

# Identification key for the Brazilian genera and species of Aloninae (Crustacea, Branchiopoda, Anomopoda, Chydoridae)

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**Abstract.** Since early 2000 years, the knowledge about the taxonomy of Aloninae (Cladocera: Chydoridae) has been in rapid progress. For this reason, the most of Brazilian fauna was affected concerning nomenclature, besides an increase in the number of known genera and species. Thus, in this study, we bring an updated species list of Aloninae in Brazil, as well as identification keys based in current nomenclature and morphological standards. Our finding pointed to the occurrence of 46 valid species, belonging to 21 genera and three groups of *Alona sensu lato*. Two of these genera are endemic to Brazil. So far, South-East Asia and Brazil have the most well-studied Aloninae fauna in the entire planet.

**Key-Words.** Cladocera; Microcrustaceans; Neotropics; Postabdome; Rostrum.

## INTRODUCTION

The 19<sup>th</sup> century brought the beginning of studies with Cladocera in Brazil (Ihering, 1895). After this initial study, the following years brought further contributions for the knowledge of these crustaceans, with highlights for the classic study by Sars (1901) on the South American cladoceran fauna and the significant contributions of Francisco Bergamin (Bergamin, 1939a, b, c, 1940a, b, 1941). The first systematized list of cladocerans of Brazil was published as a book and also included, for the first time, an identification key for this group that focused solely on the Brazilian species (Elmoor-Loureiro, 1997). More recently, a manual containing pictures and brief diagnoses of the cladoceran species of the Rio Grande do Sul state was published, including many species that are broadly distributed across the rest of Brazil (Gazullha, 2012).

Until the beginning of the 21<sup>st</sup> century, the list of Brazilian cladoceran fauna contained a total of 118 species. However, significant gaps or deficiencies were appointed by Elmoor-Loureiro (2000). First, at least 50% of the species registered until that moment were considered as cosmopolitan, contradicting Frey's non-cosmopolitanism paradigm (Frey, 1987). Second, the

significant amount of sampling deficiencies as a function of some habitats being less sampled than others, and also because of the continental scale of Brazil's territory. Third, the need for advancements in the taxonomy of the group (Elmoor-Loureiro, 2000). Even if we consider only the Subfamily Aloninae Dybowski & Grochowski *emend.* Frey, 1967, many recently published studies indicate significant changes in the systematics of this group, which is considered the most diverse lineage within the Superorder Cladocera (Van Damme & Dumont, 2008, 2010; Van Damme *et al.*, 2009, 2010, 2011; Elmoor-Loureiro *et al.*, 2013; Sinev, 2015, 2016).

Considering the advances in the taxonomy of the Aloninae and the changes that occurred in the last years regarding to the Brazilian cladoceran fauna (*e.g.*, Sinev *et al.*, 2004, Sinev & Elmoor-Loureiro, 2010; Elmoor-Loureiro *et al.*, 2013, Sousa *et al.*, 2015a, 2016a), it is of the capital importance that we provide updated information concerning the number of species. Besides, we make available an identification key aligned with the nomenclature and morphological standards adopted nowadays. Because of this, our study aims to provide updated identification keys for the genera and species of the Subfamily Aloninae that occur in Brazil.

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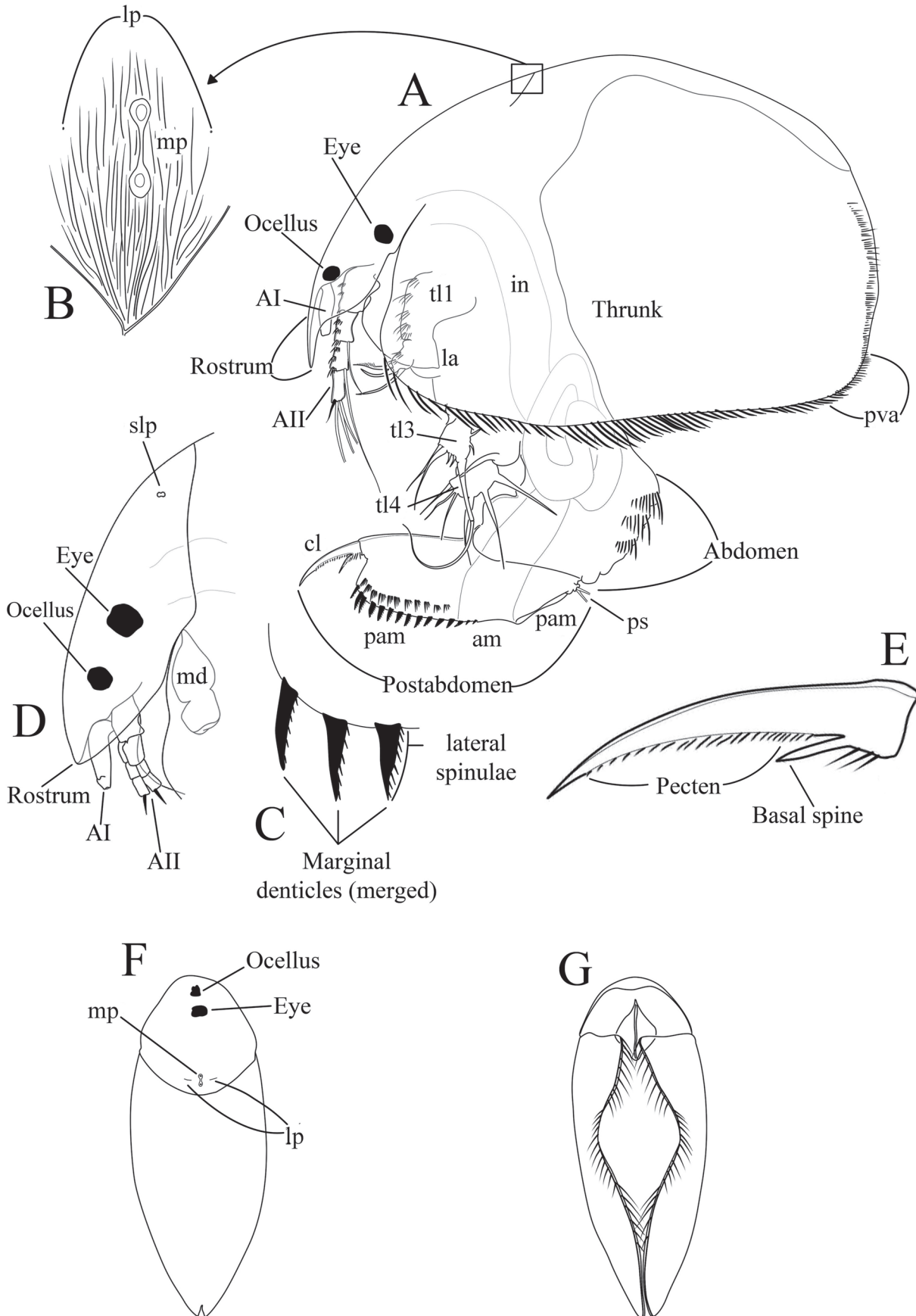
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**Figure 1.** General Morphology of Aloninae (Cladocera: Chydoridae) using as example the *affinis*-group of *Alona sensu lato* (A-C), *Nicsmirnovius* Chiambeng & Dumont, 1999 (D-E) and *Flavalona* Sinev & Dumont, 2016 (F-G). (A) Lateral view. (B) Head pores. (C) Marginal denticles on the postabdomen. (D) Lateral view of head showing a not projected rostrum. (E) Postabdominal claw. (F) Dorsal view. (G) Ventral view. AI = antenna I; AII = antenna II; pvc = posteroventral corner of carapace; tl1, tl3, tl4 = limbs; cl = postadominal claw; IDL = Inner Distal Lobe; in = intestine; la = labrum; am = anal margin; md = mandible; pam = postanal margin; prm = preanal margin; ODL = Outer Distal Lobe; mp = main head pores; lp = lateral head pores; ps = postabdominal setae; slp = sac underneath lateral head pores.

## MATERIAL AND METHODS

The elaboration of identification keys was based on material obtained from different regions of Brazil, which are stored in the private collections of the two authors of this study, or in the collection of the Laboratório de Biodiversidade Aquática of the Universidade Católica de Brasília. Previous studies concerning the taxonomy of the Aloninae with a focus in species that occurred in Brazil were also used as sources (Frey, 1980; Rajapaksa & Fernando, 1987; Elmoor-Loureiro, 1997; Hudec, 2000; Sinev, 2001; Elmoor-Loureiro, 2002; Hollwedel *et al.*, 2003; Sinev, 2004a, b; Sinev & Hollwedel, 2005; Sinev *et al.*, 2005; Van Damme *et al.*, 2005; Elmoor-Loureiro *et al.*, 2009; Kotov, 2009; Sinev & Elmoor-Loureiro, 2010; Van Damme *et al.*, 2011; Elmoor-Loureiro *et al.*, 2013; Van Damme & Sinev, 2013; Sousa *et al.*, 2014, 2015a, b, 2016a, b, 2017; Sinev, 2015; Sinev & Dumont, 2016; Sousa & Elmoor-Loureiro, 2017; Sousa & Elmoor-Loureiro, 2017).

For each genus or group of Aloninae included in this study, it was provided a short diagnosis, listing the main morphological traits that distinguish them from one another, which is based exclusively in species that occur in Brazil. On the digital version of this publication, each species includes a link to the webpage “Cladóceros do Brasil: Famílias Chydoridae e Eurytercidae”. In this link, the reader will find a diagnosis, pictures, and data concerning the geographical distribution of each species included there.

The main morphological characters used for the construction of the identification keys correspond to aspects of the external morphology, such as the habitus and post-abdomen (Fig. 1). However, for the observation of refined characters (such as head pores and structures of the thoracic appendages), careful manipulation of the specimens is necessary, as well as eventual dissections for observation in higher magnifications. All of the morphological structures mentioned in this study refer to the parthenogenetic females, given that males are rarely observed in nature.

## RESULTS AND DISCUSSION

In Brazil, there are currently 46 recognized species of the Subfamily Aloninae considered as valid, distributed among 21 genera and three groups of *Alona sensu lato*. When each genus is evaluated separately, our results report that *Coronatella* (5 spp.), *Anthalona* (4 spp.) and *Leydigioopsis* (4 spp.) are the most species-rich genera. More than half of the genera reported have only one species occurring in Brazil, with *Bergamina* and *Prendalona*

(Sousa, Elmoor-Loureiro & Santos, 2018) being endemic to this country.

The number of species considered as cosmopolitan was significantly reduced when compared to the results of Elmoor-Loureiro (2000), a direct result of an increased effort to define the taxonomic classification of particular groups within the Aloninae. According to the concept of non-cosmopolitanism in Cladocera (Frey, 1987), it is not precocious to state that the populations of *Alona* cf. *gut-tata* Sars, 1862 (Sousa *et al.*, 2016a) and *Euryalona orientalis* (Daday, 1898) reported for Brazil actually comprise new species that are awaiting description. However, this depends on comparisons with specimens of the type-region and other localities across the globe. A different example of a species considered as cosmopolitan is *Coronatella monacantha* (Sars, 1901); we now know that this species is a Neotropical one, with records outside of its zoogeographical zone actually being populations of other species, as is clearly pointed by Van Damme (2016) in his revision of the records of this species in Africa.

Of the total amount of Aloninae species reported in this study, fourteen of them occur exclusively in Brazil, but have been recorded in only a few locations within the country. At the very least, we can consider *Alona elisae* Sousa, Elmoor-Loureiro & Santos, 2016, *Coronatella undata* Sousa, Elmoor-Loureiro & Santos, 2016, *Coronatella serratalhadensis* Sousa, Elmoor-Loureiro & Santos, 2016, *Monospilus macroerosus* Sousa, Elmoor-Loureiro & Panarelli, 2017 and *Prendalona arvensis* (Sousa, Elmoor-Loureiro & Santos, 2016) as locally endemic. *Celsinotum candango* Sinev & Elmoor-Loureiro, 2010 is endemic to the Brazilian Cerrado, and *Celsinotum laticaudatum* Smirnov & Santos-Silva, 1995 apparently occurs exclusively on the Amazon River Basin. *Nicsmirnovius incredibilis* (Smirnov, 1984) also has a distribution that is restricted to the Amazon River Basin.

The diversity of Aloninae in Brazil is high and represents more than 60% of the diversity of the subfamily in the whole Neotropical region. Even though many advances occurred in the last 17 years, there are still many important areas and ecosystems of Brazil that need to be better explored, such as the Amazon River Basin, high-land ecosystems, and semiterrestrial environments. The potential for diversity of the Subfamily Aloninae in Brazil is high, and the results shown here can be considered as underestimations of the actual diversity. The number of genera and species found in this study is similar to that observed for Southeast Asia (Sinev, 2016; Sinev *et al.*, 2017). Together, these two regions of the planet can be considered as the most well studied when concerning the taxonomy and diversity of Aloninae.

### Identification key for the genus of the Subfamily Aloninae occurring in Brazil

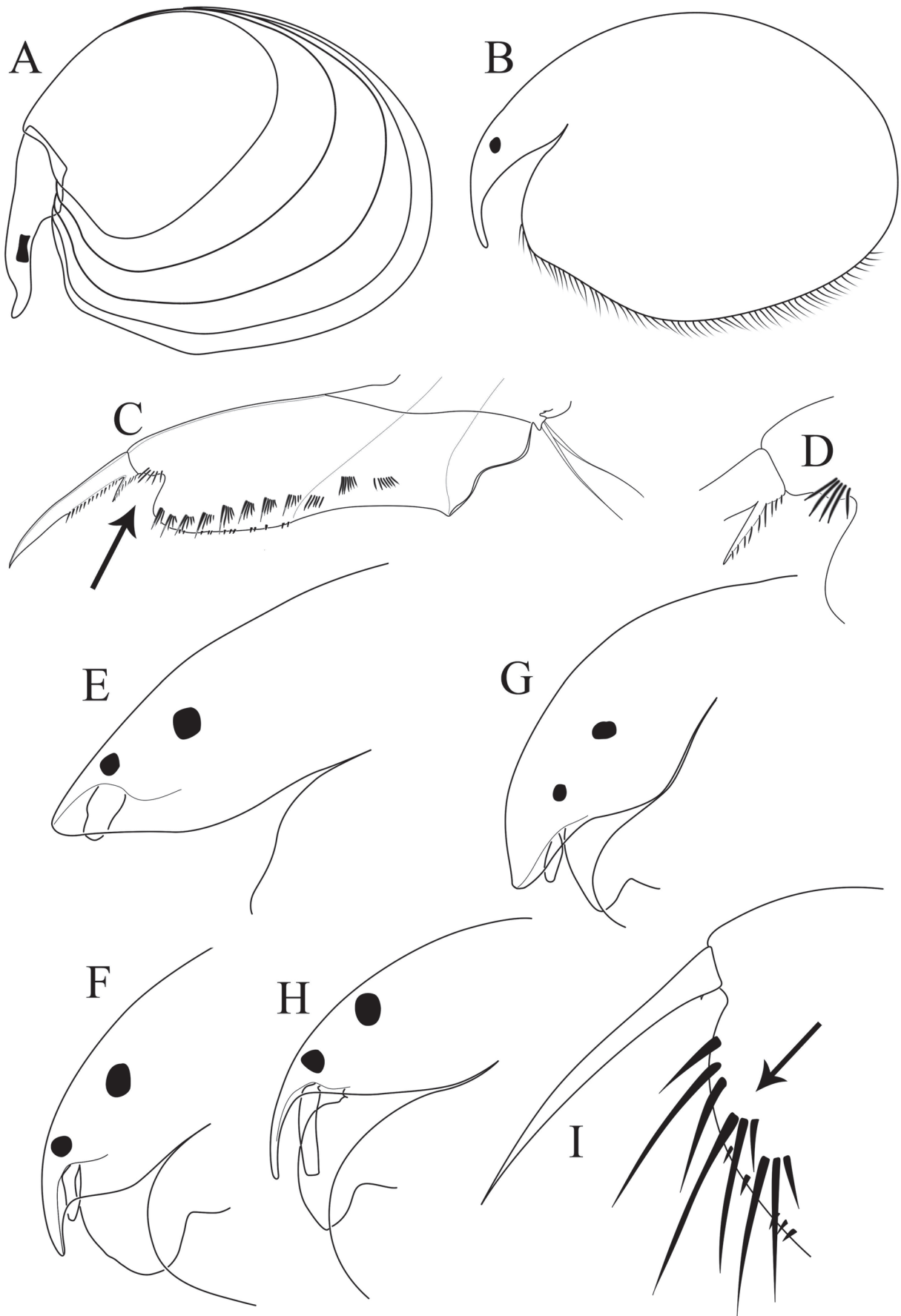
- |    |  |  |
|----|--|--|
| 1a | Compound eye absent.....   | 2                                      |
| 1b | Compound eye present.....  | 3                                      |
| 2a | Carapace, molting incomplete.....  | <i>Monospilus</i> Sars, 1862 (Fig. 2A) |
| 2b | Carapace, molting complete.....  | <i>Bryospilus</i> Frey, 1980 (Fig. 2B) |
| 3a | Postabdomen markedly narrow, postabdominal claw about 1.5-2 times longer than the postanal margin..... | 4                                      |

3b	Postabdomen massive, postabdominal claw shorter or similar to postanal margin length .....	8
4a	Postabdomen with parallel margins, setulae near base of postabdominal claw short .....	<i>Acroperus</i> Baird, 1843 (Fig. 2C-D)
4b	Postabdomen narrowing distally, base of postabdominal claw naked .....	5
5a	Distal part of postabdomen projected .....	6
5b	Distal part of postabdomen not projected .....	7
6a	Rostrum short, not developed .....	<i>Euryalona</i> Sars, 1901 (Fig. 2E)
6b	Rostrum developed, sharp .....	<i>Oxyurella</i> Dybowski & Grochowski, 1894 (Fig. 2F)
7a	Rostrum short, not developed .....	<i>Camptocercus</i> Baird, 1843 (Fig. 2G)
7b	Rostrum developed, sharp .....	<i>Kurzia</i> Dybowski & Grochowski, 1894 (Fig. 2H)
8a	Postanal part of postabdomen long, large, dorsal margin rounded .....	9
8b	Postanal part of postabdomen of another shape .....	13
9a	Basal spine reduced or absent .....	10
9b	Basal spine developed .....	11
10a	Marginal denticles poorly developed, lateral fascicles with long stiff setulae .....	<i>Leydigia</i> Kurz, 1875 (Fig. 2I)
10b	Marginal denticles as long spines, lateral fascicles with short stiff setulae .....	<i>Leydigiopsis</i> Sars, 1901 (Fig. 3A)
11a	Marginal denticles unmerged .....	<i>Parvalona</i> Van Damme, Kotov & Dumont, 2005 (Fig. 3B)
11b	Marginal denticles merged .....	12
12a	Two main head pores .....	<i>affinis</i> group of <i>Alona sensu lato</i> (Fig. 3C)
12b	Three main head pores .....	<i>Alona sensu stricto</i> (Fig. 3D)
13a	Rostrum not developed, blunt or rounded .....	14
13b	Rostrum developed .....	19
14a	Posteroventral corner of carapace with denticles .....	15
14b	Posteroventral corner of carapace without denticles .....	16
15a	Basal spine about postabdominal claw length .....	<i>Magnospina</i> Sousa, Elmoor-Loureiro & Santos, 2016 (Fig. 3E)
15b	Basal spine very short .....	<i>Graptoleberis</i> Sars, 1862 (Fig. 3F)
16a	Postanal part of postabomen quadrangular .....	<i>Nicsmirnovius</i> Chiambeng & Dumont, 1999 (Fig. 3G)
16b	Postanal part of postabomen narrowing distally conical .....	17
17a	Labral keel margin with 2-4 notches or spines .....	<i>Notoalona</i> Rajapaksa & Fernando, 1987 (Fig. 4A)
17b	Labral keel margin without notches or spines .....	18
18a	Spine on the first segment of antenna endopodite shorter than mid-length second segment .....	<i>Celsinotum</i> Frey, 1991 (Fig. 4B)
18b	Spine on the first segment of antenna endopodite longer than mid-length second segment .....	<i>Leberis</i> Smirnov, 1989 (Fig. 4C)
19a	Lateral head pores with sacs underneath .....	20
19b	Lateral head pores without sacs underneath .....	21
20a	Sacs underneath lateral haed pores "Cosmariium-like" or lobed .....	<i>Anthalona</i> Van Damme, Sinev & Dumont, 2011 (Fig. 4D)
20b	Sacs underneath lateral haed pores "pocket-like" .....	<i>Flavalona</i> Sinev & Dumont, 2016 (Fig. 4E-G)
21a	Two main head pores .....	22
21b	Three main head pores .....	24
22a	Posteroventral corner of carapace with 1-5 denticles .....	<i>Karualona</i> Dumont & Silva-Briano, 2000 (Fig. 4H)
22b	Posteroventral corner of carapace without denticles .....	23
23a	Labral keel without a notch and with a cluster of setulae .....	<i>intermedia</i> -group of <i>Alona sensu lato</i> (Fig. 5A)
23b	Labral keel with a notch and without a cluster of setulae .....	<i>Prendalona</i> Sousa, Elmoor-Loureiro & Santos, 2018 (Fig. 5B)
24a	Setae 2-3 of Inner Distal Lobe of first limb with denticles and spines .....	<i>Coronatella</i> Dybowski & Grochowski, 1894 <i>emend.</i> Van Damme & Dumont, 2008 (Fig. 5C)
24b	Setae 2-3 of Inner Distal Lobe of first limb with setulae .....	25
25a	Basal spine shorter than mid-length of postadominal claw base .....	<i>Bergamina</i> Elmoor-Loureiro, Santos-Wisniewski & Rocha, 2013 (Fig. 5D)
25b	Basal spine of similar length or longer than claw base .....	26
26a	First seta of Inner Distal Lobe very short .....	<i>guttata</i> -group of <i>Alona sensu lato</i> (Fig. 5E)
26b	First seta of Inner Distal Lobe well developed .....	<i>Ovalona</i> Van Damme & Dumont, 2008 <i>emend.</i> Sinev, 2015 (Fig. 5F)

### Diagnoses of the genera and identification key for the species of the Subfamily Aloninae occurring in Brazil

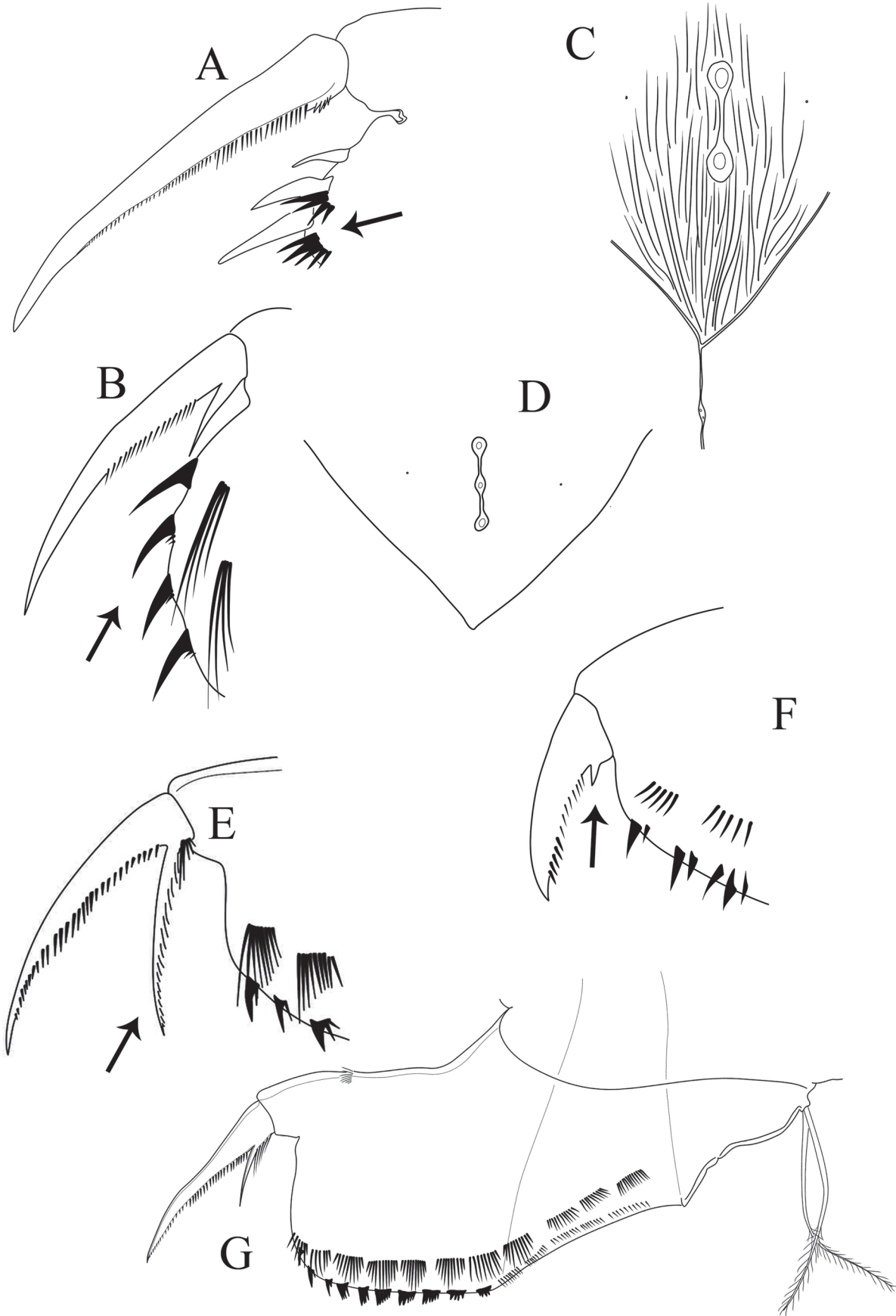
**Acroperus Baird, 1843:** Oval body, elongated, dorsal keel present, anterior marginal setae of valves longer than posterior; 1-2 short denticles with wide base on the posteroventral corner of valves. Rostrum triangular shaped, short, not projected; three connected main head pores, tiny lateral head pores; antenna I with two long sensorial setae, one apical and lateral. Postabdomen rel-

atively narrow with margins parallel, marginal denticles not developed, short setulae near to base of postabdominal claw, pecten on the postabdominal claw armed with thick spines, basal spine long. Six pairs of limbs; first limb with two setae on the first endite, Inner Distal Lobe (IDL) with three setae: seta 1 long, setae 2-3 armed with setae; exopodite of second limb with a seta; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite; exopodite of fifth limb bilobed, notch angular between lobes, filter plate with three setae; sixth limb trapezium-shaped.

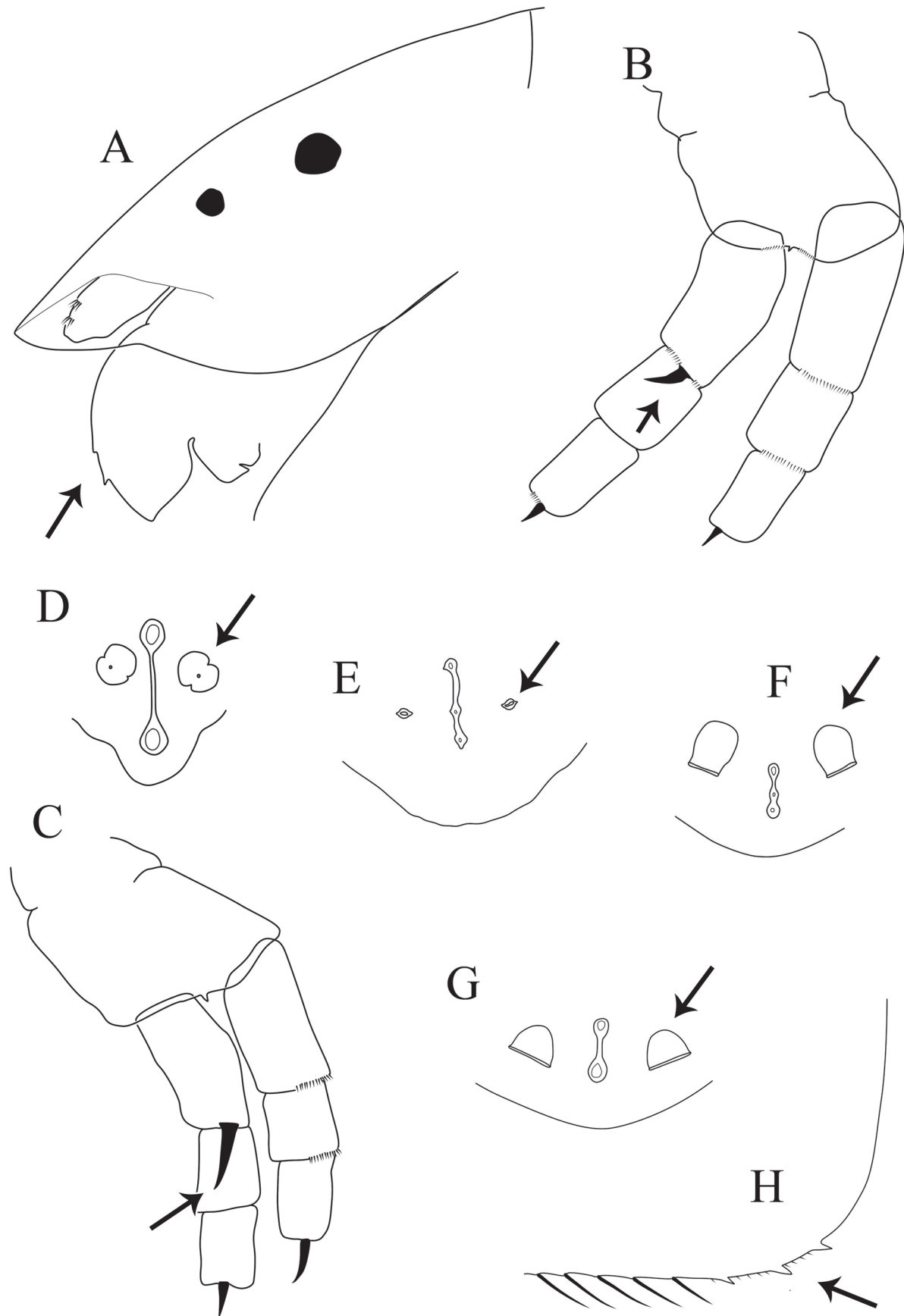


**Figure 2.** Separation of genus of Aloninae (Cladocera: Chydoridae) occurring in Brazil using the characters indicated on the identification key. (A) *Monospilus* Sars, 1862 – incomplete molting. (B) *Bryospilus* Frey, 1980 – complete molting. (C-D) *Acroperus* Baird, 1843 – setulae near to base of postabdominal claw. (E) *Euryalona* Sars, 1901 – not developed rostrum. (F) *Oxyurella* Dybowski & Grochowski, 1894 – rostrum developed and sharp. (G) *Camptocercus* Baird, 1843 – not developed rostrum. (H) *Kurzia* Dybowski & Grochowski, 1894 – rostrum developed and sharp. (I) *Leydigia* Kurz, 1875 – lateral fascicle with stiff setulae relatively long.

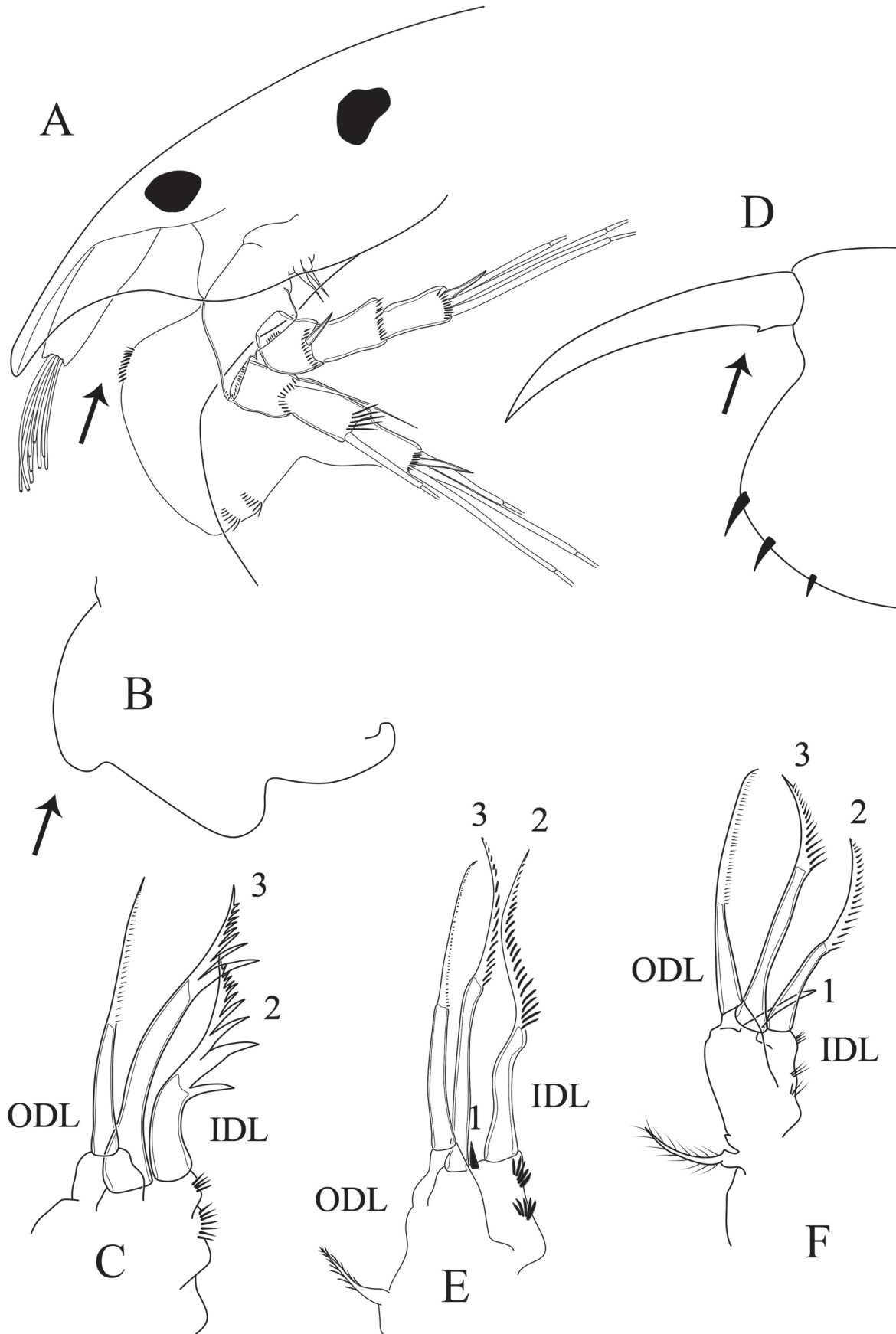




**Figure 3.** Separation of genus of Aloninae (Cladocera: Chydoridae) occurring in Brazil using the characters indicated on the identification key. (A) *Leydigiopsis* Sars, 1901 – lateral fascicle with stiff setulae relatively long. (B) *Parvalona* Van Damme, Kotov & Dumont, 2005 – marginal denticles unmerged. (C) *affinis*-group of *Alona sensu lato* – two connected main head pores. (D) *Alona sensu stricto* – three connected main head pores. (E) *Magnospina* Sousa, Elmoor-Loureiro & Santos, 2016 – basal spine about  $\frac{2}{3}$  of postabdominal claw length. (F) *Graptoleberis* Sars, 1862 – basal spine shorter than  $\frac{1}{2}$  of postabdominal claw base width. (G) *Nicsmirmovius* Chiambeng & Dumont, 1999 – poatana part of postabdomen sub-quadrangular.



**Figure 4.** Separation of genus of Aloninae (Cladocera: Chydoridae) occurring in Brazil using the characters indicated on the identification key. (A) *Notoalona* Rajapaksa & Fernando, 1987 – labral keel with notch or spines. (B) *Celsinotum* Frey, 1991 – antenna I, spine on the edopodite first segment short. (C) *Leberis* Smirnov, 1989 – antenna I, spine on the edopodite first segment long. (D) *Anthalona* Van Damme, Sinev & Dumont, 2011 – “*Cosmarium*” or lobed sacs underneath lateral head pores. (E-G) *Flavalona* Sinev & Dumont, 2016 – “pocket” sacs underneath lateral head pores. (H) *Karualona* Dumont & Silva-Briano, 2000 – posteroventral corner of carapace with 1-5 denticles.



**Figure 5.** Separation of genus of Aloninae (Cladocera: Chydoridae) occurring in Brazil using the characters indicated on the identification key. (A) *intermedia*-group of *Alona sensu lato* – group of setulae on the labral keel. (B) *Prenalona* Sousa, Elmoor-Loureiro & Santos, 2018 – notch on the labral keel. (C) *Coronatella* Dybowski & Grochowski, 1894 *emend.* Van Damme & Dumont, 2008 – setae 2-3 of Inner Distal Lobe armed with denticles and spines. (D) *Bergamina* Elmoor-Loureiro, Santos-Winiewski & Rocha, 2013 – basal spine shorter than  $\frac{1}{2}$  of postabdominal claw base width. (E) *guttata*-group of *Alona sensu lato* – seta 1 of Inner Distal Lobe short. (F) *Ovalona* Van Damme & Dumont, 2008 *emend.* Sinev, 2015 – seta 1 of Inner Distal Lobe long.



**Comments:** Before the description of *Acroperus tupinamba* Sinev & Elmoor-Loureiro, 2010, the only species of the genus known for Brazil, this species was treated as the Palearctic *Acroperus harpae* (Baird, 1835).

***Alona sensu stricto:*** Oval body, elongated, maximum height at posterior part of body; 7-9 long setulae inserted on the posteroventral corner of carapace. Rostrum short, projected in lateral view; labral keel convex, apex with a notch, posterior margin armed two groups of setulae. Posterior part of head shield triangular-shaped, three connected main head pores, tiny lateral head pores; postabdomen relatively massive, dorsal margin rounded, marginal denticles merged, distalmost marginal denticles about 0.6 of basal spine, lateral fascicles with short setulae. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe with three setae: first seta long, setae 2-3 armed with setulae, setulae of the corm limb not organized in groups; exopodite of second limb armed with long seta setulated on the tip; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite; exopodite of fifth limb oval, filter plate absent.

**Comments:** *Alona yara* Sinev & Elmoor-Loureiro, 2010, the only species of *Alona sensu stricto* reported from Brazil. Formerly, this species was treated as the Palearctic *Alona quadrangularis* (O.F. Müller, 1776).

***affinis-group of Alona sensu lato:*** Body strongly elongated; 6-8 groups of setulae on the posteroventral corner of carapace. Rostrum short, projected in lateral view; labral keel convex or polygonal, apex without notch, posterior margin with two cluster of setulae. Posterior part of head shield triangular-shaped, two connected main head pores, tiny lateral head pores; the dorsal margin of valve has a tiny pore-like located behind posterior border of head shield. Postabdomen relatively massive, dorsal margin rounded, marginal denticles merged, distalmost marginal denticles about 0.9 of basal spine, with short setulae. Six pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta is long, hook-like, setae 2-3 armed with setulae, setulae of the corm limb organized in groups; exopodite of second limb armed with a long seta; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite; fifth limb oval, filter plate with three setae; sixth limb as an elongate lobe.

**Comments:** *Alona ossiani* Sinev, 1998 is the only species of the *affinis-group of Alona sensu lato* reported from Brazil. This species was formerly treated as *Biapertura affinis* and *Alona affinis* (Leydig, 1860). It is likely that the *affinis-group of Alona sensu lato* belongs to a new, yet undescribed genus.

***intermedia-group of Alona sensu lato:*** Oval body, maximum height at middle or posterior part of body; 1-3 groups of long setulae on the posteroventral corner of valves. Rostrum short, projected in latera view; labral keel

convex, proximal part armed with a group of short setulae, posterior margin with two clusters of short setulae. Head shield with posterior part triangular-shaped, two connected main head pores. Postabdomen with distal part broadly rounded, marginal denticles merged, setulae of lateral fascicles exceeding the margin of postabdomen, anal margin occupying 60% of postabdomen length. Six pairs of limb: fist limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: firs setae relatively long, setae 2-3 armed with setulae; exopodite of second limb armed with a short seta; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite; exopodite of fifth limb bilobed, filter plate with three setae; sixth limb as an elongated lobe.

**Comments:** The two species of the *intermedia-group of Alona sensu lato* that occur in Brazil were treated in literature as *Biapertura intermedia* (Sars, 1862) or *Alona intermedia* Sars, 1862. After its description, the genus *Biapertura* was considered as another polyphyletic group within the subfamily and fell out of use. It is likely that the *intermedia-group of Alona sensu lato* may belong to a new, yet undescribed genus.

#### Key to species of the *intermedia-group of Alona sensu lato*

- 1a Labral keel armed with 10-11 proximal short setulae, distalmost setae of fascicles not exceeding the level of the marginal denticles.....  
.....*Alona elisae* Sousa, Elmoor-Loureiro & Santos, 2016
- 1b Labral keel armed with 2-4 proximal short setulae, distalmost setae of fascicles exceeding the level of the marginal denticles.....  
.....*Alona isabellae* Sousa, Elmoor-Loureiro & Santos, 2016

***guttata-group of Alona sensu lato:*** Oval body, maximum height at middle body. Rostrum short, projected in lateral view; labral keel convex, a notch can be present, posterior margin with two clusters of short setulae. Posterior part of head shield triangular-shaped, three connected main head pores, tiny lateral head pores. Postabdomen with distalmost part truncated, anal and postanal margins almost parallel, preanal angle relatively prominent, 6-7 merged marginal denticles, basal spine developed. Six pairs of limbs; first limb with two setae on the first endite, Inner Distal Lobe (IDL) with three setae: first setae very short, setae 2-3 armed with setulae; exopodite of second limb armed with a seta relatively long; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite; exopodite of fifth limb bilobed, deep incursion between lobes, filter plate with three setae; sixth limb as a wide and elongated lobe.

**Comments:** Only a single species of the *guttata-group of Alona sensu lato* occurs in Brazil. It is considered a cosmopolitan species. It is likely that the Brazilian populations of this species in fact comprise a new, undescribed species. However, a broad revision including specimens from its type-region (Norway) is still necessary to validate this statement. This group is morphologically well-defined

and, thus, the creation of a new genus is also necessary. One species in Brazil, *Alona* cf. *guttata* Sars, 1862.

**Anthalona Van Damme, Sinev & Dumont, 2016:** Oval body, arched, carapace without denticle on the postero-ventral corner. Rostrum short, projected in lateral view; labral keel with naked, with a notch or short denticles. Two connected main head pores, tiny lateral head pores with "Cosmarium" or lobed sacs underneath of them. Postabdomen relatively short, postanal part rounded, anal margin markedly concave, marginal denticles unmerged, distalmost setae of lateral fascicles long. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with two setae armed with setulae or spines; exopodite of second limb naked or with a seta; third limb with six setae on the exopodite, fourth seta longer than others; fourth limb with six setae on the exopodite; exopodite of fifth limb with four setae, filter plate absent.

**Comments:** Except for *A. neotropica* Sousa Elmoor-Loureiro & Debastiani-Júnior, 2011, all species of this genus belong to the *verrucosa*-group of *Alona sensu lato*.

#### Key to species of *Anthalona* Van Damme, Sinev & Dumont, 2016

- 1a Apical setae of antenna II exopodite chitinized, thick, with lateral spines ..... *Anthalona acuta* Van Damme, Sinev & Dumont, 2011
- 1b Apical setae of antenna II exopodite smooth, with lateral setulae ..... 2
- 2a Setae on the posterior part of ventral margin of carapace spaced (*sensu* Van Damme *et al.*, 2011) ..... *Anthalona brandorffi* (Sinev & Hollwedel, 2002)
- 2b Setae on the posterior part of ventral margin of carapace not spaced (*sensu* Van Damme *et al.*, 2011) ..... 3
- 3a Labral keel with denticle ..... *Anthalona verrucosa verrucosa* (Sars, 1901)
- 3b Labral keel naked ..... *Anthalona neotropica* Sousa Elmoor-Loureiro & Debastiani-Júnior, 2011

**Bergamina Elmoor-Loureiro, Santos-Wisniewski & Rocha, 2013:** Oval body, maximum height at middle body, compressed laterally. Rostrum short, projected in lateral view; labral keel convex, naked. Three connected main head pores, lateral head pores absent. Apical segment of antenna II armed with a short seta. Postabdomen elongated, preanal angle prominent, preanal margin longer than anal, distalmost part of postanal margin armed with three slender denticle, lateral fascicles with short and very slender setulae, basal spine very short. Five pair of limbs; first limb with three setae on the first endite, a long accessory seta between second and third endite present, Inner Distal Lobe (IDL) with two setae armed with setulae; exopodite of second limb without setulae; third limb with six setae on the exopodite, fourth seta longer than others; fourth limb with six setae, fourth seta longer than others; exopodite of fifth limb with four setae, filter plate absent.

**Comments:** A monospecific genus, *Bergamina lineolata* (Sars, 1901). Encountered only in Brazil.

**Bryospilus Frey, 1980:** Oval body, maximum height at middle body. Compound eye absent, rostrum relatively long, projected in lateral view; labrum bulbous, two unconnected main head pores, lateral head pores positioned neat to head shield margin; apical segment of antenna II with two setae. Postabdomen narrowing distally, anal and postanal margin armed with strong denticles, lateral fascicles with cluster of setulae which not exceed the margin of postabdomen, postabdominal claw thick, two basal spines; 1-3 slender setulae on the postabdominal claw base. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with two setae armed with setulae; exopodite of second limb with a long setae, filter plate with six setae; third limb with six setae on the exopodite, filter plate with six setae; fourth limb with six setae on the exopodite, first flaming-torch seta of distal endite well-developed, filter plate with four setae; fifth limb with four setae on the exopodite, filter plate with three setae.

**Comments:** Only one species of the genus occurs in Brazil, *Bryospilus repens* Frey, 1980. This single species may be found in bryophytes occurring near or within lotic systems.

**Camptocercus Baird, 843:** Body elongated, low, maximum height at anterior part of body, without denticle on the posteroventral corner of carapace, compressed laterally. Dorsal keel present, rostrum short, no projected, sharp or blunt; labral keel with two cluster of setulae on the posterior margin. Three connected main head pores, tiny lateral head pores. Postabdomen elongated, strongly narrowing distally, isolated marginal denticles or organized in groups of 4-5 denticles, postabdominal claw armed with spines, tip curved. Five pairs of limbs; first limb with two setae on the first endite; exopodite of second limb with a seta; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite; fifth limb with four setae on the exopodite.

**Comments:** The two species of this genus have few records within Brazil. *Camptocercus similis* seems to have a restricted distribution to the southern parts of the country.

#### Key to species of *Camptocercus*

- 1a Rostrum sharp, not projected ..... *Camptocercus australis* Sars, 1896
- 1b Rostrum blunt ..... *Camptocercus similis* Sars, 1901

**Celsinotum Baird, 1843:** Rounded body, posteriormost setae on the valves spine-shaped. Rostrum blunt, projected in lateral view; labral keel subtriangular, naked. Head shield wide, three connected main head pores, tiny lateral head pores. Antenna I with two sensorial setulae longer than others. Postabdomen narrowing distally, 14-17 cluster of short denticles (distalmost denticles can be isolated), 9-12 lateral fascicles armed with setulae which do not exceed the margin of postabdomen, first setulae of each fascicle thick. Five pairs of limbs; first limb with two

setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta reduced, setae 2-3 armed with setulae; exopodite of second limb armed with a short seta; third limb with six setae, fourth seta is long than other; fourth limb with six setae, fourth seta is long than others; fifth limb with four setae on the exopodite, filter plate absent.

**Comments:** *Celsinotum candango* is endemic to the Brazilian Cerrado. *Celsinotum laticaudatum* seems to have a distribution restricted to the Amazon region, but a better resolution regarding its morphology and geographical distribution is necessary.

### Key to species of *Celsinotum*

- 1a Distal marginal denticles organized in groups.....  
..... *Celsinotum candango* Sinev & Elmoor-Loureiro, 2010  
1b Distal marginal denticles isolated.....  
..... *Celsinotum laticaudatum* Smirnov & Santos-Siva, 1995

### *Coronatella* Dybowski & Grochowski, 1894 emend.

**Van Damme & Dumont, 2008:** Rectangular body, dorsal keel present in a unique species, posteroventral corner of valves can bear 1-2 denticles. Rostrum projected in lateral view; labral keel can bear denticle. Three connected main head pores, tiny lateral head pores. Postabdomen with distal part rounded, anal margin markedly concave, marginal denticles unmerged, basal spine developed. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: when present the first seta is reduced, setae 2-3 armed with spines; exopodite of second limb might bear a seta (when present can be reduced, rudimentary or long); third limb with six setae on the exopodite, fourth seta is long than other; fourth limb with six setae on the exopodite, fourth and sixth setae longer than others, filter plate might bear a seta.

**Comments:** Species belonging to the *rectangula*-group of *Alona sensu lato*. The records of *Coronatella rectangula* (Sars, 1891) in Brazil are not valid, and much likely refer to the species mentioned here.

### Key to species of *Coronatella*

- 1a Carapace with denticle on the posteroventral corner..... 2  
1b Carapace without denticle on the posteroventral corner ..... 3  
2a Labral keel with denticle ..... *Coronatella monacantha* (Sars, 1901)  
2b Labral keel without denticle .....  
..... *Coronatella undata* Sousa, Elmoor-Loureiro & Santos, 2015  
3a Setulae on the posteroventral corner of carapace organized in three groups ..... *Coronatella serratalhadensis* Sousa, Elmoor-Loureiro & Santos, 2015  
3b Setulae on the posteroventral corner of carapace not organized in three groups ..... 4  
4a Postabdomen with 5-6 marginal denticles.....  
..... *Coronatella paulinae* Sousa, Elmoor-Loureiro & Santos, 2015  
4b Postabdomen with 8-9 marginal denticles.....  
..... *Coronatella poppei* (Richard, 1897)

***Euryalona* Sars, 1901:** Rounded body, compressed laterally, ventral margin of carapace with short setae. Rostrum short, not projected in lateral view, rounded; labral keel short, angular, naked. One main head pore, lateral head pores absent. Setae on the first and second segments of antenna II short and slender. Postabdomen elongated, narrowing distally, distal part projected, marginal denticles isolated, distalmost denticles longer than other, lateral fascicles armed with short and slender setulae; postabdominal claw long, armed with spines. Five pairs of limbs; first limb with two setae on the first endite, setae of third endite relatively short, Inner Distal Lobe (IDL) with three setae, which one is hook-like and armed with 2-3 denticles; exopodite of second limb without seta; third limb with seven setae on the exopodite, fifth seta is longer than others; fourth limb with six setae on the exopodite, fourth seta is longer than others; exopodite of fifth limb armed with four setae, second seta is longer than other, inner lobe bear on the tip thick setulae.

**Comments:** Genus with a single species occurring in Brazil. *Euryalona orientalis* (Daday, 1898) is considered a cosmopolitan species.

***Flavalona* Sinev & Dumont, 2016:** Oval or elongated body, moderate lateral compression, incomplete molting in a unique species, posteroventral corner of carapace without denticle. Rostrum short, projected in lateral view; Labral keel with two clusters of setulae on the posterior margin. Three or two connected main head pores, when three pores present the connection might be narrow or wide, lateral head pores with "pocket-like" sacs underneath. Postabdomen relatively long, postanal part slightly narrowing distally, distalmost part truncated, marginal denticles thick, merged, basal spine developed. Six pairs of limbs; first limb with three setae on the first endite which one is short, obtuse apex and densely setulated, Inner Distal Lobe (IDL) with three setae: first seta developed, setae 2-3 armed with setulae; exopodite of second limb armed with a long seta; third limb with seven setae, third and fourth setae shorter than others, fifth seta markedly long; fourth limb with six setae on the exopodite, element on the distal endite developed; exopodite of fifth limb bilobed, four setae present, filter plate with three setae; sixth limb as an elongated lobe.

**Comments:** A genus that was created recently to house the species of the *costata*-group of *Alona sensu lato*.

### Key to species of *Flavalona*

- 1a Two main head pores .....  
..... *Flavalona asymmetrica* Sousa & Elmoor-Loureiro, 2018  
1b Three main head pores ..... 2  
2a Main head pores with narrow connection .....  
..... *Flavalona iheringula* (Kotov & Sinev, 2004)  
2b Main head pores with wide connection.....  
..... *Flavalona margipluma* (Sousa, Santos, Güntzel, Diniz, Melo-Júnior & Elmoor-Loureiro, 2015)

**Graptoleberis Sars, 1901:** Elongated body, ventral margin almost straight, dorsal keel present, postero-ventral corner of carapace with 2-3 denticles. Rostrum short, wide in lateral view, rounded; labral keel rounded with a group of setulae near to apex. Three connected main head pores, lateral head pores relatively large. Postabdomen elongated, narrowing distally, ventral margin markedly arched, marginal denticles organized in groups which bear 1-4 denticles, lateral fascicles with slender and long setulae, but not exceeding the margin of postabdomen; postabdominal claw short, thick, basal spine very short. Six pairs of limbs.

**Comments:** A genus with only a single species occurring in Brazil, *Graptoleberis occidentalis* Sars, 1901. There are a few reports of *G. testudinaria* (Fisher, 1851) for Brazil, but this is an exclusively Palearctic species, and these occurrence records need to be checked for a confirmation.

**Karualona Dumont & Silva-Briano, 2000:** Oval body, posteroventral corner with 1-5 denticles of narrow base, short setulae between denticles. Rostrum short, projected in lateral view; labral keel convex, apex blunt, naked, lateral horns present. Two connected main head pores, tiny lateral head pores. Postabdomen short, postanal part wide and rounded, 7-8 marginal denticles (might be isolated), 9-13 lateral fascicles with armed with long setulae, first seta of each fascicle longer and thicker than others that not exceed the margin of postabdomen, basal spine short. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta developed armed with short and slender spines, setae 2-3 armed with setulae; exopodite of second limb with a cylindrical process; third limb with six setae on the exopodite, third and fourth seta longer than others; fourth limb with six setae on the exopodite, first seta very short than others, distal endite with two flaming-torch; exopodite of fifth limb with a depression positioned between setae 1-2, four setae present, filter plate absent.

**Comments:** A genus with only one species occurring in Brazil, which belongs to the *karua*-group of *Alona sensu lato*. The records of *Biapertura karua* (King, 1843) in Brazil actually represent *Karualona muelleri* (Richard, 1897).

**Kurzia Dybowski & Grochowski, 1894:** Body sub-rectangular, posteroventral without denticles. Rostrum developed, projected in lateral view, sharp; Labrum triangular-shaped, keel convex with notch. Three connected main head pores, tiny lateral head pores. Antenna I reaching the tip of rostrum. Postabdomen elongated, narrowing distally, postanal part armed with 6-9 groups of slender marginal denticles, lateral fascicles with slender setulae which do not exceed the margin of postabdomen, basal spine developed. Five pair of limbs; first limb with two setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta developed armed with short and slender spines, setae 2-3 armed with 1-2 long proximal spines followed by setulae; exopodite of second limb without seta; third limb with six setae on the

exopodite, third seta is very short, fourth seta is longer than others; fourth limb with six setae on the exopodite, setae 4-6 similar in length; exopodite of fifth limb with four setae, filter plate with three setae.

**Comments:** A genus with only one species reported from Brazil, *Kurzia polyspina* Hudec, 2000. However, it is expected that *Euryalona brasiliensis* Brehm & Thomsen, 1936 actually belongs to *Kurzia*. The records of *Kurzia latissima* (Kurz, 1874) in Brazil actually represent *Kurzia polyspina*. Sars (1901) indicated that the occurrence of *Kurzia longirostris* (Daday, 1898) in the country, but no further records accompanied by pictures exist in the literature, raising doubts about its distribution and occurrence.

**Leberis Smirnov, 1989:** Oval body, dorsal keel present, posteriormost setae on the valves short, tick, spine-like, posteroventral corner without denticle. Rostrum short, blunt, projected in lateral view; labral keel convex with irregular margin. Three connected main head pores, tiny lateral head pores. Postabdomen narrowing distally, pre-anal angle prominent, 9-12 groups of short marginal denticles, distalmost longer than others, 12-15 lateral fascicles armed with slender setulae that not exceed the margin of postabdomen, basal spine developed. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta reduced, setae 2-3 armed with setulae; exopodite of second limb without seta; third limb with six setae on the exopodite, fourth seta longer than others; fourth limb with six setae on the exopodite, fourth setae longer than others; exopodite of fifth limb with four setae, filter plate with two setae.

**Comments:** A genus created to house the *diaphana*-group of *Alona sensu lato*. The records of *Alona diaphana* King, 1853 in Brazil actually represent the occurrence of *Leberis davidi* (Richard, 1895).

**Leydigia Kurz, 1875:** Sub-ovoid body, maximum height at posterior part of body, moderate lateral compression. Rostrum short, poorly projected in lateral view; labral keel triangular or ovoid, densely setulated. Three connected main head pores, tiny lateral head pores. Postabdomen elongated, wide, postanal part rounded, marginal denticles very short and organized in groups (up 20 denticles), lateral fascicles with 2-5 long setulae which exceed the margin of postabdomen, basal spine reduced or rudimentary. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta developed, armed with slender spines, setae 2-3 armed with setulae; Outer Distal Lobe (ODL) with a long geniculated seta, accessory seta absent; exopodite of second limb with a long and setulated seta, filter plate with seven setae; third limb with three setae on the exopodite, one rudimentary, distal endite with first seta flaming-torch shaped well developed; fourth limb with six setae on the exopodite, third seta long than others; fifth limb with four long setae on the exopodite, filter plate with two setae.



**Comments:** This genus is extremely diverse, but only two valid species have actually been reported in Brazil.

### Key to species of *Leydigia*

- 1a Lateral setulae of labral keel longer and thicker than anterior marginal setulae .....*Leydigia ipojucae* Brehm, 1938  
1b Lateral setulae of labral keel similar in length to anterior marginal setulae .....*Leydigia striata* Baribén, 1939

***Leydigiopsis* Sars, 1901:** Oval body, maximum height at middle body, laterally compressed. Rostrum short or long, projected in lateral view; labral keel almost straight armed with notch or setulae, posterior part sharp or rounded. A single main head pore slit shaped, tiny lateral head pores. Antenna I with lateral and apical setulae. First exopodite segment of antenna II markedly longer than others, seta on the first exopodite segment relatively short. Postabdomen elongated, wide, postanal part markedly rounded, marginal denticles long, thick and sharp, lateral fascicles armed with 2-6 short and thick setulae, distalmost exceeding setulae exceeding the margin of postabdomen, basal spine reduced. Five pairs of limbs; first limb with two setae on the first endite, Inner Distal Lobe with three setae: first seta slender and curved, setae 2-3 armed with setulae; base of Outer Distal Lobe (ODL) with a wide projection which bear long setulae on the itself base; exopodite of second limb without seta, filter plate with seven long setae; exopodite of third limb with seven setae, fifth and seventh setae longer than others, endite with well-developed flaming-torch seta; exopodite of fourth limb with six setae, fourth seta longer than others; exopodite of fifth limb with rounded margin, four setae, filter plate absent.

**Comments:** With the exception of *Leydigiopsis pulchra* Van Damme & Sinev, 2013, all other species of this genus are found in Brazil. This is one of the few genera occurring in Brazil that exhibits a high species diversity.

### Key to species of *Leydigiopsis*

- 1a Postabdomen with maximum height near middle portion of postanal part ..... 2  
1b Postabdomen with maximum height near distal portion of postanal part .....*Leydigiopsis megalops* Sars, 1901  
2a Rostrum short, not exceeding the level of sensorial setulae of the antenna I .....*Leydigiopsis brevisrostris* Brehm, 1838  
2b Rostrum long, markedly exceeding the level of sensorial setulae of the antenna I ..... 3  
3a Rostrum strongly curved backwards...*Leydigiopsis curvirostris* Sars, 1901  
3b Rostrum weakly curved, generally pointed downward .....  
.....*Leydigiopsis ornata* Daday, 1905

***Magnospina* Sousa, Elmoor-Loureiro & Santos, 2016:** Ovoid body, rounded angle at  $\frac{1}{3}$  of the length of the ventral margin, posteroventral corner with 1-4 marginal denticles of wide base, without setulae between them. Rostrum rounded, not projected in lateral view; labral

keel naked, apex rounded or blunt. Head pores absent. Postabdomen narrowing distally, preanal angle prominent, marginal denticle organized in groups which bear 1-4 denticles (distalmost might be isolated), basal spine long, about  $\frac{2}{3}$  of postabdominal claw length. Five pairs of limbs; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta reduced, setae 2-3 armed with thick spines; exopodite of second limb with a short seta; third limb with six setae on the exopodite, third and fourth seta longer than others; fourth limb with six setae, third seta shorter than others; exopodite of fifth limb with four setae, filter plate with one seta.

**Comments:** A genus that was recently created to house the *dentifera*-group of *Alona sensu lato*. The records of *Alona dentifera* and *Alona broaensis* actually correspond to *Magnospina dentifera* (Sars, 1901).

***Monospilus* Sars, 1862:** Spherical body, incomplete molting; setae on the ventral margin of carapace not articulated (like projection of valves). Eye compound absent. Rostrum short with irregular tip, poorly developed in lateral view, head shield with a single head pore, rim pore prominent, lateral head pores absent. Postabdomen short, narrowing distally, postanal part shorter than anal, postabdominal claw with two basal spines. Six pair of limbs; first limb with three setae on the first endite; Inner Distal Lobe (IDL) with three setae: first seta short; exopodite of the second limb with a seta; third limb with seven setae on the exopodite; fourth limb with six setae on the exopodite, distal endite with first flaming-torch seta well-developed; exopodite of fifth limb with four setae, filter plate with 2-3 setae.

**Comments:** A genus with species that are highly specialized to live in the bottom of lotic ecosystems or in semiterrestrial environments. *Monospilus macroerosus* is endemic to the riparian forests of the Brazilian Cerrado.

### Key to species of *Monospilus*

- 1a Pecten on the postabdominal claw separated in two groups .....  
.....*Monospilus brachyspinus* Sousa, Elmoor-Loureiro & Panarelli, 2017  
1b Pecten on the postabdominal claw not separated in groups, saw-shaped .....  
.....*Monospilus macroerosus* Sousa, Elmoor-Loureiro & Panarelli, 2017

***Nicsmirnovius* Chiambeng & Dumont, 1999:** Elongated body, Rostrum blunt. Head shield with three connected main head pores, tiny lateral head pores with "Cosmarium" sacs underneath of them. Antenna I with apical and lateral sensorial setulae. Postabdomen large, postanal part sub-quadrangular. Five pairs of limbs; first limb with two setae on the first endite, Inner Distal lobe (IDL) with three setae: first seta hook-like, setae 2-3 armed with setulae; exopodite of the second limb without seta; third limb with six setae on the exopodite; fourth limb with six setae on the exopodite, first and second setae with a long setule on the tip; exopodite of the fifth limb bilobed, second seta of inner limb armed with a row of strong spinulae, filter plate absent or with a seta.



**Comments:** The records of *Alona eximia* Kiser, 1948 and *Nicsmirnovius fitzpatricki* (Chien, 1970) in Brazil actually correspond to *N. paggii*. Given that *N. incredibilis* is exclusive to the Amazon region, the records from other hydrographic regions of Brazil should be reevaluated.

#### Key to species of *Nicsmirnovius*

- 1a Anal margin of postabdomen about two time longer than postanal margin ..... *Nicsmirnovius incredibilis* (Smirnov, 1984)
- 1b Anal and postanal margins of similar length .....  
.....*Nicsmirnovius paggii* Sousa & Elmoor-Loureiro, 2017

**Notoalona Rajapaksa & Fernando, 1987:** Sub-globular body. Rostrum short, blunt, notch on the margin of rostrum absent. Main head pores kidney-shaped; labral keel with 2-4 notches. Postabdomen narrowing distally, preanal angle prominent, postanal part long, armed with 14 marginal denticles organized in groups (distal-most denticles might be isolated), basal spine developed. Five pairs of limbs; Inner Distal Lobe (IDL) with three setae; exopodite of fifth limb with three setae.

**Comments:** Genus with only one species found in Brazil, *Notoalona sculpta* (Sars, 1901), sometimes addressed as *Notoalona globulosa* (Daday, 1889).

**Ovalona Van Damme & Dumont, 2008 emend. Sinev, 2015:** Ovoid body or with moderate lateral compression, maximum height at middle body, posteroventral corner of carapace without denticles. Rostrum short, projected in lateral view; labral keel naked, apex generally rounded. Three connected main head pores, tiny lateral head pores. Postabdomen with postanal margin rectangular, sub-rectangular or massive, 6-8 marginal denticles which might be a short denticle on the base, basal spine developed. Five pairs of limbs; first limb with two setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta developed, setae 2-3 armed with setulae; exopodite of the second limb with a short seta; third limb with seven setae on the exopodite, fourth seta geniculated; fourth limb with six setae on the exopodite, fourth seta is long; exopodite of fifth limb might be a slight depression on marginal line, four setae, filter plate absent.

**Comments:** A genus that houses the species of the *pulchella*-group of *Alona sensu lato*.

#### Key to species of *Ovalona*

- 1a Postabdomen rectangular with distal-most part prominent, angle postanal not prominent, ratio base/height of marginal denticles about 0.25 ..... *Ovalona glabra* (Sars, 1901)
- 1b Postabdomen short, massive, angle postanal prominent, ratio base/height marginal denticles about 0.40-0.45 .....  
.....*Ovalona kaingang* (Sousa, Elmoor-Loureiro & Santos, 2015)

**Oxyurella Dybowski & Grochowski, 1894:** Oval body, compressed laterally, posteroventral corner of carapace without denticles. Rostrum sharp, projected in lateral view; labral keel rounded or triangular (when present, setulae occupying entire margin of keel). Three isolated main head pores, tiny lateral head pores. Postabdomen narrowing distally, postanal part with distal portion projected, 15-16 isolated marginal denticles which distal-most are long, lateral fascicles armed with slender setulae which not reach the margin of postabdomen, basal spine developed. Five pair of limbs; first limb with two setae on the first endite, Inner Distal Lobe with three setae: first seta short, setae 2-3 armed with setulae; exopodite of third limb with seven setae; exopodite of fourth setae with six setae; exopodite of fifth limb with four setae.

**Comments:** A genus with tropical distribution. The species referred here are typical of the Neotropical region.

#### Key to species of *Oxyurella*

- 1a Margin of labral keel with long setulae...*Oxyurella ciliata* Bergamin, 1939
- 1b Margin of labral keel naked .....*Oxyurella longicaudis* (Birge, 1910)

**Parvalona Van Damme, Kotov & Dumont, 2005:** Sub-ovoid body, markedly high, posteroventral corner of carapace without denticles. Rostrum short (might be blunt), projected in lateral view; labral keel trapezoidal, naked. Three connected main head pores, tiny lateral head pores. Postabdomen wide, anal margin short, postanal part markedly rounded and armed with 13-16 groups of unmerged marginal denticles (each group with 3-4 denticles), 9-13 lateral fascicles, basal spine developed. Five pairs of limbs; first limb with two setae on the first endite, Inner Distal Lobe (IDL) with two long setae armed with setulae, corm of the limb with two cluster of setulae followed by, at least five cluster of denticles; exopodite of second limb without seta; third limb with five setae on the exopodite, second and third setae longer than others; fourth limb with six setae on the exopodite, fourth seta longer than others; exopodite of fifth limb with four setae, filter plate absent.

**Comments:** A monospecific genus, broadly distributed across the Brazilian territory. *Parvalona parva* (Daday, 1905) was once considered as a member of *Leydigia* and *Alona*.

**Prendalona Sousa, Elmoor-Loureiro & Santos, 2018:** Ovoid body, maximum height at middle body. Rostrum short, projected in lateral view; labral keel with a notch. Two connected main head pores, tiny lateral head pores. Postabdomen with distal part of postanal part truncated, anal and postanal margins almost parallel (postanal margin is almost concave), anal and preanal angle prominent, seven merged marginal denticles, basal spine developed. Six pairs of limb; first limb with three setae on the first endite, Inner Distal Lobe (IDL) with three setae: first seta developed, setae 2-3 armed

with very short setulae; exopodite of second limb with a long seta; third limb with seven setae on the exopodite, third and fourth setae shorter than others; fourth limb with six setae on the exopodite, third setae longer than others; exopodite of fifth limb bilobed, armed with four setae, filter plate with three setae; sixth limb as a wide and rounded lobe.

**Comments:** A monospecific genus, *Prendalona arvensis* (Sousa, Elmoor-Loureiro & Santos, 2016). Endemic to highland grass fields in Southern Brazil.

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## VERSÃO EM PORTUGUÊS

### CHAVE DE IDENTIFICAÇÃO DOS GÊNEROS E ESPÉCIES DE ALONINAE (CURSTACEA, BRANCHIOPODA, ANOMOPODA, CHYDORIDAE) DO BRASIL

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#### ABREVIACÕES NAS FIGURAS

**AI:** antênula – **AII:** antena – **pvc:** ângulo posterior ventral da carapaça - **tl1, tl3, tl4:** apêndices torácicos; **cl:** garra do pós-abdôme – **IDL:** Lobo Interno Distal – **in:** intestino - **la:** labro – **am:** margem anal – **md:** mandíbula – **pam:** margem pós-anal – **prm:** margem pré-anal – **ODL:** Lobo Externo Distal – **mp:** poros cefálicos principais – **lp:** poros cefálicos laterais – **ps:** setas pós-abdominais - **slp:** sacos por debaixo dos poros laterais.

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