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Freshwater Ciliates (Protozoa, Ciliophora) from Argentina: An Annotated and Updated Compilation

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INTRODUCTION

The phylum Ciliophora is considered to be among the most diverse from kingdom Protozoa [1] and includes heterotroph, autotroph, and mixotroph microorganisms. Many species are euryoecious and have great adaptability against changing environmental conditions, being able to inhabit a wide range of different kinds of habitats, e.g., the commonly found planktonic oligotrich *Halteria grandinella* [2]. Among many morphological and physiological adaptations, the formation of resting cysts is a widespread phenomenon in ciliates, which enables them to survive during unfavorable environmental conditions, thus facilitating their dispersion to distant geographic regions. Nevertheless, the cysts have different properties depending on the region and habitat where they were formed [3].

The study of freshwater ciliates from Argentina began with the investigations of de la Rua [4], who studied the protozoa from pools in Capital Federal (Federal district), Buenos Aires. Seckt [5] and Martínez-Bustos [6] performed hydrobiological studies in Córdoba province, and enumerated the ciliates among other organisms from different kinds of aquatic ecosystems, such as ponds, streams and rivers. Carbonell [7] listed the ciliates found in the plankton, periphyton and mud samples from Río de la Plata, possibly from fluvial as well as brackish and marine zones. Later Balech [8] described a new ciliate genus and species from Capital Federal and Santa Fe province. After almost 20 years, devoided of information about these microorganisms, some researchers began to publish mainly new records of ciliates for Argentina [9-24], a new folliculinid genus and species [25], a new tintinnid species [26], and a new peritrich species [17]. Most of these investigations were based on live observations and supravital staining, without permanent slides collections available. Silver staining with Protargol and scanning electron microscopy was

employed for the first time in the country by Pettigrosso [27] and Barría de Cao [28], who surveyed planktonic ciliates from Bahía Blanca estuary in the Buenos Aires province. Concerning freshwater environments, Küppers [29] and Küppers et al. [30–34] described the ciliates from a temporary pond near the locality of Poblet, in Buenos Aires province, by means of live observations and Protargol staining.

Ecological studies on freshwater ciliates are almost circumscribed to deep oligotrophic Andean lakes from Patagonia, although some investigations were carried out in Córdoba and Buenos Aires provinces as well [35-47]. In 1995, Foggetta revised the Argentinean ciliates from continental freshwaters and at that time, there were around 100 cited species, with most of the genera being monospecific. Later, Küppers [29] found 70 freshwater species in only one temporary pond during a biannual investigation. The aim of the present contribution is to update the compilation of Argentinean freshwater ciliates, with notes on their habitat and distribution.

MATERIALS AND METHODS

The following species list was produced by examining the literature that is specifically referred to ciliates, and also faunistic or ecological studies where ciliates were mentioned for freshwater environments from Argentina. Carbonell [7] cited many freshwater as well as marine species for the Río de la Plata, which was included in the present contribution, since the author did not mention whether the samplings were conducted in fluvial or brackish-marine zones. On the contrary, the species cited by Souto [26] and Kogan [48] for Río de la Plata estuary were excluded since the samplings were conducted in brackish or marine zones. Some species mentioned by Claps et al. [49] for the Salado River basin are also commonly found in marine habitats, since this river has high concentration of dissolved salts due to the basin nature. Küppers [29] recorded the ciliates that developed in the laboratory from resting cysts in the dry sediments of the bed from a temporary pond that dries mainly during the summer. Some of these species were included only when cited by other authors in further freshwater environments.

The taxonomy is according to Lynn [50] and specific taxonomic papers. Abbreviations are as follows: BA, Buenos Aires province; CH, Chubut province; CO, Córdoba province; NE, Neuquén province; RN, Río Negro province; SF, Santa Fe province.

RESULTS

The following 209 species listed below were cited for freshwater environments in Argentina. The highest species richness occurs in the orders Sessilida (26% of the total number of species), Heterotrichida (9%), Haptorida (9%), and Sporadotrichida (7%). In Buenos Aires province, 193 species (92%) were recorded, while 22% of the total number of species were found in Córdoba province (Fig. 4.1), with many of them (41 species) being present in both provinces. Less than 4% of the species are distributed in the remaining vast territory of Argentina.

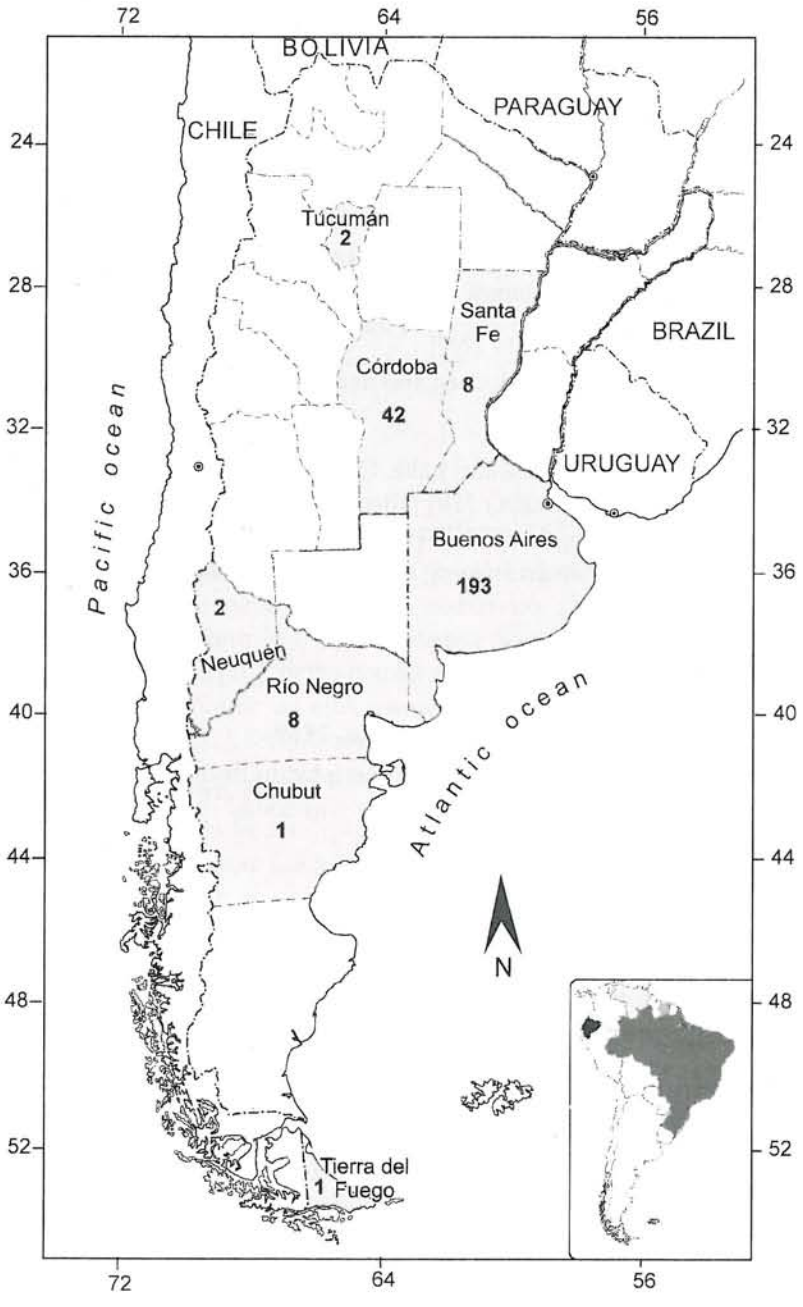

Fig. 4.1 Records of ciliates in Argentina. Surveyed provinces are highlighted in grey and numbers correspond to the total species recorded in each province.

Phylum Ciliophora Doflein, 1901

Class Heterotrichea Stein, 1859

Order Heterotrichida Stein, 1859

Family BLEPHARISMIDAE Jankowski in Small & Lynn, 1985

Blepharisma Perty, 1849

***Blepharisma americanum* (Suzuki, 1954) Hirshfield, Isquith & Bhandary, 1965**

Recorded near Poblet (BA), in plankton and rewetted soil samples from a temporary pond [29, 34]. Observation techniques: *in vivo*, Protargol staining [51].

***B. lateritium* (Ehrenberg, 1831) Stein, 1859**

Recorded in pools from Capital Federal, cited also as *B. ovata* [4]. Observation techniques: *in vivo*.

***B. undulans* Stein, 1867**

Recorded in the periphyton from Las Mulas Lake, Chascomús (BA) [10]; in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); near Poblet (BA), in the plankton and rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, methyl green, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin, Protargol staining [51], osmic acid vapours.

Family CLIMACOSTOMIDAE Repak, 1972

Climacostomum Stein, 1859

***Climacostomum patulum* Claparède & Lachmann, 1859**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist). This species was found in marine environments by other authors [53]. Observation techniques: not indicated.

***C. virens* (Ehrenberg, 1838) Stein, 1859**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist). Observation techniques: *in vivo*.

Family CONDYLOSTOMATIDAE Kahl in Doflein & Reichenow, 1929

Linostomella Aescht in Foissner, Berger, & Schaumberg, 1999

***Linostomella vorticella* (Ehrenberg, 1833) Aescht in Foissner, Berger & Schaumburg, 1999**

Recorded in pools from Capital Federal, cited as *Condylostoma vorticella* [4]; near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) and rewetted soil samples from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51].

Family FOLLICULINIDAE Dons, 1914

Ascobius Henneguy, 1884

***Ascobius lentus* Henneguy, 1884**

Recorded in Chascomús (BA), in the plankton from El Burro Lake [9] (empty shells); in the periphyton (*Azolla filiculoides*, *Salvinia rotundifolia*, *Ceratophyllum demersum* var. *oxycanthum*) from Yalca, El Burro, and Chis Chis Lakes (BA) [11]. Observation techniques: *in vivo*.

Botticula Dioni, 1972

***Botticula ringueleti* Dioni, 1972**

Recorded in Santa Fe province, in the periphyton from Salado River in Santo Tomé (*Pistia* sp., *Eichhornia* sp.), from "madrejón" Don Felipe in Colastiné Sur River, and from 'madrejón' El Alemán in El Vado island (*Pistia* sp., *Eichhornia* sp., *Salvinia* sp.) [25]. Observation techniques: *in vivo*.

Folliculina Lamarck, 1816

***Folliculina boltoni* Kent, 1881**

Recorded in De Los Sapos island (SF), in the periphyton (*Pistia* sp.), cited as *Diafolliculina thomseni* [25]; in the plankton from the Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

Family SPIROSTOMIDAE Stein, 1867

Spirostomum Ehrenberg, 1834

***Spirostomum ambiguum* (O. F. Müller, 1786) Ehrenberg, 1835**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers [5] (checklist); in the plankton, periphyton, and mud samples from Río de la Plata [7] (checklist); in Chascomús (BA), in the periphyton from Las Mulas Lake [10]; in the plankton from San Miguel del Monte Lake (BA) [54] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin.

***S. teres* Claparède & Lachmann, 1858**

Recorded in pools from Capital Federal [4]; in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [22, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Family STENTORIDAE Carus, 1863

Stentor Oken, 1815

***Stentor araucanus* Foissner & Wölfl, 1994**

Recorded in Río Negro and Chubut provinces, in the plankton from ultraoligotrophic lakes: Nahuel Huapi, Gutiérrez, Moreno (RN), and Vintter (CH) possibly coexisting with *S. amethystinus* [55]; in Neuquén and Río Negro provinces, in the plankton from oligotrophic lakes: Correntoso (NE), Nahuel Huapi, Moreno Este, Moreno Oeste, Gutiérrez, Mascardi, and Guillelmo (RN) [36, 40, 43-45]. Observation techniques: *in vivo*, silver carbonate staining [56].

***S. barretti* Barret, 1870**

Recorded in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist). Observation techniques: not indicated.

***S. coeruleus* (Pallas, 1766) Ehrenberg, 1831**

Recorded in pools from Capital Federal [4]; in the plankton and periphyton from ponds, streams, and rivers [5] (checklist); in artificial pools from La Plata (BA) [58]; in the benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata (BA) [7] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the plankton from Luján river (BA) [59] (checklist); near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, vital staining, formol-fixed, Protargol staining [51].

***S. igneus* Ehrenberg, 1838**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29]. Observation techniques: *in vivo*, methyl-green-pyronin, Protargol staining [51].

***S. multiformis* (O. F. Müller, 1786) Ehrenberg, 1838**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, methyl-green-pyronin, Protargol staining [51].

***S. niger* (O. F. Müller, 1773) Ehrenberg, 1831**

Recorded in Córdoba province, in the plankton and periphyton from ponds and streams (not specifically indicated) [5] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***S. polymorphus* (O. F. Müller, 1773) Ehrenberg, 1830**

Recorded in pools from Capital Federal [4]; in Buenos Aires and Córdoba provinces, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in periphyton and mud samples from Río de la Plata [7] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

***S. roeselii* Ehrenberg, 1835**

Recorded in the plankton from Luján and Arrecifes rivers and Tala stream (BA) [59] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [22, 46] (checklist); near Poblet (BA), in the plankton from a temporary pond [29]; in the plankton from San Miguel del Monte Lake (BA) [54] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed, methyl-green-pyronin, Protargol staining [51].

Class SPIROTRICHEA Bütschli, 1889

Order Euplotida Small & Lynn, 1985

Family ASPIDISCIDAE Ehrenberg, 1830

Aspidisca Ehrenberg, 1830

***Aspidisca cicada* (O. F. Müller, 1786) Claparède & Lachmann, 1858**

Recorded in pools from Capital Federal [4]; in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18]; in the plankton from Río de la Plata estuary [37] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Cited as *A. costata* by de la Rua [4] and Zaleski & Claps [46]. Observation techniques: *in vivo*, vital staining, methyl-green, neutral red, silver staining [60], formol-fixed, lugol fixed.

***A. lynceus* (O. F. Müller, 1773) Ehrenberg, 1830**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18]; in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, vital staining, formol-fixed.

***A. turrita* (Ehrenberg, 1838) Claparède & Lachmann, 1858**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18]. Observation techniques: *in vivo,* vital staining.

Family EUPLOTIDAE Ehrenberg, 1838

Euplotes Ehrenberg in Hemprich & Ehrenberg, 1831

***Euplotes charon* (O. F. Müller, 1773) Ehrenberg, 1830**

Recorded in pools from Capital Federal [4]. Observation techniques: *in vivo.*

***E. moebiusi* Kahl, 1932**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Observation techniques: *in vivo*, vital staining.

Euplotoides Borror & Hill, 1995

***Euplotoides eurystomus* (Wrzesniowski, 1870) Borror & Hill, 1995**

Recorded in Chascomús, in the periphyton from Vitel Lake (BA) (*Lemna minima*), and from Espín stream (*Pistia stratiotes*) (SF) [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata estuary [61] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [62] (checklist); in the plankton from Luján River (BA) [59] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Cited as *Euplotes eurystomus* in most cases, or *Euplotes plumipes* [10]. Observation techniques: *in vivo*, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed, Protargol staining [51], osmic acid vapours.

***E. patella* (O. F. Müller, 1773) Borror & Hill, 1995**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in Chascomús (BA), in the periphyton (*Lemna* sp.) from Vitel Lake [10]; in La Plata (BA), in the plankton from Rodríguez stream [62] (checklist); in the plankton from Luján River and Pescado stream (BA) [59] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29]

(checklist); in the plankton from Salado River basin (BA) [49] (checklist). Cited as *Euplotes patella* in most cases. Observation techniques: *in vivo*, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed, Protargol staining [51], osmic acid vapours.

Euplotopsis Borror & Hill, 1995

***Euplotopsis affinis* (Dujardin, 1841) Borror & Hill, 1995**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [22, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Family URONYCHIIDAE Jankowski, 1975

Diophrys Dujardin, 1841

***Diophrys scutum* (Dujardin 1841) Kahl, 1932**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata, cited as *D. grandis* [7] (checklist). This species was cited for marine environments by other authors [63]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Order Tintinnida Kofoid & Campbell, 1929

Family CODONELLIDAE Kent, 1881

Codonella Haeckel, 1873

***Codonella cratera* (Leidy, 1887) Imhof, 1885**

Recorded in Capital Federal, in the periphyton (*Vaucheria* sp.) from ponds, streams, and rivers (not specifically indicated), cited as *C. lacustris* [5] (checklist); in the plankton from Río de la Plata estuary, the Paraná River delta, and artificial lakes from Capital Federal [12]; in the plankton from Baradero, Arrecifes, Ramallo, and Arroyo del Medio rivers (BA) [59] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, formol-fixed, silver staining [60].

Tintinnopsis Stein, 1867

***Tintinnopsis cylindrata* Kofoid & Campbell, 1929**

Recorded in the plankton from Río de la Plata estuary [37] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [60].

***T. fimbriata* Meunier, 1919**

Recorded in the plankton from Salado River basin (BA), cited as *Codonaria fimbriata* [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

***T. rioplatensis* Souto, 1973**

Recorded in the plankton from internal and intermediate fluvial zones of Río de la Plata estuary, Paraná River delta, and artificial lakes from Capital Federal [12]; in the plankton from Río de la Plata estuary [37] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, formol fixed, silver staining [60].

Family TINTINNIDIIDAE Kofoid & Campbell, 1929

Tintinnidium Kent, 1881

***Tintinnidium fluviatile* (Stein, 1863) Kent, 1881**

Recorded in Córdoba province, in the plankton and periphyton from ponds and streams (not specifically indicated) [5] (checklist); in the plankton from Río de la Plata estuary and artificial lakes in Capital Federal [12]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [61] (checklist); in the plankton from Baradero, Arrecifes, and Arroyo del Medio rivers, and Giles stream (BA) [59] (checklist); near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed, Lugol-fixed.

***T. pusillum* Entz, 1909**

Recorded in the plankton from the fluvial zone of Río de la Plata estuary and in artificial lakes from Capital Federal [12]. Observation techniques: *in vivo*, formol-fixed.

Order Choreotrichida Small & Lynn, 1985

Family STROBILIDIIDAE Kahl in Doflein & Reichenow, 1929

Pelagostrobilidium Petz, Song, & Wilbert, 1995

***Pelagostrobilidium wilberti* Küppers, Lopretto & Claps, 2006**

Recorded in Magdalena and Punta Lara (BA), in the plankton from temporary ponds [29, 30]. Observation techniques: *in vivo*, Protargol staining [51].

Rimostrombidium Jankowski, 1978

***Rimostrombidium brachykinetum* Krainer, 1995**

Recorded near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*.

***R. humile* (Penard, 1922) Petz & Foissner, 1992**

Recorded in the plankton from the oligotrophic Morenito Lake (RN), cited as *Strobilidium humile* [24]. Observation techniques: *in vivo*, Lugol-fixed.

***R. lacustris* (Foissner, Skogstad & Pratt, 1988) Petz & Foissner, 1992**

Recorded in the plankton from the oligotrophic Morenito Lake (RN), cited as *Strobilidium lacustris* [24]. Observation techniques: *in vivo*, Lugol-fixed.

Strobilidium Schewiakoff, 1893

***Strobilidium caudatum* (Fromentel, 1876) Foissner, 1987**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA), cited as *S. gyrans* [18] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA), cited as *Strombilidium gyrans* [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Althernanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29, 31]. Observation techniques: *in vivo*, vital staining, methyl-green-pyronin, formol-fixed.

Order Stichotrichida Fauré-Fremiet, 1961

Family SPIROFILIDAE von Gelei, 1929

Hypotrichidium Ilowaisky, 1921

***Hypotrichidium conicum* Ilowaisky, 1921**

Recorded near Poblet (BA), in the plankton and rewetted soil samples from a temporary pond [29, 31]. Observation techniques: *in vivo*, Protargol staining [51].

Stichotricha Perty, 1849

***Stichotricha secunda* Perty, 1849**

Recorded in pools from Capital Federal [4]; near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

Order Sporadotrichida Fauré-Fremiet, 1961

Family HALTERIIDAE Claparède & Lachmann, 1858

Halteria Dujardin, 1841

***Halteria grandinella* (O. F. Müller, 1773) Dujardin, 1841**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Chascomús (BA), in the periphyton (*Lemna minima*) from Vitel Lake [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [61] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [62] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); near Poblet (BA), in the plankton, periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*), and rewetted soil samples from a temporary pond [29, 31]; in the plankton from San Miguel del Monte Lake (BA) [54]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, neutral red, silver staining [60], Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed, Protargol staining [51].

Family OXYTRICHIDAE Ehrenberg, 1830

Apoamphisiella Foissner, 1997

***Apoamphisiella tihanyiensis* (Gellért & Tamás, 1958) Foissner, 1997**

Recorded near Poblet (BA), in the plankton from a temporary pond [29]. Probably misidentified due to the particular pattern of dorsal rows of bristles. Observation techniques: *in vivo*, Protargol staining [51].

Cyrtohymena Foissner, 1989

***Cyrtohymena candens* (Kahl, 1932) Foissner, 1989**

Recorded near Poblet (BA), in the plankton from a temporary pond [29]. Observation techniques: *in vivo*, Protargol staining [51].

Histriculus Corliss, 1960

***Histriculus histrio* (O. F. Müller, 1773) Corliss, 1960**

Recorded in Capital Federal and in Córdoba province in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Stylonychia histrio* [5] (checklist); near Poblet (BA), in the plankton from a temporary pond [29]. Observation techniques: *in vivo*, Protargol staining [51].

Oxytricha Bory de St. Vincent in Lamouroux, Bory de St. Vincent & Deslongchamps, 1824

***Oxytricha fallax* Stein, 1859**

Recorded in Chascomús (BA), in the periphyton (*Azolla filiculoides*) from Yalca Lake [10]; in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Observation techniques: *in vivo*, methyl-green, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin, osmic acid vapours.

Paraurostyla Borror, 1972

***Paraurostyla weissei* (Stein, 1859) Borror, 1972**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Urostyla weissei* [5] (checklist). Observation techniques: not indicated.

Pleurotricha Stein, 1859

***Pleurotricha lanceolata* (Ehrenberg, 1835) Stein, 1859**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Typha* sp.) from a temporary pond [29]. Observation techniques: *in vivo*, Protargol staining [51].

Rubrioxytricha Berger, 1999

***Rubrioxytricha ferruginea* (Stein, 1859) Berger, 1999**

Recorded in pools from Capital Federal [4]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Cited as *Oxytricha ferruginea*. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Stylonychia Ehrenberg, 1830

***Stylonychia lemnae* Ammermann & Schlegel, 1983**

Recorded near Poblet (BA), in the plankton, periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*), and rewetted soil samples from a temporary pond [29, 34]. Observation techniques: *in vivo*, Protargol staining [51].

***S. mytilus* (O. F. Müller, 1773) Ehrenberg, 1830**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in plankton and rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol-fixed, vital staining, Protargol staining [51].

***S. pustulata* (O. F. Müller, 1786) Ehrenberg, 1835**

Recorded in pools from Capital Federal [4]; in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the benthos from Río Primero (CO) [6]; in Berisso (BA), in the periphyton from a Palo Blanco pond [10]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Observation techniques: *in vivo*, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin, Bouin-fixed, osmic acid vapours.

Tachysoma Stokes, 1887

***Tachysoma chilensis* (Bürger, 1905) Berger, 1999**

Recorded in pools from Capital Federal [4]; in plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Cited as *Oxytricha chilensis*. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

***T. pellionellum* (O. F. Müller, 1773) Borror, 1972**

Recorded in pools from Capital Federal [4]; in Córdoba province, in the plankton and periphyton from ponds and streams (not specifically indicated) [5] (checklist) and in the plankton and benthos from Río Primero (CO) [6]; in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Cited as *Oxytricha pellionella* in most cases. Observation techniques: *in vivo*, vital staining.

Urosoma Kowalewski, 1882

***Urosoma caudata* (Ehrenberg, 1833) Berger, 1999**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Observation techniques: *in vivo*, vital staining.

Order Urostylida Jankowski, 1979

Family UROSTYLIDAE Bütschli, 1889

Diaxonella Jankowski, 1979

***Diaxonella pseudorubra* (Kaltenbach, 1960) Berger, 2006**

Recorded near Poblet (BA), in periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) and rewetted soil samples from a temporary pond, cited as *D. trimarginata* [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51].

Uroleptus Ehrenberg, 1831

***Uroleptus musculus* (Kahl, 1932) Foissner, Blatterer, Berger & Kohmann, 1991**

Recorded in pools from Capital Federal [4]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); near Poblet (BA), in rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, Protargol staining [51].

***U. piscis* (O. F. Müller, 1773) Ehrenberg, 1831**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5]

(checklist); in the plankton and benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); near Poblet (BA), in the plankton from a temporary pond, cited as *U. limnetis* [29] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, Protargol staining [51].

Urostyla Ehrenberg, 1830

***Urostyla grandis* Ehrenberg, 1830**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Order Strombidiida Petz & Foissner, 1992

Family STROMBIDIIDAE Fauré-Fremiet, 1970

Limnostrombidium Krainer, 1995

***Limnostrombidium pelagicum* (Kahl, 1932) Krainer, 1995**

Recorded near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29, 31]. Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

***L. viride* (Stein, 1867) Krainer, 1995**

Recorded in Córdoba province, in the plankton and periphyton from ponds and streams (not specifically indicated) [5] (checklist); in the plankton from the oligotrophic Morenito Lake (RN) [24]; near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29, 31]. Cited as *Strombidium viride* in most cases. Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

Pelagostrombidium Krainer, 1991

***Pelagostrombidium mirabile* (Penard, 1916) Krainer, 1991**

Recorded near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29, 31]. Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

Strombidium Claparède & Lachmann, 1859

***Strombidium elegans* Florentin, 1901**

Recorded in pools from Capital Federal, cited as *Strombidium armatum* [4]. This species was found in marine environments by other authors [63]. Observation techniques: *in vivo*.

Class ARMOPHOREA Lynn, 2004

Order Armophorida Jankowski, 1964

Family CAENOMORPHIDAE Poche, 1913

Caenomorpha Perty, 1852

***Caenomorpha medusula* Perty, 1852**

Recorded in the plankton from Cassaffousth reservoir (CO) [21]. Observation techniques: *in vivo*, methyl-green, formol-fixed.

Family METOPIDAE Kahl, 1927

Brachonella Jankowski, 1964

***Brachonella spiralis* (Smith, 1897) Jankowski, 1964**

Recorded in the plankton from Cassaffousth reservoir (CO) [21]; near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, methyl-green, formol-fixed, Lugol-fixed.

Metopus Claparède & Lachmann, 1858

***Metopus es* (O. F. Müller, 1776) Lauterborn, 1916**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton from Cassaffousth reservoir (CO) [21]. Cited as *M. sigmoides* in most cases. Observation techniques: *in vivo*, methyl-green, formol-fixed.

Class LITOSTOMATEA Small & Lynn, 1981

Order Haptorida Corliss, 1974

Family DIDINIIDAE Poche, 1913

Didinium Stein, 1859

***Didinium nasutum* (O. F. Müller, 1773) Stein, 1859**

Recorded in pools from Capital Federal [4]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Berisso (BA), in the periphyton from a Palo Blanco pond [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the plankton from Luján River and Pescado stream (BA) [58] (checklist); in the plankton from Río de la Plata estuary [37]; near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, neutral red, Chatton-Lwoff silver staining [52], ferric hematoxylin, silver staining [59], Protargol staining [51], formol-fixed.

Monodinium Fabre-Domergue, 1888

Monodinium* cf. *balbiani

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) and rewetted soil samples from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51].

Family LACRYMARIIDAE de Fromentel, 1876

Lacrymaria Bory de St. Vincent, 1824

***Lacrymaria olor* (O. F. Müller, 1786) Bory de Saint-Vincent, 1824**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the

plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Chascomús (BA), in the periphyton (*Salvinia rotundifolia*) from Yalca Lake [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin, Protargol staining [51], Lugol-fixed, formol-fixed.

Phialina Bory de St. Vincent, 1824

***Phialina coronata* (Claparède & Lachmann, 1859) Foissner, 1987**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata, cited as *Lacrymaria coronata* [7] (checklist). This species is usually found in marine environments [64]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

***P. pupula* (O. F. Müller, 1786) Foissner, 1983**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata, cited as *Lacrymaria elliptica* [7] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA), cited as *L. pupula* [46] (checklist). This species was also cited for marine environments by other authors [53]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol-fixed.

***P. salinarum* (Kahl, 1928)**

Recorded in Buenos Aires province, in the plankton from Salado River basin, cited as *Lacrymaria salinarum* [49] (checklist). Observation techniques: *in vivo*; formol-fixed.

***P. vermicularis* (O. F. Müller-Ehrenberg, 1831) Foissner, 1983**

Recorded in pools from Capital Federal (4); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata, cited as *Lacrymaria metabolica* [7] (checklist). This species was cited for marine environments by other authors [53]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Family SPATHIDIIDAE Kahl in Doflein & Reichenow, 1929

Spathidium Dujardin, 1841

***Spathidium spathula* (O. F. Müller, 1773) Dujardin, 1841**

Recorded in Capital Federal, in pools [4]. Observation techniques: *in vivo*.

Epispathidium Foissner, 1984

Epispathidium* cf. *amphoriforme

Recorded near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51].

Teuthophrys Chatton & de Beauchamp, 1923

***Teuthophrys trisulca africana* Dragesco & Dragesco-Kernéis, 1986**

Recorded near Poblet (BA), in the plankton and rewetted soil samples from a temporary pond [29, 30]. Observation techniques: *in vivo*, Protargol staining [51].

Family TRACHELIIDAE Ehrenberg, 1838

Dileptus Dujardin, 1841

***Dileptus anser* (O. F. Müller, 1786) Dujardin, 1841**

Recorded in pools from Capital Federal [4]; in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist) and benthos from Río Primero [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Cited as *Lionotus anser* in most cases. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, vital staining.

Monilicaryon Jankowski, 1967

***Monilikaryon monilatus* (Stokes, 1886) Jankowski, 1967**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*; Protargol staining [51].

Paradileptus Wenrich, 1929

***Paradileptus elephantinus* (Švec, 1897) Kahl, 1931**

Recorded in the plankton from the oligotrophic Morenito Lake (RN) [24] and El Trébol Lake (RN) [38]; near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Lugol-fixed, Protargol staining [51].

Trachelius Schrank, 1803

***Trachelius ovum* (Ehrenberg, 1831) Ehrenberg, 1838**

Recorded near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51].

Family TRACHELOPHYLLIDAE Kent, 1882

Acaryophrya André, 1915

Acaryophrya* cf. *mamillata

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides, Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: Protargol staining [51].

Enchelyodon Claparède & Lachmann, 1859

***Enchelyodon laevis* (Quennerstedt, 1867) Dragesco, 1960**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata, cited as *Lagynus laevis* [7] (checklist). This species was found by other authors in marine environments [53]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Epitholiolus Foissner, Agatha, & Berger, 2002

***Epitholiolus chilensis* (Bürger, 1906) Foissner, Agatha & Berger, 2002**

Recorded in pools from Capital Federal [4]; in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Cited as *Lacrymaria chilensis*. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Lagynophrya Kahl, 1927

Lagynophrya* cf. *rostrata

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: Protargol staining [51].

Order Pleurostomatida Schewiakoff, 1896

Family AMPHILEPTIDAE Bütschli, 1889

Amphileptus Ehrenberg, 1830

***Amphileptus carchesii* Stein, 1867**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist). Observation techniques: not indicated.

***A. claparedii* Stein, 1867**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Observation techniques: *in vivo*, vital staining.

***A. pleurosigma* (Stokes, 1884) Foissner, 1984**

Recorded in the plankton from Río de la Plata estuary [37] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA), cited as *Hemiophrys pleurosigma* [46] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [59], formol-fixed.

Family LITONOTIDAE Kent, 1882

Litonotus Wresniowski, 1870

***Litonotus carinatus* Stokes, 1885**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Observation techniques: *in vivo*, vital staining.

***L. fasciolla* (Ehrenberg, 1830) Song & Wilbert, 1989**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Loxophyllum fasciolla* [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata, cited as *Lionotus fasciolla* [7] (checklist); in Chascomús (BA), in the periphyton (*Salvinia rotundifolia*) from Yalca Lake [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*,

Bouin-fixed, osmic acid vapours, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed.

***L. varsaviensis* Wrzesniowski, 1870**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA), cited as *Hemiophrys bivacuolata* [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Loxophyllum Dujardin, 1841

***Loxophyllum helus* (Stokes, 1884) Penard, 1922**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Order Cyclotrichiida Jankowski, 1980 *Incertae sedis*

Family MESODINIIDAE Jankowski, 1980

Askenasia Blochmann, 1895

***Askenasia chlorelligera* Krainer & Foissner, 1990**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*) from a temporary pond [29] (checklist). Observation techniques: Protargol staining [51].

***A. volvox* (Eichwald, 1852) Kahl, 1930**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29, 31]. Observation techniques: *in vivo*, formol-fixed, Protargol staining [51], Lugol-fixed.

Rhabdoaskenasia Krainer & Foissner, 1990

***Rhabdoaskenasia minima* Krainer & Foissner, 1990**

Recorded near Poblet (BA), in the plankton from a temporary pond [29, 31]. Observation techniques: *in vivo*, Protargol staining [51].

Class PHYLLOPHARYNGEA de Puytorac *et al.*, 1974

Subclass Cyrtophoria Fauré-Fremiet in Corliss, 1956

Order Chlamydodontida Deroux, 1976

Family CHILODONELLIDAE Deroux, 1970

Chilodonella Strand, 1928

***Chilodonella megalotrochae* (Stokes, 1884)**

Recorded in Berisso (BA), in the periphyton from Palo Blanco pond, cited as *Chilodon megalotrochae* [10]. Observation techniques: *in vivo*, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin.

***Ch. uncinata* (Ehrenberg, 1838) Strand, 1928**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as

Chilodon uncinatus [5] (checklist); in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in plankton and rewetted soil samples from a temporary pond [29] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, vital staining, formol-fixed, Protargol staining [51].

Pseudochilodonopsis Foissner, 1979

***Pseudochilodonopsis piscatoris* (Blochmann, 1895) Foissner, 1979**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29]. Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

Trithigmostoma Jankowski, 1967

***Trithigmostoma cucullulus* (O. F. Müller, 1786) Jankowski, 1967**

Recorded in pools from Capital Federal [4]; in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Cited as *Chilodon cucullulus* [4, 5, 7] or *Chilodonella cucullus* [18, 46]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol fixed, vital staining.

Family GASTRONAUTIDAE Deroux, 1994

Gastronauta Engelmann in Bütschli, 1889

***Gastronauta membranaceus* Bütschli, 1889**

Recorded near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

Subclass Suctoria Claparède & Lachmann, 1858

Order Exogenida Collin, 1912

Family METACINETIDAE Bütschli, 1889

Metacineta Bütschli, 1889

***Metacineta cuspidata* (Kellikott, 1885) Mathes, 1988**

Recorded in the periphyton (*Oedogonium* sp., *Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA), cited as *Kellicotta cuspidata* [22, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Family PODOPHRYIDAE Haeckel, 1866

Podophrya Ehrenberg, 1834

***Podophrya fixa* (O. F. Müller, 1786) Ehrenberg, 1833**

Recorded in pools from Capital Federal [4]; in Magdalena (BA), in the periphyton (*Lemna* sp.) from Las Víboras stream [16]; in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the periphyton (*Lemna* sp.) from Luján River (BA) [16]; near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, vital staining, formol-fixed.

***P. libera* Perty, 1852**

Recorded in pools from Capital Federal [4]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Sphaerophrya Claparède & Lachmann, 1859

***Sphaerophrya magna* Maupas, 1881**

Recorded in pools from Capital Federal [4]. Observation techniques: *in vivo*.

***S. sol* Metschnikoff, 1864**

Recorded in pools from Capital Federal [4]. Observation techniques: *in vivo*.

Order Endogenida Collin, 1912

Family ACINETIDAE Stein, 1859

Acineta Ehrenberg, 1834

***Acineta flava* Kellicott, 1885**

Recorded in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

***A. tuberosa* (Pallas, 1766) Ehrenberg, 1833**

Recorded in the periphyton from Luján River (BA) [15]; in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

Acinetides Swarczewsky, 1928

***Acinetides triangularis* (Penard, 1920) Curds, 1985**

Recorded in the periphyton (*Oedogonium* sp., *Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [22, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Suctorella Frenzel, 1891

***Suctorella ciliata* Frenzel, 1891**

Recorded in muddy pools from Patagonia [65]. No further details available.

Family TOKOPHRYIDAE Jankowski in Small & Lynn, 1985

Tokophrya Bütschli, 1889

***Tokophrya fasciculata* (López-Ochoterena, 1964) Matthes, Guhl & Haider, 1988**

Recorded in La Plata (BA), on *Epistylis plicatilis* from Rodríguez stream and in Magdalena (BA),

epibiont on *Drepanotrema* sp., (Gastropoda) from Las Víboras stream, cited as *Hypophrya fasciculata* [14, 61] (checklist); in the plankton and periphyton from Luján River (BA) [15, 58]. Observation techniques: *in vivo*, formol-fixed.

***T. lemnarum* (Stein, 1859) Entz, 1902**

Recorded in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

***T. pyrum* (Claparède & Lachmann, 1859) Butschli, 1889**

Recorded in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

***T. quadripartita* (Claparède & Lachmann, 1859) Bütschli, 1889**

Recorded in pools from Capital Federal [4]; in the plankton from Nahuel Huapi Lake (RN) [66] (checklist); in the periphyton from Luján River (BA) [15]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

Order Evaginogenida Jankowski, 1978

Family DISCOPHRYIDAE Collin, 1912

Discophrya Lachmann, 1859

***Discophrya elegans* (Goodrich & Jahn, 1943) Matthes, Guhl & Haider, 1988**

Recorded in the plankton and periphyton from Luján River (BA) [15, 58]. Cited as *Multi-fasciculatum elegans*. Observation techniques: *in vivo*, formol-fixed.

***D. elongata* (Claparede & Lachmann, 1858-1859) Collin 1911**

Recorded in the plankton and periphyton from Luján River (BA) [15, 58]. Observation techniques: *in vivo*, formol-fixed.

Family HELIOPHRYIDAE Corliss, 1979

Heliophrya Saedeleer & Tellier, 1930

***Heliophrya rotunda* (Hentschel, 1916) Matthes, 1954**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Class NASSOPHOREA Small & Lynn, 1981

Order Nassulida Jankowski, 1967

Family NASSULIDAE de Fromentel, 1874

Nassula Ehrenberg, 1834

***Nassula ambigua* Stein, 1854**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

***N. flava* Claparede & Lachmann, 1859**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la

Plata [7] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Order Synhymeniida de Puytorac *et al.* in Deroux, 1978
Family ORTHODONELLIDAE Jankowski, 1968

Zosterodasys Deroux, 1978

***Zosterodasys transversa* (Kahl, 1928) Foisner, Berger & Kohmann, 1994**

Recorded in the periphyton (*Pistia stratiotes*) from Espín stream (SF) [10]; in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist). Cited as *Chilodontopsis vorax*. Observation techniques: *in vivo*, methyl-green, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin.

Class COLPODEA Small & Lynn, 1981
Order Bursariomorphida Fernández-Galiano, 1978
Family BURSARIIDAE Bory de St. Vincent, 1826

Bursaria O. F. Müller, 1773

***Bursaria truncatella* O. F. Müller, 1773**

Recorded in La Plata, in the plankton from Rodríguez stream (BA) [61] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); near Poblet (BA), in rewetted soil samples from a temporary pond [29] (checklist). Observation techniques: *in vivo*, formol-fixed, vital staining, Protargol staining [51].

Order Colpodida de Puytorac *et al.*, 1974
Family COLPODIDAE Bory de St. Vincent, 1826

Colpoda O.F. Müller, 1773

***Colpoda cucullus* (O. F. Müller, 1773) Gmelin, 1790**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); near Poblet (BA), in the plankton and rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, formol-fixed, Bouin-fixed, osmic acid vapours, Protargol staining [51].

***C. inflata* (Stokes, 1884) Kahl, 1931**

Recorded near Poblet (BA), in the plankton from a temporary pond [29]. Observation techniques: *in vivo*, Protargol staining [51], Lugol-fixed.

***C. steinii* Maupas, 1883**

Recorded in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); near Poblet (BA), in rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, Protargol staining [51].

Class PROSTOMATEA Schewiakoff, 1896

Order Prorodontida Corliss, 1974

Family BALANIONIDAE Small & Lynn, 1985

Balanion Wulff, 1919

***Balanion planctonicum* (Foissner, Oleksiv & Müller, 1990) Foissner, Berger & Kohmann, 1994**

Recorded in the plankton from the oligotrophic Morenito Lake (RN) [24]. Observation techniques: *in vivo*, Lugol-fixed.

Family COLEPIDAE Ehrenberg, 1838

Coleps Nitzsch, 1827

***Coleps bicuspis* Noland, 1925**

Recorded in the plankton from Río de la Plata estuary [37] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [59].

***C. hirtus* (O. F. Müller, 1786) Nitzsch, 1827**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in Chascomús (BA), in the periphyton (*Lemna minima*) from Vitel Lake [10]; in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist); in the plankton from Lacombe Lake (BA) [67] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin, silver staining [59], formol-fixed, Lufol-fixed, Protargol staining [51], osmic acid vapours.

Family HOLOPHRYIDAE Perty, 1852

Holophrya Ehrenberg, 1831

***Holophrya discolor* Ehrenberg, 1833**

Recorded in pools from Capital Federal, cited as *P. rigidus* [4]. Observation techniques: *in vivo*.

***H. simplex* Schewiakoff, 1893**

Recorded in Chascomús (BA), in the periphyton from Vitel Lake [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, methyl-green, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed, osmic acid vapours.

***H. teres* (Ehrenberg, 1833) Foissner, Berger & Kohmann, 1994**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Cited as *Prorodon teres*. Observation techniques: *in vivo*, formol-fixed.

Family PRORODONTIDAE Kent, 1881

Prorodon Ehrenberg, 1834

***Prorodon edentatus* Claparède & Lachmann, 1858**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist). Observation techniques: not indicated.

***P. taeniatus* Blochmann, 1895**

Recorded in the plankton from Río Tercero reservoir (CO) [35]. Observation techniques: *in vivo*, formol-fixed, scanning electron microscopy.

Family UROTRICHIDAE Small & Lynn, 1985

Bursellopsis Corliss, 1960

***Bursellopsis nigricans* (Lauterborn, 1894) Foissner, Berger & Schaumburg, 1999**

Recorded in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Holophrya nigricans* [5] (checklist). Observation techniques: not indicated.

Urotricha Claparède & Lachmann, 1859

***Urotricha furcata* Schewiakoff, 1892**

Recorded in the plankton from the oligotrophic Morenito Lake (RN) [24]. Observation techniques: *in vivo*, Lugol-fixed.

Urotricha* cf. *globosa

Recorded near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Lugol-fixed.

Class PLAGIOPYLEA Small & Lynn, 1985

Order Plagiopylida Jankowski, 1978

Family PLAGIOPYLIDAE Schewiakoff, 1896

Plagiopyla Stein, 1860

***Plagiopyla nasuta* Stein, 1860**

Recorded in the plankton from Cassaffousth reservoir (CO) [21]. Observation techniques: *in vivo*, methyl-green, formol-fixed.

Incertae sedis in Class PLAGIOPYLEA

Order Odontostomatida Sawaya, 1940

Family EPALXELLIDAE Corliss, 1960

Saprodinium Lauterborn, 1908

***Saprodinium dentatum* (Lauterborn, 1901) Lauterborn, 1908**

Recorded in the plankton from Cassaffousth reservoir (CO) [21]. Observation techniques: *in vivo*, methyl-green, formol-fixed.

Class OLIGOHYMENOPHOREA de Puytorac *et al.*, 1974

Subclass Peniculia Fauré-Fremiet in Corliss, 1956

Order Peniculida Fauré-Fremiet in Corliss, 1956

Family FRONTONIIDAE Kahl, 1926

Disematostoma Lauterborn, 1894

***Disematostoma buetschlii* Lauterborn, 1894**

Recorded near Poblet (BA), in the plankton from a temporary pond [29] (checklist). Observation techniques: *in vivo*.

Frontonia Ehrenberg, 1838

***Frontonia atra* (Ehrenberg, 1833) Bütschli, 1889**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, Lugol-fixed.

***F. leucas* (Ehrenberg, 1833) Ehrenberg, 1838**

Recorded in pools from Capital Federal [4]; in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples from Río de la Plata [7] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Family NEOBURSARIDIIDAE Dragesco & Tuffrau, 1967

Neobursaridium Balech, 1941

***Neobursaridium gigas* Balech, 1941**

Recorded in Capital Federal, in temporary ponds and in Santa Fe province, in Isla Candioti [8]. Observation techniques: *in vivo*, eosine-hematoxylin, silver nitrate.

Family PARAMECIIDAE Dujardin, 1840

Paramecium O. F. Müller, 1773

***Paramecium aurelia* O. F. Müller, 1773**

Recorded in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***P. bursaria* (Ehrenberg, 1831) Focke, 1836**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte

Lake (BA) [46] (checklist); near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, vital staining, formol-fixed.

***P. caudatum* Ehrenberg, 1833**

Recorded in pools from Capital Federal [4]; in Capital Federal and Tandil Sierras (BA), and in Córdoba province in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [22, 46] (checklist); near Poblet (BA), in the plankton from a temporary pond [29] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol-fixed, Lugol-fixed.

Order Urocentrida Jankowski, 1980

Family UROCENTRIDAE Claparède & Lachmann, 1858

Urocentrum Nitzsch, 1827

***Urocentrum turbo* (O. F. Müller, 1786) Nitzsch, 1827**

Recorded in pools from Capital Federal [4]; in Berisso (BA), in the periphyton from a Palo Blanco pond [10]; in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed, osmic acid vapours.

Subclass Scuticociliatia Small, 1967

Order Philasterida Small, 1967

Family CINETOCHILIDAE Perty 1852

Cinetochilum Perty, 1849

***Cinetochilum margaritaceum* (Ehrenberg, 1831) Perty, 1849**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [59], vital staining, Lugol-fixed, Protargol staining [51].

Family LOXOCEPHALIDAE Jankowski, 1964

Dexiotricha Stokes, 1885

***Dexiotricha granulosa* (Kent, 1881) Foissner, Berger & Kohmann, 1994**

Recorded in pools from Capital Federal [4]; in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist). Cited as *Loxocephalus granulosus*. Observation techniques: *in vivo*.

Family URONEMATIDAE Thompson, 1964

Uronema Dujardin, 1841

***Uronema elegans* Maupas, 1883**

Recorded in Buenos Aires province, in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). This species was found in marine environment by other authors [53, 68]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

***U. marinum* Dujardin, 1841**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). This species was found in marine environments by other authors [69]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Order Pleuronematida Fauré-Fremiet in Corliss, 1956

Family CYCLIDIIDAE Ehrenberg, 1838

Cyclidium O.F. Müller, 1773

***Cyclidium glaucoma* O. F. Müller, 1773**

Recorded in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA), cited as *Cyclidium* cf. *glaucoma* [18] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, vital staining, Lugol-fixed, Protargol staining [51].

Family PLEURONEMATIDAE Kent, 1881

Pleuronema Dujardin, 1841

***Pleuronema crassum* Dujardin, 1841**

Recorded in pools from Capital Federal [4]; in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Berisso (BA), in the periphyton from a Palo Blanco pond [10]. Cited as *P. chrysalis* in most cases. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin.

Subclass Hymenostomatia Delage & Hérouard, 1896

Order Tetrahymenida Fauré-Fremiet in Corliss, 1956

Family GLAUCOMIDAE Corliss, 1971

Glaucoma Ehrenberg, 1830

***Glaucoma scintillans* Ehrenberg, 1830**

Recorded in pools from Capital Federal [4]; in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in Punta Lara (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [70] (checklist). Observation techniques: *in vivo*, vital staining, formol-fixed.

Family TETRAHYMENIDAE Corliss, 1952

Tetrahymena Furgason, 1940

***Tetrahymena patula* (0. F. Müller, 1786) Corliss, 1951**

Recorded in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers, cited as *Leucophrys patula* (not specifically indicated) [5] (checklist). Observation techniques: Not indicated.

***T. pyriformis* (Ehrenberg, 1830) Lwoff, 1947**

Recorded in Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Glaucoma pyriformis* [5] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in Tafí Viejo, Tucumán province, in a citric efluent from Salí River basin [71] (checklist); near Poblet (BA), in the plankton and periphyton (*Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, vital staining, Lugol-fixed, neutral red, Protargol staining [51].

***T. vorax* (Kidder, Lilly & Claff, 1940) Kidder, 1941**

Recorded in Tafí Viejo, Tucumán province, in a citric efluent from Salí River basin [71] (checklist). Observation techniques: *in vivo*, Lugol-fixed, neutral red.

Family TURANIELLIDAE Didier, 1971

Colpidium Stein, 1860

***Colpidium colpoda* (Losana, 1829) Stein, 1860**

Recorded in pools from Capital Federal [4]; in Capital Federal and Sierras de Tandil (BA), and in Córdoba province in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in the periphyton (*Pistia stratiotes*) from Espín stream (SF) [10]; in the plankton from San Miguel del Monte Lake (BA) [54]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin.

Subclass Peritrichia Stein, 1859

Order Sessilida Kahl, 1933

Family ASTYLOZOIDAE Kahl, 1935

Hastatella Erlanger, 1890

***Hastatella radians* Erlanger, 1890**

Recorded in the plankton from Río de la Plata estuary [37] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [59].

Family EPISTYLIDIDAE Kahl, 1933

Campanella Goldfuss, 1820

***Campanella umbellaria* (Linnaeus, 1758) Goldfuss, 1820**

Recorded in the periphyton from a shallow pond in Berisso (BA) (*Lemna* sp.), and in the periphyton (*Ceratophyllum demersum*, *Scirpus californicus*, *Azolla filiculoides*, *Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [17, 46] (checklist); near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, formol-fixed, methyl-green-pyronin.

Epistylis Ehrenberg, 1830

***Epistylis aliciae* Modenutti & Claps, 1986**

Recorded in the periphyton (*Scirpus californicus*) from San Miguel del Monte Lake (BA) [17]. Observation techniques: *in vivo*.

***E. articulata* Fromentel, 1874**

Recorded in the periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [22]. Observation techniques: *in vivo*.

***E. hentscheli* Kahl, 1935**

Recorded in the plankton (on debries) and periphyton (on *Enteromorpha* sp.) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

***E. lacustris* Imhoff, 1884**

Recorded in Berisso (BA); in the periphyton from a Palo Blanco pond [10]. Observation techniques: *in vivo*, methyl-green, Chatton-Lwoff silver staining [52], ferric hematoxylin.

***E. plicatilis* Ehrenberg, 1831**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in Chascomús (BA), in the periphyton from Las Mulas pond [10]; epibiont on *Pomacea canaliculata*, *P. insularum*, *P. scalaris* (Gastropoda) from the Middle Paraná River (SF) [72]; in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the plankton from Luján River (BA) [58] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29] (checklist); in Punta Lara (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [70] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, methyl-green, methyl-green-pyronin, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed.

***E. purneri* Nenninger, 1948**

Recorded in the periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [22]. Observation techniques: *in vivo*.

E.* cf. *procumbens

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond, cited as *Epistylis* cf. *rotans* [29]. Observation techniques: *in vivo*, methyl-green-pyronin.

***E. tubificis* D'Udeckem 1864**

Recorded in the periphyton (*Myriophyllum quitense*, *Enteromorpha* sp., *Oedogonium* sp.) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

E.* cf. *umbilicata

Recorded in Tierra del Fuego province, in the plankton from Cabecera Lake, near Fagnano Lake [73] (checklist). Observation techniques: fixed material.

***E. vestita* Stokes, 1887**

Recorded in the periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

***Rhabdostyla* Kent, 1881**

Rhabdostyla pyriformis Perty, 1852

Recorded near Poblet (BA), epibiont on *Cypridopsis* sp. (Ostracoda) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, methyl-green-pyronin.

***Systylis hoffi* Bresslau, 1919**

Recorded in Punta Lara (BA), in the periphyton from Río de la Plata (*Eichhornia crassipes*) and from a shallow lake in Los Talas, Berisso (BA) (*Scirpus californicus*) [14]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, formol-fixed.

Family LAGENOPHRYIDAE Bütschli, 1889

Lagenophrys Stein, 1852

***Lagenophrys discoidea* Kellicott, 1887**

Recorded as epibiont on *Cyprinotus similis* (Ostracoda) from San Miguel del Monte Lake (BA) [20]. Observation techniques: *in vivo*.

Family OPERCULARIIDAE Fauré-Fremiet in Corliss, 1979

Opercularia Goldfuss, 1820

***Opercularia cylindrata* Wrzesniowski, 1870**

Recorded in Capital Federal, epibiont on *Cyclops* sp. (Copepoda) [5] (checklist). Observation techniques: not indicated.

***O. elongata* Kellikott, 1884**

Recorded in the periphyton (*Myriophyllum quitense*, *Enteromorpha* sp.) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

***O. nutans* (Ehrenberg, 1831) Stein, 1854**

Recorded in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in the periphyton (*Scirpus californicus*, *Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [17, 22, 46] (checklist). Cited as *O. allensi* by Modenutti & Claps [17]. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol-fixed.

Family OPHRYDIIDAE Ehrenberg, 1838

Ophrydium Bory de St. Vincent, 1824

***Ophrydium naumanni* Pejler, 1962**

Recorded in the plankton from Moreno Oeste Lake (RN) [19, 36, 39, 41, 42, 44, 45, 47]. Observation techniques: *in vivo*, formol-fixed, Lugol-fixed.

***O. versatile* (O. F. Müller, 1786) Ehrenberg, 1830**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton from lakes Lacar (NE), Gutiérrez (RN), Mascardi (RN), Guillelmo (RN) [66] (checklist). Observation techniques: fixed material.

Family VAGINICOLIDAE de Fromentel, 1874

Cothurnia Ehrenberg, 1831

***Cothurnia annulata* Stokes, 1885**

Recorded in the periphyton (*Myriophyllum quitense*, *Oedogonium* sp.), on rotiferan lorigas, stalk of *Campanella umbellaria*, and in the benthos from San Miguel del Monte Lake (BA) [23, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

Cothurniopsis Stokes, 1893

***Cothurniopsis valvata* Stokes, 1893**

Recorded in the plankton (on debris) and periphyton (*Oedogonium* sp.) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

Platycola Kent, 1882

***Platycola decumbens* Ehrenberg, 1830**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA), cited as *P. striata* and *P. truncata* [13]. Observation techniques: *in vivo*, mounted in glycerine.

***P. dilatata* Fromentel, 1874**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA), cited as *P. tincta* [13]. Observation techniques: *in vivo*, mounted in glycerine.

Pyxicola Kent, 1882

***Pyxicola affinis* Kent, 1882**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA) [13]. Observation techniques: *in vivo*, mounted in glycerine.

***P. carteri* Kent, 1882**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA), cited as *Pyxicola* cf. *constricta* [13]; in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); in the periphyton (*Oedogonium* sp.) from San Miguel del Monte Lake (BA), cited as *P. limbata* [23]. Observation techniques: *in vivo*, mounted in glycerine, formol-fixed.

Thuricola Kent, 1881

***Thuricola folliculata* Kent, 1881**

Recorded in Capital Federal, in the plankton and periphyton (*Vaucheria* sp.) from ponds, streams, and rivers (not specifically indicated), cited as *Cothurnia crystallina* [5] (checklist). Observation techniques: not indicated.

***T. innixa* Stokes, 1882**

Recorded in the periphyton (*Myriophyllum quitense*, *Oedogonium* sp.) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

***T. kellicottiana* (Stokes, 1887) Kahl, 1935**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA), cited as *T. amphora* [13]; in the periphyton (*Myriophyllum quitense*, *Enteromorpha* sp., *Oedogonium* sp.) and benthos from San Miguel del Monte Lake (BA) [23, 46]. Observation techniques: *in vivo*, mounted in glycerine, formol-fixed.

Vaginicola Lamarck, 1816

***Vaginicola attenuata* Fromentel, 1874**

Recorded in the periphyton (*Myriophyllum quitense*, *Oedogonium* sp., *Oscillatoria* sp., diatoms) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

***V. crystallina* Ehrenberg, 1830**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [22, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***V. ingenita* (O. F. Müller, 1786) Kent, 1881**

Recorded in San Miguel del Monte Lake (BA), in the periphyton (*Myriophyllum quitense*) and benthos [22, 46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***V. lagena* Kahl, 1935**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA) [13]. Observation techniques: *in vivo*, mounted in glycerine.

***V. tincta* Ehrenberg, 1830**

Recorded in the periphyton from ponds in Los Talas, Berisso (BA), and Yalca and Chascomús lakes (BA) [13]. Observation techniques: *in vivo*, mounted in glycerine.

Family VORTICELLIDAE Ehrenberg, 1838

Carchesium Ehrenberg, 1831

***Carchesium polypinum* (Linnaeus, 1758) Ehrenberg, 1830**

Recorded in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton, periphyton, and mud samples from Río de la Plata [7] (checklist); Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60]; in the periphyton from San Miguel del Monte Lake (BA) (*Ceratophyllum demersum*, *Scirpus californicus*) and from Río de la Plata (*Eichhornia crassipes*) in Punta Lara (BA) [17]; in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the plankton from Luján, Areco, and Ramallo rivers, and Cañada Honda (BA) [58] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol-fixed.

***C. spectabile* Ehrenberg-Claparède & Lachmann, 1858**

Recorded in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Carchesium lachmanni* [5] (checklist). Observation techniques: not indicated.

Intranstylum Fauré-Fremiet, 1904

***Intrastylum invaginatum* Stokes, 1886**

Recorded near Poblet (BA), epibiont on Ostracoda from a temporary pond [29]. Observation techniques: *in vivo*, methyl-green-pyronin.

***I. steini* Wrzesniowsky, 1877**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated), cited as *Epistylis steini* [5] (checklist). Observation techniques: not indicated.

Pseudovorticella Foissner & Schiffmann, 1975

***Pseudovorticella difficilis* (Kahl, 1933) Jankowski, 1976**

Recorded in the periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [22]. Observation techniques: *in vivo*.

***P. monilata* (Tatem, 1870) Foissner & Schiffmann, 1974**

Recorded in the periphyton (*Ceratophyllum demersum*) from an artificial pool in La Plata (BA) [14]; in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***P. nebulifera* (O. F. Müller, 1786) Jankowski, 1976**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not

specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist). Cited as *Vorticella nebulifera*. Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours.

Vorticella Linnaeus, 1767

***Vorticella aquadulcis* Stokes, 1887**

Recorded near Poblet (BA), epibiont on subitaneous eggs of the colonial rotifer *Sinantherina semibullata* and in rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, methyl-green-pyronin.

***V. campanula* Ehrenberg, 1831**

Recorded in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in Berisso (BA), in the periphyton (*Lemna* sp.) from a Palo Blanco pond and in Chascomús (BA), in Vitel stream [10]; epibiont on *Pomacea canaliculata*, *P. insularum*, *P. scalaris* (Gastropoda) from Middle Paraná River (SF) [72]; in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the plankton from Luján, Areco, and Baradero rivers, and Giles and de la Cruz streams (BA) [58] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); in the plankton from San Miguel del Monte Lake (BA) [54] (checklist); in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, vital staining, Chatton-Lwoff silver staining [52], ferric hematoxylin, formol-fixed, silver impregnation after Fernández-Galiano [59], osmic acid vapours.

***V. convallaria* (Linnaeus, 1758) Linnaeus, 1767**

Recorded in Capital Federal, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in Berisso (BA), in the periphyton from a Palo Blanco pond [10]; in Punta Atalaya, Magdalena (BA), in the periphyton (*Scirpus californicus*) from Río de la Plata [60] (checklist); in the periphyton from San Miguel del Monte (*Scirpus californicus*) and Chascomús (*Potamogeton striatus*) lakes, and from Río de la Plata (*Pistia stratiotes*) (BA) [14]; in La Plata (BA), in the plankton from Rodríguez stream [61] (checklist); in the plankton from Luján River (BA) [58] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist); near Poblet (BA), in the plankton and periphyton (*Alternanthera philoxeroides*, *Ludwigia peploides*) from a temporary pond [29]; in the plankton from Salado River basin (BA) [49] (checklist). Observation techniques: *in vivo*, methyl-green, methyl-green-pyronin, neutral red, Chatton-Lwoff silver staining [52], ferric hematoxylin, silver staining [59], formol-fixed, osmic acid vapours.

***V. halophila* Stiller, 1941**

Recorded near Poblet (BA), in the plankton and rewetted soil samples from a temporary pond [29]. Observation techniques: *in vivo*, methyl-green-pyronin.

***V. longifilum* Kent, 1881**

Recorded near Poblet (BA), in the periphyton (*Alternanthera philoxeroides*) from a temporary pond [29] (checklist). Observation techniques: *in vivo*, methyl-green-pyronin.

***V. microstoma* Ehrenberg, 1830**

Recorded in Capital Federal and Córdoba province, in the plankton and periphyton from ponds, streams, and rivers (not specifically indicated) [5] (checklist); in the plankton and benthos from Río Primero (CO) [6]; in the plankton, periphyton, and mud samples (not specifically indicated) from Río de la Plata [7] (checklist); in the periphyton (*Azolla* sp.) from Napostá Grande stream (BA) [18] (checklist); in the plankton from Río de la Plata estuary [37] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, Bouin-fixed, osmic acid vapours, formol-fixed, methyl-green, neutral red, vital staining, silver staining [59].

***V. natans* Faure-Fremiet, 1924**

Recorded in the plankton from Río de la Plata estuary [37] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [59].

***V. picta* (Ehrenberg, 1831) Ehrenberg, 1838**

Recorded in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [23,46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***V. pulchella* Sommer, 1951**

Recorded in the plankton (on debries) and periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [23]; near Poblet (BA), in the periphyton (*Ludwigia peploides*) from a temporary pond [29]. Observation techniques: *in vivo*, methyl-green-pyronin.

***V. rotunda* Nenninger, 1948**

Recorded in the periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

***V. striata* Dujardin, 1841**

Recorded in the plankton from Luján River (BA) [58] (checklist); in the periphyton (*Myriophyllum quitense*) and benthos from San Miguel del Monte Lake (BA) [46] (checklist). Observation techniques: *in vivo*, formol-fixed.

***V. striata* var. *octava* Stokes, 1885**

Recorded in the periphyton from Las Víboras stream (*Azolla filiculoides*, *Lemna* sp.) in Magdalena (BA), and from Chascomús Lake (*Ricciocarpus natans*) (BA) [14]. Observation techniques: *in vivo*.

***V. vestita* Stokes, 1883**

Recorded in the plankton from Río de la Plata estuary [37] (checklist). Observation techniques: *in vivo*, methyl-green, neutral red, silver staining [59].

Family ZOOTHAMNIIDAE Sommer, 1951

Zoothamnium Bory de St. Vincent, 1824

***Zoothamnium ramosissimum* Sommer, 1951**

Recorded in the periphyton (*Myriophyllum quitense*) from San Miguel del Monte Lake (BA) [23]. Observation techniques: *in vivo*.

DISCUSSION

The total number of freshwater ciliates from Argentina comprises 209 species. Sampling efforts were mainly concentrated in the Buenos Aires province, although several surveys were conducted in Córdoba province as well. The Peritrichida are by far the most studied group of ciliates followed by Heterotrichida, Haptorida, and Sporadotrichida. The results in the present checklist show that a wide extension of Argentina is practically unexplored, and further investigations are needed to estimate the still undiscovered diversity of ciliates for the country.

Although most of the cited ciliates have cosmopolitan distributions, there are some examples of endemisms or species with restricted distributions in the South American ciliate biota. The most typical examples are 'flagships' or species that have a very distinctive morphology, size, and/or color to be overlooked if they were widely distributed [74]. One of such species is *Neobursaridium gigas*, which was discovered by Balech in vegetated ponds from Capital Federal and in Santa Fe province in Argentina [8]. Dragesco and Tuffrau [75] found this species later in subtropical Africa, which is of biogeographic interest since America and Africa were set appart almost 80 million years ago [76]. Another South American flagship species is *Stentor araucanus*, a blue-green planktonic ciliate described by Foissner and Wölfl in Chilean and Argentinean Andean lakes [55].

A great debate on the biogeography of protists is taking place nowadays and the ideas fall into two assumptions. Briefly, the 'ubiquity model' [77-79] assumes that all protists are distributed globally and have low degree of endemisms and low species numbers. This model is based on high gene flow between populations, high dispersion possibilities due to large population sizes, and hence, low rate of allopatric speciation. The 'moderate endemism model' [74, 80, 81] estimates a greater degree of endemism, with higher local radiation rates, and a notoriously undiscovered diversity. The continuing discovery of flagship species in different intensively sampled geographic regions is evidence in support for this model. Both hypotheses agree in the fact that most protists are cosmopolites, but fundamental problems in estimating diversity are undersampling and usually the study of very small samples, which leads to overlook the rare or encysted species [81]. On the other hand, the modern methodology employed for the accurate study of ciliates is rather difficult and also the use of old literature for species determination could lead to misidentifications. Considering that South America is almost unexplored for protist and most of the studies were carried out by means of live observations, a great diversity of ciliates is still awaiting to be discovered in this part of the world.

ACKNOWLEDGMENTS

We are grateful to Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) for finantial support and to Prof. Dr. Norbert Wilbert for his help with the literature.

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