes: female + juvenile, slide "Amaz. Sa./I, No. 15)

Crassibucca conicaudata Altherr, 1977: 151. Holotype: juvenile, slide "Amaz./As. I. No. 17"

Mononchida: Mononchidae

Sporonchulus magnus Altherr, 1977: 150. Syntypes: male, slide "Amaz./As 1, No. 5"; female, slide "Amaz./As 1, No. 2"

LIST OF TYPE SPECIMENS

Phylum Acanthocephala

Neoechinorhynchidae

elongorchis Thatcher, 1979: 199, figs 1-6. *Gorytocephalus*

Holotype: male, INPA 001, slide; Brazil, Amazonas, Manaus, Lago Janaucá [host: *Plecostomus carinatus* Steindachner; intestine]. Paratypes: INPA 002 (alotype) and INPA 003a-m (e, g: males; k-m: females), slide; data as in holotype. Remarks: Paratypes also deposited at MZUSP.

pterodoridis Thatcher, 1981: 445, figs 1-4. *Neoechinorhynchus*

Holotype: male, INPA 007, slide; Brazil, Amazonas, Manaus [host: *Pterodoras granulatus* (Valenciennes), bought from a fisherman; intestine]. Paratypes: INPA 008 (alotype) and INPA 009a-b; data as in holotype. Remarks: Paratypes also deposited at MZUSP.

Rhadinorhynchidae

plagioscionis Thatcher, 1980: 835, figs 1-12. *Rhadinorhynchus*

Holotype: male, INPA 004, slide; Brazil, Amazonas, Manaus [host: *Plagioscion squamosissimus* (Heckel); intestine]. Paratypes: INPA 005 (alotype) and INPA 006a-f (e: female), slide; data as in holotype. Remarks: Paratypes also deposited at MZUSP.

Phylum Nematoda

Anisakidae

brasilensis Moravec & Thatcher, 1997a: 65, figs 1-3. *Raphidascaroides*

Holotype: male, INPA 012, vial; Brazil, Amazonas, near Manaus, Rio Amazonas, Lago Janaucá [host: *Pterodoras granulatus* (Valenciennes); intestine]. Paratypes: INPA 013 (3 males 26 females), vial; data as in holotype.

Remarks: Paratypes also deposited at HWML, IPASCR and NHML.

Camallanidae

acaudatus* Ferraz & Thatcher, 1990: 137, figs 1-13. *Camallanus

Holotype: male, INPA 001; Brazil, Amazonas, Rio Negro, Arquipélago de Anavilhanas [host: *Osteoglossum bicirrhosum* Vandelli; intestine]. Paratypes: INPA 002 (alotype); data as in holotype.

Remarks: Paratypes also deposited at CHIOC.

amazonensis* Ferraz & Thatcher, 1992: 2, figs 1-6. *Paracamallanus

Holotype: male, INPA 031; Brazil, Amazonas, Rio Solimões, Ilha da Marchantaria [host: *Hypophthalmus edentatus* Spix; intestine]. Paratypes: INPA 032a-i (5 males 4 females) and INPA 033 (alotype), data as in holotype.

Remarks: Paratypes also deposited at CHIOC.

***dentatus* Moravec & Thatcher, 1997b: 239, fig. 1. *Procamallanus* (*Denticamallanus*)**

Holotype: male, INPA 007, vial; Brazil, Amazonas, Rio Urubu (02°24'S 59°35' W) [host: *Bryconops alburnoides* Kner; intestine]. Paratypes: INPA 008 (alotype), INPA 009 (2 males 6 females) and INPA 010 (4 males 3 females), vials; data as in holotype.

Remarks: Paratypes also deposited at HWML and IPASCR.

Cucullanidae

grandistomis* Ferraz & Thatcher, 1988: 250, figs 1-5. *Bacudacnitis

Holotype: male, INPA 024; Brazil, Amazonas, near Manaus, Rio Solimões [host: *Pseudodoras niger* (Valenciennes); intestine]. Paratype: INPA 025 (alotype); data as in holotype.

Remarks: Paratypes also deposited at CHIOC.

Kathlaniidae

bicornis* Moravec & Thatcher, 1996: 54, figs 1-4. *Myleusnema

Holotype: male, INPA 004, vial; French Guiana, Sinnamary river, Takari Tanté Falls [host: *Myleus ternetzi* (Norman); intestine]. Paratypes: INPA 005 (alotype) and INPA 006 (5 males 10 females), vials; data as in holotype.

Remarks: Paratypes also deposited at HWML and IPASCR.

brasiliense* Moravec & Thatcher, 1999: 216, figs 1-3. *Myleusnema

Holotype: male, INPA 014, vial; Brazil, Pará, Serra da Mesa, Rio Tocantins [host: *Myleus* sp.; intestine]. Paratypes: INPA 015 (alotype) and INPA 016 (10 males 22 females), vials; data as in holotype.

Remarks: Paratypes also deposited at HWML and IPASCR.

Pharyngodonidae

annulata* Moravec & Thatcher, 2001: 311, figs 1-2. *Spinoxyuris

Holotype: male, INPA 017, vial; French Guiana, Sinnamary river [host: *Myleus ternetzi* (Norman); intestine]. Paratypes:

INPA 018 (alotype) and INPA 019 (5 females), vials; data as in holotype.

Remarks: Paratypes also deposited at HWML and IPASCR.

oviflamenta* Moravec & Thatcher, 2001: 314, figs 3-4. *Ichthyouris

Holotype: male, INPA 020, vial; Brazil, Amazonas, São Gabriel da Cachoeira, Rio Negro [host: *Cichlasoma* sp.; intestine]. Paratypes: INPA 021 (alotype) and INPA 022 (5 females), vials; data as in holotype.

Remarks: Paratypes also deposited at HWML and IPASCR.

Phylum Rotifera

Brachionidae

adisi* Koste & Hardy, 1984: 21, fig. 1a-e, 3a. *Brachionus

Holotype: female, INPA 025; Brazil, Amazonas, Rio Jatapé (02°26'15"S 58°18'20"W).

Remarks: Paratypes are housed in the Koste collection in Germany.

mirus angustus* Koste, 1972: 370, pl. 9, fig. 1a-f. *Brachionus

Lectotype: INPA 006; Brazil, Amazonas, Rio Madeira basin, Lago das Três Casas [lectotype designated by Koste in *ADIS et al.* (1985)]. Paralectotype: INPA 093; data as lectotype.

Remarks: These specimens were listed as syntypes in previews catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). However, Koste, in a personal communication to *ADIS et al.* (1985), indicated which slide should be the holotype. As the author did not designate the type material in the original publication (KOSTE 1972), such indication should be considered lecto- and paralectotype designations according to the Article 74.5 of the ICZN (1999).

mirus reductus* Koste, 1972: 371, pl. 10, figs a-e. *Brachionus

Lectotype: INPA 007; Brazil, Amazonas, Rio Madeira basin, Igarapé Três Casas, Lago Matafome [lectotype designated by Koste in *ADIS et al.* (1985)]. Paralectotypes: INPA 094a-d; data as in lectotype.

Remarks: These specimens were listed as syntypes in previews catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). However, Koste, in a personal communication to *ADIS et al.* (1985), indicated which slide should be the holotype. As the author did not designate the type material in the original publication (KOSTE 1972), such indication should be considered lecto- and paralectotype designations according to the Article 74.5 of the ICZN (1999). INPA has other slides from the same collecting event in the Rotifera collection (INPA 028a-e).

***stolli* Koste, 1972: 362, pl. 1, fig. 4; pl. 2, figs a-d. *Anureopsis* [*sic*] (= *Anuraeopsis*)**

Lectotype: INPA 002; Brazil, Pará, Rio Tapajós, Lago Jurucui [lectotype designated by Koste in *ADIS et al.* (1985)].

Paralectotypes: INPA 003 and INPA 004; same locality as lectotype.

Remarks: These specimens were listed as syntypes in former catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). However, Koste in a personal communication to ADIS *et al.* (1985) indicated which slide should be the holotype. As the author did not designate the holotype in the original publication (KOSTE 1972), such indication should be considered lecto- and paralectotype designations according to the Article 74.5 of the ICZN (1999).

urceolaris amazonica* Koste & Robertson, 1983: 231, fig. 1a-i. *Brachionus

Paratype: INPA 017; Brazil, Amazonas, Rio Solimões, Ilha da Marchantaria, Lago Camaleão.

Remarks: Only one paratype is deposited at INPA and not three as mentioned in the paper with the original description. Another specimen from the same collecting event is present (INPA 029), although the slide is not marked as being a paratype.

Flosculariidae

armata* Segers, 1997: 169, figs 15-30, 39, 42. *Floscularia

Paratype: INPA 022; Brazil, São Paulo, Itirapira, Broa reservoir.

Remarks: Holotype is deposited in the collection of the KBIN; paratypes in KBIN, RUCA and RUG.

bifida* Segers, 1997: 173, figs 31-37, 43. *Floscularia

Paratype: INPA 021; Brazil, São Paulo, Itirapira, Broa reservoir.

Remarks: Holotype is deposited in the collection of the KBIN; paratypes in KBIN, RUCA and RUG.

Lecanidae

braziliensis* Segers, 1993 (*In: SEGERS et al.* 1993): 114, fig. 1a-c. *Lecane

Holotype: female, INPA 040; Brazil, Roraima, Ilha de Maracá, in a pond. Paratypes: 3 females (one slide), INPA 041; data as in holotype.

Remarks: Paratypes are also deposited in the collection of the RUG.

kutikowa* Koste, 1972: 388, pl. 24, fig. 1. *Lecane

Holotype: INPA 008; Brazil, Pará, upper Rio Cururú (tributary of the right bank of Rio Teles Pires), Igarapé in the vicinity of the Missão Cururú.

***marchantaria* Koste & Robertson, 1983: 233, fig. 7a-d. *Lecane* (*Monostyla*)**

Holotype: INPA 015; Brazil, Amazonas, Rio Solimões, Ilha da Marchantaria, Lago Camaleão. Paratypes: INPA 016a-c; data as in holotype.

Remarks: Three paratypes are deposited at INPA and not four as mentioned in the original description.

nelsoni* Segers, 1994: 247, fig. 4a-e. *Lecane

Holotype: female, INPA 046; Brazil, Roraima, near Mucajái,

temporary inundation pond of the Rio Mucajái (02°28'N 60°54'W). Paratype: female, INPA 045; data as in holotype.

Remarks: Paratypes are also deposited in the collections of the KBIN and RUG.

Lepadellidae

amazonica* Segers, 1993 (*In: SEGERS, et al.* 1993): 117, fig. 4a-e. *Lepadella

Holotype: female, INPA 042; Brazil, Roraima, Ilha de Maracá, in a pond.

Remarks: One paratype is deposited in the collection of the RUG.

christinei* Koste, 1990 (*In: KOSTE & ROBERTSON* 1990): 196, fig. 5a-c. *Lepadella

Paratype: female, INPA 024; Brazil, Roraima, Ilha de Maracá.

Remarks: Holotype is deposited in the collection of the SMF.

donneri* Koste, 1972: 403, pl. 35, figs a, b. *Lepadella

Lectotype: INPA 010a-b; Brazil, Pará, Lago Curi, left bank of Rio Tapajós. Paralectotype: INPA 095; data as in holotype.

Remarks: These specimens were listed as syntypes in former catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). However, Koste in a personal communication to ADIS *et al.* (1985) indicated which slide should be the holotype. As the author did not designate the holotype in the original publication (KOSTE 1972), such indications should be considered a lectotype designation according to the Article 74.5 of the ICZN (1999).

minoruoides* Koste & Robertson, 1983: 235, fig. 13a-g. *Lepadella

Holotype: INPA 018; Brazil, Amazonas, Rio Solimões, Ilha da Marchantaria, Lago Camaleão.

wrighti* Koste, 1972: 407, pl. 37, fig. 2a-b. *Lepadella

Holotype: INPA 012; Brazil, Pará, Rio Tapajós basin, lower Rio Cuparí, Lago Curucá.

Notommatidae

friebel* Koste, Robertson & Hardy, 1984: 564, fig. 4a-g. *Cephalodella

Holotype: female, INPA 019; Brazil, Amazonas, Rio Solimões, Ilha da Marchantaria, Lago Camaleão. Paratype: female, INPA 020; data as in holotype.

Remarks: Paratypes are also housed in the Koste collection in Germany.

Scaridiidae

elongatum* Segers, 1996: 58, figs 1-5. *Scaridium

Paratypes: Female (INPA 050b) and one light microscope trophi preparation (INPA 050a); Brazil, São Paulo, Itirapira, Broa reservoir.

Remarks: The catalogue number published with the origi-

nal description (0550a-b) was a print mistake for 050. Holotype and one paratype also deposited at KBIN; one paratype and trophi preparations also deposited at RUG.

Testudinellidae

ohlei Koste, 1972: 416, pl. 48, fig. 3a-c; illus. 4. *Testudinella*

Lectotype: INPA 001; Brazil, Amazonas, Rio Içana, upper Rio Negro basin, in Carapoço [lectotype designated by Koste in ADIS *et al.* (1985)].

Remarks: This specimen was listed as the holotype in former catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). ADIS *et al.* (1985) indicated that the slide marked with the number "20" (handwritten) should be the holotype. However, as the author did not designate the holotype in the original publication (KOSTE 1972), such indication should be considered a lectotype designation according to the Article 74.5 of the ICZN (1999).

Trichocercidae

abillol Segers & Sarma, 1993: 180, fig. 4a-e. *Trichocerca*

Holotype: female, INPA 047; Brazil, Roraima, about 5 Km S. of Boa Vista, temporary lagoon along Rio Branco.

Remarks: Paratypes are also deposited in the collections of the KBIN and RUG.

Trichotriidae

altamirai braziliensis Koste, 1972: 407, pl. 38. *Macrochaetus*

Lectotype: INPA 013; Brazil, Pará, Rio Curuçambá, ca. 10 km eastern from Óbidos [lectotype designated by Koste in ADIS *et al.* (1985)].

Remarks: This specimen was listed as the holotype in former catalogues (RATCLIFFE & PENNY 1978b, RAFAEL *et al.* 1983). ADIS *et al.* (1985) indicated that the slide marked with the number "18" (handwritten) should be the holotype. However, as the author did not designate the holotype in the original publication (KOSTE 1972), such indication should be considered a lectotype designation according to the Article 74.5 of the ICZN (1999).

americanus Segers & Sarma, 1993: 178, fig. 1a-b. *Macrochaetus*

Holotype: female, INPA 048; Brazil, Roraima, about 7 Km S. of Boa Vista, permanent lagoon of Rio Branco.

Remarks: Paratypes are also deposited in the collections of the KBIN and RUG.

aspinus Segers & Sarma, 1993: 178, fig. 2a-b. *Macrochaetus*

Holotype: female, INPA 049; Brazil, Roraima, about 7 Km S. of Boa Vista, permanent lagoon of Rio Branco.

Remarks: Paratypes are also deposited in the collections of the KBIN and RUG.

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