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STATE OF KNOWLEDGE ON TERRESTRIAL ISOPODS (CRUSTACEA: ISOPODA: ONISCIDEA) OF CHILE, WITH A SPECIES CHECKLIST

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ABSTRACT

The first work that reviews the taxonomic knowledge of Oniscidea of Chile is presented. 11 families and 37 species are recorded from the country, 29 of them are native and eight introduced. Mostly works in Chilean oniscofauna are taxonomic studies; however, yet remain numerous problems to resolve and revisions of great part of the groups are needed. A species checklist with synonymic information is provided.

Key words: Terrestrial Isopoda, Oniscidea, Chile, Checklist.

RESUMEN

ESTADO DEL CONOCIMIENTO DE LOS ISOPODOS TERRESTRES (CRUSTACEA: ISOPODA: ONISCIDEA) DE CHILE, CON UNA LISTA DE ESPECIES. Se presenta el primer trabajo de revisión del conocimiento taxonómico de los Oniscidea de Chile. Se registran 11 familias y 37 especies, 29 de ellas nativas y ocho introducidas. La mayor parte de los trabajos de la oniscofauna chilena son estudios taxonómicos; sin embargo, aún quedan numerosos problemas que resolver y son necesarias revisiones de gran parte de los grupos. Se entrega una lista de especies con información sinonímica.

Palabras Clave: Isopoda terrestre, Oniscidea, Chile, Catálogo.

INTRODUCTION

The suborder Oniscidea includes the only crustaceans that really successful colonized terrestrial ecosystem (Warburg 1993). These animals have a world distribution and are found in diverse habitats, where they play an important role for their high population densities (Davis 1984; Hassall and Dangerfield 1990; Almerão *et al*. 2006) and its effectiveness in descomposition of organic matter (Nadkarni and Longino 1990; Hattenschwiler *et al*. 2005). Consequently, terrestrial isopods have been proposed as model species for test of toxicity and accumulation of metals (Drobne 1997; Hornung *et al*. 1998; Calhôa *et al*. 2006), as well as for use as biomarkers of environmental impact (Dallinger *et al.* 2004; Hopkin *et al*. 1986; Paoletti and Hassall 1999).

These isopods are characterized mainly by the extreme reduction of antennulae, male pleopod 1 endopodite functioning as copulatory organ, and numerous others apomorphies (Schmidt 2008). With about 3800 described species, the Oniscidea is one of the largest suborders of isopods (Gruner 1993), including several synanthropic species with cosmopolitan distribution (Van Name 1936; Leistikow and Wägele 1999). For America have been cited 521 nominal species (Leistikow and Wägele 1999), but this fauna is still incompletely known, leaving many species and even genera to be discovered (Leistikow 2001).

The knowledge of Chilean Oniscidean fauna is scarce, as reflected by its absence in some global revision of crustacean diversity from Chile (Baez 1995; Camousseight *et al.* 2006). Recently, 34 species of this group has been cited (Thiel *et al.* 2003), however, the only two known checklist including 11 and 33 species, mostly introduced (Berríos and Sielfeld 2000) or with some synonyms or erroneously cited species for the country (González *et al*. 2008).

This paper provides a historical review of Chilean terrestrial isopods knowledge and a checklist of species present in the country. Besides, we give information about diversity, endemism and geographic distribution of native species.

MATERIAL AND METHODS

This review is based on taxonomic literature on terrestrial isopods, with emphasis on publications that include Chilean species. Every species cited as present in Chile in the literature are included in the Checklist, including species actually considered as *nomen dubium*. A summary synonymy it is presented for each species, with emphasis on authors which study Chilean material. In addition, includes information on habitat (where it is known or indicated in the literature) and the known distribution for each species. For the classification of the higher taxa we follows Martin and Davis (2001) and Schmidt (2002, 2003), but within these, families are sorted alphabetically.

HISTORY OF ONISCIDEA STUDIES IN CHILE

The contributions to the knowledge of Oniscidea from South America are scarce (Leistikow 2001), even more so those related to Chilean species. The first work that includes terrestrial isopods from Chile was published by Nicolet (1849) in the "Historia Física y Política de Chile". He described a total of 12 species, whose recognition has been difficult because the inaccurate descriptions and collection localities (*e.g*. Chile). Consequently, only six species are currently valid (Schmalfuss 2003), but virtually none of them has once again been found in the country.

Later, Dana (1853) in the report of crustaceans collected by the "Exploratory Expedition of the United States, 1838-1842", described five species from Chile, one of them endemic (*Tylos spinulosus*) and four currently regarded as *nomen dubium* (*Ligia cursor, Pseudophiloscia angusta, Porcellio chilensis* and *Porcellio fuegiensis*).

Dolffus (1890a, 1890b) studied the terrestrial isopods collected by H.M.S. Challenger, describing *Oniscophiloscia anomala, Styloniscus monocellatus* and S. *murrayi.* Later, Budde-Lund (1904) described *Pseudophiloscia inflexa* from Corral, near Valdivia and Jackson (1926), in a review of the species of *Benthana* described *Benthanoides pauper*, from central Chile.

The region best known for terrestrial isopods fauna is the Chilean island of Juan Fernandez, where Wahrberg (1922) described *Ligia litigiosa* and *Oniscophiloscia mirifica*, and later, Strouhal (1961) described a species of Philosciidae (*Oniscophiloscia kuscheli*) and five species of Styloniscidae (Genus *Kuscheloniscus, Notoniscus* and *Styloniscus*).

Van Name, in his work on freshwater and terrestrial isopods of America (1936) and its supplements (1940, 1942) analyzed all Oniscidea known in that time on the continent, including the Chilean species, but many of these descriptions, records and figures were textual reproductions of original works and he not included new species for Chile.

Later, Verhoeff (1939) based on the material collected by Dr. G.H. Schwabe in southern Chile, described a Philosciidae (*Pseudophiloscia chilenica*) and five species of Styloniscidae (*Styloniscus araucanicus, S. iheringi, S. nordensjoeldi, S. schwabei* and *S. simrothi*), but some of them were discredited by Andersson (1960), Vandel (1963) and Leistikow (1998b). Subsequently, Vandel (1963) described *Sphaerobathytropa antarctica* from the Chilean-Argentine frontier, but has recently been shown that these specimens belong to the European species *S. ribauti* erroneously cited from South America (Schmidt 2007).

Schultz (1970), in a review of American species of *Tylos*, described Chilean specimens that he asigned to *Tylos spinulosus* Dana, 1853, but in a subsequent work (Schultz 1983), this material is considered as a new species named *Tylos chilensis*. Later, Schmalfuss and Vergara (2000) redefined the genus *Tylos*, including a list of valid

species, redescribed the tylids species from Chile and identifying a neotype for *T. spinulosus*.

Leistikow (1998a, 1998b, 2001) studied and clarified the taxonomic status of genus *Pseudophiloscia* and Taiti *et al*. (1986) described *Chileoniscus marmoratus*, first species of the endemic genus *Chileoniscus*. Subsequently, Schmidt (2007) considered the status of Chilean species previously included in Scleropactidae. This last author proves the absence of genus *Sphaerobathytropa* in South America, excluded the genus *Chileoniscus* from Scleropactidae and described *Chileoniscus armadillioides* from Chiloe island.

The firts contributions by Chilean authors are the work of Ramirez (1974) who, among other isopods, cited the presence *Ligia novizelandiae* in Concepcion bay and Perez-Schultheiss (2007), who reported new records that expand the distributional range of *Tylos chilensis* to southern Chile.

In addition, several cosmopolitan species has been mentioned, including one Oniscidae, two Armadillidiidae and five Porcellionidae (Warhberg 1922; Stouhal 1961; Van Name 1936, 1940, 1942; Berríos and Sielfeld 2000), which are found in association with human settlements (*e.g*. cities, suburbs and areas of agricultural use). Recently some chilean work have been published in various aspects of physiology and life history of some of these species (Carter *et al*. 2004; Castañeda *et al*. 2004, 2005; Catalan *et al*. 2008; Lardies *et al*. 2004a, 2004b, 2004c, 2004d).

SPECIES CHECKLIST

ORDER ISOPODA LATREILLE, 1817
SUBORDER ONISCIDEA LATREILLE, 1802
INFRAORDER TYLOMORPHA VANDEL, 1943
FAMILY TYLIDAE DANA, 1852

***Tylos chilensis* Schultz, 1983**
Tylos spinulosus Schultz, 1970: 302, Figs. 18-27.
Tylos chilensis Schultz, 1983: 680, Figs. 4A-I, 5A-H; Leistikow and Wägele, 1999: 4; Schmalfuss and Vergara, 2000: 4, 26-35, Figs. 38-58; Schmalfuss, 2003: 281; Pérez-Schultheiss, 2007: 200-201, Fig. 1a-c; González *et al*. 2008: 175.
Habitat: under rocks and in crevices of cliffs facing the sea, in the spray zone (Schmalfuss and Vergara 2000; Pérez-Schultheiss 2007).
Distribution: Valparaíso to Copiapó (Schmalfuss 2003); Pucatrihue and Pichimallay, Coast of Osorno province (Pérez-Schultheiss 2007); Mar Brava, Chiloé.

***Tylos spinulosus* Dana, 1853**
Tylos spinulosus Dana, 1853: 717-718, Pl. XLVIII, Figs. 1a-1c (wrongly *Tylus*); Miers, 1877: 675; Budde-Lund, 1906: 78; Van Name, 1936: 415-416, Fig. 257; 1940: 140, Fig. 32; Schultz, 1983: 675, Figs. 1 A-J, 2 A-F, 3 A-E; Leistikow and Wägele, 1999: 4; Schmalfuss and Vergara, 2000: 9, 10-25, Figs. 1-37; Schmalfuss, 2003: 283; González *et al*. 2008: 175.
Habitat: buried in sand beaches (Schmalfuss and Vergara 2000).
Distribution: Coquimbo to Copiapo. Type Locality "Nassau Bay, Fuegia" probably a labeling mistake (Schmalfuss 2003).

INFRAORDER LIGIAMORPHA VANDEL, 1943
SECTION DIPLOCHETA VANDEL, 1957
FAMILY LIGIIDAE LEACH, 1814

Ligia cursor* Dana, 1853 = *nomen dubium
***Ligia exotica* Roux, 1828**
Ligia exotica Roux, 1828: 3, Pl. XIII, Fig. 9; Andersson, 1960: 540-541, Fig. 1k-l; Schmalfuss, 2003: 124.
Ligia gaudichaudii Milne Edwards, 1840: 157; Nicolet, 1849: 265.
Ligia (Megaligia) exotica Van Name, 1936: 48-50, Fig. 8.
Habitat: in rocks and piles at upper water level at ports (Van Name 1936).
Distribution: Circumtropical (Schmalfuss 2003).

Remarks: Van Name (1936) cited this species from California to Balandra Bay, near Punta Diablo and Punta Arenas, but it is necessary to consider that many of the cites could be dubious identifications and belong to different species (Schmalfuss 2003).

***Ligia novizealandiae* (Dana, 1853)**
Lygia novizealandiae Dana, 1853: 739, Pl. XLIX, Fig 2a-2d; Schmalfuss, 2003: 126.
Ligia novaezealandiae Budde-Lund, 1885: 271; Jackson, 1922: 697; Andersson, 1960: 541, Fig. 2a-g; Ramírez, 1974: 411-412, Figs. 1-5; Leistikow and Wägele, 1999: 2; González *et al*. 2008: 174.
Ligia litigiosa Wahrberg, 1922: 277, Fig. 1.
Ligia porteri Maccagno, 1931: 151, Pl. III.
Ligia (Nesoligia) litigiosa Van Name, 1936: 57.
Ligia (Nesoligia) novae-zealandiae Van Name, 1936: 54-56, Fig. 12.
Ligia novae-zealandiae litigiosa Andersson, 1960: 541-543, Fig. 2h-i.
Ligia (Nesoligia) novae-zealandiae litigiosa Strouhal, 1961: 187-192, Figs. 1-9.
Distribution: New Zealand and Kermadec islands. In Chile has been collected in Juan Fernández (Jackson 1922), Tierra del Fuego (Van Name 1936) and Bahia "Carumhilla" (Maccagno 1931). Bay La Herradura, Bay of Conception and Coquimbo (Ramírez 1974).

SECTION SYNOCHETA LEGRAND, 1946
SUPERFAMILY STYLONISCOIDEA VANDEL, 1952
FAMILY STYLONISCIDAE VANDEL, 1952

***Kuscheloniscus vandeli* Strouhal, 1961**
Kuscheloniscus vandeli Strouhal, 1961: 217-224, Figs. 62-78; Leistikow and Wägele, 1999: 9; Schmalfuss, 2003: 119; González *et al*., 2008: 175.
Distribution: Chile: Juan Fernández island (Strouhal 1961).

***Notoniscus fernandezi* Strouhal, 1961**
Notoniscus fernandezi Strouhal, 1961: 205-210, Figs. 32-42; Leistikow and Wägele, 1999: 9; Schmalfuss, 2003: 158; González *et al*. 2008: 175.
Distribution: Chile: Juan Fernández island (Strouhal 1961).

***Notoniscus secundus* Strouhal, 1961**
Notoniscus secundus Strouhal, 1961: 210-213, Figs. 43-52; Leistikow and Wägele, 1999: 9; Schmalfuss, 2003: 158; González *et al*. 2008: 175.
Distribution: Chile: Juan Fernández island (Strouhal 1961).

***Notoniscus tertius* Strouhal, 1961**
Notoniscus tertius Strouhal, 1961: 213-217, Figs. 53-61; Leistikow and Wägele, 1999: 9; Schmalfuss, 2003: 158; González *et al*. 2008: 175.
Distribution: Chile: Juan Fernández island (Strouhal 1961).

Styloniscus araucanicus (Verhoeff, 1939)
Patagoniscus araucanicus Verhoeff, 1939: 309, Fig. 5-8; Van Name, 1942: 305, Fig. 6.
Styloniscus araucanicus Leistikow and Wägele, 1999: 9; Schmalfuss, 2003: 248.
Styloniscus araucanius González *et al.* 2008: 175.
Distribution: Aisén Región. Puyuhuapi Port (Van Name 1942).
Remarks: Andersson (1960) suggests that this species is conespecific with *S. schwabei* (Verhoeff 1939) and Vandel (1963) considers that it may be synonymous with *S. magellanicus* Dana, 1853. More studies are needed.

***Styloniscus magellanicus* Dana, 1853**
Styloniscus magellanicus Dana, 1853: 736-737, Pl. 48, Fig. 7; Budde-Lund, 1885: 271; Vandel, 1952: 18-24, Figs. 4-14; Andersson, 1960: 548, Fig. 4g-l; Vandel, 1963: 67-69, Fig. 1-2, 4; Leistikow and Wägele, 1999: 10;

Schmalffus, 2003: 249; González *et al*. 2008: 175.
Trichoniscus magellanicus Van Name, 1936: 82-83, Fig. 32; Giambiagi De Calabrese, 1939: 693, Pl. X; Van Name, 1942: 327-328, Fig. 34.
Patagoniscus iheringi Verhoeff, 1939 (in part): 307; 1951: 9-12, Figs. 1-10; Van Name, 1942: 305.
Patagoniscus nordenskiöldi Verhoeff, 1939: 306; Van Name, 1942: 305.
Patagoniscus nordenskjöldi Verhoeff, 1951: 12, Fig. 15-16.
Styloniscus nordenskjöldi Leistikow and Wägele, 1999: 10.
Habitat: valdivian forest (*Nothofagus dombeyi, Araucaria araucana, Fitzroya cupresoides*), in soil and under rotting tree trunks (Andersson 1960; Vandel 1963).
Distribution: Region of Magellan Strait, South of Patagonia (Van Name 1936), to around 39º S Lat to the north (Vandel 1963).

***Styloniscus monocellatus* (Dollfus, 1890)**
Microniscus monocellatus Dollfus, 1890a: 69, Pl. II, Fig. 4.
Oligoniscus monocellatus Dollfus, 1890b: 71; Budde-Lund, 1906: 84; Van Name, 1936: 91-92, Fig. 38.
Styloniscus monocellatus Strouhal, 1961: 185; Leistikow and Wägele, 1999: 10; Schmalfuss, 2003: 249; González *et al*. 2008: 175.
Distribution: Juan Fernández island (Strouhal 1961; Van Name 1936).
Remarks: This species was included in the genus *Styloniscus* by Vandel (1952), with some doubts because it is difficult to be recognized (Vandel 1963).

***Styloniscus murrayi* (Dollfus, 1890)**
Trichoniscus murrayi Dollfus, 1890a: 68, Fig. 2-2a; Budde-Lund, 1908: 83; Van Name, 1936: 84-85, Fig. 33.
Styloniscus murrayi Leistikow and Wägele, 1999: 10; Schmalfuss, 2003: 250; González *et al.* 2008: 175.
Distribution: Valparaíso (Van Name 1936).
Remarks: This species, like *S. monocellatus*, was included in the genus *Styloniscus* by Vandel (1952), with some doubts because it is difficult to be recognized (Vandel 1963).

***Styloniscus schwabei* (Verhoeff, 1939)**
Patagoniscus schwabei Verhoeff, 1939: 308-309, Figs. 1-3; Van Name, 1942: 305, Fig. 8.
Styloniscus schwabei Leistikow and Wägele, 1999: 10, Schmalfuss, 2003: 250; González *et al*. 2008: 175.
Distribution: Aisén Region (Schmalfuss 2003), Puyuhuapi Port (Van Name 1942).
Remarks: Andersson (1960) suggests that this species is conespecific with *S. araucanicus* (Verhoeff 1939) and Vandel (1963) considers that it may be synonymous with *S. magellanicus* Dana, 1853. More studies are needed.

***Styloniscus simrothi* (Verhoeff, 1939)**
Patagoniscus simrothi Verhoeff, 1939: 309-310, Fig. 4; Van Name, 1942: 305, Fig. 7.
Styloniscus (Styloniscus) otakensis fernandezianus Strouhal, 1961: 195-204, Figs. 10-31.
Styloniscus otakensis fernandezianus González *et al*. 2008: 175.
Styloniscus simrothi Andersson, 1960: 545-548, Figs. 4a-f; Vandel, 1963: 69-72, Figs. 3, 5; Leistikow and Wägele, 1999: 10; González *et al*. 2008: 175.
Habitat: valdivian forest (*Nothofagus dombeyi, Araucaria araucana*) (Vandel 1963).
Distribution: Juan Fernández island and Concepción region; Calbuco and San Vicente, near Talcahuano (Van Name 1942). Southwestern Argentina: provinces of Neuquén and Río Negro (Schmalfuss 2003). Between 36° and 44° lat. S (Vandel 1963).

SECTION CRINOCHETA LEGRAND, 1946
SUPERFAMILY ONISCOIDEA LATREILLE, 1802
FAMILY BATHYTROPIDAE VANDEL, 1952

Laninoniscus sp.
Remarks: specimens of an undescribed species have been collected in several locations in the Lakes Region and are currently under study; however, have been determined affinities with *Laninoniscus giambiagiae* of Neuquen, Argentina (Pérez-Schultheiss in preparation).

FAMILY DETONIDAE BUDDE-LUND, 1906

***Deto bucculenta* (Nicolet, 1849)**
Oniscus bucculentus Nicolet, 1849: 267-268, Pl. III, Fig. 9; Budde-Lund, 1885: 206.
Oniscus tuberculatus Nicolet, 1849: 268.
Philoscia bucculenta Dollfus, 1890a: 67-68.
Deto bucculenta Van Name, 1936: 98-100, Figs. 42-43; Schultz, 1972: 483, Figs. 34-35; Leistikow and Wägele, 1999: 12; Schmalfuss, 2003: 89; González *et al*. 2008: 174.
Distribution: Chile, Valparaíso (Nicolet 1849). Stewart and Chatham islands, New Zealand (Schmalfuss 2003).
Remarks: The type locality indicated by Nicolet (1849) is Valparaíso, Chile, but this species has not been found in the country since the original description.

FAMILY ONISCIDAE LATREILLE, 1802

***Oniscus armatus* Nicolet, 1849** = *Nomen dubium*.
***Oniscus asellus* Linnaeus, 1758**
Oniscus asellus Linnaeus, 1758: 637; Van Name, 1936: 182-185, Figs. 97-98; Leistikow and Wägele, 1999: 24; Berríos and Sielfeld, 2000: 21.
Distribution: cosmopolitan species.

FAMILY PHILOSCIIDAE KINAHAN, 1857

***Benthana angustata* (Nicolet, 1849)**
Oniscus angustatus Nicolet, 1849: 268, Pl. III, Fig. 8; Budde-Lund, 1885: 213.
Philoscia (Benthana?) angustata Van Name, 1936: 134-135, Fig. 65.
Benthana angustata Leistikow and Wägele, 1999: 13; Schmalfuss, 2003: 53; González *et al*. 2008: 175.
Distribution: "Chile" (Nicolet 1849).

***Benthana bilineata* (Nicolet, 1849)**
Oniscus bilineatus Nicolet, 1849: 269; Budde-Lund, 1885: 213.
Philoscia (Benthana?) bilineata Van Name, 1936: 135-136.
Benthana bilineata Leistikow and Wägele, 1999: 13; Schmalfuss, 2003: 53; González *et al*. 2008: 175.
Distribution: "Chile" (Nicolet 1849).

***Benthanoides pauper* (Jackson, 1926)**
Philoscia (*Benthana*) *pauper* Jackson, 1926: 194-195, Pl. VII, Figs. 137-144; Van Name, 1936: 132-133, Fig. 63.
Benthana pauper Gruner, 1955: 450-451, Figs. 25-26.
Benthanoides pauper Lemos De Castro, 1958: 88-89; Leistikow and Wägele, 1999: 15; Schmalfuss, 2003: 54; González *et al*. 2008: 175.
Distribution: Central Chile (Schmalfuss 2003). Valparaíso (Van Name 1936).

***Oniscophiloscia anomala* (Dollfus, 1890)**
Philoscia anomala Dollfus, 1890a (in part): 66, Pl. II, Figs. 1-1d.
Phalloniscus anomalus Budde-Lund, 1908: 296; Van Name, 1936: 176-177, Fig. 92; 1940: 135; Lemos de Castro, 1960: 203-204.
Oniscophiloscia anomala Strouhal, 1961: 234-238, Figs. 92-102; Leistikow and Wägele, 1999: 19; Schmalfuss, 2003: 160; González *et al*. 2008: 175.
Distribution: Juan Fernández island and Valparaíso (Van Name 1936).
***Oniscophiloscia kuscheli* Strouhal, 1961**
Oniscophiloscia kuscheli Strouhal, 1961: 238-241, Figs. 103-110; Leistikow and Wägele, 1999: 19. Schmalfuss, 2003: 160; González *et al*. 2008: 175.
Distribution: Juan Fernández island (Strouhal 1961).

***Oniscophiloscia mirifica* Wahrberg, 1922**
Philoscia anomala Dollfus, 1890a (in part): 66, Pl. II, Figs. 1-1c
Philoscia (Oniscophiloscia) mirifica Wahrberg, 1922: 282-285, Figs. 2-4; Van Name, 1936: 126-128, Figs. 59-60.
Oniscophiloscia mirifica Strouhal, 1961: 226-234, Figs. 79-91; Leistikow and Wägele, 1999: 19; Schmalfuss, 2003: 160; González *et al*. 2008: 175.
Distribution: Juan Fernández island, Masatierra Beach (Wahrberg 1922)

***Pseudophiloscia angusta* (Dana, 1853)** = *nomen dubium*
Remarks: *P. angusta* was poorly defined in the description of Dana (1853) and the type material is probably lost (Leistikow 1998a). Despite the cite of Leistikow (2001), the species was considered *nomen dubium* by Schmalfuss (2003).

***Pseudophiloscia chilenica* (Verhoeff, 1939)**
Araucoscia chilenica Verhoeff, 1939: 314-315, Fig. 9-14; Leistikow, 1998a: 237, 240; Leistikow, 1998b: 219-223, Figs. 3-6; Leistikow and Wägele, 1999: 13.
Pseudophiloscia chilenica Leistikow, 2001: 232; Schmalfuss, 2003: 225; González *et al.* 2008: 175.
Distribution: Puerto Montt region, Calbuco (Van Name 1942); Isla Guamblin Nacional Park, Raúl Marín Balmaceda Port, Aisén.

***Pseudophiloscia inflexa* Budde-Lund, 1904**
Pseudophiloscia inflexa Budde-Lund, 1904: 43, Pl. VI, Figs. 1-4; Van Name, 1936: 178-179, Fig. 93; Leistikow, 1998a: 237, Figs. 1-5; Leistikow, 2001: 232, Figs. 1-5; Leistikow and Wägele, 1999: 23; Schmalfuss, 2003: 225; González *et al.* 2008: 175.
Distribution: Chile: "Corral" (Van Name 1936). Wellington island, Puerto Edén (Leistikow 2001).

FAMILY *INSERTAE SEDIS* (sensu Schmidt 2007)

***Chileoniscus marmoratus* Taiti, Ferrara and Schmalfuss, 1986**
Chileoniscus marmoratus Taiti, Ferrara and Schmalfuss, 1986: 65-66, Figs. 2-19; Leistikow and Wägele, 1999: 37; Schmalfuss, 2003: 71; Schmidt, 2007: 75-76, Figs. 232-238; González *et al*. 2008: 175.
Habitat: Taiti *et al*. (1986) did not indicate specific habitat.
Distribution: Cuesta El Melón, Santiago; Nague, Coquimbo and Los Maitenes, north of Amolanas (Taiti *et al*. 1986).

***Chileoniscus armadillidioides* Schmidt, 2007**
Chileoniscus armadillidioides Schmidt, 2007: 76-77, Figs. 240-246.
Habitat: in temperate rain forest of *Fitzroya* (Schmidt 2007).
Distribution: the species has been found only in the vicinity of Cucao and Castro, Chiloe island (Schmidt 2007).

SUPERFAMILY ARMADILLOIDEA BRANDT, 1831
FAMILY ARMADILLIDAE BRANDT, 1831

***Cubaris granaria* (Nicolet, 1849)**
Armadillo granarius Nicolet, 1849: 275; Budde-Lund, 1885: 39; 1904: 115.
Cubaris granaria Van Name, 1936: 397; Leistikow and Wägele, 1999: 44; Schmalfuss, 2003: 79; González *et al*. 2008: 174.
Distribution: "Chile" (Nicolet 1849).

FAMILY ARMADILLIDIIDAE BRANDT, 1833

Armadillidium vulgare* (Latreille, 1804*)
Armadillo vulgaris Latreille, 1804: 48.

Armadillidium vulgare Wahrberg, 1922: 286; Van Name, 1936: 276-279, Figs. 157-159; Van Name, 1940: 132; Leistikow and Wägele, 1999: 43; Berríos and Sielfeld, 2000: 21; Schmalfuss, 2003: 38.
Armadillidium (Armadillidium) vulgare Strouhal, 1961: 242-243.
Distribution: cosmopolitan species.

Armadillidium nasatum Budde-Lund, 1885
Armadillidium nasatum Budde-Lund, 1885: 51; Van Name, 1936: 279-280, Fig. 160; Van Name, 1940: 132, Fig. 25; Leistikow and Wägele, 1999: 43; Berríos and Sielfeld, 2000: 21; Schmalfuss, 2003: 32.
Distribution: cosmopolitan species.

FAMILY PORCELLIONIDAE BRANDT, 1831

***Porcellio chilensis* Dana, 1853** = *nomen dubium* and *nomen preocupatum*.

***Porcellio chilensis* Nicolet, 1849**
Distribution: "Chile" (Nicolet 1849).
Remarks: genus placement very questionable (Schmalfuss 2003), probably synonym of *P. laevis* (Van Name 1936).

Porcellio fuegiensis Dana, 1853 = *nomen dubium.*

***Porcellio granarus* Nicolet, 1849** = nomen dubium:

***Porcellio liliputanus* Nicolet, 1849**
Porcellio liliputanus Nicolet, 1849: 273; Van Name, 1936: 235; Leistikow and Wägele, 1999: 34; Schmalfuss, 2003: 200; González *et al*. 2008: 175.
Distribution: "Chile" (Nicolet 1849).
Remarks: probably is a species of Bathytropidae, but Nicolet (1849) does not indicate a precise location or details of the habitat, making it difficult to confirm.

***Porcellio scaber* Latreille, 1804**
Porcellio scaber Latreille, 1804: 45; Wahrberg, 1922: 286; Van Name, 1936: 226-229, Figs. 127a, 128; Van Name, 1940: 136; Leistikow and Wägele, 1999: 34; Berríos and Sielfeld, 2000: 21; Schmalfuss, 2003: 205; González *et al*. 2008: 175.
Porcellio (Porcellio) scaber scaber Strouhal, 1961: 241-242.
Porcellio (Porcellio) scaber scabrior Strouhal, 1961: 242.
Distribution: Introduced from Europe.

***Porcellio dilatatus* Brandt and Ratzeburg, 1833**
Porcellio dilatatus Brandt and Ratzeburg, 1833: 78, Pl. XII, Fig. 6; Van Name, 1940: 118, Fig. 10; Leistikow and Wägele, 1999: 33; Schmalfuss, 2003: 194.
Porcellio dilatatum Berríos and Sielfeld, 2000: 21.
Distribution: Introduced from Europe.

***Porcellio laevis* Latreille, 1804**
Porcellio laevis Latreille, 1804: 46; Wahrberg, 1922: 286 ; Van Name, 1936 : 229-232, Fig. 129; Van Name, 1940: 136; Leistikow and Wägele, 1999: 34; Berríos and Sielfeld, 2000: 21; Schmalfuss, 2003: 199.
Distribution: Introduced from Europe.

***Porcellionides pruinosus* (Brandt, 1833)**
Porcellio pruinosus Brandt, 1833: 19.
Porcellionides pruinosus Van Name, 1936: 238-240, Fig. 127B, 133, 134a; Leistikow and Wägele, 1999: 35; Schmalfuss, 2003: 112.
Porcellionides pruinosa Berríos and Sielfeld, 2000: 21.
Distribution: cosmopolitan species.

***Porcellionides sexfasciatus* (Kock, 1847)**
Porcellio sexfasciatus Koch, 1847: 208, Pl. VIII, Fig. 99.
Porcellionides sexfasciatus Van Name, 1936: 240-241, Fig. 134B; Leistikow and Wägele, 1999: 35; Berríos and

Sielfeld, 2000: 21; Schmalfuss, 2003: 113.
Distribution: cosmopolitan species

DIVERSITY AND ENDEMISM

The chilean terrestrial isopod fauna currently are constituted, without considering the dubious taxa (Schmalfuss 2003), by 37 species distributed in 16 genera and 11 families (Table 1). This oniscofauna represents about 7% of total species for the New World, 12% of genera and 45% of families (Leistikow and Wägele 1999).

About 78% of species are native to the country and eight species, belonging to three families, were introduced (Berríos and Sielfeld 2000; Leistikow and Wägele 1999).

The native oniscofauna shows a high degree of endemism, with about 72% of the species found only in Chile. Of these families, the most important regarding its diversity are Styloniscidae, representing 34% of total species and 80% of endemism and Philosciidae, with 28% of total species and 100% of endemism. However, it is necessary to consider that, as most part of oniscidean species, these families have received scarce attention in Chile, except for the work of Andersson (1960) and Vandel (1963) in Styloniscidae and Leistikow (1998a, 1998b, 2001) in Philosciidae.

For all other families, the records do not include more than two species in the country with endemisms in *Chileoniscus*, Tylidae, Armadillidae and Bathytropidae (Table 1).

GEOGRAPHICAL DISTRIBUTION

The geographical distribution of oniscidea from Chile comprises virtually all the country, from Arica to Cabo de Hornos, including Juan Fernández island (Table 2). Some families, like Tylidae, Ligiidae and Detonidae, have a restricted distribution only to the coastal zone, while others inhabit diverse terrestrial environments, from the coast to Andean sectors (*e.g.* Styloniscidae).

This overview of distribution of oniscidea in the country is far from complete, because the known records are few and many of them include only the collection localities of original specimens. Have virtually no background regarding the altitudinal distribution of species, with the exception of some data supplied by Vandel (1963) for *Styloniscus magellanicus* and *S. simrothi*, which have been found up to 1200 meters above sea level.

The best known areas are Valparaíso and Juan Fernández island, where 24% and 34% of oniscofauna are present respectively; however, higher diversity are present in Valparaíso, where six families and seven genera (55% and 44%, respectively) are reported, whereas in Juan Fernández, are cited three families and five genera (27% and 31%, respectively). Copiapó and Coquimbo represent a 7% and 14% respectively from the total native species diversity. Markedly, there is not recorded species from Arica and Antofagasta, where only introduced species are known.

On the other side, in southern Chile, where environmental conditions of high moistness and habitat heterogeneity suggest a high diversity, are represented more of 17% of native species, 25% of genera and 36% of families, with higher diversities in Valdivia and Chiloe island (Table 2)

CONCLUSIONS

Considering the actually sketchy knowledge of the Chilean oniscofauna, with some records based only in the original descriptions and several species known only from a few localities, the current view can vary substantially with new updated studies.

Much of the works in Chilean oniscofauna are studies in taxonomy; however, yet remain numerous problems to solve and revisions of great part of the groups are needed *(e.g., Styloniscus, Benthana, Benthanoides*).

So far, the present work allows to update information given by previous catalogues and checklists that include Chilean species (Leistikow and Wägele 1999; Schmalfuss 2003; González *et al*. 2008). In this sense, we suggest to remove six dubious species (*e.g., Ligia cursor* Dana, 1853, *Pseudophiloscia angusta* (Dana, 1853), *Oniscus armatus* Nicolet, 1849, *Porcellio chilensis* Dana, 1853, *Porcellio fuegiensis* Dana, 1853, *Porcellio granarus*

Nicolet, 1849) whose recognition is imposible due to incomplete descriptions and absence of type material and two erroneously cited species (*Ligia cinerascens* Budde-Lund, 1885, *Andenoniscus sylvaticus* Verhoeff, 1941, González *et al*. 2008). Besides, it takes into account some synonymies previously not considered (Andersson 1960; Vandel 1963), species described afterwards to 2003 (*e.g., Chileoniscus armadillioides*) and new localities for some species. Some undescribed taxa and families previously not cited from Chile are reported (*e.g., Laninoniscus sp.,* Bathytropidae).

There are doubt about validity of *Porcellio chilensis* Nicolet, 1849, *Porcellio liliputanus* Nicolet, 1849, *Cubaris granaria* (Nicolet, 1849), *Benthana angustata* (Nicolet, 1849) y *Benthana bilineata* (Nicolet, 1849), due to the probable lost type material (*e.g.*, Zapfe 1995; Camousseight 1995).

The current knowledge allows to make some speculations related to some species (*e.g*. the possibility that *P. liliputanus* correspond to a species of *Laninoniscus*, or *Cubaris granaria* to a species of *Chileoniscus*); however, the information available makes difficult to check this hypotesis.

The status of *Deto bucculenta* in Chile needs confirmation, because this is the only species of Nicolet (1849) collected afterwards the original description.

It is needed to make prospectives studies at national scale and to report the presence of families, genera and species already not cited for the country, and to increase the knowledge of geographic distribution of practically all known species, including the introduced ones.

TABLE 1. Chilean Oniscidea diversity. *Genus and species with dubius family adscription; ** Undescribed species; the species of Ligiidae are considered native because do not appear as introduced in Leistikow and Wägele (1999).

Family	Total species	Genus	Native species	Endemic species	Introduced species
"Scleropactidae"	2	1	2	2	0
Tylidae	2	1	2	2	0
Ligiidae	2	1	2	0	0
Styloniscidae	10	3	10	8	0
Detonidae	1	1	1	0	0
Oniscidae	1	1	0	0	1
Philosciidae	8	3	8	8	0
Armadillidae	1	1	1	1	0
Armadillidiidae	2	1	0	0	2
Porcellionidae	7	2	2*	0	5
Bathytropidae	(1**)	(1)	1	1	0
Total	37	16	29	21	8

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TABLE 2. Families, genera and species diversity of Oniscidea from Chile by geographic zone. * Record of Maccagno (1931) in Bahía Carumhilla can be ortographic error of Curaumilla (south of Valparaíso). From Arica and Antofagasta are known only introduced species.

Zone	Arica and Antofagasta	Copiapó	Coquimbo	Valparaíso	Concepción	Valdivia	Chiloe	Chonos	Magallanes	Cabo de Hornos	Juan Fernández
Families		*Tylidae*	*Tylidae* *Ligiidae* *"Scleropactidae"*	*Tylidae* *Ligiidae ** *Styloniscidae* *Detonidae* *Philosciidae* *"Scleropactidae"*	*Ligiidae* *Styloniscidae*	*Tylidae* *Styloniscidae* *Philosciidae* *Bathytropidae*	*Tylidae* *Styloniscidae* *"Scleropactidae"* *Bathytropidae*	*Styloniscidae*	*Ligiidae* *Styloniscidae* *Philosciidae*	*Ligiidae* *Styloniscidae*	*Ligiidae* *Styloniscidae* *Philosciidae*
Genera		*Tylos*	*Tylos* *Ligia* *Chileoniscus*	*Tylos* *Ligia** *Styloniscus* *Deto* *Benthanoides* *Oniscophiloscia* *Chileoniscus*	*Ligia* *Styloniscus*	*Tylos* *Styloniscus* *Pseudophiloscia* *Laninoniscus*	*Tylos* *Styloniscus* *Chileoniscus* *Laninoniscus*	*Styloniscus*	*Ligia* *Styloniscus* *Pseudophiloscia*	*Ligia* *Styloniscus*	*Ligia* *Kuscheloniscus* *Notoniscus* *Styloniscus* *Oniscophiloscia*
Species		*T. chilensis* *T. spinulosus*	*T. chilensis* *T. spinulosus* *L. novizealandiae* *C. marmoratus*	*T. chilensis* *L. novaezelandiae** *S. murrayi* *D. bucculenta* *B. pauper* *O. anomala* *C. marmoratus*	*L. novizealandiae* *S. simrothi*	*T. chilensis* *S. magellanicus* *P. chilenica* *P. inflexa* *Laninoniscus sp.*	*T. chilensis* *S. magellanicus* *S. simrothi* *C. armadillioides* *Laninoniscus sp.*	*S. magellanicus* *S. araucanicus* *S. schwabei*	*S. magellanicus* *P. inflexa* *L. exotica*	*L. novizealandiae* *S. magellanicus*	*L. novizealandiae* *K. vandeli* *N. fernandezi* *N. secundus* *N. tertius* *S. monocellatus* *S. simrothi* *O. anomala* *O. kuscheli* *O. mirifica*
Totals	0	1 fam 1 gen 2 sp	3 fam 3 gen 4 sp	5(6) fam 6(7) gen 6(7) sp	2 fam 2 gen 2 sp	4 fam 4 gen 5 sp	4 fam 4 gen 5 sp	1 fam 1 gen 3 sp	3 fam 3 gen 3 sp	2 fam 2 gen 2 sp	3 fam 5 gen 10 sp

REFERENCES

ALMERÃO, M.P., M. MENDONÇA, A.F. CUADROS, E. PEDÓ, L.G.R. SILVA and P.B. ARAUJO.
2006 Terrestrial isopod diversity in the subtropical Neotropics: Itapuã State Park, southern Brazil. Iheringia Série Zoologia Porto Alegre 96(4), 473–477.

ANDERSSON, A.
1960 South American terrestrial isopods in the collection of the Swedish State Museum of Natural History. Arkiv för Zoologi, Stockholm 12, 537–570.

BÁEZ, R.P.
1995 Crustáceos, in: Simonetti, J.A., Arroyo, M.T.K., Spotorno, A.E., Lozada, E. (Eds.), Diversidad Biológica de Chile. CONICYT, Santiago, Chile, pp. 189–194.

BERRIOS, V. and W. SIELFELD.
2000 Superclase Crustácea. Guías de identificación y biodiversidad fauna chilena. Apuntes de Zoología. Universidad Arturo Prat, Iquique, Chile.

BRANDT, I.
1833 Conspectus Monographiae Crustaceorum Oniscodorum Latreillii. Bulletin de la Societe Imperiale des Naturalistes de Moscou 6, 171–193. BRANDT, I. and J. RATZEBURG.
1833 Isopoda. Medizinische Zoologie 2, 70–84.

BUDDE-LUND, G.
1885 Crustacea Isopoda terrestria per familias et genera et species descripta. Copenhagen, 319 pp.

BUDDE-LUND, G.
1904 A revision of Crustacea Isopoda terrestria, with additions and illustrations. 2. Spherilloninae. 3. Armadillo. Copenhagen.

BUDDE-LUND, G.
1906 Die Landisopoden der deutschen Südpolar-Expedition 1901-1903. Deutsche Südpolar-Expedition 1901-1903 9, 69–92

BUDDE-LUND, G.
1908 Isopoda von Madagaskar und Ostafrika mit Diagnosen verwandter Arten, in: Voeltzkow, A. (Ed.), Reise in Ostafrika in den Jahren 1903-1905. Wissenschaftliche Ergebnisse 2, pp. 265–308.

CALHÔA, C.F., A.M.V.M. SOARES and R.M. MANN.
2006 Cadmium assimilation in the terrestrial isopod, *Porcellio dilatatus* -Is trophic transfer important?. Science of the Total Environment 371, 206–213

CAMOUSSEIGHT, A.
1995 Collembola y Protura, in: Simonetti J.A., Arroyo, M.T.K., Spotorno, A.E., Lozada, E. (Eds.), Diversidad Biológica de Chile. CONICYT, Santiago, Chile, pp. 195–197.

CAMOUSSEIGHT, A., M. ELGUETA, F.E. ROJAS, A. VERA and W. SIELFELD.
2006 Invertebrados terrestres, in: Saball, P., Arroyo, M.T.K., Castilla, J.C., Estades, C., Ladrón Guevara, J.M., Larraín, S., Moreno, C.A., Rivas, F., Rovira, J., Sierralta, L. (Eds.), Biodiversidad de Chile, Patrimonio y Desafíos. Ocho Libros Editores, Comisión Nacional del Medio Ambiente (CONAMA), Chile, pp. 126–173.

CARTER, M.J., M.A. LARDIES, R.F. NESPOLO and F. BOZINOVIC.
2004 Heritability of progeny size in a terrestrial isopod: transgenerational environmental effects on a life history trait. Heredity 93, 455–459

CASTAÑEDA, L.E., M.A. LARDIES and F. BOZINOVIC.
2004 Adaptive latitudinal shifts in the thermal physiology of a terrestrial isopod. Evolutionary Ecology Research 6, 579–593.

CASTAÑEDA, L.E., M.A. LARDIES and F. BOZINOVIC.
2005 Interpopulation variation in recovery time from chill coma along a geographic gradient: a study in the common woodlouse, *Porcellio laevis*. Journal of Insect Physiology 51, 1346–1351.

CATALÁN, T.P., M.A. LARDIES and F. BOZINOVIC.
2008 Food selection and nutritional ecology of woodlice in Central Chile. Physiological Entomology 33, 89–94

DALLINGER, R., B. BERGER and S. BIRKEL.
2004. Terrestrial isopods: useful biological indicators of urban metal pollution. Oecologia 89 (1), 32–41

DANA, J.
1853 United States exploring Expedition during the Years 1838, 1839, 1840, 1841, 1842 under the Command of Charles Wilkes, U.S.N. 13, Crustacea, Part II. Isopoda. Philadelphia.
DAVIS, R.C.
1984 Effects of weather and habitat structure on the population dynamics of isopods in a dune grassland. Oikos 42, 387–395
DOLLFUS, A.
1890a Isopodes terrestres du "Challenger". Bulletin de la Société d'Etudes Scientifiques, Paris 12, 63–70.
DOLLFUS, A.
1890b Note au sujet des Isopodes terrestres du Challenger. Bulletin de la Société d'Etudes Scientifiques, Paris 13, 71.
DROBNE, D.
1997 Terrestrial isopods, a good choice for toxicity testing of pollutants in the terrestrial environment. Environmental Toxicology and Chemistry 16, 1159–1164.
GIAMBIAGI DE CALABRESE, D.
1939 Contribución al estudio de los isópodos terrestres argentinos. Physis (Buenos Aires) 17, 633–644.
GONZÁLEZ, E.R., P.A. HAYE, M.J. BALANDA and M. THIEL.
2008 Lista sistemática de especies de peracáridos de Chile (Crustacea, Eumalacostraca). Gayana, 72(2), 157-177.
GRUNER, H.E.
1955 Die Gattung *Benthana* Budde-Lund, 1908 (Isopoda, Oniscoidea). Zoologische Jahrbücher 83, 441–452.
GRUNER, H.E.
1993 Klasse Crustacea, in: Gruner, H.E. (Ed.), Lehrbuch der Speziellen Zoologie, Band I.: Wirbellose Tiere, 4. Teil. Arthropoda. Verlag Gustav Fischer, Jena, pp. 448–1030.
HASSALL, M. and J.M. DANGERFIELD.
1990 Density-dependent process in the population dynamics of *Armadillidium vulgare* (Isopoda: Oniscidae). Journal of Animal Ecology 59, 941–958.
HATTENSCHWILER, S., A.V. TIUNOV and S. SCHEU.
2005 Biodiversity and litter decomposition in terrestrial ecosystems. Annual Review of Ecology and Systematics 36, 191–218.
HOPKIN, S., G. HARDISTY and M. MARTIN.
1986 The woodlouse *Porcellio scaber* as a “biological indicator” of zinc, cadmium, lead and copper pollution. Environmental Pollution 11 B, 271–290.
HORNUNG, E., S. FARKAS and E. FISCHER.
1998 Tests on the isopod *Porcellio scaber*, in: Løkke, H., van Gestel, C.A.M. (Eds.), Handbook of soil invertebrate toxicity tests. John Wiley and Sons, Chichester, pp. 207–226.
JACKSON, H.
1922 A revision of the isopod genus *Ligia* (Fabricius). Proceedings of the Zoological Society of London 1922, 683–703.
JACKSON, H.
1926 Woodlice from Spain and Portugal, with an account of *Benthana*, a sub-genus of *Philoscia.* Proceedings of the Zoological Society of London 1926, 183–201.
KOCH, C.
1847 System der Myriapoden, mit den Verzeichnissen und Berichtigungen zu Deutschlands Crustaceen, Myriapoden und Archniden. Regensburg.
LARDIES, M.A., I.S. COTORAS and F. BOZINOVIC.
2004a The energetics of reproduction and parental care in the terrestrial isopod *Porcellio laevis*. Journal of Insect Physiology 50, 1127–1135.
LARDIES, M.A., L.D. BACIGALUPE and F. BOZINOVIC.
2004b Testing the metabolic cold adaptation hypothesis: an intraspecific latitudinal comparison in the common woodlouse. Evolutionary Ecology Research 6, 567–578.
LARDIES, M.A., M.J. CARTER and F. BOZINOVIC.
2004c Dietary effects on life history traits in a terrestrial isopod: the importance of evaluating maternal effects and trade-offs. Oecologia 138, 387–395.

LARDIES, M.A., T.P. CATALÁN and F. BOZINOVIC.
2004d Metabolism and life-history correlates in a lowland and highland population of a terrestrial isopod. Canadian Journal of Zoology 82, 677–687.
LATREILLE, P.
1804 Histoire naturelle, générale et particulière, des crustacés et des insectes. Cloportides 7. Paris.
LEISTIKOW, A.
1998a The genus *Pseudophiloscia* Budde-Lund, 1904 (Crustacea: Isopoda: Oniscidea) in South America. Mitteilungen aus dem Museum für Naturkunde in Berlin, Zoologische Reihe 74, 233–241.
LEISTIKOW, A.
1998b Redescriptions of terrestrial Isopoda from Chile and Peru. Spixiana 21, 215–225.
LEISTIKOW, A.
2001 *Araucoscia* Verhoeff, 1939 is a junior synonym of *Pseudophiloscia* Budde-Lund, 1904 (Crustacea, Isopoda, Oniscidea). Spixiana 24, 231–233.
LEISTIKOW, A. and W. WÄGELE.
1999 Checklist of the terrestrial isopods of the new world (Crustacea, Isopoda, Oniscidea). Revista Brasileira de Zoologia 16, 1–72.
LEMOS DE CASTRO, A.
1958 Revisão do gênero *Benthana* Budde-Lund, 1908 (Isopoda, Oniscidae). Arquivos do Museo Nacional 44, 85–118.
LEMOS DE CASTRO, A.
1960 Sôbre as espécies americanas de *Phalloniscus* Budde-Lund (Isopoda, Oniscidae), com descrição de 4 espécies novas, in: Actas y Trabajos de Primer Congreso Sudamericano de Zoologia (La Plata 12-24 Octubre 1960) 2. La Plata, pp. 203–211.
LINNAEUS, C.
1758 Systema Naturae. Regnum Animalium. Editio Decima. Stockholm.
MACCAGNO, T.
1931 *Ligia porteri* Macc. nuova specie di isopodo terrestre del Cile. Bollettino di Zoologia 2, 151–157.
MARTIN, J.W. and G.E. DAVIS.
2001 An updated classification of the recent Crustacea. Science Series 39, 124 pp.
MIERS, E.
1877 On a collection of Crustacea, Decapoda and Isopoda, chiefly from South America, with descriptions of new genera and species. Proceedings of the Zoological Society of London 1877, 653–679.
MILNE-EDWARDS, M.
1840 Histoire naturelle des crustacés. III. Ordre des isopodes. Paris.
NADKARNI, N.M. and J.T. LONGINO.
1990 Invertebrates in canopy and ground organic matter in a neotropical montane forest, Costa Rica. Biotropica 22(3), 286–289
NICOLET, H.
1849 Isopodos, III. Cloportidos, in: Gay, C. (Ed.), Historia física y política de Chile, Zoología 3, pp. 264–275.
PAOLETTI, M. and M. HASSALL.
1999 Woodlice (Isopoda: Oniscidea): their potential for assessing sustainability and use as bioindicators. Agriculture, Eco-systems & Environment 74, 157–165.
PÉREZ-SCHULTHEISS, J.,
2007 Nuevos registros de *Tylos chilensis* Schultz, 1983 (Isopoda, Oniscidea, Tylidae) en la Costa de Chile. Gayana 71(2), 214–216.
RAMÍREZ, A.M.
1974 Isópodos litorales y marinos de la Bahía de Concepción (Crustacea-Isopoda). Boletín de la Sociedad Biologica de Concepción (Chile) 48, 409–421.
ROUX, P.
1828 Crustacés de la Méditerranée et de son Litoral. Paris.
SCHMALFUSS, H.
2003 World catalog of terrestrial isopods (Isopoda: Oniscidea). Stuttgarter Beiträge zur Naturkunde, Serie A 654, 341 pp.

SCHMALFUSS, H. and K. VERGARA.
2000 The isopod genus Tylos (Oniscidea: Tylidae) in Chile, with bibliographies of all described species of the genus. Stuttgarter Beiträge zur Naturkunde, Serie A 612: 42 pp.
SCHMIDT, C.
2002 Contribution to the phylogenetic system of the Crinocheta (Crustacea, Isopoda). Part 1. (Olibrinidae to Scyphacidae s. str.). Mitteilungen aus dem Museum für Naturkunde in Berlin, Zoologische Reihe 78(2), 275–352.
SCHMIDT, C.
2003 Contribution to the phylogenetic system of the Crinocheta (Crustacea, Isopoda). Part 2. (Oniscoidea to Armadillidiidae). Mitteilungen aus dem Museum für Naturkunde in Berlin, Zoologische Reihe 79(1), 3–179.
SCHMIDT, C.
2007 Revision of the neotropical Scleropactidae (Crustacea: Oniscidea). Zoological Journal of the Linnean Society 151 (Suppl. 1), 339 pp.
SCHMIDT, C.
2008 Phylogeny of the Terrestrial Isopoda (Oniscidea): a review. Arthropod Systematics and Phylogeny 66(2), 191–226.
SCHULTZ, G.
1970 A review of the species of the genus *Tylos* Latreille from the New World (Isopoda, Oniscoidea). Crustaceana 19, 297–305.
SCHULTZ, G.
1972 A review of species of the family Scyphacidae in the New World (Crustacea: Isopoda: Oniscoidea). Proceedings of the Biological Society of Washington 84, 477–488.
SCHULTZ, G.
1983 Two species of *Tylos* from Chile, with notes on species of Tylos with three flagellar articles (Isopoda, Oniscoidea: Tylidae). Proceedings of the Biological Society of Washington 96, 675–683.
STROUHAL, H.
1961 Die Oniscoideen-Fauna der Juan Fernández-Inseln (Crustacea, Isopoda Terrestria). Annalen des Naturhistorischen Museums in Wien 64, 185–244.
TAITI, S., F. FERRARA and H. SCHMALFUSS.
1986 *Chileoniscus marmoratus* gen. et sp. n. from Chile (Oniscidea, Scleropactidae). Annales Historico-Naturales Musei Nationalis Hungarici 78, 63–69.
THIEL, M., E.R. GONZÁLEZ, M.J. BALANDA, P. HAYE, R. HEARD and L. WATLING.
2003 Diversity of Chilean peracarids (Crustacea: Malacostraca), in: Hendrickx, M.E. (Ed.), Contribuciones al Estudio de los Crustáceos del Pacífico Este 2. Instituto de Ciencias del Mar y Limnología, Universidad Nacional Autónoma México, pp. 177–189.
VAN NAME, W.
1936 The American land and freshwater isopod Crustacea. Bulletin of the American Museum of Natural History 71, 1–535.
VAN NAME, W.
1940 A supplement to the American land and freshwater isopod Crustacea. Bulletin of the American Museum of Natural History 77, 109–142.
VAN NAME, W.
1942 A second supplement to the American land and freshwater isopod Crustacea. Bulletin of the American Museum of Natural History 80, 299–329.
VANDEL, A.
1952 Les trichoniscides (Crustacés - Isopodes) de l'hémisphère austral. Mémoires du Muséum National d'Histoire Naturelle, Série A 6, 1–116.
VANDEL, A.
1963 Isopodes terrestres recueillis en Amérique du Sud par Claude Delamare Deboutteville, in: Biologie de l'Amérique Australe 2, pp 63–100.
VERHOEFF, K.
1939 Von Dr. G. H. Schwabe in Chile gesammelte Isopoda terrestria, Diplopoda aund Chilopoda. Archiv für Naturgeschichte 8, 301–324.

VERHOEFF, K.
1951 Land-Isopoden aus Südamerika, in: Further zoological Results of the Swedish Antarctic Expedition 1901-1903 4, Stockholm, pp. 1–19.
WAHRBERG, R.
1922 Einige terrestre Isopoden von den Juan-Fernandez-Inseln, in: Skottsberg, C. (Ed.), The Natural History of Juan Fernandez and Easter island. vol. 3, Zoology, part II, pp. 277–288.
WARBURG, M.R.
1993 Evolutionary Biology of Land Isopods. Springer, Berlin. 159 pp.
ZAPFE, H.
1995 Araneae, in: Simonetti, J.A., Arroyo, M.T.K., Spotorno, A.E., Lozada, E. (Eds.), Diversidad Biológica de Chile. CONICYT, Santiago, Chile, pp. 182–188.

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