Catalog of the Rutidermatidae (Crustacea: Ostracoda)

ANNE C. COHEN
and
LOUIS S. KORNICKER

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Catalog of the Rutidermatidae
(Crustacea: Ostracoda)

Anne C. Cohen
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ABSTRACT

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td><strong>Rutidermatidae</strong> Brady and Norman, 1896</td>
<td>1</td>
</tr>
<tr>
<td>Alternochelata Kornicker, 1958</td>
<td>2</td>
</tr>
<tr>
<td>Alternochelata lizardsensis Kornicker, 1982 1982</td>
<td>2</td>
</tr>
<tr>
<td>Alternochelata nealei Kornicker and Caraion, 1978 1978</td>
<td>2</td>
</tr>
<tr>
<td>Alternochelata polychelata Kornicker, 1958 1958</td>
<td>2</td>
</tr>
<tr>
<td>Alternochelata sikerai Kornicker, 1983</td>
<td>2</td>
</tr>
<tr>
<td><strong>Rutiderma</strong> Brady and Norman, 1896</td>
<td>2</td>
</tr>
<tr>
<td>Rutiderma antiqua Herrig, 1981</td>
<td>3</td>
</tr>
<tr>
<td>Rutiderma arcuatile Kornicker, 1983</td>
<td>3</td>
</tr>
<tr>
<td>Rutiderma chessi Kornicker and Myers, 1981</td>
<td>3</td>
</tr>
<tr>
<td>Rutiderma cohenae Kornicker, 1983</td>
<td>3</td>
</tr>
<tr>
<td>Rutiderma compressum Brady and Norman, 1896 1896</td>
<td>3</td>
</tr>
<tr>
<td>Rutiderma darbyi Kornicker, 1983</td>
<td>4</td>
</tr>
<tr>
<td>Rutiderma dinochelatum Kornicker, 1958</td>
<td>4</td>
</tr>
<tr>
<td>Rutiderma fuscum Poulsen, 1965</td>
<td>4</td>
</tr>
<tr>
<td>Rutiderma gerdhartmanni Kornicker, 1983 1975</td>
<td>4</td>
</tr>
<tr>
<td>Rutiderma gyre Kornicker, 1983</td>
<td>4</td>
</tr>
<tr>
<td>Rutiderma hartmanni Poulsen, 1965</td>
<td>4</td>
</tr>
<tr>
<td>Rutiderma irrostratum Kornicker and Caraion, 1978 1978</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma judayi McKenzie, 1965</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma kalhei Kornicker, 1983</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma leloeffi Kornicker, 1975</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma licinum Kornicker, 1983</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma lomae (Juday, 1907)</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma mollitum Darby, 1965</td>
<td>5</td>
</tr>
<tr>
<td>Rutiderma mortenseni Poulsen, 1965</td>
<td>6</td>
</tr>
<tr>
<td>Rutiderma normani Poulsen, 1965</td>
<td>6</td>
</tr>
<tr>
<td>Rutiderma ovatum Kornicker, 1975</td>
<td>6</td>
</tr>
<tr>
<td>Rutiderma pax Kornicker, 1984</td>
<td>6</td>
</tr>
<tr>
<td>Rutiderma rostratum Juday, 1907</td>
<td>6</td>
</tr>
<tr>
<td>Rutiderma rotundum Poulsen, 1965</td>
<td>6</td>
</tr>
<tr>
<td>Rutiderma sterreri Kornicker, 1981</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma tridens Kornicker and Caraion, 1978 1978</td>
<td>7</td>
</tr>
<tr>
<td>Species in Open Nomenclature</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species, Hansen, 1925</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species, Poulsen, 1965</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species, Deevey, 1968</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species A, Kornicker, 1975</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species B, Kornicker, 1975</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species 1, Poore, Rainer, Spies, and Ward, 1975</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species B, Kornicker, 1983</td>
<td>7</td>
</tr>
<tr>
<td>Rutiderma species A, McCain, 1984</td>
<td>7</td>
</tr>
</tbody>
</table>
Rutiderma species B, McCain, 1984
Rutiderma species indeterminate, Kornicker, 1983
Rutiderma species, Kornicker, 1985
Scleraner Kornicker, 1975
Scleraner chacaoi (Hartmann, 1965)
Species Incorrectly Assigned to Rutidermatidae
Literature Cited
Catalog of the Rutidermatidae
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Introduction

This publication deals with 1 of the 3 families of Ostracoda belonging to the superfamily Sarsiellacea (Kornicker, 1986:178), suborder Myodocopina, in the order Myodocopida (sensu Kornicker and Sohn, 1976, fig. 2). The Myodocopida comprise 5 families with about 375 species of which 30 species belong to the 3 genera of Rutidermatidae. We have tried to include all significant references to the family published before March 1986. The endings of some specific names have been changed to conform to the neuter gender of the genus Rutiderma. In addition to the synonymies, the distribution of each taxon is given. No Rutidermatidae have been reported from the Arctic, Antarctic, and east coast of South America. While the absence of rutidermatids from the cold polar regions is probably real, lack of reports from eastern South America is probably due to lack of or inadequate collecting. Other sparsely represented regions include much of the Indo-West Pacific, most of the coast of Australia, most Pacific islands, and much of the tropical coast and islands of the Americas.

We list information on the biology, ecology, and life history of each taxon. Ecological data are mainly restricted to depth and substrate, but some publications reported stomach contents, temperature, salinity, parasites, juvenile stages, and clutch size.

We indicate the kind of type, depository of the holotype, and type-locality. The names of institutions holding many of the types listed herein are abbreviated as follows:

USNM = former United States National Museum, collections in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.


Zoologisches Museum Hamburg = Zoologisches Institut und Zoologisches Museum, Universität Hamburg.

We thank Elizabeth Harrison for preparation of the manuscript and for her patience with the many revisions. We also thank the libraries of the Smithsonian Institution (particularly Jack Marquardt and Carolyn Hahn), the Allan Hancock Foundation of the University of Southern California, and the Los Angeles County Museum of Natural History for assistance in finding literature; L.B. Holthuis for advice concerning methodology, and Gerd Hartmann and Thomas E. Bowman for reviewing the manuscript.

RUTIDERMATIDAE Brady and Norman, 1896

RUTIDERMATIDAE Brady and Norman, 1896:626, 628, 639, 673.


**Altemochelata Kornicker, 1958**


**DISTRIBUTION.** Atlantic: Great Bahama Bank; northern Gulf of Mexico; off Mauritania and Spanish Sahara. Pacific: Great Barrier Reef, Australia.

**HABITAT.** Marine, benthic, 1-560 m (questionable record at 1100 m; Kornicker, 1983;16) on substrates of sand, muddy sand, mud, Gorgonacea. Life History and Ontogeny.—1-6 brooded eggs, broken swimming bristles on adult females of A. sikorai, A. nealei, and A. lizardensis.

**Altemochelata lizardensis Kornicker, 1982**

Rutiderma (Altemochelata) Kornicker, 1958;236-238, figs. 1-6 [female holotype: "Lizard Island main lagoon . . . sand flat, depth 6 m" (Great Barrier Reef, Australia)]; 1983;12, 16, 25 [compares to other species].

**DISTRIBUTION.** Lizard Island Group, Great Barrier Reef, Australia.

**HABITAT.** Benthic; low intertidal-12.3 m; sand flat near coral reef.

**Life History and Ontogeny.** Adult male and female, A-1 male, 4-6 eggs, broken swimming bristles on females.

**Altemochelata nealei Kornicker and Caraion, 1978**

Rutiderma (Altemochelata) Kornicker and Caraion, 1978;3-6, 66-73, figs. 56-59 [female holotype: "Grigore Antipa" Museum of Natural History, Bucharest, Romania; type-locality: "Station X013 . . . 19°46'00"N, 17°08'00"W; 61 m . . . Islamic Republic of Mauritania"].

**DISTRIBUTION.** Northeast Atlantic and Islamic Republic of Mauritania and Spanish Sahara. Benthic; shelf-bathyal, 53-560 m (questionable record at 1100 m) mud, muddy sand, Gorgonacea washings, sand substrates. Life History and Ontogeny.—Adult male and female, 2-3 eggs, female with broken natatory bristles.

**Altemochelata polychelata Kornicker, 1958**


**DISTRIBUTION.** Bimini, Bahamas. Benthic; 1-5 m; calcareous sand; about 29°C, about 37‰ salinity.

**Life History and Ontogeny.** Female, juvenile female.

**Altemochelata sikorai Kornicker, 1983**

Rutiderma (Altemochelata) sikorai Kornicker, 1983;1, 7-10, 12-14, 16-25, figs. 6-9 [female holotype: USNM; type-locality: "Sta EFG-2, in vicinity of East Flower Garden, continental shelf off Texas . . . 27°53'N, 93°38'W . . . 112 m"].

**Altemochelata species A.** —Flint, 1981, fig. 4.

**DISTRIBUTION.** Gulf of Mexico off Louisiana and Texas. Benthic; 61-137.2 m.

**Life History and Ontogeny.** Adult male and female, 1-3 eggs; broken swimming bristles on female.

**Rutiderma Brady and Norman, 1896**

Rutiderma Brady and Norman, 1896;623, 627, 640-642, 673 [type-species, by monotypy: Rutiderma compressa Brady and Norman, 1886; gender: 29°C, about 37‰ salinity. **Life History and Ontogeny.** Female, juvenile female.

**Distribution.**—Between latitudes 45°N and 53°S. East Pacific: Washington (state), U.S.A.; Pt. Arguello, California, U.S.A. to Scammon Lagoon, Baja California, Mexico; El Salvador; Pearl Islands, Panama; Chile. West Atlantic: Bermuda, North Carolina to Florida; Bahamas; Gulf of Mexico; Florida to Texas; Caribbean Sea: Belize; Virgin Islands; Barbados. East Atlantic: Bay of Biscay; Ivory Coast; South West Africa; South Africa. Indo-West Pacific: Mozambique; Red Sea; Thailand; Melbourne, Australia.

**Habitat.**—Marine, lowest reported salinity 30‰ (R. mollitum); mostly benthic, intertidal to 317 m (questionably referred to R. tridens).—Choniostomatid copepods (R. motlita).—Ectoparasites, harpacticoid copepods, nematodes, crustaceans.

**Stomach Contents.**—Annelids, diatoms, copepods, polychaetes, harpacticoid copepods, nematodes, crustaceans.

**Parasites.**—Choniostomatid copepods (Rutiderma darbyi and R. sterreri).

**Rutiderma antiqua Herrig, 1981**

*Rutiderma antiqua* Herrig, 1981:682, 683, fig. 4; pl. III: fig. 7; pl. IV: figs. 1–5; pl. V: fig. 1.

**Distribution.**—Lowermost Jurassic (Lower Sinemurian to Upper Pliensbachian), Thuringia, German Democratic Republic.

**Habitat.**—Marly sediments.

**Material.**—Adults and juveniles.

**Remarks.**—This is the only fossil record of the family. The small size of the specimens suggests to the present authors that they are probably Cladocopa.

**Rutiderma arcuatile** Kornicker, 1983

*Rutiderma arcuatile* Kornicker, 1983:11-13, 25, 67-70, figs. 39, 40 [female holotype: USNM; type-locality: "East side of Bolongo Bay, St. Thomas Island, U.S. Virgin Islands...18°18'59"N, 64°53'45"W...intertidal."]

**Distribution.**—Northwest Atlantic: Virgin Islands: St. Croix and St. Thomas Islands.

**Habitat.**—Benthic, intertidal, shifting sands by rocks; planktonic near bottom, 9 m, outer reef.

**Life History and Ontogeny.**—Female, 3 eggs.

**Stomach Contents.**—Copepods.

**Rutiderma chassi Kornicker and Myers, 1981**

*Rutiderma chassi* Kornicker and Myers, 1981:2, 3, 31-34, figs. 19, 20 [female holotype: USNM; type-locality: "San Clemente Island, sta D-3"].


**Life History and Ontogeny.**—Female, 4 eggs.

**Rutiderma cohenae Kornicker, 1983**

*Rutiderma cohenae* Kornicker, 1983:4, 11-13, 15, 25, 26, 62-67, 85, figs. 36-38 [female holotype: USNM; type-locality: "San Salvador, Bahamas...San Salvador Island, dump reef...about 4 m"].

**Distribution.**—Northwest Atlantic: Key West, Florida, U.S.A. and San Salvador Island, Bahamas.

**Habitat.**—Benthic; subtidal to 4 m, sand in Thalassia beds.

**Life History and Ontogeny.**—Female, 3–4 eggs.

**Rutiderma compressum** Brady and Norman, 1896

*Rutiderma compressum* Brady and Norman, 1896:625, 673-675, pl. 58, figs. 9–16 [holotype: unknown; type-locality: "one of these was from off the Cap de Penas (Bay of Biscay), the other from the Fosse de Cap Breton; depth, 150 metres."].—Darby, 1965:29 [compares to *R. mollitum*].—McKenzie, 1965:62 [mentions].—Poulsen, 1965:6, 8, 9, 17, 18, 38, 45.—Kornicker, 1975a:43 [compares to *R. leoeufi*]; 1975b:30, 646, 657, 675.—Kornicker and Caraion, 1978:2, 54, 65, 66 [compares to *R. tridens*].—Kornicker, 1983:25 [mentions]; 1985:3 [mentions].

**Rutiderma compressa** Müller, 1908:53, 92, 93, pl. 7: figs 1–13 [qestionally referred to *R. tridens* by Kornicker and Caraion, 1978:60, 65: "The carapace of *R. tridens* resembles that of the female of *R. compressa* from South Africa illustrated by Müller (1908, pl. 7:1). Müller's specimen has been put into synonymy of *R. tridens* with a question, because the 1st antennula illustrated by Müller (1908, pl. 7:2) does not show a lateral bristle on the 2nd joint, but this could be because the illustration is a medial view of the limb. The 1st, 3rd and 4th endites of the 7th limb illustrated by Müller (1908, pl. 7:12) have a different number of bristles than the same endites of the 7th limb of the female of *R. tridens* described herein, but this could be the result of intraspecific variability."][1]. Müller, 1912:35.—Klie, 1940:404, 406 [identification of African specimens needs verification].—Hartmann, 1964:39 [identification of Red Sea specimens needs verification].—Hartmann-Schröder and Hartmann, 1974:70, 76, 78, 84 [distribution].

**Rutiderma (Rutiderma) compressa** —Kornicker, 1958:236, 237 [compares to *R. dinoucherata*].

**Rutiderma africana** —Puri, 1966:484 [Puri credits *R. africana* Müller to Klie, 1940:404–448, but *R. africana* is not described or mentioned in the Klie, 1940 or Müller publications. Puri probably meant *R. compressa* instead of *R. africana* because Klie, 1940 lists *R. compressa* between Cypridina dooserrata Müller and Philomedes africana Klie, and Puri,
1966, lists R. africana Müller between Cypridina dorsoserrata Müller and Philomedes africana Klie.


**Distribution.**—Northeast Atlantic: Bay of Biscay: Cabo de Penas, Spain; Fosse Capbreton, France (ide Klie, 1940).

[R?Southeast Atlantic: Luderitz Bay, South West Africa; Simonstown, Atlantic coast of South Africa near Cape of Good Hope. [?]Indo-West Pacific: Al Ghurdaqah, Egypt, Red Sea; Tongaat, coast of South Africa; Xai Xai, Mozambique.

HABITAT.—Benthic; 150 m; [?]1-2 m, subtidal; [?]shallow, sand; [?]rock and gravel beach, hummock-algae, tropical littoral; [?]rock-dwelling.

**Life History and Ontogeny.**—Female, A-1 female, juvenile.

**Rutiderma darbyi Kornicker, 1983**


*Rutiderma darbyi* Kornicker.—Bradford, 1980:141, fig. 2 [deliberate nomen nudem].


**Distribution.**—Northeast Atlantic: North Carolina to Florida, U.S.A.; Gulf of Mexico: Florida; Bahamas.

HABITAT.—Benthic; intertidal to 168 m; sea grasses; sediment between rocks; surface sediment of tidal flat with Diplanthera; fine to coarse sand; Thalassia bed.

**Life History and Ontogeny.**—Female, male, 2-4 eggs.

**Stomach Contents.**—Annelids, diatoms, copepods.

**Parasites.**—Choniostomatid copepods (Bradford, 1980; Kornicker, 1983:43).

**Rutiderma dinochelatum Kornicker, 1958**


*Rutiderma (Rutiderma) dinochelata.*—Kornicker, 1958:297, fig. 86B,F.J [mis-spelling].


**DISTRIBUTION.**—Northwest Atlantic: Bahama Islands; Bimini and Andros Islands.

HABITAT.—Benthic, intertidal—20 m; temperature: about 29°C; salinity: 31-42%.

**Life History and Ontogeny.**—Female, juvenile female.

**Biology.**—Response to light (Kornicker, 1958:224).

**Rutiderma fusca Poulsen, 1965**


**Distribution.**—Type-locality only.

**Life History and Ontogeny.**—Male.

**Rutiderma gerdhartmanni Kornicker, 1975**


**Distribution.**—Type-locality only.

**HABITAT.**—Benthic; 12 m; sand-mud and gravel.

**Life History and Ontogeny.**—Female, male, 4 eggs.

**Rutiderma gyre Kornicker, 1983**

*Rutiderma gyre* Kornicker, 1983:4-8, 10-13, 15, 25, 54-62, 80, figs. 30-35, pl. 5 [female holotype: USNM; type-locality: “Gulf of Mexico off Galveston, Texas . . . 28°10’N, 94°18’W; 55.5 m*”].

**Distribution.**—Northwest Atlantic: Florida shelf, U.S.A.; predominantly Gulf of Mexico: Florida to Texas.

**HABITAT.**—Benthic; 6.1-148 m.

**Life History and Ontogeny.**—Female, male, 1-4 eggs.

**Rutiderma hartmanni Poulsen, 1965**


Not *Rutiderma restra.*—Hartmann, 1959:195, 196, 198, 199 [placed in synonymy of *R. hartmanni* by Poulsen, 1965; transferred to synonymy of *R. pax*].

**Distribution.**—East Pacific: San Jose, Pearl Islands, Panama.

**HABITAT.**—Benthic; 9 m; ooze and sand.
Life History and Development.—Male, female, juveniles, life history, sexual dimorphism, swimming bristles (Kornicker, 1985).

Stomach Contents.—Nematode (in female), spheres and sclerites (in male).

*Rutiderma irrostratum* Kornicker and Caraion, 1978

*Rutiderma irrostratum* Kornicker and Caraion, 1978:3-6, 54, 56-60, 106, figs. 49-51, pl. 31 [female A—1 juvenile holotype: "Grigore Antipa" Museum of Natural History, Bucharest, Romania; type-locality: "Station X053 ... 21°47'00"N, 17°28'02"W; 260 m ... Spanish Sahara"]—Kornicker, 1981a:67.

Distribution.—Northeast Atlantic off Spanish Sahara, Mauritania.

Habitat.—Benthic; shelf-bathyal; 20–150 m; fine sand; water temperature and salinity: 28.9°C, 34.4‰.

Life History and Ontogenesis.—Female, A—1 male.

*Rutiderma licanum* Kornicker, 1983

*Rutiderma licanum* Kornicker, 1983:2, 4–8, 10, 12–14, 25, 47–54, 85, figs. 25–29, pl. 2 [female holotype: USNM; type-locality: "Gulf of Mexico, off Galveson, Texas, 53 m ... 28°16'N, 94°06'30"W"]; 1984:130, fig. 5c [compares with *R. Pax*].


Habitat.—Benthic; 17–68 m.

Life History and Ontogenesis.—Female, male, 1–3 eggs.

*Rutiderma lomalae* (Juday, 1907)


*Rutiderma lomalae*.—Kornicker and Myers, 1981:1–4, 10–18, 54, figs. 5–10 [designates neotype].


Habitat.—Planktonic, surface (Juday, 1907); benthic, sediment 9.8°C. [?] Benthic; upper sublittoral, shelly sand beach.

Life History and Ontogenesis.—Male, female, juvenile female, 4 eggs.

*Rutiderma mollitum* Darby, 1965

*Philomedes mollitum* Juday, 1915:133, 143: off San Diego, off Santa Catalina Island, and Oxnard; [?] El Salvador. [?] Southeast Pacific: Bay of Caldera, Chile.

Habitat.—Planktonic, surface (Juday, 1907); benthic, sediment 9.8°C. [?] Benthic; upper sublittoral, shelly sand beach.

Life History and Ontogenesis.—Male, female, juvenile female, 4 eggs.
Rutiderma mortenseni Poulsen, 1965

Rutiderma mortenseni Poulsen, 1965:7, 11, 14, 17, 18, 22, 34, 36, 44, 41, 45, 44, fig. 11 [male holotype: Zool. Mus. Univ. Copenhagen; type-locality: "Virgin Isds., West Indies"].

HABITAT.—Benthic; 5.4–190 m; salinity about 30‰ (Darby) and 35‰, 32°C, fine to coarse sand.

LIFE HISTORY AND ONTOGENY.—Female, male, 3–4 eggs.

Rutiderma normani Poulsen, 1965


HABITAT.—Benthic; 12 m; sand, gravel, corals.

LIFE HISTORY AND ONTOGENY.—Female, male, juvenile females?, 3 eggs.

Rutiderma ovatum Kornicker, 1975


HABITAT.—Benthic; 2–17 m; sand, gravel, corals.

LIFE HISTORY AND ONTOGENY.—Female, male, juvenile male, juvenile females?, 4 eggs.

Rutiderma pax Kornicker, 1984


HABITAT.—Benthic; 12 m; mud.

LIFE HISTORY AND ONTOGENY.—Female, 1 egg.

Rutiderma rostratum Juday, 1907

Rutiderma rostratum Juday, 1907:142, 147–149, pl. 20: figs. 8–13 [female holotype: unique specimen, probably not extant; type-locality: "Catch 612, Glorieta Bight, San Diego Bay, June 30, 1903" (32°40.6’N, 117°10.5’W, 0 m, locality given in Michaels and McEwen, 1921:133, 143)].

HABITAT.—Benthic; 0.3–less than 22 m; shallow water, rocks with algae, eel grass, tide pools; fine to coarse sand, mostly poorly sorted, mainly quartz or shell, 18.5°C surface.
water, surface salinity 34–37%, productivity about 50 mg c/m²/day; eel grass and tide pool vegetation.

**Life History and Ontogeny.**—Females, male, juvenile females, 2–4 eggs.

**Rutiderma sterreri** Kornicker, 1981


**Distribution.**—Northwest Atlantic: Bermuda.

**Habitat.**—Benthic; intertidal–11 m; algae, grasses, oysters, shells, mud with grass, mud, coarse sand with *Thalassia* and *Halimeda* overlying mud, red sponge and algae, sand/mud under rocks.

**Life History and Ontogeny.**—Female, male, 4 eggs.

**Parasites.**—Choniostomatid copepod (Kornicker, 1981:8).

**Rutiderma tridens** Kornicker and Caraion, 1978


[?]*Rutiderma compressa.*—Müller, 1908:53, 92, 93, pl. 7: figs. 1–13 [questionably referred to *R. tridens* by Kornicker and Caraion, 1978:60, 65: "The carapace of *R. tridens* resembles that of the female of *R. compressa* from South Africa illustrated by Müller (1908, pl. 7:1). Müller's specimen has been put into synonymy of *R. tridens* with a question, because the 1st antenna illustrated by Müller (1908, pl. 7:2) does not show a lateral bristle on the 2nd joint, but this could be because the illustration is a medial view of the limb. The 1st, 3rd, and 4th endites of the 6th limb illustrated by Müller (1908, pl. 7:12) have a different number of bristles than do the same endites of the two specimens of *R. tridens* described herein, but this could be the result of intraspecific variability."]—Müller, 1912:35.—Hartmann, in Hartmann-Schröder and Hartmann, 1965:328 [part: N-1 male]. [Not Brady and Norman, 1896.]

**Distribution.**—Northeast Atlantic: off Spanish Sahara.

**Habitat.**—Benthic; 30 m; sand.

**Life History and Ontogeny.**—A–1 juvenile male.

**Species in Open Nomenclature**

**Rutiderma species, Hansen, 1925**

Rutiderma species.—Hansen, 1925:63, pl. 4: fig. 2.

**Rutiderma species, Poulsen, 1965**

Rutiderma species.—Poulsen, 1965, figs. 151c, 152b.

**Rutiderma species, Deevey, 1968**

Rutiderma species.—Deevey, 1968:12.

**DISTRIBUTION.**—Planktonic; northwest Atlantic: Sargasso Sea off Bermuda, 32°10′N, 64°30′W, bottom depth about 3000 m.

**Rutiderma species A, Kornicker, 1975**

**Rutiderma (Rutiderma) compressa.**—Hartmann, in Hartmann-Schröder and Hartmann, 1965:328 [part: N-1 male]. [Not Brady and Norman, 1896.]

**Rutiderma compressa.**—Hartmann-Schröder and Hartmann, 1965:30, 55, 41, 45 [N-1 male only].


**Distribution.**—Southeast Pacific: Bahía Inglés, Chile; 41°48′S, 75°53′W.

**Habitat.**—Benthic; 12 m; mud with sand and rocks.

**Life History and Ontogeny.**—A–1 juvenile male.

**Rutiderma species B, Kornicker, 1975**


**Distribution.**—Southeast Pacific: off Chile: 52°56′S, 75°00′W to 52°56′S, 75°00′W; 50°20′S, 75°20′W, Seno Contreras, Isla Gravello, Chile.

**Habitat.**—Bottom, 92–101 m (shelf): 1–2 m, fine to medium sand, much attached algae, perhaps slightly brackish.

**Life History and Ontogeny.**—Male.

**Rutiderma species 1, Poore, Rainer, Spies, and Ward, 1975**


**Rutiderma species.—Kornicker, 1982:793 [mentions].

**Distribution.**—Port Phillip Bay, Melbourne, Australia.

**Habitat.**—Benthic; more than 20 m; silty clay and clay, salinity 34.95% (station data in Beasley, 1966:69–105, and Poore and Rainer, 1975:373).

**Rutiderma species B, Kornicker, 1983**

**Rutiderma species B.—Kornicker, 1983:1, 10, 12, 13, 15, 25, 26, 80–85, figs. 49–51.

**Distribution.**—Gulf of Mexico: South Texas Shelf, U.S.A.

**Habitat.**—Benthic: 15 m.

**Life History and Ontogeny.**—Female, male, 1–2 eggs.

**Stomach Contents.**—Nematode.

**Rutiderma species A, McCain, 1984**


**Rutiderma species B, McCain, 1984**

Rutiderma species B.—McCain, 1984:99

**DISTRIBUTION.**—Arabian Gulf (northern area).

**HABITAT.**—Near-shore seagrass.

**Rutiderma species indeterminate, Kornicker, 1983**

Rutiderma species indeterminate.—Kornicker, 1983:3, 11, 12, 25, 85 [= one or more species].


**HABITAT.**—Benthic, intertidal-subtidal; planktonic in water column above bottom.

**LIFE HISTORY AND ONTOGENY.**—Male, A—1 juvenile male, juveniles.

**Rutiderma species, Kornicker, 1985**

Sarsiella species 1.—Bonaduce, Ciliberto, Minichelli, Masoli, and Pugliese, 1983, fig. 2:5.


**DISTRIBUTION.**—Red Sea.

**Scleraner Kornicker, 1975**


This genus comprises a single species.

**Scleraner chacaoi (Hartmann, 1965)**

*Rutiderma (Rutiderma) chacaoi* Hartmann, 1965:328–352, figs. 36–44 [A—1 juvenile female holotype: Zoologisches Museum Hamburg; type-locality: “Golf von Corcovado, Kanal von Chacao, Südchile” (South Chile)].

**DISTRIBUTION.**—Southeast Pacific: Chile: Golfo de Chacao; 53°41’40’S, 72°0’45”W (shelf), Fortesque Bay, Straits of Magellan; 50°16’42’S, 74°48’28”W (shelf).

**HABITAT.**—Benthic; 190 m; fine-grained sand with mud, detritus and rocks, temperature about 11°C, O₂ about 3.5 ml/l, 21.3 and 50 m, bottom coarse with much red algae and bottom of pea gravel with mud.

**LIFE HISTORY AND ONTOGENY.**—A—1 female, A—1 male, juveniles.

**Species Incorrectly Assigned to Rutidermatidae**


**Incertae sedis.**—Kornicker, 1985:26 [may be a larval ascothoracid (Grygier, 1985:296); distribution: Red Sea].
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