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ORIGINAL ARTICLE

Cladocera (Crustacea, Branchiopoda) species of Bahia State, Brazil: a critical update on species descriptions, distributions, and new records

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ABSTRACT

Despite the rising interest in cladoceran biogeography worldwide, many species distributions are still unknown to science, especially in naturally rich freshwater of the Neotropics. Herein we present a checklist of the taxa, giving the distributions of the valid species throughout 13 hydrographic basins within the two freshwater ecoregions of Northeastern Mata Atlântica and São Francisco. Superorder Cladocera comprises 72 known species in

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Bahia State classified into two orders: the Anomopoda, represented by Chydoridae (36 spp), Daphniidae (7), Macrothricidae (6), Bosminidae (4), Moinidae (3) and Ilyocryptidae (2); and Ctenopoda, represented by Sididae (8 spp). Species from the orders Onychopoda and Haplopoda are still lacking in Neotropical waters. The first compilation of the data on the Cladocera of Bahia, Brazil, is represented by this checklist and contains 38 new records for the state. Critical remarks on species distributions, as well as detailed information on sampling sites and geographic coordinates are also included.

Keywords

Biodiversity, drainage basins, Neotropical freshwaters, new records

Introduction

Species richness represents a single, but valuable, metric for the understanding of biodiversity patterns. In this sense, many studies have aimed to estimate the number of species in the world in both terrestrial and aquatic environments (Balian *et al.*, 2008). Among the current representatives of the world's fauna, freshwater invertebrates were estimated at around 100,000 known species (Lévêque *et al.*, 2005). Invertebrates in general are 95 % of all living creatures in the world, mainly due to insects (Wilson, 1987), and are key components in ecosystem functioning (Dirzo *et al.*, 2014). They play important roles in many different trophic niches from pollination (*e.g.*, bees and butterflies), to secondary production in aquatic food web functioning (*e.g.*, microcrustaceans) (Allan, 1976; Melão *et al.*, 2005; Steinberg and Landry, 2017).

Neotropical biodiversity studies and conservation are undoubtably two important scientific priorities due to the large geographic extension of the region (Morrone, 2013), encompassing a vast range of biomes and many endemic groups of organisms (Hughes *et al.*, 2013). The increase in disruptions by human activities, threatening the native biodiversity and ecosystem services (Pelicice *et al.*, 2017; Azevedo-Santos *et al.*, 2018) only enhances these priorities. Bahia State encompasses the Northeastern Mata Atlântica and São Francisco ecoregions (Abell *et al.*, 2008), exhibiting slow velocity large rivers with deep pool, riffles and some rapids in the mid-upper portions. The São Francisco River, which is the fifth largest river in Brazil, is 2,863 km long, with several marginal lagoons and floodplains, dams and canyons. This river is important for the Brazilian Northeast Region, both economically and environmentally. Its drainage basin covers an area of 631,133 km^2 representing 7.5 % of Brazilian freshwater surface waters. The largest remnants of the Atlantic Forest, the "hottest" biodiversity hotspot for conservation priorities according to Myers *et al.* (2000), is located in southern Bahia State, Northeast Brazil (Silva and Casteleti, 2003). The fact that it is subject to extremes of interannual climate variability, has experienced large extinction episodes and is vulnerable to ongoing regional and global climate change (Brooks and Balmford, 1996; Marengo *et al.*, 2010; Franchito *et al.*, 2011) means that it likely has more endemic species than traditionally believed (Pilato and Binda, 2001). Another matter of concern is the reduction of natural areas in the Atlantic Forest, resulting in decreased quality of aquatic habitats, with the potential effect of the confinement of elements of the biota into conservation areas. This biome remains less than 13 % of its original range and is still facing a severe risk of elimination (SOS Mata Atlântica, 2019), along with the fact that it is poorly studied in terms of aquatic biodiversity, especially regarding zooplankton communities.

Although cladocerans (Crustacea: Branchiopoda) are traditionally associated with the planktonic community, non-planktonic cladocerans are also important to the structure and dynamics of the zooplankton community (Elmoor-Loureiro, 2000). They can be found in different habitats such as flooded forest litter (Walker, 1985), underground water (Dumont, 1995), and in the limnetic and littoral zones of lakes and reservoirs, where they achieve

greater diversification (Elmoor-Loureiro, 1997; 2007; Castilho-Noll *et al.*, 2010; Rocha *et. al.*, 2011). Some Neotropical cladocerans can also be associated with other organisms such as sponges (Ghidini and Santos-Silva, 2011) and bromeliads (Smirnov, 1988; Neretina *et al.*, 2019). Although only two of the four cladoceran orders (Dumont and Negrea, 2002), the Anomopoda and Ctenopoda, are recognized in Neotropical regions (Frey, 1987), cladoceran species richness is concentrated in warm temperate to subtropical freshwaters (Korovchinsky, 2006). In terms of major zoogeographic areas, the Neotropical region is second with regard to the most endemic species registered, after the Paleartic region (with approximately 23 %), according to Forró *et al.* (2008).

Cladocerans are also widely used in aquaculture, evolutionary and ecotoxicological studies wherein they have gained some economic importance. Despite some research on the description of new species and reports of new occurrences in Brazil (*e.g.*, Elmoor-Loureiro, 2014; Farias *et al.*, 2017; Zanata *et al.*, 2017; Brito *et al.*, 2020; Diniz *et al.*, 2020), they are still concentrated in the southern region and focused on zooplankton communities (Elmoor-Loureiro, 2000; Silva and Perbiche-Neves, 2017). Until now, few studies reviewed the cladoceran species richness by Brazilian states (*e.g.*, Rocha *et al.*, 2011; Santos-Wisniewski *et al.*, 2011; Soares and Elmoor-Loureiro, 2011; Sousa and Elmoor-Loureiro, 2012; Zanata *et al.*, 2017; Diniz *et al.*, 2020) and those that focused on the Northeast Region did not mentioned Bahia State (Soares and Elmoor-Loureiro, 2011; Diniz *et al.*, 2020). The absence of local studies, especially in larger states in the country, reveals important knowledge gaps about freshwater biota. Furthermore, the understanding of the role of cladocerans in aquatic communities is fundamental and more taxonomic and biogeographic studies of this group should be encouraged.

The cladoceran fauna in Brazil was comprised of 112 species in the first survey twenty years ago (Elmoor-Loureiro, 2000), and now it is estimated to be more than 140 species out of around 220 species cited for the Neotropical region (Kotov *et al.*, 2019). Until this study, cladoceran species richness and distribution in Bahia State were still little known (Elmoor-Loureiro *et al.*, 2010), with a few studies directed to community ecology (*e.g.*, Simões and Sonoda, 2009; Simões *et al.*, 2011; Santos *et al.*, 2018) and ecotoxicology (Araújo *et al.*, 2008; Saro *et al.*, 2011). Therefore, here we conduct a critical review of the literature and provide an updated species list and geographic distributions of cladocerans in Bahia State.

Material and Methods

This synthesis was based on a comprehensive review of studies published in journals and unpublished data from previously sampled surveys. New species records were added from qualitative sampling from Salvador and municipalities in the State of Bahia collected between 1981 and 2019. Also voucher specimens and access numbers are provided in the Appendix. Most of the new records were from samples deposited in the Elmoor-Loureiro personal collection (LMAEL) and in the Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ). Further, new data was also included from samples taken by SJ Bonfim and RL Macêdo. To produce the checklist of valid taxa, we removed invalid names, as well as taxa with dubious geographic distributions and identifications. The names of taxa considered valid herein are based on the World Checklist of Cladocera (Kotov *et al.*, 2019).

The reports of species and sampling sites were separated according to the classification of watersheds proposed by the Instituto do Meio Ambiente e Recursos Hídricos (INEMA, 2014). According to INEMA's criterion the State of Bahia is divided into 14 Water Resources Management Unities (RPGA) within São Francisco ecoregion and 11 RPGA's within Northeastern Mata Atlântica (Fig. 1).

Lastly, an extrapolation curve, based on the sample size (number of studies, N = 17), was constructed using iNEXT function, focusing on species richness measures of Hill numbers (q = 0). This analysis was performed through the iNEXT package software R (Hsieh *et al.*, 2016; R core Team, 2018). This package uses Chao 2 to estimate the number of undetected species in the reference samples from Bahia State.

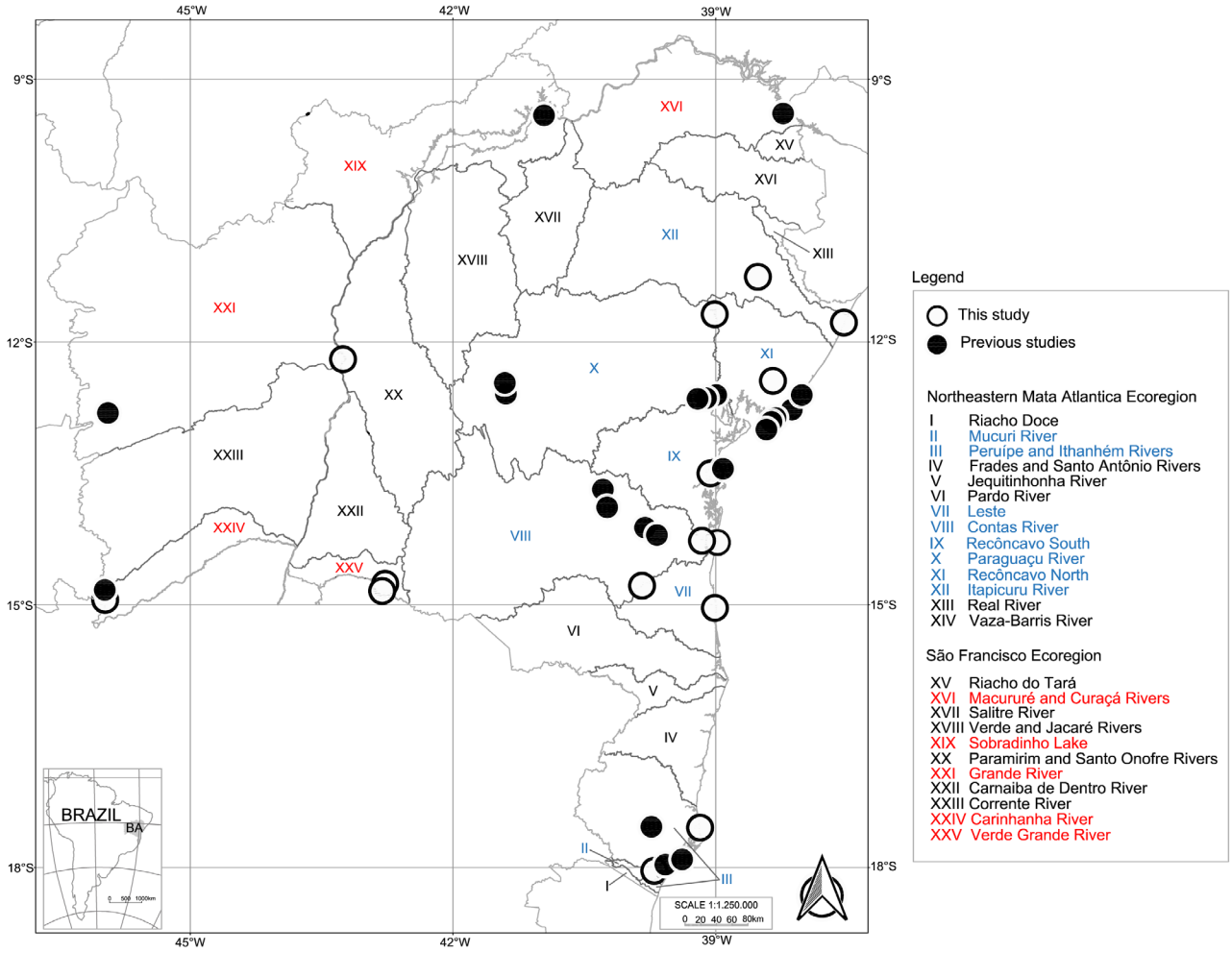

Figure 1. Map of the current distribution of cladocerans throughout the drainage basins and freshwater ecoregions in Bahia State, Brazil. Previous species records are shown as black circles. New records/localities added by this study are shown as white circles, see Tabs. 1, 2. Red and blue colors represent each hydrographic basin within the specific ecoregion where cladocerans were recorded.

Results

Altogether, the literature and non-published data created a total of 72 reported taxa of cladocerans from Bahia State (see Tab. 1 for the complete checklist). The number of valid taxa was 66 species, of which 38 might be considered new records from the state of Bahia (Tab. 1). For a species list according to the Water Resources Management Unities ecoregions see Tab. 2.

Of the 50 sites, including ponds, streams, reservoirs, temporary pools and coastal lagoons, 27 represent new sites of study (Tab. 2). These 50 sites were concentrated in 13 out of the 25 RPGA's indicated for Bahia State (Fig. 1). Three RPGAs — Contas, Paraguaçu and Recôncavo North — are the regions with the highest species richness, housing all six families and 81 % of all the species recorded for the entire Bahia State.

Species were distributed among six families belonging to the orders Anomopoda and Ctenopoda. The family Chydoridae presented the highest contribution to species richness with 23 % of the species from the Chydorinae and 31 % from the Aloninae sub-families. The other families represented, in descending order, are Sididae (12 %), Daphniidae (11 %), Macrothricidae (9 %), Bosminidae (6 %), Moinidae (5 %) and Ilyocryptidae with 3 % of the species (Fig. 2). The estimated total number of species, based on the extrapolation curve, is 90, ranging from 70 to 110 (Fig. 3).

Table 1. List of species reported from fresh water in Bahia state, Brazil, and their sites of occurrence (number code according to Tab. 2). DI indicates dubious identification. * First records for the state.

Taxon	Site of occurrence
ORDER CTENOPODA	
Family Sididae	
Diaphanosoma birgei Kořínеck, 1981	12, 15, 43
Diaphanosoma brachyurum (Liévin, 1848) (DI)	24
Diaphanosoma brevireme Sars, 1901	8, 9, 10, 14, 15, 18, 22, 24, 26, 27, 31, 34, 37
* *Diaphanosoma fluviatile* Hansen, 1899	35, 49, 50
Diaphanosoma spinulosum Herbst, 1975	12, 24, 32, 40
Latonopsis australis Sars, 1888	2, 9, 10, 13, 15, 22, 24, 28, 33, 46, 47
* *Pseudosida bidentata* Herrick, 1884	9, 15, 24
Pseudosida ramosa (Daday, 1904)	6, 8, 9, 17, 21, 26, 31, 34
* *Sarsilatona serricauda* (Sars, 1901)	24, 34, 35
ORDER ANOMOPODA	
Family Daphniidae	
Ceriodaphnia cornuta Sars, 1885	8, 9, 10, 13, 14, 15, 22, 23, 24, 27,30, 33, 34, 40, 49, 50
* *Ceriodaphnia richardi* Sars, 1901	30
* *Ceriodaphnia silvestrii* Daday, 1902	9
Daphnia gessneri Herbst, 1967	12, 13, 24
Daphnia pulex Leydig, 1860 (DI)	41
* *Simocephalus acutirostratus* (King, 1853)	39, 40
Simocephalus latirostris Stingelin, 1906	13
* *Simocephalus mixtus* Sars, 1903	24
Family Moinidae	
Moina micrura Kurz, 1875	6, 15, 27, 32, 39, 42
* *Moina minuta* Hansen, 1899	34, 40, 49, 50
Moinodaphnia macleayi (King, 1853)	2, 8, 11, 13, 16, 18, 22, 35
Family Bosminidae	
* *Bosmina freyi* De Melo and Hebert, 1994	4
* *Bosmina hagmanni* Stingelin, 1904	4
Bosmina tubicen Brehm, 1953	26, 27
Bosminopsis deitersi Richard, 1895	12, 44, 49
Family Ilyocryptidae	
Ilyocryptus sarsi Stingelin, 1913	10, 15, 23
Ilyocryptus sordidus (Liévin, 1848) (DI)	12
Ilyocryptus spinifer Herrick, 1882	1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 21, 22, 27, 28, 31, 32, 33, 35, 38, 40, 45, 46, 47, 48
Family Macrothricidae	
* *Grimaldina freyi* Neretina and Kotov, 2017	24, 34, 35
Guernella raphaelis Richard 1892	10
Macrothrix elegans Sars, 1901	2, 6, 7, 8, 9, 10, 13, 14, 15, 19, 22, 24, 26, 31, 35, 38, 40, 45, 46, 48
Macrothrix laticornis (Jurine, 1820) (DI)	12, 13
* *Macrothrix paulensis* (Sars, 1900)	28, 47
* *Macrothrix squamosa* Sars, 1901	2, 7, 10, 14, 35,40
Macrothrix superaculeata (Smirnov in Brandorff, Koste and Smirnov, 1982) (DI)	13
* *Streblocerus pygmaeus* Sars, 1901	4, 47

Table 1. Cont.

Taxon	Site of occurrence
Family Chydoridae	
Subfamily Chydorinae	
* *Alonella clathratula* Sars, 1896	28, 35, 45, 46, 48
* *Alonella dadayi* Birge, 1910	4, 7, 9, 15, 20, 22, 23, 25, 35, 45, 46, 47, 48
* *Chydorus eurynotus* Sars, 1901	8, 9, 14, 15, 24, 27, 28, 35, 47
* *Chydorus nitidulus* (Sars, 1901)	9, 14, 15, 24
* *Chydorus pubescens* Sars, 1901	3, 4, 14, 15, 24, 26, 28, 46
* *Chydorus ventricosus* Daday, 1898	9
Dadaya macrops (Daday, 1898)	9, 22, 24
Disparalona leptorhyncha Smirnov, 1996	45, 46, 47, 48
Disparalona lucianae Sousa, Elmoor-Loureiro, Mugnai, Panarelli and Paggi, 2018	4, 7, 23, 28, 29
Disparalona tenuispina Sousa, Elmoor-Loureiro, Mugnai, Panarelli and Paggi, 2018	36
* *Dunhevedia odontoplax* Sars, 1901	9, 10, 14, 24, 40
Ephemeroporus barroisi (Richard, 1894) *s.l.*	2, 4, 7, 9, 15, 22, 26, 28, 47
* *Ephemeroporus hybridus* (Daday, 1905)	3, 8, 9, 10, 15, 20, 24, 45, 46, 48
Ephemeroporus quasimodo Elmoor-Loureiro, 2014	46, 47
* *Ephemeroporus tridentatus* (Bergamin, 1939)	7, 9, 22, 26, 35
Subfamily Aloninae	
Acroperus tupinamba Sinev and Elmoor-Loureiro, 2010	4, 23, 45, 48
Alona cf. *guttata* Sars, 1862	4, 9, 23, 47
* *Alona isabellae* Sousa, Elmoor-Loureiro and Santos, 2016b	46, 47
* *Alona ossiani* Sinev, 1998	23, 28, 31, 46, 47, 48
Anthalona brandorffi (Sinev and Hollwedel, 2002)	48
Anthalona verrucosa verrusosa (Sars, 1901)	3, 4, 7, 8, 9, 13, 14, 22, 23, 33, 34, 45, 46, 48
Biapertura intermedia (Sars, 1862) (= *Alona isabellae* Sars, 1862)	22
* *Camptocercus dadayi* Stingelin, 1913	9
* *Coronatella monacantha* (Sars, 1901)	4
* *Euryalona orientalis* (Daday, 1898)	15, 24, 40
* *Flavalona iheringula* (Kotov and Sinev, 2004)	23, 46, 47, 48
* *Graptoleberis occidentalis* Sars, 1901	4, 28
* *Karualona muelleri* (Richard, 1897)	9, 14, 15, 24, 35,47, 48
* *Kurzia polyspina* Hudec, 2000	9, 15, 24
Leberis davidi (Richard, 1895)	13, 24
* *Leydigia* cf. *striata* Birabén, 1939	24, 39, 40
* *Leydigiopsis curvirostris* Sars, 1901	48
* *Leydigiopsis megalops* Sars, 1901	46
* *Magnospina dentifera* (Sars, 1901)	6, 9, 15, 24, 28
Nicsmirnovius paggii Sousa and Elmoor-Loureiro, 2017	22
* *Notoalona sculpta* (Sars, 1901)	9, 15, 24
* *Ovalona glabra* (Sars, 1901)	14, 24

Table 2. List of sites in Bahia state, Brazil, with information on Cladocera occurrence, geographical coordinates, and references. Localities are organized according to their ecoregions and Water Resources Management Unity (RPGA).

Ecoregions/RPGA/site of occurrence	Code	Latitude	Longitude	Reference
NORTHEASTERN MATA ATLANTICA				
II - Mucuri River				
Waterbody on the road between Mucuri and BR101, km 33	1	-	-	present study
Waterbody on the road between Mucuri and BR101, km 20	2	-	-	present study
III - Peruípe, Itanhém, and Jucuruçu Rivers				
Pool near Nova Viçosa	3	17°53'55"S	39°22'7"W	Sousa *et al.* (2015b); present study
Pond on BA697 road, near Nova Viçosa	4	17°57'35"S	39°33'22"W	Sousa *et al.* (2015b); Sousa *et al.* (2016b); present study
Pond near Teixeira de Freitas	5	17°32'S	39°44'W	Kotov and Elmoor-Loureiro (2008); present study
Pool near Itanhém River, road between Caravelas and Alcobaça, Km 21	6	-	-	present study
VII – East				
Pond at Tororomba Hotel, Ilhéus	7	14°59'29"S	38°59'59"W	present study
Marsh at BA001 road, c. 23Km South from Ilhéus	8	15°00'59"S	38°59'56"W	present study
VIII - Contas River				
Contas River, Itagibá	9	14°06'–14°11'S	39°39'–39°47'W	present study
Fish River, Itagibá	10	14°11'–14°12'S	39°39'–39°42'W	Elmoor-Loureiro *et al.* (2010); present study
Marsh near Praia da Concha, Itacaré	11	-	-	present study
Pedra Reservoir, Jequié	12	13°52'11"S	40°14'10"W	Simões and Sonoda (2009); Santos *et al.* (2018)
Perennial and intermittent pools in Jequiezinho River basin	13	13°40'–13°50'S	40°17'–41°06'W	Simões *et al.* (2008; 2011)
Reservoir in Santa Rita Stream, Itagibá	14	14°11'14"S	39°42'27"W	present study
Reservoir in Onça Stream, Bom Sucesso farm, Itagibá	15	14°10'25"S	39°44'19"W	present study
Pond on road BR030, about 16 km from BR101 to Itacaré	16	-	-	present study
Pond on road BR030, about 20 km from BR101 to Itacaré	17	-	-	present study
IX - South Recôncavo				
Marsh near Cairu	18	-	-	present study
Pond near Cairu	19	-	-	present study
Reservoir at Praia do Encanto Hotel, Morro de São Paulo	20	13°26'05"S	38°54'34"W	present study
Temporary pool near the airport, Morro de São Paulo	21	13°25'49"S	38°54'48"W	Kotov and Elmoor-Loureiro (2008); present study
X - Paraguaçu River				
Capivari Creek, Cruz das Almas	22	12°38'–12°40'S	39°05'–39°06'W	Elmoor-Loureiro (2000); Araújo *et al.* (2008); Kotov and Elmoor-Loureiro (2008); Sousa and Elmoor-Loureiro (2017); present study
Mucugezinho River, Lençóis	23	12°27'S	41°24'W	Kotov and Elmoor-Loureiro (2008); present study
Pedra do Cavalo Reservoir, Governador Mangabeira	24	12°56'59"S	38°20'25"W	Lopes *et al.* (2007), present study
Small pond in Lençóis	25	12°33'33"S	41°23'26"W	present study
Vasconcelos Reservoir, Cruz das Almas	26	12°38'24"S	39°04'25"W	Elmoor-Loureiro (2000); present study
XI - North Recôncavo and Inhambupe				
Abaeté Pond, Salvador	27	12°56'44"S	38°21'27"W	Kotov and Elmoor-Loureiro (2008); present study
Capivara Pond, Arembepe, Camaçari	28	12°45'42"S	38° 10'08"W	present study
Dunas Pond, Camaçari	29	12°48'11"S	38°13'09"W	Saro *et al.* (2011); Sousa *et al.* (2018)
Jauá Pond, Camaçari	30	12°49'13"S	38°13'11"W	Saro *et al.* (2011)
Marsh on Linha Verde (road BA-099), Itacimirim, Camaçari	31	-	-	present study

Table 2. Cont.

Ecoregions/RPGA/site of occurrence	Code	Latitude	Longitude	Reference
Permanent pond at BR116, near to Serrinha	32	-	-	present study
Pituaçu Reservoir, Salvador	33	12°58'01"S	38°24'44"W	Kotov and Elmoor-Loureiro (2008); present study
Pond at Pojuca	34	12°24'31"S	38°20'40"W	present study
Timeantube Pond, Praia do Forte, Mata de São João	35	12°34'41"S	38°00'47"W	Kotov and Elmoor-Loureiro (2008); present study
Water saturated sand, Lagoa Vitória, Salvador	36	12°56'59"S	38°20'25"W	Sousa *et al.* (2018)
XII - Itapicuru River				
Permanent waterbody at BR-116, near Feira de Santana	37	-	-	present study
Pirangi River (Cavalo Russo), Seribinha, Conde	38	11°44'32"S	37°31'31"W	present study
Unidentified waterbody (RPGA infered)	39	-	-	present study
Waterbody near Nova Soure, on the road connecting BR-101 and BR-116	40	-	-	present study
SÃO FRANCISCO				
XVI - Macururé and Curaçá Rivers				
Paulo Afonso Reservoir, Paulo Afonso	41	38°16'W	9°22'S	Silva *et al.* (2013)
Waterbody at Olhos D'água do Souza, Glória	42	9°21'55"S	38°12'51"W	Araújo and Nogueira (2016)
XVIII - Verde and Jacaré Rivers				
Temporary pool on BR-242 road, near Ibotirama	43	12°10'17"S	43°15'50"W	present study
XIX - Sobradinho Lake				
Sobradinho Reservoir	44	9°23'22"S	40°56'53"W	Crispim and Watanabe (2000)
XXI - Grande River				
Pond at BR-020, Roda Velha, São Desidério	45	12°47'18"S	45°57'06"W	Kotov and Elmoor-Loureiro (2008); Sinev and Elmoor-Loureiro (2010); Sousa *et al.* (2015b; 2018); present study
XXIV - Carinhanha River				
Formoso River, pond 1, head office of Trijunção Farm, Cocos	46	14°49'02"S	45°58'35"W	Kotov and Elmoor-Loureiro (2008); Elmoor-Loureiro (2014); present study
Formoso River, pond 2, Trijunção Farm, Cocos	47	14°47'18"S	45°56'42"W	present study
Pond at Santa Luzia Farm, Cocos	48	14°54'47"S	45°58'19"W	present study
XXV - Verde Grande River				
Cova da Mandioca Reservoir, Urandi	49	14°46'07"S	42°47'40"W	present study
Estreito Reservoir, Urandi	50	14°49'33"S	42°48'24"W	present study

Discussion

The number of species of freshwater Cladocera in Bahia State was expanded 2.5 times by our study, with new records for all the Bahia territory, but also for the RPGAs (Tabs. 1, 2). However, despite our contributions, the biodiversity in Bahia still may be underestimated as 12 RPGAs remain uncollected and most records are concentrated in the Northeastern Mata Atlântica ecoregion. A higher species richness is expected for the state considering that no asymptotic tendency is shown by the rarefaction curve in Fig. 3.

The most frequently found species were *Ilyocryptus spinifer* Herrick, 1882 (9.74 %), *Macrothrix elegans* Sars, 1901 (6.31 %), and *Ceriodaphnia cornuta* Sars, 1885 (5.16 %), all distributed across multiple basins within both ecoregions. In contrast, *Simocephalus* spp., *Leydigiopsis* spp., *Disparalona* (*Mixopleuroxus*) spp., *Ceriodaphnia richardi* Sars, 1901, *C. silvestrii* Daday, 1902, *Camptocercus australis,* Sars, 1896, *Bosmina hagmanni* Stingelin, 1904, *Anthalona brandorffi* (Sinev and Hollwedel, 2002), and *Coronatella monacantha* (Sars, 1901) were all considered rare showing the lowest frequencies (~1 % or less). The three most species rich river basins (Contas River, Paraguaçu River and North Recôncavo and Inhambupe) also had the highest sampling effort in terms of number of sites. These basins are in densely inhabited areas, including the vicinity of Salvador city, and they belong to the Northeastern Mata Atlântica ecoregion.

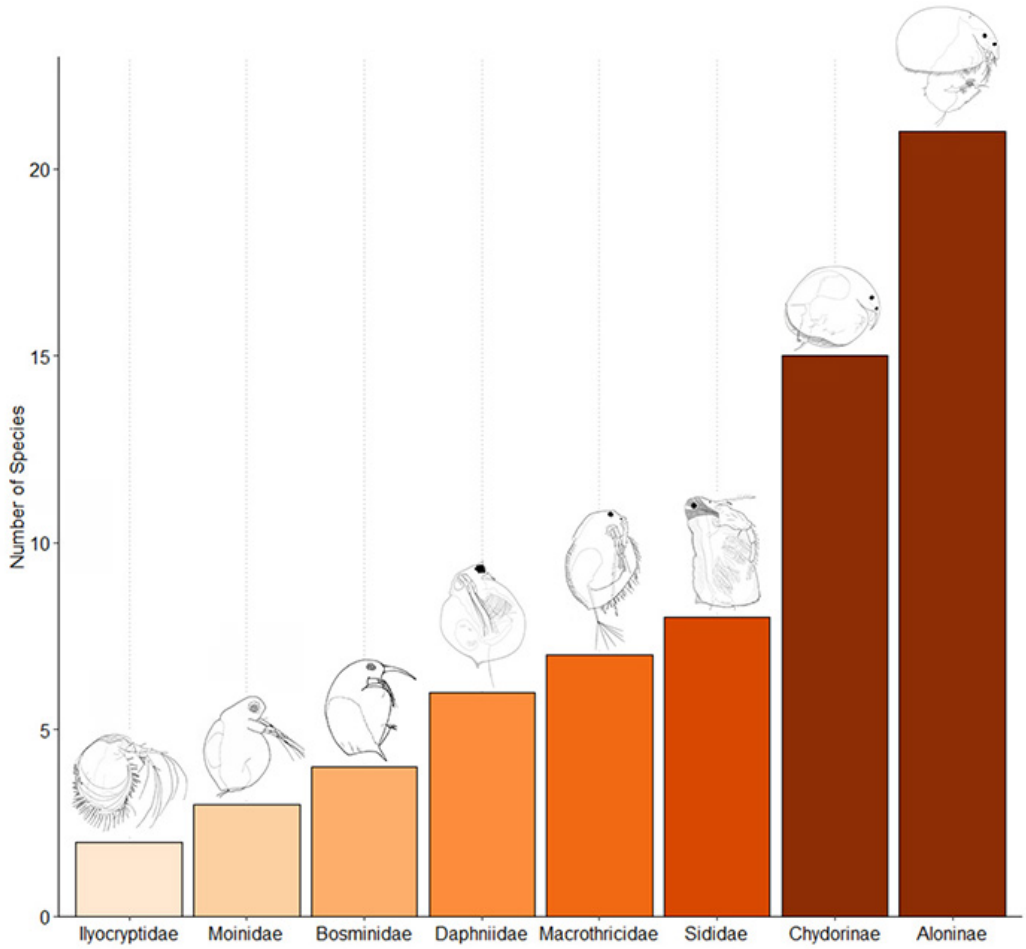

Figure 2. Number of cladoceran species from seven families in the state of Bahia, Brazil. The family Chydoridae was partitioned into Chydorinae and Aloninae sub-families.

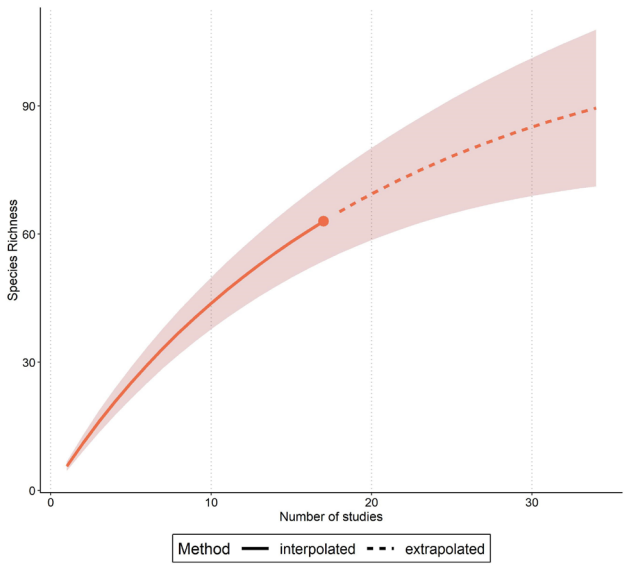

Figure 3. Rarefaction and extrapolation curve using the Hill number ($q = 0$ species richness) of the Cladocera fauna observed in Bahia State, Brazil (N = 17). Confidence interval of 95 % was obtained by bootstrap method and represented by the shaded area for the fitted curve.

Although less studied and with the lowest species richness, the São Francisco ecoregion was significantly represented by the Corrente River basin, the fourth richest basin, which houses 34 % of the species from the state, despite being under-investigated and under-sampled.

Overall, there are only a few studies that summarize Cladocera species in other Brazilian territories (Fig. 4). These studies include 23 species in Rio Grande do Sul (Gazulha, 2012), 30 species in Ceará (Sousa *et al.*, 2009), 56 species in Federal District (Sousa and Elmoor-Loureiro, 2012), 62 species in Pernambuco (Diniz *et al.*, 2020), 94 species in Minas Gerais (Santos-Wisniewski *et al.*, 2011), 96 species in São Paulo (Rocha *et al.*, 2011), 101 species in Mato Grosso do Sul (Zanata *et al.*, 2017), and 120 species in Mato Grosso (Brito *et al.*, 2020). To try to establish a broad comparison of cladoceran species richness between these regions is a hard task. Firstly, the high number

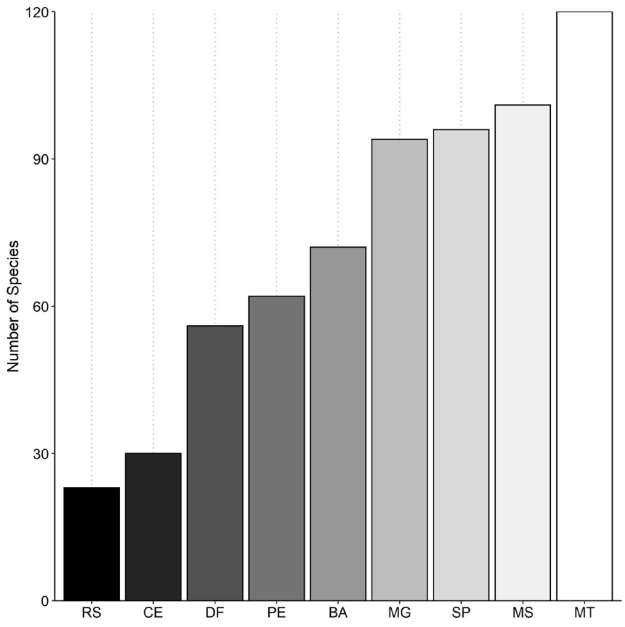

Figure 4. Rank of Cladoceran richness based on states' checklists.

of taxa present in Bahia State is comprised mostly by the Chydoridae (54 %), which is the least studied taxon among those mentioned, except for São Paulo State (Rocha *et al.*, 2011). In addition, a number of issues relating to their taxonomy and systematics have yet to be resolved (Santos-Wisniewski *et al.*, 2002; Forró *et al.*, 2008; Kattel and Augustinus, 2010). Further, such findings at least partly reflect the intensity of research and differential sampling efforts between regions rather than real patterns of diversity since Southern Brazil has more specialists and better studied systems (Silva and Perbiche-Neves, 2017).

São Paulo presents the highest number of species within the Southeast Region, most likely related to a wide geographic covering and large number of explored hydroelectric reservoirs (Silva and Perbiche-Neves, 2017). However, in Brazil, natural lakes are more species-rich than artificial ones (Longato *et al.*, 2018), where rotifers, instead of cladocerans, are often known to dominate zooplankton communities in both abundance and species richness terms (Neumann-Leitão *et al.*, 1989; Rocha *et al.*, 1995; Arcifa *et al.*, 1998; Nogueira, 2001; Sampaio *et al.*, 2002; Macêdo *et al.*, 2018). The states of Mato Grosso and Mato Grosso do Sul, despite being the focus of only a few and fragmented studies on the biodiversity of cladocerans, both have mega-diverse characteristics, since they share the Pantanal, Amazonian, and Cerrado areas. This overlap probably contributed to their overall higher cladoceran species richness (Brito *et al.*, 2020; Fig. 4). The Brazilian Cerrado, for example, is considered a biodiversity hotspot, with a recognized high level of endemism (Klink and Machado, 2005) and in the Pantanal, the habitat heterogeneity (Choi *et al.*, 2014; Padovesi-Fonseca and Rezende, 2017) supports a large number of aquatic ecosystems harboring a high species diversity. Finally, it is important to note the connectivity with the Amazon basin and its influence on flooded areas, which are very diverse regions with high endemism (Junk and Wantzen, 2006; Abell *et al.*, 2008).

The lack of taxonomic and biogeographic studies is also a problem in the Northeast Region, with few expeditions in both natural or artificial systems (Silva and Perbiche-Neves, 2017). Diniz *et al.* (2020) recently updated the species richness in Pernambuco, a semi-arid region of Northeast Brazil, increasing the number of species of cladoceran from 36 (Soares and Elmoor-Loureiro, 2011; Diniz *et al.*, 2013; Sousa *et al.*, 2015a; 2015c) to 62. Among several new species recorded within the São Francisco River sub-basin in Pernambuco, Diniz *et al.* (2020) identified *Celsinotum laticaudatum* Smirnov and Santos-Silva, 1995, *Diaphanosoma polyspinum* Korovchinsky, 1982, *Moina reticulata* (Daday, 1905), *Pseudosida bidentata* Herrick, 1884, and *Simocephalus serrulatus* (Koch, 1841). Notwithstanding this evidence, it is notable that these species were not found in Bahia, suggesting a lower sampling effort in this portion of the São Francisco basin.

Generally, the highest cladoceran diversity occurred in habitats with significant aquatic vegetation (Sakuma and Hanazato, 2002; Nogueira *et al.*, 2003; Geraldes and Boavida, 2004; Sweetman and Smol, 2006; Walseng *et al.*, 2006; Castilho-Noll *et al.*, 2010). Areas covered by macrophytes function as refuges against predators, receiving many species from the plankton (Thomaz and Cunha, 2010). Considering that the majority of the new information came from small waterbodies (see Appendix) we emphasize the relevant contribution of these small habitats to local biodiversity. Although not quantified in area or biomass terms, aquatic macrophytes were found in the majority of these water bodies, which might explain the high number of Chydoridae, Macrothricidae,

Daphniidae, and Sididae (Fig. 2). Members of the Chydoridae family, for example, have specialized appendages for locomotion on and under benthic substrates and for scraping organic material from them (Smirnov, 1971; Sousa and Elmoor-Loureiro, 2008; 2017). These characteristics allow this group to present a greater abundance and diversity in the shallow macrophyte-dominated ponds. On the other hand, hydroelectric reservoirs should be investigated more as they present significant spatiotemporal variation and diverse surrounding habitats, which host great species diversity, and where cladocerans play important roles in ecosystem functioning (Geraldes and Boavida, 2004; Agostinho *et al.*, 2008). Of considerable importance is the role of invasive species, which are extensively harming native biodiversity and water quality. This aspect deserves more attention since reservoirs are more prone to biological invasions and are surprisingly understudied in Bahia.

Local checklists can help to reduce gaps related to geographic ranges of species, indicate new areas for survey, and consolidate recent changes in taxonomy that are especially important in biodiversity surveys. On this last point, it is necessary to highlight that some species have previously been removed from the genus *Alona* Baird, 1843 and included in several new genera: *Ovalona glabra* (Sars, 1901), *Magnospina dentifera* (Sars, 1901), *Anthalona brandorffi, Anthalona verrucosa* (Sars, 1901) and *Flavalona iheringula* (Kotov and Sinev, 2004) (Van Damme *et al.*, 2011; Sousa *et al.*, 2016a; Sinev, 2015a; Sinev and Dumont, 2016). In other cases, species considered cosmopolitan were revised and the findings indicated several different taxa. For instance, *Acroperus tupinamba* Sinev and Elmoor-Loureiro, 2010 was identified as *Ac. harpae* (Baird, 1834) in previous studies in Brazil (Sinev and Elmoor-Loureiro, 2010) and *Alona isabellae* Sousa, Elmoor-Loureiro and Santos, 2016 was treated as *A. intermedia* Sars, 1862 (Sousa *et al.*, 2016b). Following the position of Smirnov (1998), *Camptocercus dadayi* Stingelin, 1913 was previously treated as a synonym of *Camptocercus australis* Sars, 1896 (*e.g.*, Sousa and Elmoor-Loureiro, 2012; 2013; 2019) but Sinev (2015b) showed that they are separate species, with *C. australis* restricted to Australia and Tasmania. For this reason, we here adopt again the name of the Neotropical *C. dadayi* for Brazilian records. *Disparalona hamata* (Birge, 1879) has been reported in different water bodies in Brazil; however, populations studied in Bahia belong to *Disparalona lucianae* Sousa, Elmoor-Loureiro, Mugnai, Panarelli and Paggi 2018. The two species are easily distinguished by the morphology of the labral keel (see Sousa *et al.*, 2018). Another recent change is related to the Macrothricidae species *Grimaldina brazzai* Richard, 1892, in which populations in South America now represent a separate species, *G. freyi* Neretina and Kotov, 2017 (Neretina and Kotov, 2017). Another taxonomic issue related to the Macrothricidae is that *Macrothrix squamosa* Sars, 1901 was recently treated in Kotov *et al.* (2019) as synonymous with *M. spinosa* King, 1853. However, the morphology of Brazilian specimens is different from *M. spinosa*, and so for now, the name *M. squamosa* should be applied to *spinosa*-like, even *laticornis*-like, Brazilian populations.

In regard to data considered inconsistent, it is noted that non-indigenous *Daphnia pulex* Leydig, 1860 populations were reported to occur in Paulo Afonso, an oligo-mesotrophic reservoir (Silva *et al.* 2013). We consider that this record should be re-evaluated and that only the native *Daphnia gessneri* Herbst, 1967 should be confirmed on the Bahia State species list. Kotov *et al.* (2004) conducted a detailed comparison between *Macrothrix elegans* and *M. superaculeata* (Smirnov, 1982), clearly showing the differences between these two species, and confirmed the occurrence of only *M. superaculeata* in the northern portion of Brazil. Thus, the occurrences within the Northeast Region of this species are considered dubious. Furthermore, we observe that *Diaphanosoma brachyurum* (Liévin, 1848) is exclusively a Palearctic species and so should not be found in Brazil and the specimens of *Ilyocryptus* cf. *sordidus* (Liévin, 1848) in Brazil really belong to *Ilyocryptus sarsi* Stingelin, 1913.

New lists of taxonomic occurrence, such as provided in this study, are important bases for new investigations, whether in the field of taxonomy, biogeography, ecology or conservation biology. It is concluded that cladoceran species richness in Bahia may be even higher despite the great increase herein provided. Moreover, there is a need to expand sampling to water bodies in other basins, particularly those located in the northern part of Bahia State.

Finally, a diversification of sampling sites, habitats, and ecosystems is recommended.

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Appendix

List of new cladoceran records from the state of Bahia, Brazil.

Abbreviations for the collections: EL - personal collection of Lourdes M.A. Elmoor-Loureiro. MNRJ - Museu Nacional, Universidade Federal do Rio de Janeiro; NEL/UNIRIO - Núcleo de Estudos Limnológicos, Universidade Federal do Rio de Janeiro; SBJ - personal collection of Sheila Bonfim de Jesus.

Order Ctenopoda

Family Sididae

***Diaphanosoma birgei* Kořínek, 1981.** (1) Temporary pool on BR-242 road, near Ibotirama, 12°10'17"S 43°15'50"W, 30.vii.1985, coll. L.M.A. Elmoor-Loureiro (EL00456). (2) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Diaphanosoma brevireme* Sars, 1901.** (1) Abaeté Pond, Salvador, 12°56'44"S 38°21'27"W, 01.viii.1981, coll. Janet W. Reid. (2) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL02188). (3) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 27.iii.2002 leg. Eduardo Mendes da Silva (EL00001) and 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00066). (4) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02754). (5) Marsh near Cairu, 20.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ15462, EL00609). (6) Permanent waterbody at BR-116, near Feira de Santana, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ15453). (7) Marsh on Linha Verde (road BA-099), Itacimirim, Camaçari, 26.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20362). (8) Pond at Pojuca, 12°24'31"S 38°20'40"W, 2019, coll. Rafael L. Macedo (NEL/UNIRIO). (9) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (10) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (11) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, i.2009, coll. Sheila Bonfim de Jesus (SBJ). (12) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25", 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Diaphanosoma fluviatile* Hansen, 1899.** (1) Cova da Mandioca Reservoir, Urandi, 14°46'7"S 42°47'40"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry (EL00024). (2) Estreito Reservoir, Urandi, 14°49'33"S 42°48'24"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry. (3) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00064).

***Diaphanosoma spinulosum* Herbst, 1967.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL02198, EL00029). (2) Permanent waterbody at BR-116, near to Serrinha, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ15463, EL00611). (3) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20284).

***Latonopsis australis* Sars, 1888.** (1) Pituaçu Reservoir, Salvador, 12°58'1"S 38°24'44"W, 04.viii.1981, coll. Janet W. Reid. (2) Capivari Creek, Cruz das Almas, 12°40'10"S 39°06'21"W, 18.xii.2000, leg. Eduardo Mendes da Silva (EL02204). (3) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03247). (4) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00037). (5) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02965). (6) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03255). (7) Waterbody on the road between Mucuri and BR-101, km 20, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20312, EL00612). (8)

Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (9) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (10) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Pseudosida bidentata* Herrick, 1884.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001, leg. Eduardo Mendes da Silva. (2) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (3) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Pseudosida ramosa* (Daday, 1904).** (1) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL00959). (2) Temporary pool near the airport, Morro de São Paulo, 13°25'49"S 38°54'48"W, 29.i.2004, coll. L.M.A. Elmoor-Loureiro (EL00050). (3) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02749). (4) Marsh on Linha Verde (road BA-099), Itacimirim, Camaçari, 26.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20363, EL00613). (5) Pool near Nova Viçosa, 14.iii.1995, coll. R.J.J. Silva and P.S. Young (MNRJ20300). (6) Pool near Itanhém River, road between Caravelas and Alcobaça, Km 21, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20339). (7) Pond on road BR-030, about 20 km from BR-101 to Itacaré, 16.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ15452). (8) Pond at Pojuca, 12°24'31"S 38°20'40"W, 2019, coll. Rafael L. Macedo (NEL/UNIRIO). (9) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Sarsilatona serricauda* (Sars, 1901).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001, leg. Eduardo Mendes da Silva (EL02200). (2) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00057). (3) Pond at Pojuca, 12°24'31"S 38°20'40"W, 2019, coll. Rafael L. Macedo (NEL/UNIRIO).

Order Anomopoda

Family Daphniidae

***Ceriodaphnia cornuta* Sars, 1886.** (1) Abaeté Pond, Salvador, 12°56'44"S 38°21'27"W, 01.viii.1981 coll. Janet W. Reid and 28.vii.1985, coll. L.M.A. Elmoor-Loureiro (EL02190). (2) Pituaçu Reservoir, Salvador, 12°58'01"S 38°24'44"W, 04.viii.1981, coll. Janet W. Reid. (3) Capivari Creek, Cruz das Almas, 12°40'10"S 39°06'21"W, 18.xii.2000, leg. Eduardo Mendes da Silva (EL02203). (4) Cova da Mandioca Reservoir, Urandi, 14°46'7"S 42°47'40"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry (EL00123). (5) Estreito Reservoir, Urandi, 14°49'33"S 42°48'24"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry (EL00124). (6) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02719). (7) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 01.ix.2004, coll. Valéria Barros. (8) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20281, EL00635). (9) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL03253, EL00125) and 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03254). (10) Pond at Pojuca, 12°24'31"S 38°20'40"W, 2019, coll. Rafael L. Macedo (NEL/UNIRIO). (11) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (12) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (13) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, i.2009, coll. Sheila Bonfim de Jesus (SBJ). (14) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Ceriodaphnia richardi* Sars, 1901.** Jauá Pond, Camaçari, 12°49'13"S 38°13'11"W, leg. Eduardo Mendes da Silva (EL03200). Specimens from a culture

started with specimens sampled in this pond, received in 2011.

***Ceriodaphnia silvestrii* Daday, 1902.** Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Daphnia gessneri* Herbst, 1967.** Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL00168, EL02196).

***Simocephalus acutirostratus* King, 1853.** (1) Unidentified waterbody in Itapicuru River Basin, 27.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20258). (2) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20285).

***Simocephalus mixtus* Sars, 1903.** Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001, leg. Eduardo Mendes da Silva (EL02199) and 11.vii.2002 coll. L.M.A. Elmoor-Loureiro (EL00202).

Family Moinidae

***Moina micrura* Kurz, 1874.** (1) Abaeté Pond, Salvador, 12°56'44"S 38°21'27"W, 28.vii.1985, coll. L.M.A. Elmoor-Loureiro (EL01812). (2) Unidentified waterbody in Itapicuru River Basin, 27.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ15449, EL00605). (3) Permanent pond at BR-116, near to Serrinha, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20291). (4) Pool near Itanhém River, road between Caravelas and Alcobaça, Km 21, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20341). (5) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Moina minuta* Hansen, 1899.** (1) Cova da Mandioca Reservoir, Urandi, 14°46'7"S 42°47'40"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry (EL00104). (2) Estreito Reservoir, Urandi, 14°49'33"S 42°48'24"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry. (3) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20286). (4) Pond at Pojuca, 12°24'31"S 38°20'40"W, 2019, coll. Rafael L. Macedo (NEL/UNIRIO).

***Moinodaphnia macleayi* (King, 1853)** – (1) Capivari Creek, Cruz das Almas, 12°40'10"S 39°06'21"W, 1999, leg. Eduardo Mendes da Silva (EL02201). (2) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00112). (3) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL01786). (4) Waterbody on the road between Mucuri and BR-101, km 20, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20310). (5) Pond on road BR-030, about 16 km from BR-101 to Itacaré, 16.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ15465, EL00608). (6) Marsh near Praia da Concha, Itacaré, 17.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20347). (7) Marsh near Cairu, 20.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20290, EL00607).

Family Bosminidae

***Bosmina* (*Bosmina*) *freyi* De Melo and Hebert, 1994.** Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL03232, EL3238).

***Bosmina* (*Liederobosmina*) *hagmanni* Stingelin, 1904.** Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL3237).

***Bosmina* (*Liederobosmina*) *tubicen* Brehm, 1953.** (1) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL02202). (2) Abaeté Pond, Salvador, 12°56'44"S 38°21'27"W, 01.viii.1981, coll. Janet W. Reid (EL02222).

***Bosminopsis deitersi* Richard, 1895.** Cova da Mandioca Reservoir, Urandi, 14°46'7"S 42°47'40"W, 06.ii.2002, coll. Patrícia Mitsuka and Raoul Henry (EL00075).

Family Ilyocryptidae

***Ilyocryptus sarsi* Stingelin, 1913.** (1) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (2) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Ilyocryptus spinifer* Herrick, 1882.** (1) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03257). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02967). (3) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02969). (4) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL03239). (5) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02701). (6) Pond on road BR-030, about 20 km from BR-101 to Itacaré, 16.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20264). (7) Waterbody on the road between Mucuri and BR-101, km 33, 17.iii.1995, coll. R.J.J. Silva, P.S. Young, C.B. Castro, A.E. Migotto, and C.A. Echeverria (MNRJ15459). (8) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20282). (9) Pirangi River (Cavalo Russo), Seribinha, Conde, 08.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ15464). (10) Pool near Nova Viçosa, 14.iii.1995, coll. R.J.J. Silva and P.S. Young (MNRJ15467). (11) Waterbody on the road between Mucuri and BR-101, km 20, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20311). (12) Pool near Itanhém River, road between Caravelas and Alcobaça, Km 21, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20340). (13) Marsh near Praia da Concha, Itacaré, 17.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ15478). (14) Marsh on Linha Verde (road BA-099), Itacimirim, Camaçari, 26.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ15490). (15) Permanent pond at BR-116, near to Serrinha, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20292). (16) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (17) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (18) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (19) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

Family Macrothricidae

***Grimaldina freyi* Neretina and Kotov, 2017.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 27.iii.2002, leg. Eduardo Mendes da Silva (EL00334). (2) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00335). (3) Pond at Pojuca, 12°24'31"S 38°20'40"W, 2019, coll. Rafael L. Macedo (NEL/UNIRIO).

***Macrothrix elegans* Sars, 1901.** (1) Pond at BR-020, Roda Velha, São Desidério, 12°47'18"S 45°57'06"W, coll. L.M.A. Elmoor-Loureiro (EL00419). (2) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL01155). (3) Capivari Creek, Cruz das Almas, 12°38'52"S 39°05'52"W, 02.ix.1999, leg. Eduardo Mendes da Silva (EL01154). (4) Capivari Creek, Cruz das Almas, 12°40'10"S 39°06'21"W, 18.xii.2000, leg. Eduardo Mendes da Silva (EL02205). (5) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59″S 38°20′25″W, 11.vii.2001 and 27.iii.2002 leg. Eduardo Mendes da Silva (EL02197, EL00337) and 11.vii.2002 coll. L.M.A. Elmoor-Loureiro (EL00338). (6) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00339). (7) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00340). (8) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02970). (9) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°00'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02573). (10) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll.

L.M.A. Elmoor-Loureiro (EL03241). (11) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20283). (12) Pirangi River (Cavalo Russo), Seribinha, Conde, 08.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20294). (13) Waterbody on the road between Mucuri and BR-101, km 20, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ15469). (14) Pool near Itanhém River, road between Caravelas and Alcobaça, Km 21, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva and C.A. Echeverria (MNRJ15473). (15) Pond near Cairu, 20.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ15476). (16) Marsh on Linha Verde (road BA099), Itacimirim, Camaçari, 26.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20361). (17) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL03303). (18) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (19) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (20) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (21) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Macrothrix paulensis* (Sars, 1900).** (1) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00374). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00341).

***Macrothrix squamosa* Sars, 1901.** (1) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00339). (2) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL03240). (3) Waterbody on the road between Mucuri and BR-101, km 20, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20274). (4) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20287). (5) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL02777). (6) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Streblocerus pygmaeus* Sars, 1901.** (1) Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL02211). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00390).

Family Chydoridae

Subfamily Chydorinae

***Alonella clathratula* Sars, 1896.** (1) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03274) and 19.x.2017, leg. Bárbara M. Fonseca (EL03296). (2) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03285). (3) Pond at BR-020, Roda Velha, São Desidério, 12°47'18"S 45°57'06"W, coll. L.M.A. Elmoor-Loureiro (EL00480). (4) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03260). (5) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03269).

***Alonella dadayi* Birge, 1910.** (1) Small pond in Lençóis, 12°33'33"S 41°23'26"W, 29.vii.1985, coll. L.M.A. Elmoor-Loureiro (EL00422). (2) Pond at BR-020, Roda Velha, São Desidério, 12°47'18"S 45°57'06"W, coll. L.M.A. Elmoor-Loureiro (EL00479). (3) Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL03234). (4) Capivari Creek, Cruz das Almas, 12°38'52"S 39°05'52"W, 02.ix.1999, leg. Eduardo Mendes da Silva (EL01216). (5) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03266). (6) Formoso River, pond 1, head office of Trijunção Farm, Cocos,

14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02962), 19.x.2017, leg. Bárbara M. Fonseca (EL03294). (7) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00423). (8) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02971). (9) Reservoir at Praia do Encanto Hotel, Morro de São Paulo, 13°26'05"S 38°54'34"W, 29.i.2004, coll. L.M.A. Elmoor-Loureiro (EL00424). (10) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 14.x.2004, coll. Valéria Barros (EL03289). (11) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02849). (12) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL03245). (13) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (14) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Chydorus eurynotus* Sars, 1901.** (1) Abaeté Pond, Salvador, 12°56'44"S 38°21'27"W, 01.viii.1981, coll. Janet W. Reid (EL02223). (2) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL03252), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00551). (3) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03261). (4) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03267). (5) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03278). (6) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02561). (7) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL03298). (8) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (9) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Chydorus nitidulus* (Sars, 1901).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03248). (2) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL02869). (3) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (4) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Chydorus pubescens* Sars, 1901.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL00561), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00646). (2) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL02344). (3) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03263). (4) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00562), 19.x.2017, leg. Bárbara M. Fonseca (EL02972). (5) Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL02210). (6) Pool near Nova Viçosa, 14.iii.1995, coll. R.J.J. Silva and P.S. Young (MNRJ20301). (7) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (8) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Chydorus ventricosus* Daday, 1898.** Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Dadaya macrops* (Daday, 1898).** (1) Capivari Creek, Cruz das Almas, 12°40'10"S 39°06'21"W, 1999, leg. Eduardo Mendes da Silva (EL02193). (2) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001, leg. Eduardo Mendes da Silva (EL02194), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00456). (3) Contas River,

Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Disparalona leptorhyncha* Smirnov, 1996.** (1) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02964). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL02966). (3) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03286).

***Disparalona lucianae* Sousa, Elmoor-Loureiro, Mugnai, Panarelli and Paggi, 2018.** (1) Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL02208). (2) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03259). (3) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 14.x.2004, coll. Valéria Barros (EL00464). (4) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL00465).

***Dunhevedia odontoplax* Sars, 1901.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 leg. Eduardo Mendes da Silva (EL03177) 11.vii.2002 coll. L.M.A. Elmoor-Loureiro (EL00470). (2) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20278). (3) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (4) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (5) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

Ephemeroporus barroisi* (Richard, 1894) *s.l. (1) Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL02209, EL03236). (2) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL01301). (3) Capivari Creek, Cruz das Almas, 12°40'10"S 39°06'21"W, 18.xii.2000, leg. Eduardo Mendes da Silva. (4) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03262). (5) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00481). (6) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL03244). (7) Waterbody on the road between Mucuri and BR-101, km 20, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20313). (8) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (9) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Ephemeroporus hybridus* (Daday, 1905).** (1) Pond at BR-020, Roda Velha, São Desidério, 12°47'18"S 45°57'06"W, coll. L.M.A. Elmoor-Loureiro (EL00491). (2) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL03180, EL00492), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL01583). (3) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03276). (4) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00493). (5) Reservoir at Praia do Encanto Hotel, Morro de São Paulo, 13°26'05"S 38°54'34"W, 29.i.2004, coll. L.M.A. Elmoor-Loureiro (EL00494). (6) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02917). (7) Pool near Nova Viçosa, 14.iii.1995, coll. R.J.J. Silva and P.S. Young (MNRJ20302). (8) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL03308). (10) Fish River, Itagibá, 14°11'–14°12'S 39°39'–39°42'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (11) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Ephemeroporus quasimodo* Elmoor-Loureiro, 2014.** Formoso River, pond 2, Trijunção Farm, Cocos,

14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03277).

***Ephemeroporus tridentatus* (Bergamin, 1931).** (1) Capivari Creek, Cruz das Almas, 12°38'52"S 39°05'52"W, 02.ix.1999, leg. Eduardo Mendes da Silva (EL01300). (2) Vasconcelos Reservoir, Cruz das Almas, 12°38'24"S 39°04'25"W, 23.ix.1999, leg. Eduardo Mendes da Silva (EL02345). (3) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03268). (4) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL03243). (5) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL03309).

Subfamily Aloninae

***Acroperus tupinamba* Sinev and Elmoor-Loureiro, 2010.** (1) Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL03233). (2) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03233).

***Alona* cf. *guttata* Sars, 1862.** (1) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03281). (2) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 14.x.2004, coll. Valéria Barros (EL03291). (3) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Alona isabellae* Sousa, Elmoor-Loureiro and Santos, 2016.** (1) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03273). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03280).

***Alona ossiani* Sinev, 1998.** (1) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00690), 19.x.2017, leg. Bárbara M. Fonseca (EL02973). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03280). (3) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03233). (4) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 01.ix.2004 and 14.x.2004, coll. Valéria Barros (EL02152, EL03290). (5) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03258). (6) Marsh on Linha Verde (road BA099), Itacimirim, Camaçari, 26.ii.1997, coll. P.S. Young and C.S. Serejo (MNRJ20360).

***Anthalona brandorffi* (Sinev and Hollwedel, 2002).** Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03282).

***Anthalona verrucosa verrucosa* (Sars, 1901).** (1) Pituaçu Reservoir, Salvador, 12°58'1"S 38°24'44"W, 04.viii.1981, coll. Janet W. Reid. (2) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03256). (3) Capivari Creek, Cruz das Almas, 12°38'52"S 39°05'52"W, 02.ix.1999, leg. Eduardo Mendes da Silva (EL01388, EL01389). (4) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03271). (5) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03287). (6) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 14.x.2004, coll. Valéria Barros (EL03292). (7) Marsh at BA-001 road, approximately 23 Km south from Ilhéus, 15°0'59"S 38°59'56"W, 26.i.2006, coll. L.M.A. Elmoor-Loureiro (EL02800). (8) Pond at Tororomba Hotel, Ilhéus, 14°59'29"S 38°59'59"W, 27.i.2006, coll. L.M.A. Elmoor-Loureiro (EL03246). (9) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (10) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Camptocercus dadayi* Stingelin, 1913.** Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Coronatella monacantha* (Sars, 1901).** Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro (EL03235).

***Euryalona orientalis* (Daday, 1898).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL03176, EL00783). (2) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20279, EL00784). (3) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Flavalona iheringula* (Kotov and Sinev, 2004).** (1) Formoso River, pond 1, head office of Trijunção Farm, Cocos, 14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03272), 19.x.2017, leg. Bárbara M. Fonseca (EL03295). (2) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03279). (3) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03284). (4) Mucugezinho River, Lençóis, 12°27'S 41°24'W, 01.ix.2004 and 14.x.2004, coll. Valéria Barros (EL02016, EL03293).

***Graptoleberis occidentalis* Sars, 1901. (1)** Pond on BA-697 road, near Nova Viçosa, 17°57'35"S 39°33'22"W, 22.i.1991, coll. L.M.A. Elmoor-Loureiro. (2) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00803).

***Karualona muelleri* (Richard, 1897).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 27.iii.2002, leg. Eduardo Mendes da Silva (EL00811), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00812). (2) Timeantube Pond, Praia do Forte, Mata de São João, 12°34'41"S 38°00'47"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03264). (3) Formoso River, pond 2, Trijunção Farm, Cocos, 14°47'18"S 45°56'42"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL00813). (4) Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03288). (5) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (6) Reservoir in Santa Rita Stream, Itagibá, 14°11'14"S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (7) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Kurzia polyspina* Hudec, 2000.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 27.iii.2002, leg. Eduardo Mendes da Silva (EL00830), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00831). (2) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL03306). (3) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Leberis davidi* (Richard, 1895).** Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL01614, EL00645), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL03251).

***Leydigia* (*Neoleydigia*) cf. *striata* Birabén, 1939.** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 27.iii.2002, leg. Eduardo Mendes da Silva (EL00838). (2) Waterbody near Nova Soure, on the road connecting BR-101 and BR-116, 28.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20280, EL00839). (3) Unidentified waterbody in Itapicuru River Basin, 27.ii.1995, coll. P.S. Young and C.S. Serejo (MNRJ20257).

***Leydigiopsis curvirostris* Sars, 1901.** Pond at Santa Luzia Farm, Cocos, 14°54'47"S 45°58'19"W, 27.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03283).

***Leydigiopsis megalops* Sars, 1901.** Formoso River, pond 1, head office of Trijunção Farm, Cocos,

14°49'02"S 45°58'35"W, 26.iv.2003, coll. L.M.A. Elmoor-Loureiro (EL03270).

***Magnospina dentifera* (Sars, 1901).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL03178, EL00650), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00651). (2) Capivara Pond, Arembepe, Camaçari, 12°45'42"S 38°10'08"W, 12.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00652). (3) Pool near Itanhém River, road between Caravelas and Alcobaça, Km 21, 17.iii.1995, coll. P.S. Young, C.B. Castro, A.E. Migotto, R.J.J. Silva, and C.A. Echeverria (MNRJ20342). (5) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ). (5) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Notoalona sculpta* (Sars, 1901).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 11.vii.2001 and 27.iii.2002, leg. Eduardo Mendes da Silva (EL03179, EL00857), 11.vii.2002, coll. L.M.A. Elmoor-Loureiro (EL00858). (2) Contas River, Itagibá, 14°06'–14°11'S 39°39'–39°47'W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ, EL03307). (3) Reservoir in Onça Stream, Bom Sucesso farm, Itagibá, 14°10'25"S 39°44'19"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).

***Ovalona glabra* (Sars, 1901).** (1) Pedra do Cavalo Reservoir, Governador Mangabeira, 12°56'59"S 38°20'25"W, 27.iii.2002, leg. Eduardo Mendes da Silva (EL00755). (2) Reservoir in Santa Rita Stream, Itagibá, 14°11'14 S 39°42'27"W, x.2008–vii.2009, coll. Sheila Bonfim de Jesus (SBJ).