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INDEX TO THE SPECIES OF THE FAMILY GEOPLANIDAE (TURBELLARIA, TRICLADIDA, TERRICOLA)¹⁾

PART I: GEOPLANINAE²⁾

by

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I. INTRODUCTION TO TAXONOMY

A. HISTORICAL BACKGROUND TO THE FAMILY

The collection and description of geoplanid land planarians came about as the result of the numerous natural history explorations in the 19th Century. The early collections were from South America, for example *Geoplana brasiliensis* (BLAINVILLE, 1826) (*olim Planaria*) and *Geoplana vaginuloides* (DARWIN, 1844) (*olim Planaria*), both collected in Brazil; *Polycladus gayi* BLANCHARD, 1845, collected from Chile. Then there were extensive collections by Fritz MÜLLER in Brazil, Henry N. MOSELEY, Australia, and Arthur DENDY in Australia and New Zealand.

The early discovery period depended on collections by world traveling naturalists. The taxonomic period in which the worms were described and classified is replete with famous investigators such as Charles DARWIN (Voyage of the H. M. S. Beagle, 9 species from South America and one from Tasmania in Australia). Fritz MÜLLER, who observed 13 *Geoplana* species from Brazil, sent his data to Max SCHULTZE who published the paper jointly (SCHULTZE & MÜLLER, 1857; SCHULTZE, 1857; see C. G. FROELICH, 1959, for evaluation of MÜLLER's species). Geoplanid animals from various areas of the world were also studied and reported by A. DENDY, C. M. DIESING, J. J. FLETCHER, P. HALLEZ, A. G. HAMILTON, H. N. MOSELEY, L. K. SCHMARDA, W. B. SPENCER, and W. STIMPSON. The most influential was Ludwig VON GRAFF, whose massive monographs of 1899, 1912-1917, laid the basis for a century of investigation. Since that time investigators working more extensively with the Geoplanidae have been P. DE BEAUCHAMP, Ev. DU BOIS-REYMOND MARCUS, C. G. FROELICH, E. M. FROELICH, O. FUHRMANN, L. H. HYMAN, R. RIESTER, truly a great heritage to build upon. Their published works

1) Part of this study was presented at the Sixth International Symposium on the Biology of Turbellaria held at Hirosaki, on August 7-12, 1990. Cf. OGREN & KAWAKATSU's abstract of the Poster Session entitled "Genera of the land planarian family Geoplanidae (Turbellaria: Tricladida)." The VI ISBT Programme/Abstracts, p. 92 (Hirosaki, Japan, 1990).

2) This paper is affectionately dedicated to the late Dr. Eveline DU BOIS-REYMOND MARCUS who passed away on January 31, 1990, at São Paulo, Brazil. She would have been 89 on her next birthday. The deceased was recognized as the leading authority on turbellariology and was a respected friend of the authors. At the occasion of the Sixth International Symposium on the Biology of Turbellaria, held in Hirosaki, Japan, at Noon, with the conclusion of the morning sessions, commemorative remarks were made by Dr. Josef HAUSER, S. J. in German, and Dr. Robert E. OGREN in English. Following these memorials the congress participants entered a moment of silence in her honor. We regret this significant personal loss to the scientific world and will long remember the life and work of the late Dr. Eveline DU BOIS-REYMOND MARCUS (October 6, 1901-January 31, 1990).

represent a very impressive bibliography.

In the early time, freshwater and land planarian worms with many small eyes were classified by DIESING (1850) in the genus *Polyclelis* EHRENBERG, 1831, a genus of freshwater planarians (Paludicola or Probursalia) now consisting of 3 subgenera, over 30 species and several subspecies (cf. KENK, 1974). Transferred into this genus by DIESING (*op. cit.*) were 7 of the 10 species of land planarians described by DARWIN (1844): *Planaria vaginuloides* DARWIN, 1844, *Planaria elegans* DARWIN, 1844; *Planaria bilinearis* DARWIN, 1844; *Planaria nigro-fusca* DARWIN, 1844; *Planaria pallida* DARWIN, 1844; *Planaria pulla* DARWIN, 1844; *Planaria Tasmaniana* DARWIN, 1844. DIESING (*op. cht.*) introduced the specific name "*Tasmanica*" which was an incorrect spelling of "*Tasmaniana*" (DIESING, 1850, p. 193; see also 1861, p. 511). The remaining 3 of DARWIN's species, *Planaria semilineata* DARWIN, 1844, *Planaria maculata* DARWIN, 1844, and *Planaria elongata* DARWIN, 1844, were placed by DIESING (*op. cit.*) in the genus *Polycladus* BLANCHARD, 1845, along with *Polycladus Gayi* BLANCHARD, 1845. For *Planaria elongata* it should be noted that DIESING (1850) introduced an erroneous new specific name of "*Darwini*" [sic], which was corrected by STIMPSON (1857) who made the name "*Polycladus Darwini*" [sic] a synonym of *Polycladus elongatus* (DARWIN, 1844).

Further taxonomic progress was made by the work of STIMPSON (1857) in which he restricted the genera *Planaria* MÜLLER, 1776, and *Polyclelis* EHRENBERG, 1831, to freshwater forms. For terrestrial species he utilized the new family Geoplanidae with genera *Geoplana* STIMPSON n. g., *Bipalium* STIMPSON n. g. and *Rhynchodemus* LEIDY, 1851. STIMPSON (*op. cit.*) made Polycladidae, a separate new family of terricolae, which included the following species after DIESING (1850): *Polycladus Gayi* BLANCHARD, 1845, *Polycladus maculatus* (DARWIN, 1844), *Polycladus semilineatus* (DARWIN, 1844), and *Polycladus elongatus* (DARWIN, 1844) (syn. *Polycladus Darwini* DIESING, 1850).

STIMPSON (1857, p. 24) defined the Geoplanidae as follows: "Corpus elongatum depresso v. depresso-sculptum, subtus pede sat distincto. Caput continuum v. discretum. Ocelli duo vel plurimi, in capite dispositi. Os post mediale. Oesophagus protractilis campanulatus, margine saepius sinuoso. Apertura genitalis pone os. Terricolae."

Thus, the family Geoplanidae and the type genus *Geoplana* were first proposed by STIMPSON (1857) and the first species listed by him was *Geoplana vaginuloides* (DARWIN, 1844) (*olim Planaria*). Historical research into this publication demonstrated that his key paper was published in February, 1857 (see OGREN & KAWAKATSU, 1988 a, p. 4). On the other hand, perhaps unaware of STIMPSON's paper (*op. cit.*), SCHULTZE & MÜLLER (in May and July, 1857) published their article proposing a genus *Geoplana*, and placed in it a total of 27 species, including DARWIN's (1844) 10 species (see also SCHULTZE, 1857).

DIESING (1861) also used *Geoplana* and attributed the name to STIMPSON (1857) with the published designation: "*Geoplana* STIMPSON" and provided a footnote relating to STIMPSON's paper and that of SCHULTZE (1857) as follows: "Genus hoc a cl. Stimpson in Pennsylvania cum charactere generico adjecto stabilitum eodem fere tempore a cl. Schultze in Germania sed sine charactere generico essentiali uno eodemque nomine expositum." (DIESING, 1861, p. 509.) In this paper DIESING (p. 496) introduced the new genus *Geobia* DIESING, 1861, for the eyeless species *Geoplana subterranea* SCHULTZE et MÜLLER, 1857, from Brazil.

It is also noted that HYMAN (1943, p. 1) attributed *Geoplana* to STIMPSON, 1857, as do BALL & REYNOLDSON (1981, p. 104), also CANNON (1986, p. 69). Thus, it is our opinion that STIMPSON (1857) has priority for proposing the genus. In his publication STIMPSON (*op. cit.*) included in his Geoplanidae the majority of land planarians then known. In the original genus *Geoplana* STIMPSON, 1857, the following 7 species were included, but the type species was not designated: *Geoplana vaginuloides*

(DARWIN, 1844); *Geoplana bilinearis* (DARWIN, 1844); *Geoplana pulla* (DARWIN, 1844); *Geoplana pallida* (DARWIN, 1844); *Geoplana Tasmanica* (DARWIN, 1844) (correct spelling is *tasmaniana*); *Geoplana nigro-fusca* (DARWIN, 1844); and *Geoplana lapidicola* STIMPSON, 1857. He assigned 3 of DARWIN's (1844) land planarian species to the Polycladidae STIMPSON, 1857; but he omitted *Planaria elegans* DARWIN, 1844, from the same locality as *Planaria vaginaloides* DARWIN, 1844.

Summarizing the Geoplanidae a few years later, DIESING (1861) under *Geoplana* STIMPSON, 1857, was able to include a total of 21 species (7 from DARWIN, 1844; 12 from SCHULTZE & MÜLLER, 1857, including 2 nomina nova; one from SCHULTZE, 1857; and one from STIMPSON, 1857). However, he did not declare one species as type. DIESING (1861) still retained the following DARWIN's (1844) species in *Polycladus*: *elongatus*, *maculatus* and *semilineatus*.

Another important work was by MOSELEY (1877) in which he used Geoplanidae as the only family for land planarians; not considering the Polycladidae as a separate family. MOSELEY (*op. cit.*) described the structure of several species, diagnosed the new genus *Caenoplana* (for 3 new Geoplanidae species) and the new genus *Dolichoplana* (now considered a genus of the Rhynchodemidae). He also listed all known species of the Geoplanidae. Thus, MOSELEY (*op. cit.*) listed *Polycladus* with only 2 species: *Polycladus Gayi* BLANCHARD, 1845, and *Polycladus Andicola* SCHMARDA, 1859 (*olim andicola*). He also attributed the genus *Geoplana* jointly to STIMPSON (1857) and SCHULTZE (1857), but used the definition given by STIMPSON. There were now 26 *Geoplana* species, 4 *Caenoplana* species, one in *Geobia* and 2 in *Polycladus*.

The greatest taxonomic changes came with monographs on land planarians by VON GRAFF (1896, 1899, 1912-1917). He defined the Geoplanidae as follows: "Landplanarien mit zahlreichen an Vorderende und an den Seitenrändern des Körpers vertheilten Augen oder ohne Augen. Der Rand des Vorderkörpers von einer mit Grübchen versechnen Sinneskante eingesäumt, Tentakel, Saugnäpfe und Kopfplatte fehlen." (VON GRAFF, 1899, pp. 291-292; see also 1896, p. 64 and 1916, p. 64.)

VON GRAFF (1896, 1899) recognized in the family Geoplanidae the following 6 genera: *Geoplana* Fr. MÜLLER, 1857, *Pelmatoplana* n.g., *Choeradoplana* n.g., *Polycladus* BLANCHARD, 1845, *Artioposthia* n.g. and *Geobia* DIESING, 1861; but he did not designate type species. The genus *Coenoplana* [sic] MOSELEY, 1877, was considered a synonym of *Geoplana*.

WOOD (1926, p. 608) listed "Genus *Geoplana* Fr. MÜLLER 1887" [sic] and proposed the type species "*Geoplana rufiventris* Fr. MÜLLER." (Note: SCHULTZE et MÜLLER, 1857, is correct.) The reason for this choice may have been that this was the first species described by VON GRAFF (1899) under *Geoplana*. This designation is not considered valid since the species is not included in STIMPSON's (1857) paper; there are also technical problems with distinguishing the species clearly (see ICZN, 3rd Ed., Art. 69 (a), (i)).

The valid type species for the genus *Geoplana* was apparently first designated by E. M. FROEHLICH (1955 a, p. 293) as *Planaria vaginaloides* DARWIN, 1844. This choice was made, as she indicated, because the species was first encountered and described by DARWIN (1844) from his South American voyage on the Beagle and was also a common and attractive species around Rio de Janeiro, Brazil. Thus, C. G. FROEHLICH (1955 a, p. 208), merely noted that the type had been previously designated by E. M. FROEHLICH (1955 a) in her paper which was paged later in the same issue. The statement in the first paragraph of the paper by E. M. FROEHLICH (*loc. cit.*) is a valid designation of the type species according to the ICZN (3rd Ed., Art. 69 (a), (i), (iii)) for first designator. Although both C. G. FROEHLICH (1955 a, pp. 195, 208) and E. M. FROEHLICH (1955 a, pp. 293-294) used *Geoplana* Fritz MÜLLER, 1857, their citations do not qualify for first designator. We also note here that *Geoplana vaginaloides* was the first species listed under *Geoplana* by STIMPSON (1857, p. 24), which supports the

priority of this species in the genus.

B. TAXONOMIC SUBDIVISIONS OF THE GEOPLANIDAE

In preparing for this Index (Part I) it became evident that the large number of genera and species could be more easily considered if they were divided in some way. And, it has become a long term goal for the Index on Geoplanidae to present the species in systematic groups. Thus, a basic taxonomic scheme was developed of subfamilies where grouping was according to common features and for convenience.

Unfortunately, correct assignment to genera cannot be done in all cases because internal features, *e. g.*, features of musculature, location of testes, are not always known. We plan to remove from the genus *Geoplana* STIMPSON, 1857, Australasian and Indo-Pacific species known to have ventrally located testes and transfer them to *Caenoplana* MOSELEY, 1877, *Kontikia* C. G. FROEHLICH, 1955, and other new genera and a collective group.

Numerous species of geoplanid land planarians described briefly many years ago are still poorly known. External features are incompletely known and internal features are totally unknown. Because of this these species cannot be accurately placed in known genera and should not remain in *Geoplana* which now has a restricted definition (see the next section) and a Neotropical distribution.

Therefore, we propose the genus *Pseudogeoplana* (collective group) for *Geoplana* species inquirendae from Middle and South America known only by external features (ICZN, 3rd Ed., Art 42 (b), (i)). We realize there may be certain difficulties with this arrangement, but believe it will be useful for the present Index (Part I).

According to articles on collective group(s) in the International Code of Zoological Nomenclature, 3rd Ed. (Arts. 1d, 10d, 13b, 23g, 42b (i), 56a, 57a, 66, 67m, g), the objectivity of each valid genus can be protected by the presence of collective group(s). In naming these collective groups as genera, we avoid practices which qualify existing genera (*s. l.*, *in part*, etc.) and follow recommendation 6A of the ICZN: "No genus-group name other than a valid subgeneric name should be interpolated between a generic name and a specific name, even in square brackets or parentheses." For example, "*Geoplana s. l.*" or "*Geoplana s. s.*" should not be used as generic names. For these reasons we have employed collective groups in this Index. Logically, we anticipate that in the future species inquirendae now placed in the collective groups, will be transferred into suitable genera when their taxonomic positions are clarified based upon further anatomical and histological studies.

We now propose the subdivision of the family Geoplanidae into 3 basic subfamilies (cf. OGREN & KAWAKATSU, 1990: an abstract of our poster given at the 6th International Symposium on the Biology of Turbellaria). However, only taxonomic descriptions and consideration of the first and largest new subfamily Geoplaninae and its genera and subgenera are given in the present paper (Part I of the Geoplanidae Index). A key to subfamilies of the Geoplanidae and taxonomic descriptions of the subfamilies and their genera will be given in Part II (OGREN & KAWAKATSU, Ms.).

C. DEFINITION OF GEOPLANIDAE STIMPSON, 1857

Definition: Terricola with numerous small eyes concentrated around the anterior, and along the sides, sometimes located dorsally, or without eyes; without auricular or tentacular organs, or semilunar headplate.

Type genus: *Geoplana* STIMPSON, 1857. Designated by E. M. FROEHLICH, 1955 a.

Comment: This broad definition has been utilized suitably for many years and serves to separate the Geoplanidae STIMPSON, 1857, from the Bipaliidae VON GRAFF, 1896. However, there may be some realization in the future of overlap with the Rhynchodemidae VON GRAFF, 1896, especially in relation to the *Pelmatoplasma*-group. With the restriction of the *Geoplana* STIMPSON, 1857, to species with dorsal testes and a particular copulatory apparatus, the genus no longer can serve as a general group "catch-all."

II. TAXONOMIC DESCRIPTIONS AND CONSIDERATION OF THE SUBFAMILY GEOPLANINAE AND ITS GENERA AND SUBGENERA

A. Subfamily Geplaninae STIMPSON, 1857

1. Definition: Broad ciliated creeping sole covering most of ventral surface (or sparse body cilia as in the genus *Geobia*) ; mouth just behind midbody (since in *Polycladus* mouth is in posterior fourth) ; dorsal testes ; subepithelial or cutaneous longitudinal musculature, well developed, arranged in bundles ; longitudinal parenchymal muscle absent, or not well developed, not forming a ring zone.

Type genus: *Geoplana* STIMPSON, 1857 ; here designated.

2. Genera of the Geplaninae:

As we have learned more about these planarians the definition of the type genus *Geoplana* has become more restricted. STIMPSON (1857, p. 24) stated: "Corpus depresso v. depresso-sculptum, elongatum v. lineare, capite continuo. Ocelli numerosi marginales, v. in acervos submarginales, in capite dispositi."

VON GRAFF (1899, p. 292) used the following definition: "Geoplaniden von gestrecktem Körper, mit breiter Kriechsohle, die am Vorderkörper von eiener Drüsenkante umsäumt ist. Mund und Geschlechtsöffnung bauchständig, der Copulationsappart entbehrt der muskulösen Drüsengänge, Drüsenvölster fehlen." (See also VON GRAFF, 1896, p. 64 and 1916, p. 3224).

The definition proposed by C. G. FROEHLICH (1955 a, p. 208) changed the usage providing further restriction: "Geoplanidae de corpo alongado. Sola rastejadora com um terço ou mais da largura do corpo. Musculatura longitudinal cutânea forte. Musculatura longitudinal parenquimática fraca ou ausente. Testículos dorsais. Órgãos músculo-glandulares adesivos e papilas sensoriaes ausentes. Aparêlho copulador sem adenodáctilos." English abstract on p. 247: "Geoplanidae of elongate body form. Creeping sole broader than a third of body width. Strong cutaneous longitudinal muscles. Weak or absent longitudinal parenchymal muscles, not in an annular zone. Dorsal testes. Glandulo-muscular organs, sensory papillae, and adenodactyls absent."

Current emended definition: Geplaninae of elongate body form ; creeping sole broader than a third of body width ; strong cutaneous longitudinal muscles ; parenchymal longitudinal musculature, weak or absent, not forming a ring zone ; testes are dorsal ; penis papilla present ; female canal enters genital antrum dorsally ; glandulo-muscular organs, sensory papillae and adenodactyls absent.

The new features here are the limitations on type of musculature and the presence of dorsal testes. Thus, C. G. FROEHLICH (1955 a) suggested that species with dorsal testes remain in the genus *Geoplana*. For species with ventral testes he provided the new genus *Kontikia* C. G. FROEHLICH, 1955, and recommended that the old genus *Coenoplana* [sic] MOSELEY, 1877, could also be used. This suggestion has been accepted and placed in use (OGREN, 1989, 1990 ; OGREN & KAWAKATSU, 1988 b, c). In his paper on zoogeography of land planarians C. G. FROEHLICH (1967) showed there were 8

diverse species groups in *Geoplana*, which had earlier been outlined by E. M. FROELICH (1955 a) but with some different designations. These subdivisions were significant since they identified apparent natural groupings within the genus.

The present authors believe it is now time to subdivide the genus employing the FROELICH's scheme of groups to form new genera and subgenera. We desire to restrict the genus to those species having dorsal testes, penis papilla, and copulatory apparatus in which the female canal enters the genital antrum dorsally and the ovoovitelline ducts approach the female canal from the anterior aspect.

As the result of this decision the nominate subgenus *Geoplana* STIMPSON, 1857, includes 2 groups (C. G. FROELICH's groups 1st and 4th); his 5th group becomes the new subgenus *Barreirana* and 5 groups become 5 genera, of which 5 are new: *Gusana* E. M. FROELICH, 1978 (8th), *Liana* E. M. FROELICH, 1978, *Amaga* (2nd), *Gigantea* (3rd), *Pasipha* (6th), *Notogynaphallia* (7th), and *Enterosyringa*.

- a) Genus *Geoplana* STIMPSON, 1857
 - i. Subgenus *Geoplana* STIMPSON, 1857
 - ii. Subgenus *Barreirana* (original description is given in the present paper)
- b) Genus *Gigantea* (original description is given in the present paper)
- c) Genus *Pasipha* (original description is given in the present paper)
- d) Genus *Notogynaphallia* (original description is given in the present paper)
- e) Genus *Amaga* (original description is given in the present paper)
- f) Genus *Choeradoplana* VON GRAFF, 1896
- g) Genus *Geobia* Diesing, 1861 (sensu VON GRAFF, 1896, 1899)
- h) Genus *Issoca* C. G. FROELICH, 1955
 - i) Genus *Gusana* E. M. FROELICH, 1978
 - j) Genus *Liana* E. M. FROELICH, 1978
- k) Genus *Enterosyringa* (original description is given in the present paper)
- l) Genus *Xerapoa* C. G. FROELICH, 1955
- m) Genus *Polycladus* Blanchard, 1845
- n) Genus *Pseudogeoplana* (collective group) (original description is given in the present paper)

Ethymologies of new genera and a subgenus:

The new generic names of *Amaga*, *Gigantea* and *Pasipha* and the new subgeneric name *Barreirana* are derived from the specific names of their type species. *Notogynaphallia* is from Greek: *noto* (dorsal)+*gyn(o)* (female)+*a* (a negative)+*phall(us)* (penis)+*ia* (a suffix showing nature and condition). *Enterosyringa* has been latinized from Greek: *entero* (intestine)+*syrinx* (pipe, syringe); *enterosyrinx* is latinized as *Enterosyringa*. *Pseudogeoplana* is from Greek: *pseud(o)* (temporary, or false, deceptive)+*geoplana*. Genders are feminine for these 6 new genera and a subgenus.

3. Key to Genera of the Geoplaninae:

1 . Internal features known	2
Internal features unknown, collective group	<i>PSEUDOGEOPLANA*</i>
2 . Eyes and creeping sole are absent; strap-shaped body.....	<i>GEOBIA</i>
Eyes present around anterior, extending along sides; body with elongate, flattend shape, or subcylindrical	3

3 . Beneath head are sucker-like glandular organs	4
No sucker-like organs	6
4 . Sensory pits opening onto the tip of marginal papillae	XERAPOA
Sensory pits opening onto the plain body margins	5
5 . One sucker-like cushion ventrally ; head rounded	ISSOCA
Two sucker-like cushions ventrally ; head tapered	CHOERADOPLANA
6 . Penis papilla absent, or with only a small intra-antral papilla	7
Penis papilla present	9
7 . Penis papilla absent	8
Small intra-antral papilla present	AMAGA*
8 . Female canal enters dorsally into genital antrum	NOTOGYNAPHALLIA*
Female canal enters horizontally or ventrally into antrum	PASIPHA*
9 . Mouth and genital pore in posterior quarter	POLYCLADUS
Mouth and genital pore behind midbody in third quarter	10
10. Female canal enters dorsally into antrum	GEOPLANA
Female canal enters horizontally or ventrally	11
11. Color pattern with cross-transverse bands	GUSANA
Color pattern otherwise, linear or plain	12
12. Body, slender, elongate ; creeping sole 60% of ventral width ;	
a single cutaneous-intestinal canal opens to	
ventral surface near copulatory complex	ENTEROSYRINGA*
Body, broad ; creeping sole entire ventral width ;	
cutaneous-intestinal canal absent	13
13. Penis papilla well developed, elongate, with glandular ridges	GIGANTEA*
Penis papilla, short and blunt, without glandular ridges ;	
female canal has horizontal approach	LIANA

* For original description of these 6 new genera, see below.

4. Descriptions of the Genera and Subgenera of the Geoplanidae

For each generic definition, the mc : h index is employed. This is the relation, expressed in percent, between the sum of the heights of the ventral and dorsal cutaneous musculature and the height of the preserved and sectioned worm, anterior to the pharynx (cf. E. M. FROEHLICH, 1978, p. 8).

a) Genus *Geoplana* STIMPSON, 1857

Emended definition: Geoplaninae of elongate body form; creeping sole broader than a third of body width; strong cutaneous longitudinal muscles; mc : h value from 4%-18%; parenchymal longitudinal musculature, weak or absent, not in a ring zone; testes are dorsal; penis papilla present; female canal enters genital antrum dorsally; cephalic glandulo-muscular organs, sensory papillae and adenodactyls absent.

Type species: *Planaria vaginuloides* DARWIN, 1844. Designated by E. M. FROEHLICH, 1955
a: 294.

Key to subgenera of the *Geoplana*:

- a . Body shape elongate; color pattern with linear arrangement or plain, transverse bands

generally absent (see Note) Subgenus *Geoplana*
b . Body shape rounded, subcylindrical, small in size ;

color pattern with transverse bands Subgenus *Barreirana*

Note : Dr. E. M. FROELICH (Sept. 1990, in litt.) comments that *G. evelinae* has a conspicuous light collar and that specimens of *G. atra* from São Paulo have a black collar followed by a light one. Both species, especially the second, do not fit in *Barreirana*. The former belongs in the subgenus *Geoplana*. The latter is placed in *Notogynaphallia* in the present Index.

i. Subgenus *Geoplana* STIMPSON, 1857

Definition : As defined above with penis papilla and female canal entering genital antrum dorsally ; ovovitelline ducts approaching from below to pass over copulatory apparatus joining female canal from anterior aspect.

Type species : *Planaria vaginuloides* DARWIN, 1844.

The following 2 groups are separated in the nominate subgenus *Geoplana* :

(1). *G. applanata*-group (the 1st group of C. G. FROEHLICH, 1967) : Large, broad and flat species ; penis papilla present ; female canal enters dorsally. Localities largely in Brazil.

(2). *G. taxiarcha*-group (the 4th group of C. G. FROEHLICH, 1967) : Medium-sized species, body not as flattened dorsally ; mc:h value from 4% to 18% ; penis papilla present ; female canal approaches from dorsal side. Diverse localities in South America : Brazil, Uruguay, Peru, Colombia, and Trinidad.

ii. Subgenus *Barreirana* OGREN et KAWAKATSU, subgen. nov. (the 5th group of C. G. FROEHLICH, 1967).

Definition : Species have a small, subcylindrical shape and a color pattern with transverse bands ; mc:h value, 6% ; copulatory apparatus with penis papilla ; female canal enters dorsally. Localities in Brazil.

Type species : *Geoplana barreirana* RIESTER, 1938 ; here designated.

b) Genus *Gigantea* OGREN et KAWAKATSU, gen. nov. (the 3rd group of C. G. FROEHLICH, 1967).

Definition : Geoplaninae of large, broad body (mc:h value of *G. idaia* MARCUS, 1951, is 15%) ; penis papilla present, typically with glandular ridges on the penis papilla (but ridges may be absent as in *C. chiriquii* HYMAN, 1962) ; female canal horizontal or approaching from below ; female antrum dilated. Localities in Peru, Columbia, Costa Rica, Panama, and Trinidad.

Type species : *Geoplana gigantea* VON GRAFF, 1899 ; here designated.

c) Genus *Pasiphla* OGREN et KAWAKATSU, gen. nov. (the 6th group of C. G. FROEHLICH, 1967.)

Definition : Geoplaninae of elongate body ; mc:h value from 12%-17% ; penis papilla absent ; with folds in male antrum ; female canal approaches from ventral side. Localities in Brazil, Chile and Panama.

Type species : *Geoplana pasiphla* MARCUS, 1951 ; here designated.

d) Genus *Notogynaphallia* OGREN et KAWAKATSU, gen. nov. (the 7th group of C. G. FROEHLICH, 1967).

Definition : Geoplaninae of medium-sized, slender body ; mc:h value, 15% ; penis papilla absent ; male antrum with folded walls ; female canal enters dorsally. Localities in Brazil and Paraguay.

Type species: *Geoplana plumbea* C. G. FROEHЛИCH, 1956; here designated.

e) Genus *Amaga* OGREN et KAWAKATSU, gen. nov. (the 2nd group of C. G. FROEHЛИCH, 1967).

Definition: Geoplaninae of elongate, large, broad, and flattened body; male copulatory organ with an intra-antral papilla around the opening of the ejaculatory duct; female canal enters the genital antrum dorsally; oovitelline ducts approach from antero-dorsal aspect; adenodactyls or glandulo-muscular organs absent. Localities largely in Peru and Columbia.

Type species: *Geoplana amagensis* FUHRMANN, 1914; here designated.

Note: Dr. E. M. FROEHЛИCH (Sept. 1990, in litt.) is of the opinion that the intra-antral papilla of *Amaga*, which appears more like folds of the atrial wall, is not homologous with the penis papilla of the genus *Geoplana*. See the two diagrams of *G. amagensis* FUHRMANN, 1914 (cf. FUHRMANN, 1914, p. 775, figs. 24 and 25).

f) Genus *Choeradoplana* VON GRAFF, 1896

Original definition: "Geoplaniden von gestrecktem Körper mit breiter Kriechsohle, aber ohne Drüsenkante. Mund und Geschlechtsöffnung bauchständig, der Copulationsapparat entbehrt der muskulösen Drüsengänge. Die Ventralfäche des Vorderendes trägt ein Paar Drüsenvorhofer." (VON GRAFF, 1899, p. 395; see also VON GRAFF, 1896, p. 65 and 1916, pp. 3224-3225.)

Redefinition: "Geoplanidae de corpo alongado. Sola rastejadora larga, com mais de um terço da largura do corpo. Musculatura longitudinal cutânea forte, apresentando ventralmente um porção interna at plexo nervoso cutâneo. Musculatura longitudinal parenquimática muito fraca ou ausente. Testículos dorsais. Extremidade céfálica provida de um órgão músculo-glandular sob a forma de duas almofadas. Retrator desse órgão formado pelos feixes aprofundados da musculatura longitudinal cutânea ventral. Papilas sensoriais ausentes. Aparêlho cupulador sem adenodáctilos." (C. G. FROEHЛИCH, 1955 a, p. 218.) English abstract on p. 247: "As *Geoplana*, but with two glandular cushions at anterior end. Part of ventral sub-epidermal longitudinal muscle bundles internal to sub-muscular nerve plexus. These bundles originate the retractor of the glandulo-muscular organ (glandular cushions)." (C. G. FROEHЛИCH, 1955 a, p. 218.)

Type species: *Choeradoplana iheringi* VON GRAFF, 1899. Designated by C. G. FROEHЛИCH, 1955 a: 218.

Note: The subcutaneous musculature consists of three subepithelial muscle layers, i. e., circular, oblique and longitudinal (mc : h value from 9%-15%); female canal enters genital antrum dorsally; male copulatory organs of *C. iheringi* VON GRAFF, 1899 (cf. VON GRAFF, 1899, p. 194, fig. 45; MARCUS, 1951, p. 208, fig. 275) and *C. catua* FROEHЛИCH, 1955 (cf. C. G. FROEHЛИCH, 1955 a, pl. VIII, fig. 45), lacks penis papilla or have an intra-antral papilla. It appears that *C. marthae* FROEHЛИCH, 1955 (cf. C. G. FROEHЛИCH, 1955 a, pl. VII, fig. 38) and *C. langi* VON GRAFF, 1894 (cf. VON GRAFF, 1894, 1899, p. 195, fig. 46) have the penis papilla. This interesting divergence requires further review. The dichotomy could help provide an answer to the question: Is the absence of the penis papilla derived secondarily from ancestors that had the papilla or does this lack represent the ancestral condition? It has been traditional, according to Dr. E. M. FROEHЛИCH (Sept. 1990, in litt.) since the time of MEIXNER (1928), to consider the absence of the penis papilla as a secondary feature representing loss of a condition.

g) Genus *Geobia* DIESING, 1861 (sensu VON GRAFF, 1896)

Redefinition: "Geoplanidae von schnurförmigen Körpern, ohne Kriechsohle und Augen. Mund und Geschlechtsöffnung nahe dem Hinterende angebracht. Pigmentations. Lebt in von Regenwürmern erzeugten Gängen des Bodens und scheint sich vom Blute des *Lumbricus corethrurus* zu ernähren." (VON GRAFF, 1916, pp. 3225-3226; see also VON GRAFF, 1886, p. 67 and 1899, p. 408.)

Redefinition by C. G. FROELICH (1955 a, p. 215): "Geoplanidae de corpo muito alongado, sem olhos, pigmento e sola rastejadora. Musculatura cutânea forte, parenquimática longitudinal ausente. Testículos dorsais. Não possuem órgãos músculo-glandulares, papilas sensorias ou adenodáctilos." English abstract on p. 247: "As Geoplana, but without eyes, pigment, and creeping sole." Locality in Brazil.

Type species: *Geopiana subterranea* SCHULTZE et MÜLLER, 1857. Designated by C. G. FROELICH, 1955 a : 215.

Note: mc : h value, 8.5%.

h) Genus *Issoca* C. G. FROELICH, 1955

Original definition: "Geoplanidae de corpo alongado. Sola rastejadora larga, com mais de um terço da largura do corpo. Musculatura longitudinal cutânea forte. Musculatura longitudinal parenquimática muito fraca ou ausente. Testículos dorsais. Extremidade céfálica provida de um órgão músculo-glandular cujo retrator se origina da musculatura longitudinal cutânea ventral e cuja superfície adesiva, em geral côncava, é simples ou incompletamente bipartida. Papilas sensoriais ausentes. Aparêlho copulador sem adenodaíticos." (C. G. FROELICH, 1955 a, p. 226.) English abstract on p. 247: "As *Geoplana*, but with a sucker-like glandulo-muscular organ at ventral side of anterior end. Retractor of the glandulo-muscular organ formed by ventral sub-epidermal muscle bundles."

Emend to include: The male copulatory organ is without penial papilla or has an intra-antral papilla; female canal enters genital antrum dorsally.

Type species: *Geopiana rezendei* SCHIRCH, 1929. Designated by C. G. FROELICH, 1955 a : 226.

i) Genus *Gusana* E. M. FROELICH, 1978 (the 8th group of C. G. FROELICH, 1967).

Original definition: "Geoplanidae with broad, foliaceous body, tapering very abruptly to the anterior end. Anterior end triangular. Creeping sole broad, with more than half the body width. Subepidermal musculature weak; longitudinal layer partly sunk into the parenchyma internal to the cutaneous nerve net, both ventrally and dorsally. Sensory border forming a thick edge round the anterior tip. Sensory pits of normal shape or obliquely elongated and internally branched. Testes dorsal. Without adhesive musculo-glandular organs and sensory papillae. Copulatory apparatus without adenodactyls." (E. M. FORELICH, 1978, p. 8.)

Emend to include: Color pattern with cross banding; mc : h value less than 4% (smaller than the smallest *Geoplana*); male antrum is very large, with penis papilla of small intra-antral type; female canal enters ventrally. Locality in Chile.

Type species: *Geopiana cruciata* VON GRAFF, 1899. Designated by E. M. FROELICH, 1978 : 9.

j) Genus *Liana* E. M. FROELICH, 1978

Original definition: "Geoplanidae with elongated body and broad creeping sole, of more than half the body width. Longitudinal cutaneous musculature strong dorsally and weak ventrally, where it has a portion sunk into the parenchyma, internally to the cutaneous nerve net. Sensory border, ventrolateral in position, with rare minute sensory pits, restricted to the anterior tip. Testes dorsal. Adhesive glandulo-muscular organs absent. Copulatory apparatus without adenodactyls." (E. M. FROELICH, 1978, p. 18.)

Emend to include: mc:h value, 10% ; penis papilla short and blunt; female canal approaches from horizontal or ventral aspect. Locality in Chile.

Type species: *Liana guasa* E. M. FROEHLICH, 1978. Designated by E. M. FROEHLICH, 1978 : 19.

Note: Dr. E. M. FROEHLICH (Sept. 1990, in litt.) suggests: "My diagnosis must be emended as....musculature strong ; dorsally stronger than ventrally...."

k) Genus *Enterosyringa* OGREN et KAWAKATSU, gen. nov.

Definition: Geoplaninae of slender and linear body, with a single row of marginal eyes; creeping sole occupies 50% of ventral width; with thin cutaneous musculature especially under the creeping sole; cutaneous musculature stronger than parenchymal; a single cutaneous intestinal-canal opens to the ventral side near copulatory complex; dorsal testes; penis papilla well developed; female canal enters horizontally, ovovitelline ducts approach ventrally from posterior; ovaries posterior in location and closer to base of pharynx than to the anterior end. Localities in Brazil.

Type species: *Geoplana pseudorhynchodemus* Riester, 1938 ; here designated.

Note: C. G. FROEHLICH (1967, p. 157) considers that the species has an isolated position and is hard to place. Dr. E. M. FROEHLICH (Sept. 1990, in litt.) points out as follows: "*G. pseudorhynchodemus* has a series of particular characteristics: linear body, creeping sole thinner than the usual, cutaneous muscles remarkably thinner under the sole, cutaneous intestinal-canal, ovaries lying far backward, besides the particular combination of characters of the copulatory apparatus. The eyes are marginal."

RIESTER (1938) does not seem to mention location of testes; MARCUS (1951) states that testes are dorsal. The copulatory apparatus and the peculiar cutaneous-intestinal canal are well figured in MARCUS (1951, pl. XXIX, figs. 197-201). MARCUS (1957, p. 125) suggests that the species should be removed from *Geoplana*. *G. pseudorhynchodemus* does not appear to belong to any of the genera introduced earlier in this Index because of its slender, rhynchodemid body form, and the cutaneous-intestinal canal. The features of the copulatory apparatus have some resemblances to *Microplana* VEJDOSKÝ, 1890, in the subfamily Microplaninae PANTIN, 1953, in the family Rhynchodemidae VON GRAFF, 1896. However, testes are ventral in *Microplana* and there is a genito-intestinal duct. Although *G. pseudorhynchodemus* has a cutaneous pore near the genital pore as in *Diporodemus* HYMAN, 1938, the species does not conform to other characters. It is also very different from *Incapora* DU BOIS-REYMOND MARCUS, 1953 (with 1 to 2 pairs of cutaneous pores). It does appear that the species is quite set apart from *Gigantea* (described in the present paper as a new genus) and the other genera of the Geoplaninae. After some hesitation, RIESTER's (1938) *Geoplana pseudorhynchodemus* is placed in a new genus, *Enterosyringa*. Perhaps setting forth a new genus will be a way of discovering other species that belong there.

l) Genus *Xerapoa* C. G. FROEHLICH, 1955

Original definition: "Geoplanidae de corpo alongado. Fossetas sensoriais no ápice de papilas. Sola rastejadora com um terço ou mais da largura do corpo. Musculatura cutânea mediorcemente forte. Musculatura longitudinal parenquimática muito fraca ou ausente. Testículos dorsais. Órgãos músculo-glandulares ausentes. Aparelho copulador desprovido de adenodáctilos." (C. G. FROEHLICH, 1955 a, p. 234.) English abstract on p. 248: "As *Geoplana*, but with sensory ciliated pits located at the tip of extensible papillae." Localities in Brazil.

Emend to include: Geoplaninae, penis papilla present; female canal is horizontal; ovovitelline ducts approach ventrally; mc:h value from 2%-7%.

Type species: *Xerapoa hystrix* C. G. FROEHLICH, 1955 a. Designated by C. G. FROEHLICH, 1955 a : 234.

m) Genus *Polycladus* BLANCHARD, 1845 (sensu VON GRAFF, 1896)

Redefinition: "Geoplaniden von breiter, platter, blattähnlicher, mit der ganzen Bauchfläche kriechend, mit einer randständigen Drüsenkante. Mund und Geschlechtsöffnung im letzten Drittel der Bauchfläche. Der Copulationsapparat entbehrt der muskulösen. Drüsengefäße. Drüsenvorläufer fehlen." (VON GRAFF, 1899, p. 399.) (See also VON GRAFF, 1896, p. 66 and 1916, p. 3225.)

Emendations: Entire ventral surface is ciliated; mouth and gonopore in posterior fourth of the very broad and flat leaf-shaped body; subepithelial muscle consists of three layers, i.e., circular, oblique and longitudinal; copulatory apparatus has well-developed penis papilla and the female canal has a dorsal entrance into the genital antrum. Localities in Chile.

Type species: *Polycladus gayi* BLANCHARD, 1845. Cf. ICZN, 3rd Ed., Art. 68 (d); type by monotype.

Note: The uniqueness of this genus and its species *Polycladus gayi* BLANCHARD, 1845, in regard to body size and shape, musculature and location of mouth and gonopore region does not family status as was suggested by STIMPSON (1857, p. 25, Polycladidae). It is convenient for it to be placed in the Geoplaninae as defined in a broad sense.

In a recent communication from Dr. E. M. FROELICH (Sept. 1990, in litt.), she points out that MEIXNER (1928, p. 594, item 8) includes *Polycladus gayi* with those species of the Geoplanidae having dorsal testes, although the basis for this view is not included. She also continues: "It seems to me that there are no fundamental differences between *Polycladus* and *Geoplana* (sensu FROELICH) as in the case of *Geoplana* and *Geobia*. The differences regarding body form and size, cutaneous musculature (stronger, that is, with the same three layers, but each of them with more layers of fibers or with considerably thicker fibers in the case of the longitudinal one, in *Polycladus*), additional layers of fibers around the more ectal portions of the genital ducts, posterior shifting of the natural openings (occurring in *Geobia* and some species of *Geoplana* as well) and some differences of the marginal glands (Drüsenkante) have been, in my opinion, adequately treated by the erection of two different genera. Still regarding the cutaneous musculature, Graff compared the longitudinal layer of *P. gayi* and *G. rufiventris* with regard to the thickness of the layer and the number of fibers per bundle."

n) Genus *Pseudogeoplana* OGREN et KAWAKATSU, gen. nov. (collective group)

Definition: Geoplaninae, but not classifiable into the present taxonomic genera because of insufficient morphological information; eyes often arranged in multiple lateral rows, often spreading dorsally; geographically distributed in Middle and South American localities (the Caribbean subregion of the Arctogaea and the Neogaea). A collective group to temporarily assign species inquirendae and nomina dubia.

No type species. Cf. ICZN, 3rd Ed., Art. 42, (b), (i).

Note: In this Index (Part I), uncertain species formerly placed under *Geoplana* are tentatively classified under this collective group. A considerable number of uncertain geoplanid species have been reported by previous researchers. These were originally described on the basis of external features alone and assigned to *Geoplana*, although many morphological details remained unknown.

* * * * *

As in our previous Indices on the Bipaliidae and the Rhynchodemidae (cf. OGREN & KAWAKATSU, 1987, 1988 a, b, 1989), an attempt is made to collect major known taxonomic information on all geoplanids of the world; the complete synonymy and records of non-described geoplanid species (sp., spp., etc.) are also included. In the present paper (Part I of the Geoplanidae Index), the complete list of species, their synonyms and non-described species of the new subfamily Geoplaninae are listed. The valid specific names (and their indices) are arranged in alphabetical order. Corrections of

erroneous spellings of specific names have been made according to the International Code of Zoological Nomenclature (ICZN), Third Edition (1985). Variations in the spellings of individual names, which may be spelling errors, misprints, etc., are also listed.

The remaining part of this Index (the other subfamilies, genera and species of the Geoplanidae) including references and the complete taxonomic indices will be published next year as Part II of the Geoplanidae Index (OGREN & KAWAKATSU, Ms.). Some taxonomic corrections of our previous Indices on Land Planarians will also be included in that future paper.

The following abbreviations are used in the Index: anon., anonymous; comb. nov., new combination; emend., emended name; nom. nov., new name; nom. nud., unavailable name (ICZN, Art. 12, 13); n. sp., new species; n. var., new variety, listed only as used by original describers, but now written in style of subspecies names.

For the citation of original figures in each paper, the following abbreviations are employed: AE, arrangement of eyes; CP, part of the body showing color patterns; DB, dorsal view of the body; DH, dorsal view of the head; DVB, dorsal and ventral views of the body; DVH, dorsal and ventral views of the head; FCA, schematic figure of the copulatory apparatus; FGO, schematic figure of the genital organs; HI, histological figures; PCA, photographs of the copulatory apparatus; VB, ventral view of the body; VH, ventrfl view of the head.

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INDEX

Order TRICLADIDA LANG, 1884

Suborder TERRICOLA HALLEZ, 1890

Family GEOPLANIDAE STIMPSON, 1857

Type genus: *Geoplana* STIMPSON, 1857.

Polycelis + *Polycladus*: Diesing, 1850.

Geoplanidae (*Geoplana* + *Polycladus*): Stimpson, 1857.

Geoplana: Schultze & Müller, 1857.

Polycelidea (*Oligocelis* + *Polytelis* + *Geoplana*): Diesing, 1861. Three subfamilies: Oligocelidea, Eu-polytelidea and Geoplanidea.

Geoplanida (*Geoplana* + *Bipalium* + *Rhynchodemus* + *Geodesmus* + *Microplana*) : Hallez, 1892.
Geoplanida + *Polycladida* : Hallez, 1893.
Geoplanidae (*Geoplana* + *Pelmatoplana* + *Choeradoplana* + *Polycladus* + *Artioposthia* + *Geobia*) : von Graff, 1896.
Geoplanidae : von Graff, 1899.
Geoplanidae : von Graff, 1916.
Geoplanidae : Bresslau : 1933.

Subfamily GEOPLANINAE STIMPSON, 1857

Type genus : *Geoplana* STIMPSON, 1857.

Literature : Ogren & Kawakatsu, 1988 a, b, 1990 ; see page 83 in the present paper.

Genus *Amaga* Ogren et Kawakatsu, gen. nov.

Amaga n. g. Ogren & Kawakatsu : described in the present paper. See page 87.

Type species : *Geoplana amagensis* Fuhrmann, 1914.

Literature : Fuhrmann, 1914 ; C. G. Froehlich, 1967.

Amaga amagensis (Fuhrmann, 1914) comb. nov.

Geoplana amagensis n. sp. Fuhrmann, 1914 : 749, 770, 772, 773-776, figs. 24-25 (FCA), 792 ; pl. XVI, figs. 23-24 (DVE). Rio Amaga, Cafetal La Camelia (alt. 1600-1800 m) / Colombia.

Geoplana amagensis : Fuhrmann, 1916 : 482-485. Host of a gregarinid species, *Rhynchocystis geoplanae* Fuhrmann, 1916 (an original description ; pp. 482-485, figs. 1-7).

Geoplana amagensis : du Bois-Reymond Marcus, 1951 : 218, 223.

Geoplana amagensis : Marcus, 1951 : 60.

Geoplana amagensis : Puytorac & Grain, 1960 : 198. Host of a gregarinid species, *Rhynchocystis geoplana* Fuhrmann, 1916. Spelling error.

Geoplana amagensis : Hyman, 1962 : 2.

Geoplana amagensis : C. G. Froehlich, 1967 : 161.

Geoplana amagensis : E. M. Froehlich & C. G. Froehlich, 1972 : 41-42, 44.

Amaga becki (Fuhrmann, 1914) comb. nov.

Geoplana becki n. sp. Fuhrmann, 1914 : 770-773, 781, figs. 22-23 (DB, FCA), 792 ; pls. XVI, fig. 16 (DB), XVII, figs. 2, 5 (HI). Quebrada près de Bogota ; Zipaquirá and Boca del Monte (alt. 2400-3000 m) / Colombia.

Geoplana becki : Fuhrmann, 1916 : 482-485. Host of a gregarinid species, *Rhynchocystis geopolanae* Fuhrmann, 1916 (an original description ; pp. 482-485, figs. 1-7).

Geoplana becki : du Bois-Reymond Marcus, 1951 : 218, 223.

Geoplana becki : Puytorac & Grain, 1960 : 198. Host of a gregarinid species, *Rhynchocystis geopolana* Fuhrmann, 1916. Spelling error.

Geoplana becki : Hyman, 1962 : 2.

Geoplana becki : C. G. Froehlich, 1967 : 158.

Amaga bogotensis (von Graff, 1899) comb. nov.

Geoplana bogotensis n. sp. von Graff, 1899 : 324 ; taf. III, figs. 12-14 (DVB in color). Bogota / Colombia.

Geoplana bogotensis (in part) : von Graff, 1915 : 2996-2997.

Geoplana bogotensis : Riester, 1938 : 60. Syn. of *Geoplana férussaci* von Graff, 1899.

Geoplana bogotensis: du Bois-Reymond Marcus, 1951: 223. [nec *Geoplana bogotensis* von Graff, 1899, in Riester (1938)].

Geoplana bogotensis: Marcus, 1951: 64-65, 120.

Geoplana bogotensis: C. G. Froehlich, 1955 a: 208.

Geoplana bogotensis: du Bois-Reymond Marcus, 1958: 395-396.

Geoplana bogotensis: Hyman, 1962: 1.

(?) *Geoplana bogotensis*: C. G. Froehlich, 1967: 158.

Note: [nec *Geoplana bogotensis* von Graff, 1899 in Busson (1903) and Fuhrmann (1914)]. See *Amaga buergeri* (Hyman, 1955).

Amaga buergeri (Hyman, 1955) comb. nov.

Geoplana bogotensis: Busson, 1903: 404-405, 408-424, fig. 3 (FCA), 427; taf. II, figs. 9-10 (HI).

Ubaque (alt. 2800 m) and Páramo (alt. 3000 m), near Bogota / Colombia. [nec *Geoplana bogotensis* von Graff, 1899].

Geoplana bogotensis var. *bürgeri* n. var. Busson, 1903: 404-424, fig. 4 (FCA), 427; taf. II, figs. 8-10 (CP, HI). Choaché, Bogota / Colombia.

Geoplana bogotensis: Fuhrmann, 1914: 748, 750-752, 754, 792; pl. XV, figs. 1-5 (DVB). Bogota (alt. 2640 m) and Paramo Cruz Verde (alt. 3600 m); Ubaque / Colombia.

Geoplana bogotensis var. *bürgeri*: Fuhrmann, 1914: 750-752.

Geoplana bogotensis (in part): von Graff, 1915: 2996-2997.

Geoplana bogotensis var. *bitrgeri*: von Graff, 1915: 2996.

Geoplana bogotensis in Fuhrmann (1914): du Bois-Reymond Marcus, 1951: 223.

Geoplana bogotensis in Busson (1903) and Fuhrmann (1914): Marcus, 1951: 64-65, 120.

Geoplana bogotensis in Busson (1903) and Fuhrmann (1914): Hyman, 1955: 21-22.

Geoplana bogotensis *bürgeri*: Hyman, 1955: 21-22.

Geoplana bürgeri nom. nov. Hyman, 1955: 21-22.

Geoplana bogotensis in Busson (1903): du Bois-Reymond Marcus, 1958: 395-396.

Geoplana bogotensis in Busson (1903) and Fuhrmann (1914): Hyman, 1962: 1-2.

Geoplana bürgeri: C. G. Froehlich, 1967: 158.

Note: [nec *Geoplana bogotensis* von Graff, 1899]. See *Geoplana (Geoplana) bogotensis* von Graff, 1899.

Amaga bussoni (Froehlich, 1959) comb. nov.

Geoplana olivacea: Busson, 1903: 404, 407, 426, fig. 5 (FCA), 427; taf. II, fig. 11 (DVB). Alto, Sibate (alt. 2800 m); Tagreise; Rio de San Francisco, near Bogota / Colombia. [nec *Geoplana olivacea* Schultze et Müller, 1857].

Geoplana olivacea: Fuhrmann, 1914: 748. Colombia.

Geoplana olivacea: Fuhrmann, 1916: 482. Host of a gregarinid species.

Geoplana olivacea in Busson (1903) and Fuhrmann (1914): du Bois-Reymond Marcus, 1951: 219, 228.

Geoplana bussoni nom. nov. C. G. Froehlich, 1959: 236, 240.

Geoplana olivacea: Puytorac & Grain, 1960: 198. Host of a gregarinid species.

Geoplana olivacea in Busson (1903) and Fuhrmann (1914): Hyman, 1962: 1.

Geoplana bussoni: Hyman, 1962: 1.

Geoplana bussoni: C. G. Froehlich, 1967: 158.

Note: [nec *Geoplana olivacea* Schultze et Müller, 1857, in Busson (1903) and Fuhrmann (1914)]. See *Geoplana*

(*Geoplana*) *olivacea* Schultze et Müller, 1857.

Amaga contamanensis (Hyman, 1955) comb. nov.

Geoplana contamanensis n. sp. Hyman, 1955 : 21-25, figs. 29-31 (DB, VB, FCA). The Ucayali River, Contamana (alt. 300 m) / Peru.

Geoplana contamanensis : du Bois-Reymond Marcus, 1958 : 399, 401.

Geoplana contamanensis : C. G. Froehlich, 1967 : 158.

Geoplana contamanensis : E. M. Froehlich & C. G. Froehlich, 1972 : 41-42.

Amaga libbieae (du Bois-Reymond Marcus, 1958) comb. nov.

Geoplana bogotensis : Hyman, 1955 : 18-22, figs. 26-28 (VB, DH, FCA). Tuicochchaca (alt. 2000 m) / Peru.

Geoplana libbieae nom. nov. du Bois-Reymond Marcus, 1958 : 396.

Note: [nec *Geoplana bogotensis* von Graff, 1899; nec *Geoplana bogotensis* von Graff, 1899, in Busson (1903); nec *Geoplana bogotensis* von Graff, 1899, in Fuhrmann (1914)]. See *Geoplana (Geoplana) bogotensis* (von Graff, 1899); *Amaga buergeri* (Hyman, 1955); *Amaga bussoni* (Froehlich, 1959).

Amaga olivacea (Schultze et Müller, 1857) comb. nov.

Geoplana olivacea n. sp. Schultze & Müller, 1857 : 24, 31. Blumenau, Santa Catharina / Brazil.

Geoplana olivacea : Schultze, 1857 : 4-5.

Geoplana olivacea : Diesing, 1861 : 511.

Geoplana olivacea : Moseley, 1877 a : 288.

Geoplana olivacea : von Graff, 1894 : 2. Asunción / Paraguay ; San Pablo, Tucuman / Argentina.

Geoplana olivacea : von Graff, 1897 b : 1. San Pablo, Tucuman and San Lorenzo, Jujuy / Argentina.

Geoplana olivacea : von Graff, 1899 : 298-299 ; taf. IV, figs. 29-33 (CP in color). Paraguay ; Brazil ; Argentina ; Fretillare / Chile.

Geoplana olivacea : von Graff, 1914 : 2907.

Geoplana olivacea : von Graff, 1915 : 2996.

Geoplana olivacea : von Graff, 1916 : 3151.

Geoplana olivacea : Goetsch, 1933 : 245, 260-262, 264, 285, 287.

Geoplana olivacea : du Bois-Reymond Marcus, 1951 : 103.

Geoplana olivacea : C. G. Froehlich, 1955 a : 208.

Geoplana olivacea : E. M. Froehlich, 1955 b : 205.

Geoplana olivacea : C. G. Froehlich, 1959 : 233, 236-237, 240.

Note: The classification of *Geoplana olivacea* Schultze et Müller, 1857, is confused. C. G. Froehlich (1959, p. 236) wrote: "Here Graff lumped also at least two species, one represented by some fragments collected at Blumenau by G. W. Müller, the other (or others) by several specimens from Argentina and Chile. The fragments from Blumenau present a slender shape and the same colour pattern as Fr. Müller's, the difference in hue being probably due to the preservation. The specimens from the other localities are much broader and flatter, despite the similarity in colour pattern. These should be removed from *G. olivacea*, but as their status is obscure, it is better not to rename them as yet. The name *G. olivacea* must be restricted, therefore, to the fragments from Blumenau."

Since the separation of records of *Geoplana olivacea* (original species and von Graff's) is difficult, they are listed here under *Amaga olivacea* (Schultze et Müller, 1857). [nec *Geoplana olivacea* in Busson (1903) and Fuhrmann (1914)]. See *Amaga bussoni* (Froehlich, 1959).

Amaga ortizi (Fuhrmann, 1914) comb. nov.

Geoplana ortizi n. sp. Fuhrmann, 1914 : 779-781, fig. 27 (FCA), 792 ; pl. XVI, fig. 20 (DB).

Paramo Cruz Verde (alt. 3400 m) / Colombia.

Geoplana ortizi : du Bois-Reymond Marcus, 1951 : 218.

Geoplana ortizi : Hyman, 1962 : 2.

Geoplana ortizi : C. G. Froehlich, 1967 : 158.

Amaga righii (E. M. Froehlich, 1972) comb. nov.

Geoplana righii n. sp. E. M. Froehlich & C. G. Froehlich, 1972 : 31, 39-43, figs. 21-25 (DB, AE, HI, FGO, FCA), 42, 44. Serra do Navio, Território do Amapá, Amazonas / Brazil.

Amaga ruca (Marcus, 1954) comb. nov.

Microplana ruca n. sp. Marcus, 1954 : 9, 50-52, 91, 107-108, figs. 76-81 (DB, HI, FGO, FCA).

Lago Todos los Santos, Departamento de Puerto Varas, Provinz Llanquihue / Chile.

Geoplana ruca : C. G. Froehlich, 1967 : 155. Syn.? of *Geoplana lata* von Graff, 1899.

Geoplana ruca : E. M. Froehlich, 1978 : 8, 23-25, 52-55, figs. 25-28 (DH, AE, HI, FCA). Lago Todos los Santos, Provincia Llanquihue ; Nahuelbuta, Provincia Malleco / Chile.

Geoplana ruca : Ogren & Kawakatsu, 1989 a : 59, 70.

Note : E. M. Froehlich (1978, p. 25) wrote: " *Geoplana lata* Graff only known through the external anatomy is very similar to *G. ruca* in shape, colour pattern and width of the creeping sole. The provenance, Corral near Valdivia, is intermediate between the original locality of *G. ruca* and that of the present material and has the same floristic aspects. However the arrangement of the dark pigment into five longitudinal stripes, one of which middorsal, differs much from what occurs in *G. ruca*." "It is believable that *G. lata* and *G. ruca* belong to the same species as they were considered by C. G. Froehlich (1967, p. 160). Nevertheless I prefer to maintain them apart until ampler material make it possible to decide with certainty." See *Gusana lata* (von Graff, 1899).

Genus *Choeradoplana* von Graff, 1896

Choeradoplana n. g. von Graff, 1896 a : 65.

Type species : *Choeradoplana iheringi* von Graff, 1899.

Literature : von Graff, 1896 a : 65 ; von Graff, 1899 : 395 ; von Graff, 1916 : 3224-3225 ; C. G. Froehlich, 1955 a : 218-220 ; see page 87 in the present paper.

Choeradoplana bilix Marcus, 1951

Choeradoplana bilix n. sp. Marcus, 1951 : 6, 105-106, 132, 208-209 ; pl. XXXVII, figs. 276-280 (DB, DH, AF, HI, FGO, FCA). Angra dos Reis, Rio de Janeiro / Brazil.

Choeradoplana bilix : C. G. Froehlich, 1955 a : 224, 247.

Choeradoplana catua Froehlich, 1955

Choeradoplana catua n. sp. C. G. Froehlich, 1955 a : 195, 224-226, 243, 247 ; pls. VII-VIII, figs. 39-45 (DB, DVH, AE, FGO, FCA). Teresópolis, Barreira, Rio de Janeiro / Brazil.

Choeradoplana ehrenreichi von Graff, 1899

Choeradoplana ehrenreichi n. sp. von Graff, 1899 : 398 ; taf. IV, figs. 25-26 (DH, CP in color). Joinville (Joinville), Santa Catarina / Brazil.

Choeradoplana ehrenreichi : von Graff, 1912 : taf. XXXII, fig. 24 (DH).

Choeradoplana ehrenreichi : Marcus, 1951 : 106, 132.

Choeradoplana ehrenreichi : C. G. Froehlich, 1955 a : 224.

Choeradoplana iheringi von Graff, 1899

Choeradoplana iheringi n. sp. von Graff, 1899 : 99, fig. 5 B (HI), 121, fig. 7 a, b (HI), 194, fig. 45

(FCA), 395-396 ; taf. XXIX, figs. 1-10 (HI). Taguara, Rio Grande do Sul / Brazil.

Choeradoplana iheringi : Busson, 1903 : 412.

Choeradoplana iheringi : von Graff, 1912 : taf. XXXII, figs. 22-23 (DVH), XXXVII, fig. 9 (HI), XL, fig. 3 (HI).

Choeradoplana iheringi : von Graff, 1913 : 2712, 2723, 2777, 2790, fig. 35 B (HI), 2796, 2805-2806.

Choeradoplana iheringi : von Graff, 1914 : 288, fig. 95 (HI).

Choeradoplana iheringi : Schirch, 1929 : 30, 36, 38 ; pls. II, fig. 6 (DB in color), III, fig. 7 (DB in color).

Choeradoplana iheringii : Schirch, 1929 : 30. Spelling error.

Choeradoplana iheringi : Riester, 1938 : 75-78, figs. 88-90 (DB, DH, AE, FCA), 86, 88 ; taf. 1, figs. 23-25 (DB, CP in color). Estrada Medon, Therezópolis, Rio de Janeiro ; Ribeirão Pires, Serra de Mar, São Paulo ; Corduras, Sierra do Curral, Minas Geraes / Brazil.

Choeradoplana iheringi : Marcus, 1951 : 6, 58, 60, 103-106, 118, 131-132, 208-209 ; pl. XXXVII, figs. 269-275 (DB, DVH, AE, HI, FCA). Ribeirão da Estado de Ferro Santos, São Paulo / Brazil.

Choeradoplana iheringi : du Bois-Reymond Marcus, 1951 : 237.

Choeradoplana iheringi : C. G. Froehlich, 1955 a : 195, 218-222, 224, 226-227 ; pls. IV-V, figs. 26-30 (HI, FGO). von Graff's (1899) material.

Choeradoplana iheringi : C. G. Froehlich, 1955 c : 264.

Choeradoplana iheringi : C. G. Froehlich, 1956 a : 314, 340. Alto, Teresópolis, Rio de Janeiro / Brazil.

Choeradoplana iheringi : C. G. Froehlich, 1959 : 202, 230, 239. São Leopoldo, Rio Grande do Sul / Brazil.

Choeradoplana iheringi ? in Schirch (1929)

Note : See *Notogynaphallia bergi* (von Graff, 1899).

Choeradoplana langi (von Graff, 1894)

Geoplana langi n. sp. von Graff, 1894 : 3. Asunción / Paraguay.

Choeradoplana langi n. sp. von Graff, 1897 b : 2. Tigre, Buenos Aires / Argentina.

Choeradoplana langi : von Graff, 1899 : 195, fig. 46 (FCA), 396-398 ; taf. VII, figs. 6-9 (DB, VH, CP in color) ; XVIII, figs. 6-7 (DVB in color), XXIX, figs. 11-12 (HI), XXX, figs. 1-2 (HI). Blumenau, Santa Catharina / Brazil ; Paraguay ; Argentina.

Choeradoplana langi : von Graff, 1914 : 2933.

Choeradoplana langi : de Beauchamp, 1939 b : 75.

Choeradoplana langi : du Bois-Reymond Marcus, 1951 : 231, 237-238, 252-253, pl. VII, figs. 64-69 (DB, DVH, AE, HI, FCA), 254-255, pl. VIII, figs. 82-83 (CP in color). Brusque, Santa Catarina / Brazil.

Choeradoplana langi : Marcus, 1951 : 106, 132.

Choeradoplana langi : C. G. Froehlich, 1955 a : 195, 221-222, 224, 247. von Graff's (1899) material.

Choeradoplana marthae Froehlich, 1955

Choeradoplana marthae n. sp. C. G. Froehlich, 1955 a : 195, 222-224, 243, 247 ; pls. VII-VIII, figs. 31-38 (DB, DVH, AE, HI, FGO, FCA). Vila Atlântica, São Paulo / Brazil.

Choeradoplana marthae : C. G. Froehlich, 1955 c : 271 ; pl. 1, figs. 1-6 (figures showing the loco-motion).

Choeradoplana spatulata von Graff, 1899

See *Issoca spatulata* (von Graff, 1899).

Genus *Enterosyringa* Ogren et Kawakatsu, gen. nov.

Enterosyringa n. g. Ogren & Kawakatsu: described in the present paper. See page 89.

Type species: *Geoplana pseudorhynchodemus* Riester, 1938.

Literature: Riester, 1938; Marcus, 1951.

Enterosyringa pseudorhynchodemus (Riester, 1838) comb. nov.

Geoplana pseudorhynchodemus n. sp. Riester, 1938: 32-34, figs. 34-35 (DH, AE, FCA), 87; taf. 1, fig. 8 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana pseudorhynchodemus: de Beauchamp, 1939 a: 336.

Geoplana pseudorhynchodemus: Marcus, 1951: 6, 76-79, 103, 123-124, 131, 176-177, pl. XXI, fig. 132 (DB), 192-193, pl. XXIX, figs. 197-201 (DB, HI, FGO, FCA), 212-213, pl. XXXIX, fig. 294 (CP in color). Butantan and Parque Paulista, São Paulo / Brazil.

Geoplana pseudorhynchodemus: C. G. Froehlich, 1955 a: 242, 245.

Geoplana pseudorhynchodemus: C. G. Froehlich, 1955 c: 267-269.

Geoplana pseudorhynchodemus: E. M. Froehlich, 1955 a: 330, 332.

Geoplana pseudorhynchodemus: E. M. Froehlich, 1955 b: 203.

Geoplana pseudorhynchodemus: C. G. Froehlich, 1956 a: 314, 325, 341. Teresópolis, Rio de Janeiro / Brazil.

Geoplana pseudorhynchodemus: C. G. Froehlich, 1959: 202, 211, 239. Blumenau, Santa Catarina / Brazil.

Geoplana pseudorhynchodemus: C. G. Froehlich, 1967: 157.

Note: The specific name "pseudorhynchodemus" is a masculine noun in the nominative singular, standing in apposition to the generic name. Cf. ICZN (1985; Art. 11 (h), (i), (2)).

Genus *Geobia* Diesing, 1861 (sensu von Graff, 1896)

Geobia n. g. Diesing, 1861: 496.

Type species: *Geoplana subterranea* Schultze et Müller, 1857.

Literature: von Graff, 1896 a: 67; von Graff, 1899: 408; von Graff, 1916: 3225-3226; Marcus, 1951: 106-108; C. G. Froehlich, 1955 a: 216-218; see pages 87-88 in the present paper.

Geobia subterranea (Schlütze et Müller, 1857)

Geoplana subterranea: n. sp. Schlütze & Müller, 1857: 25-27. Blumenau, Santa Cathalina / Brazil.

Geoplana subterranea: Schlütze, 1857: 5-7.

Geobia subterranea: Diesing, 1861: 496.

Geobia subterranea: Leuckart, 1863: 174.

Geoplana subterranea: Moseley, 1875: 111.

Geobia subterranea: Moseley, 1877 a: 289.

Geoplana subterranea: Fletcher & Hamilton, 1888: 356.

Geoplana subterranea: Hallez, 1893: 112-113. Cited from von Graff, 1899: 408.

Geobia subterranea: Dendy, 1894 a: 185.

Geobia subterranea: Dendy, 1894 b: 422.

Geobia subterranea: Dendy, 1895 d: 116. Cf. von Graff, 1899: 408.
Geobia subterranea: Gamble, 1896: 37.
Geobia subterranea: von Graff, 1896 a: 67.
Geobia subterranea: von Graff, 1899: 408-409.
Geobia subterranea: Steel, 1900 a: 569.
Geobia subterranea: von Graff, 1913: 2786.
Geobia subterranea: von Graff, 1914: 2915, 2936.
Geoplana subterranea: Riester, 1938: 22-23, figs. 26-27 (DB, DH, AE), 26-29, figs. 28-29 (FCA), 87. Therezópolis, Rio de Janeiro / Brazil.
Geobia subterranea: von Graff, 1917: 3338.
Geoplana subterranea: Meixner, 1928: 595.
Geoplana subterranea: Goetsch, 1933: 258, figs. 281-285 (DB, HI, FCA). Parque Paulista and Mogi das Cruzes, São Paulo; Avaré (São Paulo) / Brazil.
Geobia subterranea: C. G. Froehlich, 1955 a: 195, 216-218, 241, 244; pl. IV, figs. 23-25 (HI, FGO, FCA). São Paulo; Teresópolis, Rio de Janeiro / Brazil.
Geobia subterranea: C. G. Froehlich, 1955 c: 265, 267.
Geobia subterranea: C. G. Froehlich, 1956 a: 314.
Geobia subterranea: C. G. Froehlich, 1959: 240, 338-339.
Geobia subterranea: C. G. Froehlich, 1967: 160.

Genus *Geoplana* Stimpson, 1857

Type species: *Planaria vaginuloides* Darwin, 1844.
Literature: see page 7 in the present paper.

Geoplana abundans von Graff, 1899

See *Notogynaphallia abundans* (von Graff, 1899).

Geoplana albonigra Riester, 1938

See *Notogynaphallia albonigra* (Riester, 1938).

Geoplana albopunctata von Graff, 1899

See *Pseudogeoplana albopunctata* (von Graff, 1899).

Geoplana alterfusca Hyman, 1962

See *Geoplana* (*Geoplana*) *alterfusca* Hyman, 1962.

Geoplana amagensis Fuhrmann, 1914

See *Amaga amagensis* (Fuhrmann, 1914).

Geoplana andicola (Schmarda, 1859)

See *Pseudogeoplana andicola* (Schmarda, 1859).

Geoplana andina Hyman, 1962

See *Notogynaphallia andina* (Hyman, 1962).

Geoplana apeva Froehlich, 1959

See *Geoplana* (*Geoplana*) *apeva* Froehlich, 1959.

Geoplana aphalla Hyman, 1941

See *Pasipha aphalla* (Hyman, 1941).

Geoplana applanata von Graff, 1899

See *Geoplana* (*Geoplana*) *applanata* von Graff, 1899.

Geoplana argus von Graff, 1899

- See *Geoplana (Geoplana) argus* von Graff, 1899.
- Geoplana argus* von Graff, 1899, in Riester, 1938
See *Geoplana (Geoplana) eodoxiae* Ogren et Kawakatsu, nom. nov.
- Geoplana argus* von Graff, 1899 (in part), in Schirch, 1929
See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.
- Geoplana argus* von Graff, 1899 (in part), in Schirch, 1929 and Riester, 1938
See *Geoplana (Geoplana) argus* von Graff, 1899.
- Geoplana arpi* Schirch, 1929
See *Geoplana (Geoplana) arpi* Schirch, 1929.
- Geoplana assu* Froehlich, 1959
See *Geoplana (Geoplana) assu* Froehlich, 1959.
- Geoplana astraea* Marcus, 1951
See *Pasipha astraea* (Marcus, 1951).
- Geoplana atra* Schultze et Müller, 1857
See *Notogynaphallia atra* (Schultze et Müller, 1857).
- Geoplana atra* Schultze et Müller, 1857 (in part), in Riester, 1938
See *Geoplana (Geoplana) nigra* Froehlich, 1959.
- Geoplana atra* Schultze et Müller, 1857, in von Graff, 1899
See *Geoplana (Geoplana) nigra* Froehlich, 1959.
- Geoplana atra* Schultze et Müller, 1857 (in part), in von Graff, 1899 and Riester, 1938.
See *Notogynaphallia atra* (Schultze et Müller, 1857).
- Geoplana atropurpurea* Riester, 1938
See *Pseudogeoplana atropurpurea* (Riester, 1938).
- Geoplana (?) atropurpurea* Riester, 1938
See *Pseudogeoplana atropurpurea* (Riester, 1938).
- Geoplana aymara* du Bois-Reymond Marcus, 1951
See *Geoplana (Geoplana) aymara* du Bois-Reymond Marcus, 1951.
- Geoplana barreirana* Riester, 1938
See *Geoplana (Barreirana) barreirana* Riester, 1938.
- Geoplana beckeri* Froehlich, 1959
See *Geoplana (Geoplana) beckeri* Froehlich, 1959.
- Geoplana beckii* Fuhrmann, 1914
See *Amaga beckii* (Fuhrmann, 1914).
- Geoplana bergi* (?) in Riester, 1938
See *Notogynaphallia bergi* (von Graff, 1899).
- Geoplana bergi* von Graff, 1899
See *Notogynaphallia bergi* (von Graff, 1899).
- Geoplana bilinearis* (Darwin, 1844)
See *Pseudogeoplana bilinearis* (Darwin, 1844).
- Geoplana bilineata* Fuhrmann, 1914
See *Pseudogeoplana bilineata* (Fuhrmann, 1914).
- Geoplana bimbergi* Fuhrmann, 1914
See *Geoplana (Geoplana) bimbergi* Fuhrmann, 1914.
- Geoplana biseminalis* Riester, 1938
See *Pasipha biseminalis* (Riester, 1938).

Geoplana bistriata Hyman, 1962

See *Gigantea bistriata* (Hyman, 1962).

Geoplana blanchardi von Graff, 1899

See *Pseudogeoplana blanchardi* (von Graff, 1899).

Geoplana blaseri Schirch, 1929

See *Geoplana (Geoplana) blaseri* Schirch, 1929.

Geoplana bogotensis von Graff, 1899

See *Amaga bogotensis* (von Graff, 1899).

Geoplana bogotensis var. *buergeri* Busson, 1903

See *Amaga buergeri* (Hyman, 1955).

Geoplana bogotensis von Graff, 1899, in Busson (1903) and Fuhrmann (1914)

See *Amaga buergeri* (Hyman, 1955).

(?) *Geoplana bogotensis* von Graff, 1899, in Froehlich, 1967

See *Amaga bogotensis* (von Graff, 1899).

Geoplana bogotensis von Graff, 1899, in Hyman (1955)

See *Amaga libbieae* (du Bois-Reymond Marcus, 1958).

Geoplana bohlsi von Graff, 1899

See *Pseudogeoplana bohlzi* (von Graff, 1899).

Geoplana bonita Schirch, 1929

See *Pseudogeoplana bonita* (Schirch, 1929).

Geoplana brasiliensis (Blainville, 1826)

See *Pseudogeoplana brasiliensis* (Blainville, 1826).

Geoplana brasiliensis (Blainville, 1826) (in part), in von Graff, 1899

See *Geoplana (Geoplana) ferussaci* von Graff, 1899.

Geoplana braunsi von Graff, 1899

See *Geoplana (Geoplana) braunsi* von Graff, 1899.

Geoplana bresslaui Schirch, 1929

See *Geoplana (Geoplana) bresslaui* Schirch, 1929.

Geoplana bresslaui Schirch, 1929, in Riester, 1938

See *Geoplana (Geoplana) eudoximariae* Ogren et Kawakatsu, nom. nov.

Geoplana brittlebanki von Graff, 1897

See *Pseudogeoplana brittlebanki* (von Graff, 1897).

Geoplana buergeri Hyman, 1955

See *Amaga buergeri* (Hyman, 1955).

Geoplana burmeisteri Schlutze et Müller, 1857 (in part), in Riester, 1939

See *Geoplana (Geoplana) burmeisteri* Schlutze et Müller, 1857.

Geoplana burmeisteri Schlutze et Müller, 1857 (in part), in von Graff, 1894 and 1899

See *Geoplana (Geoplana) burmeisteri* Schlutze et Müller, 1857.

Geoplana burmeisteri Schlutze et Müller, 1857 (in part), in von Graff, 1894 and 1899

See *Pseudogeoplana* sp. (species of von Graff's *G. burmeisteri*; in part).

Geoplana Burmeisteri Schlutze et Müller, 1857

See *Geoplana (Geoplana) burmeisteri* Schlutze et Müller, 1857.

Geoplana burri Riester, 1938

See *Pseudogeoplana burri* (Riester, 1938).

Geoplana bussoni Froehlich, 1959

- See *Amaga bussoni* (Froehlich, 1959).
- Geoplana caapora* Froehlich, 1958
See *Geoplana (Geoplana) caapora* Froehlich. 1958.
- Geoplana caeruleonigra* Riester, 1938
See *Pasipha caeruleonigra* (Riester, 1938).
- Geoplana caeruleo-nigra* Riester, 1938
See *Pasipha caeruleonigra* (Riester, 1938).
- Geoplana cafusa* Froehlich, 1956
See *Geoplana (Barreirana) cafusa* Froehlich, 1956.
- Geoplana caissara* E. M. Froehlich, 1955
See *Notogynaphallia caissara* (E. M. Froehlich, 1955).
- Geoplana caleta* E. M. Froehlich, 1978
See *Geoplana (Geoplana) caleta* E. M. Froehlich, 1978.
- Geoplana cameliae* Fuhrmann, 1914
See *Gigantea cameliae* (Fuhrmann, 1914).
- Geoplana cameliae* Fuhrmann, 1914, in Hyman, 1957
See *Geoplana (Geoplana) fuhrmanni* Hyman, 1962.
- Geoplana cantuta* du Bois-Reymond Marucs, 1951
See *Geoplana (Geoplana) cantuta* du Bois-Reymond Marcus, 1951.
- Geoplana cardosi* Schirch, 1929
See *Pseudogeoplana cardosi* (Schirch, 1929).
- Geoplana carinata* Riester, 1938
See *Geoplana (Geoplana) carinata* Riester, 1938.
- Geoplana carrierei* von Graff, 1897
See *Geoplana (Geoplana) carrierei* von Graff, 1897.
- Geoplana carrièrei* von Graff, 1897
See *Geoplana (Geoplana) carrièrei* von Graff, 1897.
- Geoplana cassula* E. M. Froehlich, 1955
See *Geoplana (Barreirana) cassula* E. M. Froehlich, 1955.
- Geoplana catharina* Hyman, 1957
See *Geoplana (Geoplana) catharina* Hyman, 1957.
- Geoplana caucaensis* Fuhrmann, 1914
See *Geoplana (Geoplana) caucaensis* Fuhrmann, 1914.
- Geoplana caya* du Bois-Reymond Marcus, 1951
See *Geoplana (Geoplana) caya* du Bois-Reymond Marcus, 1951.
- Geoplana chalona* du Bois-Reymond Marcus, 1951
See *Geoplana (Geoplana) chalona* du Bois-Reymond Marcus, 1951.
- Geoplana chanca* E. M. Froehlich, 1978
See *Geoplana (Geoplana) chanca* E. M. Froehlich, 1978.
- Geoplana chilensis* von Graff, 1899
See *Pasipha chilensis* (von Graff, 1899).
- Geoplana chilensis* von Graff, 1899 (in part), in Schirch, 1929
See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.
- Geoplana chilihua* du Bois-Reymond Marcus, 1958
See *Geoplana (Geoplana) chilihua* du Bois-Reymond Marcus, 1958.

Geoplana chimbeva Froehlich, 1955

See *Pasipha chimbeva* (Froehlich, 1955)

Geoplana chiriquii Hyman, 1962

See *Gigantea chiriquii* (Hyman, 1962).

Geoplana chita Froehlich, 1956

See *Geoplana (Geoplana) chita* Froehlich, 1956.

Geoplana chiuna E. M. Froehlich, 1955

See *Geoplana (Geoplana) chiuna* E. M. Froehlich, 1955.

Geoplana chulpa du Bois-Reymond Marcus, 1951

See *Geoplana (Geoplana) chulpa* du Bois-Reymond Marcus, 1951.

Geoplana collini von Graff, 1899

See *Pseudogeoplana collini* (von Graff, 1899).

Geoplana columbiana Fuhrmann, 1914

See *Pseudogeoplana columbiana* (Fuhrmann, 1914).

Geoplana contamanensis Hyman, 1955

See *Amaga contamanensis* (Hyman, 1955).

Geoplana crawfordi de Beauchamp, 1939

See *Geoplana (Geoplana) crawfordi* de Beauchamp, 1939.

Geoplana crioula E. M. Froehlich, 1955

See *Geoplana (Geoplana) crioula* E. M. Froehlich, 1955.

Geoplana cruciata von Graff, 1899

See *Gusana cruciata* (von Graff, 1899).

Geoplana Darwini (Diesing, 1850)

See *Pseudogeoplana elongata* (Darwin, 1844).

Geoplana dictyonata Riester, 1938

See *Geoplana (Geoplana) dictyonata* Riester, 1938.

Geoplana diminutiva Hyman, 1955

See *Pasipha diminutiva* (Hyman, 1955).

Geoplana distincta von Graff, 1899

See *Pseudogeoplana distincta* (von Graff, 1899).

Geoplana divae Marcus, 1951

See *Geoplana (Geoplana) divae* Marcus, 1951.

Geoplana doederleini Schirch, 1929

See *Pseudogeoplana doederleini* (Schirch, 1929).

Geoplana duca Marcus, 1951

See *Geoplana (Geoplana) duca* Marcus, 1951.

Geoplana ehlersi von Graff, 1899

See *Pseudogeoplana ehlersi* (von Graff, 1899).

Geoplana elegans (Darwin, 1844)

See *Geoplana (Barreirana) elegans* (Darwin, 1844).

Geoplana elegans Schultze et Müller, 1857

See *Notogynaphallia muelleri* (Diesing, 1861).

Geoplana elongata (Darwin, 1844)

See *Pseudogeoplana elongata* (Darwin, 1844).

Geoplana ercilla E. M. Froehlich, 1978

- See *Pasipha ercilla* (E. M. Froehlich, 1978).
- Geoplana eugeniae* von Graff, 1897
See *Pseudogeoplana eugeniae* (von Graff, 1897).
- Geoplana evelinae* Marcus, 1951
See *Geoplana (Geoplana) evelinae* Marcus, 1951.
- Geoplana ferrussaci* von Graff, 1899
See *Geoplana (Geoplana) ferussaci* von Graff, 1899.
- Geoplana férussaci* von Graff, 1899
See *Geoplana (Geoplana) ferussaci* von Graff, 1899.
- Geoplana ferrusachi* von Graff, 1899, in Schirch, 1929
See *Geoplana (Geoplana) ferussachi* von Graff, 1899.
- Geoplana fita* Froehlich, 1959
See *Notogynaphallia fita* (Froehlich, 1959).
- Geoplana flava* Moseley, 1877
See *Pseudogeoplana flava* (Moseley, 1877).
- Geoplana fragai* Froehlich, 1955
See *Geoplana (Geoplana) fragai* Froehlich, 1955.
- Geoplana freyi* von Graff, 1899, in Schirch, 1929
See *Geoplana (Geoplana) fryi* von Graff, 1899.
- Geoplana fryi* von Graff, 1899
See *Geoplana (Geoplana) fryi* von Graff, 1899.
- Geoplana fryi* var. *bruna* Riester, 1938
See *Notogynaphallia goetschi* (Riester, 1938).
- Geoplana fuhrmanni* Hyman, 1962
See *Geoplana (Geoplana) fuhrmanni* Hyman, 1962.
- Geoplana fusca* Hyman, 1962
See *Geoplana (Geoplana) fusca* Hyman, 1962.
- Geoplana gabriellae* du Bois-Reymond Marcus, 1951
See *Geoplana (Geoplana) gabriellae* du Bois-Reymond Marcus, 1951.
- Geoplana garua* du Bois-Reymond Marcus, 1951
See *Notogynaphallia garua* (du Bois-Reymond Marcus, 1951).
- Geoplana gaucha* Froehlich, 1959
See *Geoplana (Geoplana) gaucha* Froehlich, 1959.
- Geoplana gigantea* von Graff, 1899
See *Gigantea gigantea* (von Graff, 1899).
- Geoplana gliesci* Froehlich, 1959
See *Geoplana (Geoplana) gliesci* Froehlich, 1959.
- Geoplana goeldii* von Graff, 1899
See *Pseudogeoplana goeldii* (von Graff, 1899).
- Geoplana göldii* von Graff, 1899
See *Pseudogeoplana goeldii* (von Graff, 1899).
- Geoplana goetschi* Riester, 1938
See *Notogynaphallia goetschi* (Riester, 1938).
- Geoplana goettei* Schirch, 1929
See *Geoplana (Geoplana) goettei* Schirch, 1929.

Geoplana gollmeri von Graff, 1899

See *Pseudogeoplana gollmeri* (von Graff, 1899).

Geoplana gonzalezi Fuhrmann, 1914

See *Pseudogeoplana gonzalezi* (Fuhrmann, 1914).

Geoplana guacensis Fuhrmann, 1914

See *Geoplana (Geoplana) guacensis* Fuhrmann, 1914.

Geoplana halbani von Graff, 1899

See *Pseudogeoplana halbani* (von Graff, 1899).

Geoplana hauseri Froehlich, 1959

See *Pasipha hauseri* (Froehlich, 1959).

Geoplana hina Marcus, 1951

See *Geoplana (Geoplana) hina* Marcus, 1951.

Geoplana idaia du Bois-Reymond Marcus, 1951.

See *Gigantea idaia* (du Bois-Reymond Marcus, 1951).

Geoplana incognita Riester, 1938

See *Geoplana (Geoplana) incognita* Riester, 1938.

Geoplana irua du Bois-Reymond Marcus, 1958

See *Geoplana (Geoplana) irua* du Bois-Reymond Marcus, 1958.

Geoplana ita in E. M. Froehlich, 1978

See *Geoplana (Geoplana) itatiayana* Schirch, 1929.

Geoplana itatiayana Schirch, 1929

See *Geoplana (Geoplana) itatiayana* Schirch, 1929.

Geoplana jandira Froehlich, 1955

See *Geoplana (Geoplana) jandira* Froehlich, 1955.

Geoplana joia Froehlich, 1956

See *Geoplana (Geoplana) joia* Froehlich, 1956.

Geoplana ladislavii von Graff, 1899

See *Geoplana (Geoplana) ladislavii* von Graff, 1899.

Geoplana lama du Bois-Reymond Marcus, 1957

See *Geoplana (Geoplana) lama* du Bois-Reymond Marcus, 1957.

Geoplana lambaya du Bois-Reymond Marcus, 1958

See *Geoplana (Geoplana) lambaya* du Bois-Reymond Marcus, 1958.

Geoplana langi von Graff, 1894

See *Choeradoplana langi* (von Graff, 1894).

Geoplana lareta du Bois-Reymond Marcus, 1958

See *Geoplana (Geoplana) lareta* du Bois-Reymond Marcus, 1958.

Geoplana lata von Graff, 1899

See *Gusana lata* (von Graff, 1899).

Geoplana leucophryna Marcus, 1951

See *Geoplana (Geoplana) leucophryna* Marcus, 1951. See also *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.

Geoplana libbieae du Bois-Reymond Marcus, 1958

See *Amaga libbieae* (du Bois-Reymond Marcus, 1958).

Geoplana livia E. M. Froehlich, 1955

See *Geoplana (Geoplana) livia* E. M. Froehlich, 1955.

Geoplana lumbricoides Schirch, 1929

See *Pseudogeoplana lumbricoides* (Schirch, 1929).

Geoplana maculata (Darwin, 1844)

See *Pseudogeoplana maculata* (Darwin, 1844).

Geoplana marginata Schultze et Müller, 1857

See *Geoplana (Geoplana) marginata* Schultze et Müller, 1857.

Geoplana marginata (auctorum) in Almeida, Yamada & Froehlich, 1990

See *Notogynaphallia abundans* (von Graff, 1899). See also *Geoplana (Geoplana) marginata* Schultze et Müller, 1857.

Geoplana marginata Schultze et Müller, 1857 (in part), in Schirch, 1929

See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.

Geoplana marginata Schultze et Müller, 1857 (in part), in Schirch, 1929

See *Geoplana (Geoplana) marginata* Schultze et Müller, 1857.

Geoplana marginata Schultze et Müller, 1857 (in part), in Schirch, 1929 and Riester, 1938

See *Notogynaphallia caissara* (E. M. Froehlich, 1955).

Geoplana marginata Schultze et Müller, 1857 (in part), in von Graff, 1894, 1896 and 1899

See *Notogynaphallia abundans* (von Graff, 1899).

Geoplana marginata Schultze et Müller, 1857 (in part), in von Graff, 1899

See *Geoplana (Geoplana) marginata* Schultze et Müller, 1857.

Geoplana marginata var. *abundans* von Graff, 1899

See *Notogynaphallia abundans* (von Graff, 1899).

Geoplana marmorata Schultze et Müller, 1857

See *Geoplana (Geoplana) marmorata* Schultze et Müller, 1857.

Geoplana matuta Froehlich, 1955

See *Notogynaphallia matuta* (Froehlich, 1955).

Geoplana Maximiliani Schultze et Müller, 1857

See *Pseudogeoplana maximiliani* (Schultze et Müller, 1857).

Geoplana maximiliani Schultze et Müller, 1857 (in part), in Schirch, 1929

See *Pseudogeoplana schirchi* Ogren et Kawakatsu, nom. nov.

Geoplana maximiliani Schultze et Müller, 1857 (in part), in von Graff, 1899

See *Pseudogeoplana maximiliani* (Schultze et Müller, 1857).

Geoplana maximiliani Schultze et Müller, 1857 (in part), in von Graff, 1899

See *Pasipha hauseri* (Froehlich, 1959).

Geoplana mayori Fuhrmann, 1914

See *Geoplana (Geoplana) mayori* Fuhrmann, 1914.

Geoplana meixneri Riester, 1938

See *Notogynaphallia meixneri* (Riester, 1938).

Geoplana metzi von Graff, 1899

See *Geoplana (Geoplana) metzi* von Graff, 1899.

Geoplana Metzi von Graff, 1899

See *Geoplana (Geoplana) metzi* von Graff, 1899.

Geoplana meyerhansi Fuhrmann, 1914

See *Pseudogeoplana meyerhansi* (Fuhrmann, 1914).

Geoplana mirim E. M. Froehlich, 1972

See *Geoplana (Geoplana) mirim* E. M. Froehlich, 1972.

Geoplana modesta (?) (in part) in Riester, 1938

See *Notogynaphallia froehlichae* Ogren et Kawakatsu, nom. nov.

Geoplana modesta von Graff, 1899

See *Notogynaphallia modesta* (von Graff, 1899).

Geoplana montana Hyman, 1939

See *Gigantea montana* (Hyman, 1939).

Geoplana mourei Froehlich, 1956

See *Notogynaphallia mourei* (Froehlich, 1956).

Geoplana muelleri Diesing, 1861

See *Notogynaphallia muelleri* (Diesing, 1861).

Geoplana mülleri Diesing, 1861

See *Notogynaphallia mülleri* (Diesing, 1861).

Geoplana Mülleri Diesing, 1861

See *Notogynaphallia müllerri* (Diesing, 1861).

Geoplana multicolor von Graff, 1899

See *Geoplana (Geoplana) multicolor* von Graff, 1899.

Geoplana multipunctata Fuhrmann, 1914

See *Geoplana (Geoplana) multipunctata* Fuhrmann, 1914.

Geoplana nana Froehlich, 1956

See *Notogynaphallia nana* (Froehlich, 1956); see also *Notogynaphallia atra* (Schultze et Müller, 1857).

Geoplana nataliae Froehlich, 1959

See *Notogynaphallia nataliae* (Froehlich, 1959).

Geoplana nephelis Schultze et Müller, 1857

See *Pseudogeoplana nephelis* (Schultze et Müller, 1857).

Geoplana Nephelis Schultze et Müller, 1857

See *Pseudogeoplana nephelis* (Schultze et Müller, 1857).

Geoplana nigra Froehlich, 1959

See *Geoplana (Geoplana) nigra* Froehlich, 1959.

Geoplana nigrocephala Fuhrmann, 1914

See *Pseudogeoplana nigrocephala* (Fuhrmann, 1914).

Geoplana nigrofusca (Darwin, 1844)

See *Pseudogeoplana nigrofusca* (Darwin, 1844).

Geoplana nigro-fusca (Darwin, 1844)

See *Pseudogeoplana nigrofusca* (Darwin, 1844).

Geoplana nobilis von Graff, 1899

See *Pseudogeoplana nobilis* (von Graff, 1899).

Geoplana notocelis Bresslau, 1930

See *Geoplana (Geoplana) notocelis* Bresslau, 1930.

Geoplana notophthalma Riester, 1938

See *Geoplana (Geoplana) notophthalma* Riester, 1938.

Geoplana obscura Schirch, 1929

See *Pseudogeoplana obscura* (Schirch, 1929).

Geoplana octolineata Schirch, 1929

See *Pseudogeoplana octolineata* (Schirch, 1929).

Geoplana octolineata var. *esverdeada* Schirch, 1929

See *Pseudogeoplana octolineata* (Schirch, 1929).

Geoplana octostriata Schultze et Müller, 1857

See *Notogynaphallia octostriata* (Schultze et Müller, 1857).

Geoplana oerstedi von Graff, 1899

See *Pseudogeoplana oerstedi* (von Graff, 1899).

Geoplana olivacea Schultze et Müller, 1857

See *Amaga olivacea* (Schultze et Müller, 1857).

Geoplana olivacea Schultze et Müller, 1857, in Busson (1903) and Fuhrmann (1914, 1916)

See *Amaga bussoni* (Froehlich, 1959).

Geoplana oliverioi Froehlich, 1955

See *Pasipha oliverioi* (Froehlich, 1955).

Geoplana ortizi Fuhrmann, 1914

See *Amaga ortizi* (Fuhrmann, 1914).

Geoplana pallida (Darwin, 1844)

See *Pseudogeoplana pallida* (Darwin, 1844).

Geoplana pallida Schultze et Müller, 1857

See *Notogynaphallia schultzei* (Diesing, 1861). [nec *Pseudogeoplana pallida* (Darwin, 1844)].

Geoplana panamensis Hyman, 1941

See *Pseudogeoplana panamensis* (Hyman, 1941).

Geoplana parca E. M. Froehlich, 1955

See *Notogynaphallia parca* (E. M. Froehlich, 1955).

Geoplana pardalina von Graff, 1899

See *Pseudogeoplana pardalina* (von Graff, 1899).

Geoplana pasipha Marcus, 1951

See *Pasipha pasipha* (Marcus, 1951).

Geoplana pavani Marcus, 1951

See *Geoplana (Geoplana) pavani* Marcus, 1951.

Geoplana pavonina Riester, 1938

See *Pseudogeoplana pavonia* (Riester, 1938).

Geoplana penhana Riester, 1938

See *Pasipha penhana* (Riester, 1938).

Geoplana perspicillata von Graff, 1899

See *Pseudogeoplana perspicillata* (von Graff, 1899).

Geoplana phocaica Marcus, 1951

See *Geoplana (Geoplana) phocaica* Marcus, 1951.

Geoplana picadoi de Beauchamp, 1912

See *Gigantea picadoi* (de Beauchamp, 1912).

Geoplana Picadoi de Beauchamp, 1912

See *Gigantea picadoi* (de Beauchamp, 1912).

Geoplana pichuna du Bois-Reymond Marcus, 1951

See *Geoplana (Geoplana) pichuna* du Bois-Reymond Marcus, 1951.

Geoplana picta Froehlich, 1956

- See *Geoplana (Geoplana) picta* Froehlich, 1956.
- Geoplana pinima* E. M. Froehlich, 1955
 See *Pasipha pinima* (E. M. Froehlich, 1955).
- Geoplana placilla* E. M. Froehlich, 1978
 See *Geoplana (Geoplana) placilla* E. M. Froehlich, 1978.
- Geoplana plana* Schirch, 1929
 See *Pasipha plana* (Schirch, 1929).
- Geoplana plana* Schirch, 1929, in Hyman, 1941, 1955, and de Beauchamp, 1947
 See *Geoplana (Geoplana) catharina* Hyman, 1957.
- Geoplana platei* von Graff, 1899
 See *Gusana platei* (von Graff, 1899).
- Geoplana plumbea* Froehlich, 1956
 See *Notogynaphallia plumbea* (Froehlich, 1956).
- Geoplana poca* Froehlich, 1958
 See *Geoplana (Geoplana) poca* Froehlich, 1958.
- Geoplana polyophtalma* von Graff, 1899
 See *Geoplana (Geoplana) polyophtalma* von Graff, 1899.
- Geoplana polyophtalma* von Graff, 1899 (in part), in Schirch, 1929
 See *Geoplana (Barreirana) barreirana* Riester, 1938.
- Geoplana polyophtalma* von Graff, 1899 (in part), in Schirch, 1929
 See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.
- Geoplana polyophtalma* von Graff, 1899 (in part), in Schirch, 1929
 See *Geoplana (Geoplana) polyophtalma* von Graff, 1899.
- Geoplana preta* Riester, 1938
 See *Geoplana (Geoplana) preta* Riester, 1938.
- Geoplana pseudorhynchodemus* Riester, 1938
 See *Enterosyringa pseudorhynchodemus* (Riester, 1938).
- Geoplana pseudovaginuloides* Riester, 1938
 See *Geoplana (Geoplana) pseudovaginuloides* Riester, 1938.
- Geoplana pulchella* Schultze et Müller, 1857
 See *Pasipha pulchella* (Schultze et Müller, 1857).
- Geoplana pulchella* Schultze et Müller, 1857 (in part), in du Bois-Reymond Marcus, 1951
 See *Pasipha pulchella* (Schultze et Müller, 1857).
- Geoplana pulchella* Schultze et Müller, 1857 (in part), in du Bois-Reymond Marcus, 1951.
 See *Pasipha velina* (Froehlich, 1955).
- Geoplana pulla* (Darwin, 1844)
 See *Pseudogeoplana pulla* (Darwin, 1844).
- Geoplana pulla* (Darwin, 1844) (in part), in von Graff, 1894 and 1899
 See *Geoplana (Geoplana) mixopulla* Ogren et Kawakatsu, nom. nov.
- Geoplana pulla* (Darwin, 1844) (in part), in von Graff, 1894 and 1899
 See *Pseudogeoplana pulla* (Darwin, 1844).
- Geoplana quagga* Marcus, 1951
 See *Geoplana (Geoplana) quagga* Marcus, 1951.
- Geoplana quenua* du Bois-Reymond Marcus, 1958
 See *Geoplana (Geoplana) quenua* du Bois-Reymond Marcus, 1958.

Geoplana quichua du Bois-Reymond Marcus, 1951

See *Geoplana (Geoplana) quichua* du Bois-Reymond Marcus, 1951.

Geoplana quinquestriata Hyman, 1962

See *Notogynaphallia quinquestriata* (Hyman, 1962).

Geoplana regia E. M. Froehlich, 1955

See *Geoplana (Geoplana) regia* E. M. Froehlich, 1955.

Geoplana reticulata von Graff, 1899

See *Pseudogeoplana reticulata* (von Graff, 1899).

Geoplana rezendei Schirch, 1929

See *Issoca rezendei* (Schirch, 1929).

Geoplana riedeli Schirch, 1929

See *Pseudogeoplana riedeli* (Schirch, 1929).

Geoplana riesteri Froehlich, 1955

See *Geoplana (Geoplana) riesteri* Froehlich, 1955.

Geoplana righii E. M. Froehlich, 1972

See *Amaga righii* (E. M. Froehlich, 1972).

Geoplana rosea E. M. Froehlich, 1955

See *Pasipha rosea* (E. M. Froehlich, 1955).

Geoplana rosenbergi Meixner, 1906

See *Pseudogeoplana rosenbergi* (Meixner, 1906).

Geoplana rostrata von Graff, 1899

See *Pseudogeoplana rostrata* (von Graff, 1899).

Geoplana rufiventris Schultze et Müller, 1857

See *Geoplana (Geoplana) rufiventris* Schultze et Müller, 1857.

Geoplana rufiventris Schultze et Müller, 1857 (in part), in Riester, 1938

See *Geoplana (Geoplana) rufiventris* Schultze et Müller, 1857.

Geoplana rufiventris Schultze et Müller, 1857, in Schirch, 1929

See *Geoplana (Geoplana) applanata* von Graff, 1899.

Geoplana rufiventris Schultze et Müller, 1857 (in part), in von Graff, 1894 and 1899

See *Geoplana (Geoplana) rufiventris* Schultze et Müller, 1857.

Geoplana rufiventris Schultze et Müller, 1857 (in part), in von Graff, 1894 and 1899

See *Pseudogeoplana* sp. (species of von Graff's *G. rufiventris*; in part).

Geoplana rufiventris Schultze et Müller, 1857 (in part), in von Graff, 1899

See *Geoplana (Geoplana) apeva* Froehlich, 1959.

Geoplana rufiventris Schultze et Müller, 1857 (in part), in von Graff, 1899

See *Geoplana (Geoplana) marmorata* Schultze et Müller, 1857.

Geoplana ruca (Marcus, 1954)

See *Amaga ruca* (Marcus, 1954).

Geoplana ruiva E. M. Froehlich, 1972

See *Geoplana (Geoplana) ruiva* E. M. Froehlich, 1972.

Geoplana sagittata von Graff, 1899

See *Pseudogeoplana sagittata* (von Graff, 1899).

Geoplana saima du Bois-Reymond Marcus, 1951

See *Geoplana (Geoplana) saima* du Bois-Reymond Marcus, 1951.

Geoplana sandersoni Prudhoe, 1949

- See *Gigantea sandersoni* (Prudhoe, 1949).
- Geoplana schubarti* Froehlich, 1958
See *Geoplana* (*Geoplana*) *schubarti* Froehlich, 1958.
- Geoplana schultzei* Diesing, 1861
See *Notogynaphallia schultzei* (Diesing, 1861).
- Geoplana Schultzei* Diesing, 1861
See *Notogynaphallia schultzei* (Diesing, 1861).
- Geoplana semilineata* (Darwin, 1844)
See *Pseudogeoplana semilineata* (Darwin, 1844).
- Geoplana sexlineata* Riester, 1938
See *Notogynaphallia sexlineata* (Riester, 1938).
- Geoplana sexstriata* von Graff, 1899
See *Notogynaphallia sexstriata* (von Graff, 1899).
- Geoplana sextriata* von Graff, 1899, in Riester, 1938
See *Notogynaphallia sextriata* (von Graff, 1899).
- Geoplana shapra* du Bois-Reymond Marcus, 1957
See *Geoplana* (*Geoplana*) *shapra* du Bois-Reymond Marcus, 1957.
- Geoplana splendida* von Graff, 1899
See *Pasipha splendida* (von Graff, 1899).
- Geoplana splendida* von Graff, 1899, in Riester, 1938
See *Geoplana* (*Geoplana*) *riesteri* Froehlich, 1955.
- Geoplana stolli* von Graff, 1899
See *Pseudogeoplana stolli* (von Graff, 1899).
- Geoplana subterranea* Schultze et Müller, 1857
See *Geobia subterranea* (Schultze et Müller, 1857).
- Geoplana suva* Froehlich, 1959
See *Geoplana* (*Geoplana*) *suva* Froehlich, 1959.
- Geoplana taenioides* von Graff, 1899
See *Pseudogeoplana taenioides* (von Graff, 1899).
- Geoplana takia* du Bois-Reymond Marcus, 1951
See *Geoplana* (*Geoplana*) *takia* du Bois-Reymond Marcus, 1951.
- Geoplana talpa* du Bois-Reymond Marcus, 1951
See *Geoplana* (*Geoplana*) *talpa* du Bois-Reymond Marcus, 1951.
- Geoplana tamboensis* Fuhrmann, 1914
See *Geoplana* (*Geoplana*) *tamboensis* Fuhrmann, 1914.
- Geoplana tamoia* E. M. Froehlich, 1955
See *Geoplana* (*Geoplana*) *tamoia* E. M. Froehlich, 1955.
- Geoplana tapetilla* Marcus, 1951
See *Pasipha tapetilla* (Marcus, 1951).
- Geoplana tapira* Froehlich, 1958
See *Geoplana* (*Geoplana*) *tapira* Froehlich, 1958.
- Geoplana taxiarcha* Marcus, 1951
See *Geoplana* (*Geoplana*) *taxiarcha* Marcus, 1951.
- Geoplana theresopolitana* Schirch, 1929
See *Pseudogeoplana theresopolitana* (Schirch, 1929).

Geoplana tirua E. M. Froehlich, 1978

See *Geoplana (Geoplana) tirua* E. M. Froehlich, 1978.

Geoplana toriba Froehlich, 1958

See *Geoplana (Geoplana) toriba* Froehlich, 1958.

Geoplana tricolor Riester, 1938

See *Pseudogeoplana tricolor* (Riester, 1938).

Geoplana trigueira E. M. Froehlich, 1955

See *Geoplana (Geoplana) trigueira* E. M. Froehlich, 1955.

Geoplana trina Marcus, 1951

See *Pasipha trina* (Marcus, 1951).

Geoplana tristriata Schultze et Müller, 1857

See *Pseudogeoplana tristriata* (Schultze et Müller, 1857).

Geoplana tuxaua E. M. Froehlich, 1955

See *Notogynaphallia tuxaua* (E. M. Froehlich, 1955).

Geoplana ubaquensis Fuhrmann, 1914

See *Geoplana (Geoplana) ubaquensis* Fuhrmann, 1914.

Geoplana ucayalensis Hyman, 1955

See *Pseudogeoplana ucayalensis* (Hyman, 1955).

Geoplana unicolor Hyman, 1955

See *Gigantea unicolor* (Hyman, 1955).

Geoplana vaginuloides (Darwin, 1844)

See *Geoplana (Geoplana) vaginuloides* (Darwin, 1844).

Geoplana velina Froehlich, 1955

See *Pasipha velina* (Froehlich, 1955).

Geoplana velutina Riester, 1938

See *Pasipha velutina* (Riester, 1938).

Geoplana vicuna du Bois-Reymond Marcus, 1957

See *Geoplana (Geoplana) vicuna* du Bois-Reymond Marcus, 1957.

Geoplana von gunteni Fuhrmann, 1914

See *Gigantea vongunteni* (Fuhrmann, 1914).

Geoplana vongunteni Fuhrmann, 1914

See *Gigantea vongunteni* (Fuhrmann, 1914).

Geoplana wetzeli Schirch, 1929

See *Pseudogeoplana wetzeli* (Schirch, 1929).

Geoplana weyruchi du Bois-Reymond Marcus, 1951

See *Pasipha weyruchi* (du Bois-Reymond Marcus, 1951).

Geoplana yara E. M. Froehlich, 1955

See *Geoplana (Geoplana) yara* E. M. Froehlich, 1955.

Geoplana zebroides Riester, 1938

See *Geoplana (Barreirana) zebroides* Riester, 1938.

Subgenus *Barreirana* Ogren et Kawakatsu, subgen. nov.

Barreirana n. subg. Ogren & Kawakatsu: described in the present paper. See page 86.

Type species: *Geoplana barreirana* Riester, 1938.

Literature: E. M. Froehlich, 1955 a, b; C. G. Froehlich, 1967.

Geoplana (Barreirana) barreirana Riester, 1938

Geoplana polyophtalma (in part): Schirch, 1929: 30-31, 36-37; pl. I, fig. 2 (DB in color).

Therezópolis, Rio de Janeiro / Brazil. [nec *Geoplana polyophtalma* von Graff, 1899].

Geoplana barreirana n. sp. Riester, 1938: 27-39, figs. 39-40 (DH, AE, FCA), 43, 85, 88; taf. 1, figs. 10-11 (DB, DVH, CP in color). Barreira, Therezópolis, Rio de Janeiro / Brazil.

Geoplana barreirana: Marcus, 1951: 87, 126, 128.

Geoplana barreirana: E. M. Froehlich, 1955 a: 303, 329-330, 332.

Geoplana barreirana: E. M. Froehlich, 1955 b: 208.

Geoplana barreirana: C. G. Froehlich, 1956 a: 314, 320-324, 330, figs. 13-22 (DB, DH, AE, FCA), 340-342. Barreira, Rio de Janeiro / Brazil.

Geoplana barreirana: C. G. Froehlich, 1967: 159, 161.

Note: Riester (1938, p. 38) considered *Geoplana polyophtalma* von Graff, 1899, in Schirch (1929, pls. I, fig. 6 and II, fig. 2) as his new species (in part). Later, C. G. Froehlich (1956 a) considered Schirch's record is a misidentification of von Graff's original species.

Geoplana (Barreirana) cafusa Froehlich, 1956

Geoplana cafusa n. sp. C. G. Froehlich, 1956 a: 314, 335-339, figs. 48-52 (DB, DH, AE, CP, HI, FCA), 342. Ubatuba, Rio de Janeiro / Brazil.

Geoplana cafusa: C. G. Froehlich, 1956 b: 186.

Geoplana cafusa: C. G. Froehlich, 1967: 159.

Geoplana (Barreirana) cassula E. M. Froehlich, 1955

Geoplana cassula n. sp. E. M. Froehlich, 1955 a: 291, 302-303, 329-330, 332; pl. III, figs. 16-19 (DB, VH, HI, AE, FCA). Teresópolis, Rio de Janeiro / Brazil.

Geoplana cassula: E. M. Froehlich, 1955 b: 212.

Geoplana cassula: C. G. Froehlich, 1956 a: 340, 342.

Geoplana cassula: C. G. Froehlich, 1967: 157.

Geoplana (Barreirana) elegans (Darwin, 1844)

Planaria elegans n. sp. Darwin, 1844: 244-245. Rio de Janeiro / Brazil. [nec *Geoplana elegans* Schultze et Müller, 1857; *Geoplana Mülleri* Diesing, 1861; *Notogynaphallia muelleri* (Diesing, 1861)].

Polytelis elegans: Diesing, 1850: 193.

Geoplana elegans: Schultze & Müller, 1857: 29, 31.

Geoplana elegans: Schultze, 1857: 7.

Geoplana elegans: Diesing, 1861: 510.

Planaria elegans: Diesing, 1861: 511.

Geoplana elegans: Moseley, 1877 a: 288.

Geoplana elegans: von Graff, 1899: 328. Brazil.

Planaria elegans: E. M. Froehlich, 1955 a: 293.

Geoplana elegans: E. M. Froehlich, 1955 b: 203.

Geoplana elegans: C. G. Froehlich, 1959: 204, 207, 234, 239.

Geoplana elegans: C. G. Froehlich, 1967: 159.

Note: This species was not correctly identified by Schultze & Müller (1857) so that Diesing (1861) renamed Müller's material as new species *Geoplana Mülleri* also substantiated by C. G. Froehlich (1959). There has been no histological study made of Darwin's (1844) species *Planaria elegans* and the copulatory apparatus remains unknown. C. G. Froehlich (1967) suggests that the *G. barreirana* group "probably" can include *G. elegans* (Darwin, 1844). Thus, on the strength of this recommendation it may remain

there, although it also verges on being placed into *Pseudogeoplana*, our collective group for poorly known species. Müller & Schultze's (1857) and Diesing's (1861) species is placed into *Notogynaphallia* according to C. G. Froehlich's (1959) redescription.

***Geoplana (Barreirana) zebroides* Riester, 1938**

Geoplana zebroides n. sp. Riester, 1938: 42-43, fig. 43 (FCA), 88; taf. 1, fig. 12 (DB in color).

Barreira, Therezópolis, Rio de Janeiro / Brazil.

Geoplana zebroides: Marcus, 1951: 97-98, 129.

Geoplana zebroides: E. M. Froehlich, 1955 a: 303, 329-330, 332.

Geoplana zebroides: E. M. Froehlich, 1955 b: 208.

Geoplana zebroides: C. G. Froehlich, 1956 a: 314, 327-330, figs. 28-34 (DB, DH, AE, CP, HI, FCA), 340-342. Barreira, Rio de Janeiro / Brazil.

Geoplana zebroides: C. G. Froehlich, 1967: 159.

Subgenus *Geoplana* Stimpson, 1857

Type species: *Planaria vaginuloides* Darwin, 1844.

Literature: see page 86 in the present paper.

***Geoplana (Geoplana) alterfusca* Hyman, 1962**

Geoplana alterfusca n. sp. Hyman, 1962: 16, 19-21, figs. 21-22 (DB, AE, FCA). El Valle, Coclé / Panama.

Geoplana alterfusca: C. G. Froehlich, 1967: 158.

***Geoplana (Geoplana) apeva* Froehlich, 1959**

Geoplana rufiventris (in part): von Graff, 1899: 294-296; taf. I, fig. 22 (VB in color). Cf. C. G. Froehlich, 1959.

Geoplana rufiventris (in part): von Graff, 1912: taf. XXXIII, fig. 3 (VB in color). Cf. C. G. Froehlich, 1959.

Geoplana apeva n. sp. C. G. Froehlich, 1959: 202, 212-214, 217, 223, 238-239; pls. 4-5, figs. 26-36 (DVB, DH, AE, CP, HI, FCA). Blumenau and Brusque, Santa Catarina / Brazil.

Geoplana apeva: C. G. Froehlich, 1967: 157.

Note: C. G. Froehlich (1959, p. 238) wrote: "There is a possibility that *G. apeva*, n. sp., is a synonym of *G. maximiliani* Fr. Müll. The reasons we considered them distinct are given in the remarks on *G. apeva*."

He (*op. cit.*, p. 214) also wrote: "The colour pattern of the ventral surface of the specimen of *Geoplana apeva* from Brusque is identical to one of Graff's figures of *G. rufiventris* (Graff, 1899, pl. 1 fig. 22; also, 1913, pl. 33 fig. 3)."

***Geoplana (Geoplana) appplanata* von Graff, 1899**

Geoplana appplanata n. sp. von Graff, 1899: 307-308; taf. I, fig. 20 (DB in color). São Pedro, Rio Pomba, Rio de Janeiro / Brazil.

Geoplana rufiventris: Schirch, 1929: 30-31, 33-36; pl. I, figs. 1-3 (DB, CP in color). Misidentification.

Geoplana rufiventris in Schirch (1929): Marcus, 1951: 84, 125. Syn. *Geoplana notocelis* Breslau, 1930.

Geoplana appplanata: C. G. Froehlich, 1955 b: 192-193, 200. Rio Pomba and Teresópolis, Rio de Janeiro / Brazil.

Geoplana rufiventris in Schirch (1929): C. G. Froehlich, 1955 b: 192-193, 200. Syn. *Geoplana notophthalma* Rieseter, 1938.

- Geoplana appplanata* : C. G. Froehlich, 1955 c : 270.
Geoplana appplanata : E. M. Froehlich, 1955 b : 213.
Geoplana rufiventris in Schirch (1929) : C. G. Froehlich, 1959 : 214.
Geoplana appplanata : C. G. Froehlich, 1959 : 223, 236.
Geoplana appplanata : C. G. Froehlich, 1956 a : 313-317, figs. 1-2 (FCA), 341. Teresópolis and Barreira, Rio de Janeiro / Brazil.
Geoplana appplanata : C. G. Froehlich, 1967 : 157-158.
Geoplana appplanata : E. M. Froehlich & C. G. Froehlich, 1972 : 37, 44.
Geoplana appplanata : E. M. Froehlich, 1978 : 40.

Note: For synonyms of this species, see *Geoplana (Geoplana) notocelis* Bresslau, 1930, and *Geoplana (Geoplana) notophthalma* Riester, 1938.

Geoplana (Geoplana) argus von Graff, 1899

- Geoplana argus* n. sp. von Graff, 1899 : 186, fig. 34 (FCA), 296-297 ; taf. IV, fig. 35 (DB in color), XXIII, figs. 5-10 (HI in color). Novo Friburgo, Rio de Janeiro / Brazil.
Geoplana argus : Busson, 1903 : 426.
Geoplana argus : von Graff, 1912 : taf. XXXII, fig. 40 (DB), XXXVII, fig. 6 (HI), XLIV, fig. 14 (HI), XLVII, fig. 6 (FGO), XLVII, fig. 15 (FGO).
Geoplana argus : von Graff, 1913 : 2788-2789, figs. 33-34 (HI), 2815, fig. 52 (HI), 1816.
Geoplana argus : von Graff, 1914 : 2907, 2920, 2917, 2933.
Geoplana argus : von Graff, 1915 : 2991, 3028.
Geoplana argus (in part) : Schirch, 1929 : 30, 34, 36. See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.
Geoplana argus : Bresslau, 1930 : 57, fig. 26-2 (DB).
Geoplana argus (in part) : Riester, 1938 : 48-50. See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857. See also *Geoplana (Geoplana) eudoxiae* Ogren et Kawakatsu, nom. nov.
Geoplana argus : Marcus, 1951 : 95, 97, 129.
Geoplana argus : E. M. Froehlich, 1955 a : 328, 331.
Geoplana argus : E. M. Froehlich, 1955 b : 203, 205, 213. [nec *Geoplana argus* von Graff, 1899, in Schirch (1929); *Geoplana argus* von Graff, 1899, in Riester (1938)].
Geoplana argus : C. G. Froehlich, 1967 : 157.

Note: E. M. Froehlich (1955 b, pp. 202-203) wrote: "G. argus (Schirch 1929, Riester 1938, non Graff 1899), que tem indicação de estria clara apenas na metade anterior, foi colocada somente no item 90."...."Aparecem em itens distintos, por diferenças de colorido indicadas na própria chave, G. argus Graff 1899 e G. argus Schirch 1929 e Riester 1938, sendo possível que a espécie de Schirch a Riester não seja a de Graff." See *Geoplana (Geoplana) burmeisteri* Schultze, 1857; *Geoplana (Geoplana) eudoxiae* Ogren et Kawakatsu, nom. nov.

Geoplana (Geoplana) arpi Schirch, 1929

- Geoplana arpi* n. sp. Schirch, 1929 : 31, 33, 36 ; pl. II, fig. 12 (DB in color). Maylasky, Rio de Janeiro / Brazil.
Geoplana arpi : Marcus, 1951 : 82, 125.
Geoplana arpi : E. M. Froehlich, 1955 a : 328, 331.
Geoplana arpi : E. M. Froehlich, 1955 b : 206.

Geoplana (Geoplana) assu Froehlich, 1959

- Geoplana assu* n. sp. C. G. Froehlich, 1959 : 202, 214-217, 223, 239 ; pls. 5-7, figs. 37-44, 49 (DB, DH, AE, CP, HI, FCA). Blumenau and Rio do Testo, Santa Catarina / Brazil.

Geoplana assu : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) aymara* du Bois-Reymond Marcus, 1951**

Geoplana aymara n. sp. du Bois-Reymond Marcus, 1951 : 228, 246-249, pls. IV-V, figs. 36-39 (DB, HI, FCA), 254-255, pl. VIII, fig. 77 (DB in color). Tarmatambo (alt. 3400 m), near Tarma / Peru.

Geoplana aymara : du Bois-Reymond Marcus, 1957 : 163, 168, 176. The River Tarma (alt. 2600 m), Campanillaya, near Palca / Peru.

Geoplana aymara : C. G. Froehlich, 1958 : 102.

Geoplana aymara : du Bois-Reymond Marcus, 1958 : 400.

Geoplana aymara : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) beckeri* Froehlich, 1959**

Geoplana beckeri n. sp. C. G. Froehlich, 1959 : 202, 230-233, 239 ; pl. 11, figs. 78-81 (DB, DH, AE, HI, FCA). Chapada, near Salvador, Bahia / Brazil.

Geoplana beckeri : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) bimbergi* Fuhrmann, 1914**

Geoplana bimbergi n. sp. Fuhrmann, 1914 : 767-770, figs. 18-21 (DH, HI, FCA), 792 ; pl. XVI, figs. 17-19 (DB). Cafetal La Camelia / Colombia.

Geoplana bimbergi : Hyman, 1962 : 2.

Geoplana bimbergi : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) blaseri* Schirch, 1929**

Geoplana blaseri n. sp. Schirch, 1929 : 31, 33, 36 ; pl. III, fig. 15 (DB in color). E. Espírito Santo, Minas Gerais / Brazil.

Geoplana blaseri : Marcus, 1951 : 72, 122.

Geoplana blaseri : E. M. Froehlich, 1955 a : 328, 331.

Geoplana blaseri : E. M. Froehlich, 1955 b : 212.

***Geoplana (Geoplana) brauni* von Graff, 1899**

Geoplana brauni n. sp. von Graff, 1899 : 309 ; taf. I, figs. 15-17 (DB, CP in color). Santos (Alto de Serro), São Paulo / Brazil.

Geoplana brauni : Marcus, 1951 : 6, 60-61, 82, 118-119, 124, 176-177, pl. XXI, fig. 123 (DB, AE), 182-183, pl. XXIV, figs. 160-162 (CP, HI, FCA), 212-213, pl. XXXIX, fig. 289 (DB in color). Mogi das Cruzes, São Paulo / Brazil.

Geoplana brauni : E. M. Froehlich, 1955 a : 328, 331.

Geoplana brauni : E. M. Froehlich, 1955 b : 212.

Geoplana brauni : C. G. Froehlich, 1958 : 93, 95. Ibiti, Amparo Municipality, São Paulo / Brazil.

Geoplana brauni : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) bresslaui* Schirch, 1929**

Geoplana bresslaui n. sp. Schirch, 1929 : 31-32, 36 ; pl. II, fig. 1 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana bresslaui : Marcus, 1951 : 97, 129.

Geoplana bresslaui : E. M. Froehlich, 1955 b : 203, 205, 213. [nec *Geoplana bresslaui* Schirch, 1929, in Riester (1938)].

Note : E. M. Froehlich (1955 b) and C. G. Froehlich (1967) considered this species is different from *Geoplana bresslaui* Schirch, 1929, in Riester (1938). See *Geoplana (Geoplana) eudoximariae* Ogren et Kawakatsu, nom. nov.

Geoplana (Geoplana) burmeisteri Schultze et Müller, 1857

- Geoplana Burmeisteri* n. sp. Schultze & Müller, 1857: 33-38. Rio de Janeiro / Brazil.
- Geoplana Burmeisteri*: Schultze, 1857: 9-13. Redescription in English.
- Geoplana Burmeisteri*: Diesing, 1861: 512.
- Geoplana Burmeisteri*: Minot, 1877: 407, 409-410.
- Geoplana Burmeisteri*: Moseley, 1877 a: 288.
- Geoplana burmeisteri* (in part): von Graff, 1894: 3.
- Geoplana burmeisteri* (in part): von Graff, 1899: 166. Rio de Janeiro / Brazil.
- Geoplana burmeisteri* (in part): von Graff, 1913: 2765.
- Geoplana burmeisteri* (in part): von Graff, 1914: 2907.
- Geoplana burmeisteri* (in part): von Graff, 1915: 3018.
- Geoplana polyophtalma* (in part): Schirch, 1929: 30-31, 36-37, fig. 1 (DB); pls. I, figs. 4-5, 7-8 (DVB), II, fig. 2 (DB in color). Therezópolis, Rio de Janeiro / Brazil. Spelling error.
- Geoplana arugus* (in part): Schirch, 1929: 36; pl. II, fig. 4 (DH, CP in color). Therzópolis, Rio de Janeiro / Brazil.
- Geoplana chilensis* (in part): Schirch, 1929: 36; pl. II, fig. 7 (DB in color). Therezópolis, Rio de Janeiro / Brazil.
- Geoplana marginata* (in part): Schirch, 1929: 36; pl. II, fig. 8 (DB in color). Therezópolis, Rio de Janeiro / Brazil.
- Geoplana burmeisteri* (in part): Riester, 1938: 7.
- Geoplana leucophryna*: Marcus, 1951. See *Geoplana (Geoplana) leucophryna* Marcus, 1951.
- Geoplana burmeisteri* (in part): Marcus, 1951: 90-91, 93, 100, 103, 127, 130.
- Geoplana burmeisteri*: C. G. Froehlich, 1955 b: 190-192, 200. Rio de Janeiro / Brazil. Syn. *Geoplana polyophtalma* Schirch, 1929 (in part); *Geoplana leucophryna* Marcus, 1951.
- Geoplana burmeisteri*: C. G. Froehlich, 1955 c: 263, 265, 267, 270.
- Geoplana burmeisteri*: E. M. Froehlich, 1955 b: 206, 208-210. [nec *Geoplana burmeisteri* Schultze, 1857, in von Graff (1899)].
- Geoplana burmeisteri*: C. G. Froehlich, 1956 a: 314-315. Barra da Tijuca (alt. 800 m) and Ubatuba, Rio de Janeiro / Brazil.
- Geoplana polyophtalma* in Schirch (1929): C. G. Froehlich, 1956 a: 320.
- Geoplana burmeisteri*: C. G. Froehlich, 1956 b: 174, 176, 181, 187. Matinhos, Paraná; Blumenau, Itajaí and Brusque, Santa Catharina / Brazil.
- Geoplana burmeisteri*: C. G. Froehlich, 1959: 217, 223, 237.
- Geoplana burmeisteri*: C. G. Froehlich, 1967: 157.
- Note: C. G. Froehlich (1955 b, 200) wrote: "Max Schultze's (1857) description of *G. burmeisteri* [applies] perfectly to older specimens of *G. leucophryna* Marcus, 1951, which species is considered as a synonym of *G. burmeisteri* M. Schultze. *G. burmeisteri* Graff 1899 comprises a heterogeneous assortment of worms from various localities, but does not seem to include Schultze's species." For Portuguese description, see pages 190-192.
- [nec *Geoplana burmeisteri* Schultze, 1857, in von Graff (1899)]. See *Pseudogeoplana* sp. (species of von Graff's *G. burmeisteri*; in part). See also *Geoplana (Geoplana) marginata* Schultze et Müller, 1857; *Geoplana (Geoplana) argus* von Graff, 1899; *Pasipha chilensis* (von Graff, 1899).

Geoplana (Geoplana) caapora Froehlich, 1958

Geoplana caapora n. sp. C. G. Froehlich, 1958: 93, 96-98, 110-111; pl. 1, figs. 3-8 (DB, DH, AE, CP, HI, FCA). Apiat, São Paulo / Brazil.

Geoplana caapora : C. G. Froehlich, 1967 : 159.

Geoplana caapora : E. M. Froehlich & C. G. Froehlich, 1972 : 39.

Geoplana (Geoplana) caleta E. M. Froehlich, 1978

Geoplana caleta n. sp. E. M. Froehlich, 1978 : 38-40, 64-69, figs. 59, 63-67 (DB, CP, AE, FCA).

The River Huasco, Vallenar, Provincia Atacama / Chile.

Geoplana (Geoplana) cantuta du Bois-Reymond Marcus, 1951

Geoplana cantuta n. sp. du Bois-Reymond Marcus, 1951 : 219-220, 238, 242-243, pl. II, figs. 10-12 (DB, HI, FCA), 254-255, pl. VIII, fig. 70 (DH in color). Cordillera Azul, Fundo Sinchono (alt. 1600 m) / Peru.

Geoplana catuta : C. G. Froehlich, 1967 : 157.

Geoplana (Geoplana) carinata Riester, 1938

Geoplana carinata n. sp. Riester, 1938 : 61-64, figs. 69-71 (VH, AE, CP, FCA), 86, 88 ; taf. 1, fig. 18 (DB, CP in color). Ribeirão Pires, Serra de Mar, São Paulo / Brazil.

Geoplana carinata : de Beauchamp, 1939 b : 75.

Geoplana carinata : Marcus, 1951 : 6, 59, 61-62, 70-72, 81-82, 84, 121-122, 124, 176-177, pl. XXI, fig. 129 (DB), 188-189, pl. XXVII, figs. 183-188 (DH, AE, HI, FCA). Horto Florestal and Mogi das Cruzes, São Paulo ; Vila Atlântica, Santos, Serra do Mar, São Paulo / Brazil.

Geoplana carinata : C. G. Froehlich, 1955 c : 264, 267, 269-270.

Geoplana carinata : E. M. Froehlich, 1955 a : 328, 331.

Geoplana carinata : E. M. Froehlich, 1955 b : 213.

Geoplana carinata : C. G. Froehlich, 1956 b : 176. Curitiba and Morretes, Paraná / Brazil.

Geoplana carinata : C. G. Froehlich, 1958 : 93, 95-96. Piraçununga, Monte Serrote, near Juquiá and Jtapecerica, São Paulo / Brazil.

Geoplana carinata : C. G. Froehlich, 1959 : 216-217.

Geoplana carinata : C. G. Froehlich, 1967 : 157.

Geoplana carinata : E. M. Froehlich, 1978 : 31.

Geoplana (Geoplana) carrierei von Graff, 1897

Geoplana carrierei n. sp. von Graff, 1897 b : 2. Chaco Boliviano and San Lorenzo in Jujuy / Argentina.

Geoplana carrierei : von Graff, 1899 : 315 ; taf. XVIII, figs. 1-2 (DB, VH in color). Argentina.

Geoplana carrierei : Marcus, 1951 : 6, 56, 62-64, 68-69, 75, 83, 86, 117, 119, 121, 126, 176, 177, pl. XXI, fig. 124 (DB), 184-185, pl. XXV, figs. 163-169 (DB, DVH, AE, HI, FGO, FCA). Alto da Serra and Parque Paulista, São Paulo / Brazil.

Geoplana carrierei : E. M. Froehlich, 1955 a : 294, 329.

Geoplana carrierei : E. M. Froehlich, 1955 b : 211.

Geoplana carrierei : du Bois-Reymond Marcus, 1957 : 163.

Geoplana carrierei : C. G. Froehlich, 1959 : 202, 208-209. São Leopoldo, Rio Grande do Sul / Brazil.

Geoplana carrierei : C. G. Froehlich, 1967 : 157.

Geoplana (Geoplana) catharina Hyman, 1957

Geoplana plana : Hyman, 1941 : 6.

Geoplana plana : de Beauchamp, 1947 : 5.

Geoplana plana in Hyman (1941) and de Beauchamp (1947) : du Bois-Reymond Marcus, 1951 : 225.

Geoplana plana : Hyman, 1955 : 15, 17-19, figs. 23-25 (VB, DH, FCA). Breno Behr, São Bento,

Santa Catharina / Brazil.

Geoplana catharina nom. nov. Hyman, 1957 : 7.

Geoplana catharina : C. G. Froehlich, 1959 : 214, 217.

Geoplana catharina : C. G. Froehlich, 1967 : 157.

Note: [nec *Geoplana plana* Schirch, 1929]. See *Pasipha plana* (Schirch, 1929).

***Geoplana (Geoplana) caucaensis* Fuhrmann, 1914**

Geoplana caucaensis n. sp. Fuhrmann, 1914 : 763-765, figs. 13-14 (DB, FCA), 792 ; pls. XV, fig. 15 (DB), XVII, fig. 4 (HI). Cauca, Passo de Concordia (alt. 760 m) / Colombia.

Geoplana caucaensis : Hyman, 1962 : 2.

Geoplana caucaensis : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) caya* du Bois-Reymond Marcus, 1951**

Geoplana caya n. sp. du Bois-Reymond Marcus, 1951 : 229-230, 248-249, pl. V, figs. 40-44 (DVB, CP, HI, FCA). Sahuayaco (alt. 800 m), Urubamba Valley / Peru.

***Geoplana (Geoplana) chalona* du Bois-Reymond Marcus, 1951**

Geoplana chalona n. sp. du Bois-Reymond Marcus, 1951 : 218-219, 240-241, pl. I, figs. 7-9 (VB, HI, FCA). Contumazá (alt. 2850 m), SW of Cajamarca / Peru.

Geoplana chalona : du Bois-Reymond Marcus, 1957 : 165.

Geoplana chalona : du Bois-Reymond Marcus, 1958 : 397, 400.

Geoplana chalona : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) chanca* E. M. Froehlich, 1978**

Geoplana chanca n. sp. E. M. Froehlich, 1978 : 34-36, 38, 40, 62-65, figs. 52-56 (DB, CP, HI, FCA). Nahuelbuta, Provincia Malleco / Chile.

***Geoplana (Geoplana) chilihua* du Bois-Reymond Marcus, 1958**

Geoplana chilihua n. sp. du Bois-Reymond Marcus, 1958 : 399-400, 405, 412-415, pls. 3-4, figs. 22-25 (DVB, HI, FCA). The Chanchamayo River (alt. 3500 m), Hacienda Maraynioc, E of Tarma, the Andes / Peru.

***Geoplana (Geoplana) chita* Froehlich, 1956**

Geoplana chita n. sp. C. G. Froehlich, 1956 b : 177-178, 181, 188, 191 ; pls. V-VI, figs. 11-16 (DB, DH, AE, CP, HI, FCA). Curitiba, Paraná ; Eldorado, Xiririca, São Paulo / Brazil.

Geoplana chita : C. G. Froehlich, 1958 : 93, 96.

***Geoplana (Geoplana) chiuna* E. M. Froehlich, 1955**

Geoplana chiuna n. sp. E. M. Froehlich, 1955 a : 291, 305-307, 329-330 ; pl. V, figs. 26-30 (DB, DH, AE, HI, FCA). Piraçununga, Emas, Fazenda Baguaú, São Paulo / Brazil.

Geoplana chiuna : E. M. Froehlich, 1955 b : 211.

Geoplana chiuna : C. G. Froehlich, 1955 c : 267.

Geoplana chiuna : C. G. Froehlich, 1967 : 159.

***Geoplana (Geoplana) chulpa* du Bois-Reymond Marcus, 1951**

Geoplana chulpa n. sp. du Bois-Reymond Marcus, 1951 : 227, 246-247, pl. IV, figs. 33-35 (VB, HI, FCA). Ollantaytambo, Urubamba / Peru.

Geoplana chulpa : du Bois-Reymond Marcus, 1958 : 401.

Geoplana chulpa : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) crawfordi* de Beauchamp, 1939**

Geoplana crawfordi n. sp. de Beauchamp, 1939 b : 75-77, fig. 6 (DH, AE, FCA). Capachica / Peru.

Geoplana crawfordi : du Bois-Reymond Marcus, 1951 : 225, 227, 231, 238.

Geoplana crawfordi : Prudhoe, 1949 a : 423.

Geoplana crawfordi : Marcus, 1951 : 69, 83, 121, 125.

Geoplana crawfordi : C. G. Froehlich, 1967 : 159.

***Geoplana (Geoplana) crioula* E. M. Froehlich, 1955**

Geoplana crioula n. sp. E. M. Froehlich, 1955 a : 291, 307-309, 327-329, 331-332 ; pls. V-VI, figs. 31-34 (DB, CP, HI, FCA). Horto Florestal da Cantareira, São Paulo / Brazil.

Geoplana crioula : E. M. Froehlich, 1955 b : 207.

Geoplana crioula : C. G. Froehlich, 1956 b : 186.

Geoplana crioula : C. G. Froehlich, 1967 : 159.

Geoplana crioula : E. M. Froehlich, 1978 : 31.

***Geoplana (Geoplana) dictyonota* Riester, 1938**

Geoplana dictyonota n. sp. Riester, 1938 : 50-52, figs. 56-58 (DH, AE, CP, FCA), 85 ; taf. 2, fig. 55 (DB in color). Araras, Minas Geraes / Brazil.

Geoplana dictyonota : Marcus, 1951 : 95, 97, 129.

Geoplana dictyonota : E. M. Froehlich, 1955 a : 328, 332.

Geoplana dictyonota : E. M. Froehlich, 1955 b : 202, 205, 207, 213.

Geoplana dictyonota : C. G. Froehlich, 1956 b : 176, 188.

Geoplana dictyonota : C. G. Froehlich, 1959 : 223.

Geoplana dictyonota : C. G. Froehlich, 1967 : 157.

***Geoplana (Geoplana) divae* Marcus, 1951**

Geoplana divae n. sp. Marcus, 1951 : 6, 59, 80-82, 102, 124-125, 178-179, pl. XXII, fig. 134 (VB), 194-195, pl. XXX, figs. 205-209 (DB, AE, HI, FCA), 212-213, pl. XXXIX, figs. 295-296 (CP in color). Alto da Serra, São Paulo ; Vila Atlântica, Santos, Serra do Mar, São Paulo / Brazil.

Geoplana divae : C. G. Froehlich, 1955 a : 195, 214-215, 241 ; pl. III, figs. 20-21 (FGO).

Geoplana divae : E. M. Froehlich, 1955 a : 328, 331.

Geoplana divae : E. M. Froehlich, 1955 b : 213.

Geoplana divae : C. G. Froehlich, 1956 a : 316.

Geoplana divae : C. G. Froehlich, 1959 : 216-217.

Geoplana divae : C. G. Froehlich, 1967 : 157-158.

Geoplana divae : E. M. Froehlich, 1978 : 9.

***Geoplana (Geoplana) duca* Marcus, 1951**

Geoplana duca n. sp. Marcus, 1951 : 6, 62, 69, 72, 82-84, 121-122, 125, 178-179, pl. XXII, fig. 135 (VB), 194-197, pls. XXX-XXXI, figs. 210-215 (DH, AE, HI, FCA). Horto Florestal and Mogi das Cruzes, São Paulo / Brazil.

Geoplana duca : C. G. Froehlich, 1955 b : 198, 200. Syn. of *Geoplana itatiayana* Schirch, 1929.

Geoplana duca : E. M. Froehlich, 1955 a : 328, 331.

Geoplana duca : E. M. Froehlich, 1955 b : 213.

Note : C. G. Froehlich (1955 b) and E. M. Froehlich (1955 a, b) considered this species is a synonym of *Geoplana itatiayana* Schirch, 1929. See *Geoplana (Geoplana) itatiayana* Schirch, 1929.

***Geoplana (Geoplana) eodoxiae* Ogren et Kawakatsu, nom. nov.**

Geoplana argus in Riester (1938 ; in part) : 48-50, figs. 51-54 (DVB, DH, AE, FCA), 51-52, 57, 64, 78, 86. Fazenda St. Rita, Rio de Janeiro / Brazil.

Note : [nec *Geoplana argus* von Graff, 1899 ; nec *Geoplana argus* von Graff, 1899, in Schirch (1929)]. See *Geoplana (Geoplana) argus* von Graff, 1899 ; *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857.

Geoplana (Geoplana) eudoximariae Ogren et Kawakatsu, nom. nov.

Geoplana bresslaui: Riester, 1938 : 56-59, figs. 64-65 (DH, AE, FCA), 85-88 ; taf. 1, fig. 16 (DH, CP in color), 2, fig. 62-63 (DB in color). Barreira, Rio de Janeiro / Brazil.

Geoplana bresslaui: E. M. Froehlich, 1955 b : 203, 205, 213.

Geoplana bresslaui: C. G. Froehlich, 1967 : 157.

Note: [nec *Geoplana bresslaui* Schirch, 1929]. See *Geoplana (Geoplana) bresslaui* Schirch, 1929.

Geoplana (Geoplana) evelinae Marcus, 1951

Geoplana evelinae n. sp. Marcus, 1951 : 6, 56, 85-87, 117, 125-126, 178-179, pl. XXII, fig. 136 (DB), 196-197, pl. XXXI, figs. 216-225 (DB, DH, AE, HI, FCA), 214-215, 298-305, pl. XL (DB, AE, CP in color). Vila Atlântica, Santos, Serra do Mar, São Paulo ; Alto da Serra, São Paulo / Brazil.

Geoplana evelinae: E. M. Froehlich, 1955 a : 328, 332.

Geoplana evelinae: E. M. Froehlich, 1955 b : 208.

Geoplana evelinae: C. G. Froehlich, 1956 a : 326.

Geoplana evelinae: C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) ferussaci von Graff, 1899

Geoplana ferussaci n. sp. von Graff, 1899 : 314-315 ; taf. II, figs. 10-11 (DVB in color). Fazenda São Pedro, near Rio Pombe, Rio de Janeiro ; Blumenau, Santa Catharina ; Rio Grande do Sul / Brazil.

Geoplana ferrusaci: Schirch, 1929 : 35-36, 38, figs. 13-15 (DB, DH, AE) ; pls. II, fig. 5 (DB in color), III, figs. 11-12 (DB in color) / Brazil. Spelling error.

Geoplana ferussaci: Riester, 1938 : 59-61, figs. 66-68 (DB, DH, AE, FCA), 63, 85-86, 88 ; taf. 1, fig. 17 (DB, CP in color). Araras and Therezópolis, Rio de Janeiro ; Corduras, Sierra do Curral, Minas Gerais / Brazil. Syn. *Geoplana bogotensis* von Graff, 1899.

Geoplana ferussaci: du Bois-Reymond Marcus, 1951 : 232.

Geoplana ferussaci: Marcus, 1951 : 6, 64-65, 100, 120, 130, 176-177, pls. XXI, fig. 125 (DV), 186-187, XXVI, figs. 170-171 (DB, AE, FCA). Freguezia do O', São Paulo / Brazil. [nec *Geoplana bogotensis* von Graff, 1899, in Riester (1938)].

Geoplana brasiliensis in von Graff (1899 ; in part): Marcus, 1955 : 64-65.

Geoplana ferussaci: Hyman, 1955 : 22. [nec *Geoplana bogotensis* von Graff, 1899, in Riester (1938)].

Geoplana ferussaci: E. M. Froehlich, 1955 a : 321, 328, 332.

Geoplana ferussaci: E. M. Froehlich, 1955 b : 212.

Geoplana ferussaci: C. G. Froehlich, 1967 : 158.

Note: Concerning *Geoplana bogotensis* von Graff, 1899, found in a synonymy list of this species in Riester (1938, pp. 59 and 61), Hyman (1955, p. 22) wrote: "Riester (1938) declared *G. bogotensis* to be a synonym of *G. ferussaci* Graff, 1899. This decision was based on comparison of specimens ascribed to *ferussaci* with a specimen found in the Hamburg Museum labeled *G. bogotensis*. But the latter is clearly misidentified and actually is a specimen of *ferussaci*."

Geoplana (Geoplana) fragai Froehlich, 1955

Geoplana fragai n. sp. C. G. Froehlich, 1955 b : 197-199, figs. 4-5 (DB, CP), 200. Alto de Teresópolis, Rio de Janeiro / Brazil.

Geoplana fragai: E. M. Froehlich, 1955 b : 207.

Geoplana fragai: C. G. Froehlich, 1956 a : 314, 329, 331-332, figs. 35-38 (DB, DH, AE, HI, FCA), 341. Teresópolis, Rio de Janeiro / Brazil.

Geoplana fragai : C. G. Froehlich, 1958 : 98.

Geoplana fragai : C. G. Froehlich, 1967 : 159.

Geoplana (Geoplana) fryi von Graff, 1899

Geoplana fryi n. sp. von Graff, 1899 : 325 ; taf. V, fig. 2 (DB in color). Rio de Janeiro / Brazil.

Geoplana freyi : Schirch, 1929 : 30. Spelling error.

Geoplana fryi : Schirch, 1929 : 36 ; pls. II, fig. 11 (DB in color), IV, fig. 1 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana fryi : Riester, 1938 : 24, 30, 68-72, figs. 79-83 (DB, DH, FCA), 85-86, 88 ; taf. 1, fig. 20 (DB in color). Natur-Museum Senckenberg, Vermes Nr. 1247-1321.

Geoplana fryi : E. M. Froehlich, 1955 a : 328, 331.

Geoplana fryi : E. M. Froehlich, 1955 b : 205.

Geoplana fryi : C. G. Froehlich, 1967 : 157.

Geoplana (Geoplana) fuhrmanni Hyman, 1962

Geoplana cameliae : Hyman, 1941 : 4-7, fig. 7-9 (DVB, AE, CP). Barro Colorado Island, Canal Zone / Panama.

Geoplana cameliae : Hyman, 1957 : 3, 5-6, figs. 5-6 (DB, AE, FCA). Simla, Trinidad / Trinidad Tobago.

Geoplana fuhrmanni n. sp. Hyman, 1962 : 12, 15-18, figs. 17-18 (DB, FCA). Barrow Colorado Island, Canal Zone, and El Volcan, Chiriquí / Panama.

Geoplana fuhrmanni : C. G. Froehlich, 1967.

Note : [nec *Geoplana cameliae* Fuhrmann, 1914]. See *Gigantea cameliae* (Fuhrmann, 1914).

Geoplana (Geoplana) fusca Hyman, 1962

Geoplana fusca n. sp. Hyman, 1962 : 12, 14-15, figs. 15-16 (DB, AE, FCA). Cerro Punta (alt. 1678 m), Chiriquí / Panama.

Geoplana fusca : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) gabriellae du Bois-Reymond Marcus, 1951

Geoplana gabriellae n. sp. du Bois-Reymond Marcus, 1951 : 220-221, 242-243, pl. II, figs. 13-17 (DB, DH, AE, HI, FCA), 254-255, pl. VIII, figs. 71-73 (DB in color). Cordillera Cumulca (alt. 3600 m), between Cajamarca and Celendin / Peru.

Geoplana gabriellae : C. G. Froehlich, 1958 : 103.

Geoplana gabriellae : C. G. Froehlich, 1967 : 157.

Geoplana (Geoplana) gaucha Froehlich, 1959

Geoplana gaucha n. sp. Froehlich, 1959 : 202, 219-221, 230, 238 ; pl. 8, figs. 53-57 (DB, DH, AE, CP, HI, FCA). São Salvador, Montenegro Municipality, and Pôrto Alegre, Rio Grande do Sul / Brazil.

Geoplana gaucha : C. G. Froehlich, 1967 : 159.

Geoplana (Geoplana) grieschi Froehlich, 1959

Geoplana grieschi n. sp. Froehlich, 1959 : 202, 222-223, 228, 239 ; pls. 8-9, figs. 58-61 (VB, CP, HI, FCA). Iraí, Rio Grande do Sul / Brazil.

Geoplana grieschi : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) goettei Schirch, 1929

Geoplana goettei n. sp. Schirch, 1929 : 31, 35-37, fig. 2 (DB) ; pl. III, fig. 1 (CP in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana goettei : E. M. Froehlich, 1955 a : 291, 298-299, 319, 329-331 ; pl. II, figs. 9-11 (DB, DH, AE, HI, FCA). Teresópolis, Alto, Rio de Janeiro / Brazil.

Geoplana goettei : E. M. Froehlich, 1955 b : 206.

Geoplana goettei : C. G. Froehlich, 1956 a : 320, 334, 341.

Geoplana goettei : C. G. Froehlich, 1959 : 230.

Geoplana goettei : C. G. Froehlich, 1967 : 159.

Geoplana goettei : E. M. Froehlich, 1978 : 31.

***Geoplana (Geoplana) guacensis* Fuhrmann, 1914**

Geoplana guacensis n. sp. Fuhrmann, 1914 : 749, 781-783, fig. 28 (FCA), 792 ; pl. XVI, figs. 21-22 (DB). Salinas de Guaca (alt. 1458 m) / Colombia.

Geoplana guacensis : C. G. Froehlich, 1955 a : 200, 209.

Geoplana guacensis : Hyman, 1962 : 2.

Geoplana guacensis : E. M. Froehlich, 1978 : 15.

***Geoplana (Geoplana) hina* Marcus, 1951**

Geoplana hina n. sp. Marcus, 1951 : 6, 87-88, 126-127, 178-179, pl. XXII, fig. 137 (DB), 198-199, pl. XXXII, figs. 226-230 (DH, AE, HI, FCA), 314-315, pl. XL, fig. 306 (CP in color). Alto da Serra, São Paulo / Brazil.

Geoplana hina : E. M. Froehlich, 1955 a : 307, 328, 332.

Geoplana hina : E. M. Froehlich, 1955 b : 209.

Geoplana hina : C. G. Froehlich, 1956 b : 181.

Geoplana hina : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) incognita* Riester, 1938**

Geoplana incognita n. sp. Riester, 1938 : 40-42, figs. 41-42 (DH, AE, FCA), 87. Therezópolis, Rio de Janeiro / Brazil.

Geoplana incognita : E. M. Froehlich, 1955 a : 329.

Geoplana incognita : E. M. Froehlich, 1955 b : 203.

Geoplana incognita : C. G. Froehlich, 1956 a : 332, 341.

Geoplana incognita : C. G. Froehlich, 1959 : 230.

Geoplana incognita : C. G. Froehlich, 1967 : 159.

***Geoplana (Geoplana) irua* du Bois-Reymond Marcus, 1958**

Geoplana irua n. sp. du Bois-Reymond Marcus, 1958 : 398-399, 401, 405, 410-413, pls. 2-3, figs. 16-20 (VB, CP, HI, FGO, FCA). Eastern slope of the Andes, E of Tarma, Hacienda Naranjal, Valley of the Chanchamayo River (alt. 950 m) / Peru.

***Geoplana (Geoplana) itatiayana* Schirch, 1929**

Geoplana itatiayana n. sp. Schirch, 1929 : 31, 34, 36 ; pls. II, fig. 14 (DB in color), IV, fig. 3 (DB in color). Itatiaya, Roraima, Rio de Janeiro / Brazil.

Geoplana itatiayana : Riester, 1938 : 64-66, figs. 72-74 (DH, AE, CP, FCA), 86. Itatiaya, Rio de Janeiro ; São Paulo ; Minas Geraes / Brazil.

Geoplana itatiayana : Marcus, 1951 : 95, 97, 129.

Geoplana itatiayana : C. G. Froehlich, 1955 b : 197-198. Syn. *Geoplana duca* Marcus, 1951.

Geoplana itatiayana : C. G. Froehlich, 1955 c : 264, 269.

Geoplana itatiayana : E. M. Froehlich, 1955 a : 328, 331.

Geoplana itatiayana : E. M. Froehlich, 1955 b : 213.

Geoplana itatiayana : C. G. Froehlich, 1959 : 223.

Geoplana itatiayana : C. G. Froehlich, 1967 : 158.

Geoplana ita : E. M. Froehlich, 1978 : 31. Spelling error.

Note : C. G. Froehlich (1955 b, 1959, 1967) and E. M. Froehlich (1955 a, b, 1978) considered *Geoplana duca* Marcus,

1951, is a synonym of this species. See *Geoplana (Geoplana) duca* Marcus, 1951.

***Geoplana (Geoplana) jandira* Froehlich, 1955**

Geoplana jandira n. sp. C. G. Froehlich, 1955 b : 197, 199, fig. 6 (DB), 200. Varzea de Tere-sópolis, Rio de Janeiro / Brazil.

Geoplana jandira : E. M. Froehlich, 1955 b : 209.

Geoplana jandira : C. G. Froehlich, 1956 a : 314, 329, 333-335, figs. 39-43 (DB, AE, HI, FGO, FCA), 341. Teresópolis, Rio de Janeiro / Brazil.

Geoplana jandira : E. M. Froehlich, 1978 : 31.

***Geoplana (Geoplana) joia* Froehlich, 1956**

Geoplana joia n. sp. C. G. Froehlich, 1956 b : 179-181, 188, 191 ; pl. VI, figs. 17-21 (DB, DH, AE, CP, HI, FCA). Serra do Mar, Curitiba and Paranaguá, Paraná / Brazil.

Geoplana joia : C. G. Froehlich, 1958 : 102.

Geoplana joia : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) ladislavii* von Graff, 1899**

Grünen *Geoplana* aus Rio Grande do Sul : Ijima, 1884 : 367-368, 370, 375, 380, 382, 386, 388, 390, 418.

Geoplana ladislavii n. sp. von Graff, 1899 : 185, fig. 33 (FCA), 300-301 ; taf. II, fig. 17 (DB in color), XXIII, fig. 4 (HI), LVIII, fig. 33 (FCA). Taquara, Rio Grande do Sul / Brazil.

Geoplana ladislavii : von Linden, 1900 : 560.

Geoplana ladislavii : de Beauchamp, 1912 : V.

Geoplana ladislavii : von Graff, 1913 : 2741, 2796.

Geoplana ladislavii : von Graff, 1914 : 2907, 2933.

Geoplana ladislavii : von Graff, 1915 : 2976.

Geoplana ladislavii : von Graff, 1916 : 3151.

Geoplana ladislavii : von Graff, 1917 : 3355.

Geoplana ladislavii : Riester, 1938 : 7.

Geoplana ladislavii : Marcus, 1951 : 76, 91, 123.

Geoplana ladislavii : E. M. Froehlich, 1955 a : 328, 331.

Geoplana ladislavii : E. M. Froehlich, 1955 b : 211.

Geoplana ladislavii : C. G. Froehlich, 1956 b : 176, 187.

Geoplana ladislavii : C. G. Froehlich, 1959 : 202, 209-211, 239 ; pls. 3-4, figs. 19-25 (DB, DH, AE, CP, HI, FCA). Blumenau, Santa Catarina ; Taquara and São Leopoldo, Rio Grande do Sul / Brazil.

Geoplana ladislavii : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) lama* du Bois-Reymond Marcus, 1957**

Geoplana lama n. sp. du Bois-Reymond Marcus, 1957 : 164-165, 176, 184-185, pl. 3, figs. 14-15 (VB, FCA). Tschaidicancha between Huanuco and Tinga Maria (alt. 2500 m) / Peru.

Geoplana lama : du Bois-Reymond Marcus, 1958 : 394, 401. Panao near Huanuco (alt. 2700 m) / Peru.

***Geoplana (Geoplana) lambaya* du Bois-Reymond Marcus, 1958**

Geoplana lambaya n. sp. du Bois-Reymond Marcus, 1958 : 394-396, 405, 408-409, pl. 1, figs. 6-10 (DVB, DVH, AE, HI, FCA). The Chusgon River, Marañon (alt. 2300 m), Hacienda Yanazara, E of Huamachúco / Peru.

***Geoplana (Geoplana) lareta* du Bois-Reymond Marcus, 1958**

Geoplana lareta n. sp. du Bois-Reymond Marcus, 1958 : 396-397, 401, 405, 410-411, pl. 2, figs. 11

-15 (DB, DH, AE, HI, FCA). Chiclayo, Llama and Chota, the West Andes, Department Cajamarca / Peru.

Geoplana lareta : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) leucophryna* Marcus, 1951**

Geoplana leucophryna n. sp. Marcus, 1951 : 6, 56, 60, 62, 80, 84, 88-91, 102, 118, 127-128, 178-179, pl. XXII, fig. 138 (DB), 198-201, pls. XXXII-XXXIII, figs. 231-236 (DB, DH, AE, HI, FCA). Freguezia do O' and Jardim Europa, São Paulo / Brazil.

Geoplana leucophryna : C. G. Froehlich, 1955 a : 195, 214, 241.

Geoplana leucophryna : C. G. Froehlich, 1955 b : 190, 192, 200. Syn. of *Geoplana burmeisteri* Schultze, 1857. [nec *Geoplana burmeisteri* Schultze, 1857, in von Graff (1899)].

Geoplana leucophryna : E. M. Froehlich, 1955 a : 328, 332.

Geoplana leucophryna : E. M. Froehlich, 1955 b : 210.

Geoplana leucophryna : C. G. Froehlich, 1956 b : 174.

Note: C. G. Froehlich (1955 b, 1956 b) and E. M. Froehlich (1955 a, b) considered this species is a synonym of *Geoplana burmeisteri* Schultze, 1857, and *Geoplana polyophtalma* von Graff, 1899, in Schirch (1929). See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857; *Geoplana (Geoplana) polyophtalma* von Graff, 1899.

***Geoplana (Geoplana) livia* E. M. Froehlich, 1955**

Geoplana livia n. sp. E. M. Froehlich, 1955 a : 291, 309-311, 323, 328, 331-332 ; pls. VI-VIII, figs. 35-37, 40-41, 44 (DB, DH, AE, CP, HI, FCA). Morro do Jaraguá and Horto Florestal da Cantareira, São Paulo / Brazil.

Geoplana livia : E. M. Froehlich, 1955 b : 211.

Geoplana livia : C. G. Froehlich, 1955 c : 265.

Geoplana livia : C. G. Froehlich, 1956 b : 180, 188.

Geoplana livia : C. G. Froehlich, 1958 : 102.

Geoplana livia : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) marginata* Schultze et Müller, 1857**

Geoplana marginata n. sp. Schultze & Müller, 1857 : 24. Blumenau, Santa Catharina / Brazil.

Geoplana marginata : Schultze, 1857 : 4.

Geoplana marginata : Diesing, 1861 : 511.

Geoplana marginata : Moseley, 1877 a : 288.

Geoplana marginata (in part) : von Graff, 1899 : 305.

Geoplana marginata (in part) : Schirch, 1929 : 30, 35-37. Syn. of *Geoplana burmeisteri* Schultze, 1857.

Geoplana marginata (in part) : Marcus, 1951 : 56-58, 118.

Geoplana marginata : E. M. Froehlich, 1955 a : 295, 297, 317, 330.

Geoplana marginata : Fyfe, 1956 : 506.

Geoplana marginata : C. G. Froehlich, 1959 : 235.

Geoplana marginata : Hyman, 1962 : 13.

Geoplana marginata : C. G. Froehlich, 1967 : 160.

Geoplana marginata : E. M. Froehlich, 1978 : 31.

Geoplana marginata (auctorum) ?: Almeida, Yamada & E. M. Froehlich, 1990 : 48.

Note: [nec *Geoplana marginata* Müller, 1857, in von Graff (1894, 1896, 1899) and Marcus (1951); nec *Geoplana marginata* Müller, 1857, in Schirch (1929) and Riester (1938)]. See *Notogynaphallia abundans* (von Graff, 1899) and *Notogynaphallia caissara* (Froehlich, 1955). See also *Geoplana (Geoplana) burmeisteri* Schultze

et Müller, 1857.

Geoplana (Geoplana) marmorata Schultze et Müller, 1857

Geoplana marmorata n. sp. Schultze & Müller, 1857: 25. Blumenau, Santa Cathalina / Brazil.

[nec *Geoplana rufiventris* Müller, 1857, in von Graff (1899)].

Geoplana marmorata: Schultze, 1857: 5.

Geoplana marmorata: Diesing, 1861: 513.

Geoplana marmorata: Moseley, 1877 a: 288.

Geoplana marmorata: von Graff, 1894: 2.

Geoplana marmorata: von Graff, 1899: 294-296.

Geoplana rufiventris (in part): von Graff, 1899: 294-296.

Geoplana rufiventris (in part): von Graff, 1913: 2723, 2729, 2741, 2748-2754, 2757, 2761, 2764-2765, 2793, 2796, 2805, 2812, 2814, 2816.

Geoplana rufiventris (in part): von Graff, 1914: 2887, 2899, 2907-2908, 2910, 2928, 2930, 2939, 2950, 2957.

Geoplana rufiventris (in part): von Graff, 1915: 2975-2976, 2985, 2991, 3027, 3030-3031, 3035.

Geoplana rufiventris (in part): Steinböck, 1925: 171, 173, 175-178.

Geoplana marmorata: Marcus, 1951: 84.

Geoplana marmorata: E. M. Froehlich, 1955 b: 213.

Geoplana marmorata: C. G. Froehlich, 1959: 201-204, 238-240; pls. 1-2, figs. 1-9 (DB, DH, AE, CP, HI, FCA). Rio Testo and Blumenau, Santa Catarina / Brazil. Syn. *Geoplana rufiventris* Müller, 1857, in von Graff (1899; in part).

Geoplana marmorata: C. G. Froehlich, 1967: 158.

Geoplana marmorata: E. M. Froehlich & C. G. Froehlich, 1972: 37.

Geoplana marmorata: E. M. Froehlich, 1978: 40.

Note: C. G. Froehlich (1959, p. 204) wrote: "Our specimens of *Geoplana marmorata* are in part from the original locality and fit perfectly to the short description given by Fritz Müller. Graff (1899, p. 294) considered *G. marmorata* to be a synonym of *G. rufiventris* Fr. Müll. but his opinion cannot be held, because the two species present different colour patterns, *G. rufiventris* presenting a dark brown dorsal side and a brick red ventral side. By its external features, *G. marmorata* stands near the group of the large, broad and flat species, but it cannot be included in that group because of the irregular and asymmetrical form of the penis." See *Geoplana (Geoplana) rufiventris* Schultze et Müller, 1857, and *Pseudogeoplana* sp. (species of von Graff's *G. rufiventris*; in part).

Geoplana (Geoplana) mayori Fuhrmann, 1914

Geoplana mayori n. sp. Fuhrmann, 1914: 749, 753-758, figs. 1-2 (HI, FCA), 792; pls. XV, figs. 8-9 (DB), XVII, fig. 1 (HI). Cafetal de la Camelia près Angelopolis (alt. 1900 m) / Colombia.

Geoplana mayori: du Bois-Reymond Marcus, 1951: 224.

Geoplana mayori: Marcus, 1951: 95, 102, 129, 131.

Geoplana mayori: Hyman, 1962: 2, 4-7, figs. 3-5 (DB, AE, FCA), 19. Alan Solem (alt. 1723 m), El Velo, Finca Lerida / Panama.

Geoplana mayori: C. G. Froehlich, 1967: 158.

Geoplana (Geoplana) metzi von Graff, 1899

Geoplana metzi n. sp. von Graff, 1899: 321-322; taf. VII, figs. 15-16 (DB in color). São Paulo / Brazil.

Geoplana Metzi: de Beuchamp, 1913: 41.

Geoplana metzi : Bresslau, 1927 : 202.

Geoplana metzi : Riester, 1938 : 13, 46-48, figs. 49-50 (DH, AE, FCA), 86, 88 ; taf. 1, fig. 15 (DB, AE in color), 2, fig. 48 (DB in color). Butantan, São Paulo ; Ribeirão Pires, Serra de Mar, São Paulo / Brazil. Syn. *Geoplana polyophthalma* von Graff, 1899.

Geoplana metzi : Marcus, 1951 : 6, 62, 65-67, 86, 91, 100, 102, 120-121, 126, 128, 130, 176-177, pl. XXI, fig. 126 (DB), 186-187, pl. XXVI, figs. 172-174 (DB, HI, FCA). São Paulo / Brazil.

Geoplana metzi : E. M. Froehlich, 1955 a : 332.

Geoplana metzi : E. M. Froehlich, 1955 b : 209, 211.

Note: See *Geoplana (Geoplana) polyophthalma* von Graff, 1899.

***Geoplana (Geoplana) mirim* E. M. Froehlich, 1972**

Geoplana mirim n. sp. E. M. Froehlich & C. G. Froehlich, 1972 : 31, 37-39, figs. 13-20 (DB, DH, AE, CP, HI, FGO, FCA), 42, 44. Serra do Navio, Território do Amapá, Amazonas / Brazil.

***Geoplana (Geoplana) mixopulla* Ogren et Kawakatsu, nom. nov.**

Geoplana pulla (in part) : von Graff, 1894 : 3. Asunción / Paraguay. [nec *Planaria pulla* Darwin, 1844].

Geoplana pulla (in part) : von Graff, 1899 : 122, fig. 8 (HI), 123, fig. 9 (HI), 148, fig. 13 (FGO), 183, fig. 31 (FCA), 301-302. Asunción, Paraguay / Argentina ; Santiago and Hacienda S. Ignacio de Semehué, Araucaria / Chile.

Geoplana pulla (in part) : Böhmig, 1902 : 25. Hacienda San Ignacio de Semehué / Chile.

Geoplana pulla (in part) : von Graff, 1913 : 2785, fig. 28 (DB, HI), 2814, 2880.

Geoplana pulla (in part) : von Graff, 1914 : 2890, fig. 96 (HI), 2891, fig. 97 (HI), 2907, 2953.

Geoplana pulla (in part) : von Graff, 1915 : 3031, fig. 142 (FCA).

Geoplana pulla (in part) : von Graff, 1916 : 3200.

Geoplana pulla (in part) : Bresslau, 1930 : 73, fig. 51 (HI), 259, fig. 255 (DB, HI).

Geoplana pulla (in part) : Goetsch, 1933 : 245, 256, 259-260, fig. 4 (DB), 261-262, 264, 268-269, 271, figs. 5 (DB), 6-12 (DB showing regeneration), 285-287. Los Leones / Chile.

Geoplana pulla (in part) : Marcus, 1951 : 87, 93, 107, 126.

Geoplana pulla : de Beauchamp, 1961 : 114, fig. 57 A-B (HI).

Geoplana pulla (in part) : C. G. Froehlich, 1967 : 158.

Geoplana pulla : E. M. Froehlich, 1978 : 8, 34, 36, 40. [nec *Geoplana pulla* (Darwin, 1844)].

Note: Concerning the taxonomic position of *Geoplana pulla* (Darwin, 1844) and *Geoplana pulla* in von Graff (1894, 1899), E. M. Froehlich (1978, p. 36) wrote: "...*G. chanca* belongs to the *G. taxiaracha*-group and also approaches externally to *G. pulla* (Darwin) (Graff, l. c.). The copulatory apparatus of the latter is more concordant with that of *G. chanca* than with that of *G. placilla*, regarding the shape of penis and the lining of the female atrium, however the position of the efferent ducts entrance into the vesicle, wrapped by a few fibres of the bulb musculature, is quite different. In *G. placilla* as in *G. pulla* the efferent ducts arrive laterally, nearly at the middle of the vesicle and in *G. chanca* entally, into ventrally curved diverticules. Darwin's material is Uruguayan, Graff had specimens from Paraguay, Argentina and Chile and one could well doubt their conspecificity. On the other hand Graff does not indicate the provenance of the pictured worm or that of the one studied anatomically. Hence, the possibility remains of *G. chanca* and at least part of Graff's *G. pulla* belonging to the same species."

It is clear that von Graff (1899) considered his "*Geoplana pulla*" to be a single species, identical with Darwin's (1844) original species, *Planaria pulla*. In this Index, the latter is placed in the *Pseudogeoplana* since its copulatory apparatus is not known. The former receives a new name because von Graff

(*op. cit.*) did not give a valid name for his animals from Argentina and Chile. Cf. ICBN, Art. 49 and Example; Art. 52 (a); Appendix D, I, 5 (a). Additionally, it is highly probable that von Graff's (1899) samples from Argentina and Chile may not be a single species. However, we cannot separate his species due to scanty information (*i. e.*, *Geoplana* (*Geoplana*) *mixopulla* listed in this Index) at present. Our new specific name given here indicates this non-conformable taxonomic position of von Graff's (*op. cit.*) species mentioned above. See *Pseudogeoplana pulla* (Darwin, 1844).

***Geoplana* (*Geoplana*) *multipicolor* von Graff, 1899**

Geoplana multipicolor n. sp. von Graff, 1899: 326; taf. VII, figs. 12-14 (DB, CP in color). São Paulo / Brazil.

Geoplana multipicolor: Kraepelin, 1901: 206. An Pflanzen, Hamburg / Germany.

Geoplana multipicolor: von Graff, 1912: taf. XXXII, figs. 41-43 (DH, CP).

Geoplana multipicolor: von Graff, 1917: 3365, 3368.

Geoplana multipicolor: Arndt, 1934: 384, fig. 6 a-c (DB, CP), 389-390. São Paulo / Brazil.

Geoplana multipicolor: Marcus, 1951: 6, 56, 60, 62-63, 66-69, 75, 81, 83, 86, 102, 119-121, 126, 129, 176-177, pl. XXI, fig. 127 (DB), 186-187, pl. XXVI, figs. 175-177 (DH, AE, HI, FCA), 212-213, pl. XXXIX, fig. 291 (CP in color). Perto de São Paulo and Complantas de São Paulo / Brazil.

Geoplana multipicolor: C. G. Froehlich, 1955 a: 195, 213, 241, pl. III, fig. 19 (FGO). von Graff's (1899) material.

Geoplana multipicolor: C. G. Froehlich, 1955 c: 263-265, 267.

Geoplana multipicolor: E. M. Froehlich, 1955 a: 329.

Geoplana multipicolor: E. M. Froehlich, 1955 b: 207, 209, 211.

Geoplana multipicolor: Jackel, 1955: 14. Holstein / Germany.

Geoplana multipicolor: C. G. Froehlich, 1956 a: 313, 318, 332, 341. Teresópolis, Rio de Janeiro / Brazil.

Geoplana multipicolor: C. G. Froehlich, 1956 b: 174. Curitiba and Lapa, Paraná / Brazil.

Geoplana multipunctata: C. G. Froehlich, 1958: 93, 95, 98, 100. Guapiara, São Paulo; Ponta Grossa, Paraná / Brazil.

Geoplana multipunctata: Pfitzner, 1958: 241.

Geoplana multipunctata: C. G. Froehlich, 1959: 221, 230.

Geoplana multipunctata: C. G. Froehlich, 1967: 159.

Geoplana multipunctata: E. M. Froehlich & C. G. Froehlich, 1972: 39.

***Geoplana* (*Geoplana*) *multipunctata* Fuhrmann, 1914**

Geoplana multipunctata n. sp. Fuhrmann, 1914: 776-778, fig. 1 (FCA), 792; pl. XVI, figs. 25-26 (DVB). Irouvée près de Bogota (alt. 2660 m) / Colombia.

Geoplana multipunctata: Hyman, 1938: 23-25, figs. 1-2 (DB, AE, FCA), 32. At the entrance of Loltune Cave, near Oxfutzocab, Yucatán / Mexico.

Geoplana multipunctata: de Beauchamp, 1939 b: 77.

Geoplana multipunctata: du Bois-Reymond Marcus, 1951: 218, 227, 230.

Geoplana multipunctata: E. M. Froehlich, 1955 a: 301.

Geoplana multipunctata: Hyman, 1957: 7.

Geoplana multipunctata: Hyman, 1962: 2.

Geoplana multipunctata: C. G. Froehlich, 1967: 158.

Note: Testes of Hyman's (1938) non-fully mature specimens extend throughout the body. Thus, E. M. Froehlich (1955 a) doubts Hyman's identification of this species.

Geoplana (*Geoplana*) *nigra* Froehlich, 1959

- Geoplana atra*: von Graff, 1899: 307; taf. II, figs. 34-35 (DB, CP in color), XXIII, figs. 1-3 (HI).
Taquaro, Rio Grande do Sul / Brazil. [nec *Geoplana atra* Müller, 1857, in von Graff (1899)].
- Geoplana atra*: von Graff, 1912: taf. XVIII, fig. 5 (HI).
- Geoplana atra* (in part): von Graff, 1914: 2888, 2853.
- Geoplana atra* (in part): von Graff, 1915: 2978.
- Geoplana atra* (in part): Steinböck, 1925: 176.
- Geoplana atra* (in part): Riester, 1938: 36.
- Geoplana atra* (in part): du Bois-Reymond Marcus, 1951: 232.
- Geoplana atra* (in part): Marcus, 1951: 75-76, 102, 122-123, 131.
- Geoplana atra* (in part): E. M. Froehlich, 1955 b: 212.
- Geoplana atra* (in part): C. G. Froehlich, 1956 b: 184, 186.
- Geoplana atra* in von Graff (1899): C. G. Froehlich, 1959: 235, 240.
- Geoplana nigra* nom. nov. C. G. Froehlich, 1959: 235, 240. Syn. *Geoplana nana* Froehlich, 1956.

Note: C. G. Froehlich (1959, pp. 234-235) wrote: "...we described a small black species from the State of Paraná, and from Blumenau and nearby localities. As it differed in its internal anatomy from the worm Graff considered to be *G. atra*, we named it *G. nana*. As our species, however, agrees perfectly with Müller's description and occurs in the type locality, we conclude it to be a synonym of *G. atra* Fr. Müll., and Graff's *G. atra* from Taquara, Rio Grande do Sul, to be another species. We rename it *G. nigra*, nom. nov." See *Geoplana* (*Geoplana*) *atra* Schultze et Müller, 1857.

Geoplana (*Geoplana*) *notocelis* Bresslau, 1930

- Geoplana notocelis* n. sp. Bresslau, 1930: 159, fig. 3 (copulation), 177, fig. 171 (movement).
- Geoplana notocelis*: Carlé, 1935: 527-529, 532-558, figs. 3-17 (HI).
- Geoplana notocelis*: Riester, 1938: 6, 19, 30, 43, 53-54, 78. Syn. of *Geoplana notophthalma* Riester, 1938.
- Geoplana notocelis*: Marcus, 1951: 84-85, 91, 125. Syn. of *Geoplana rufiventris* Müller, 1857. Misidentification.
- Geoplana notocelis*: C. G. Froehlich, 1955 b: 192-193, 200. Syn. of *Geoplana applanata* von Graff, 1899.
- Geoplana notocelis*: E. M. Froehlich, 1955 a: 327-328, 331.
- Geoplana notocelis*: Skaer, 1971: 105.

Note: C. G. Froehlich (1955 b) and E. M. Froehlich (1955 a) considered this species (genital anatomy is unknown) is a synonym of *Geoplana applanata* von Graff, 1899. See *Geoplana* (*Geoplana*) *appланата* von Graff, 1899.

Geoplana (*Geoplana*) *notophthalma* Riester, 1938

- Geoplana notophthalma* n. sp. Riester, 1938: 52-56, figs. 60-61 (DH, AE, CP, FCA), 85-87; taf. 2, fig. 59 (DB, DH in color). Alto de Therezópolis, Fazenda Macacú, Rio de Janeiro; Corduras, Sierra do Curral, Minas Geraes / Brazil.

Geoplana notophthalma: Marcus, 1951: 91, 128.

Geoplana notophthalma: C. G. Froehlich, 1955 b: 192-193, 200. Syn. of *Geoplana applanata* von Graff, 1899.

Geoplana notophthalma: C. G. Froehlich, 1956 a: 315.

Note: C. G. Froehlich (1955 b, 1956 a) considered this species is a synonym of *Geoplana appланата* von Graff, 1899.

See *Geoplana* (*Geoplana*) *appланата* von Graff, 1899.

Geoplana (Geoplana) pavani Marcus, 1951

- Geoplana pavani* n. sp. Marcus, 1951 : 6, 94-95, 103, 128-129, 178-179, pl. XXII, fig. 140 (DB), 202-203, pl. XXXIV, figs. 242-246 (DH, AE, CP, HI, FCA), 214-215, pl. XL, fig. 307 (CP in color). Magí das Cruzes, São Paulo / Brazil.
- Geoplana pavani* : C. G. Froehlich, 1955 c : 267.
- Geoplana pavani* : E. M. Froehlich, 1955 a : 328, 332.
- Geoplana pavani* : E. M. Froehlich, 1955 b : 213.
- Geoplana pavani* : C. G. Froehlich, 1956 a : 340.
- Geoplana pavani* : C. G. Froehlich, 1958 : 105.
- Geoplana pavani* : C. G. Froehlich, 1967 : 158.
- Geoplana pavani* : E. M. Froehlich; 1978 : 40.

Geoplana (Geoplana) phocaica Marcus, 1951

- Geoplana phocaica* n. sp. Marcus, 1951 : 6, 68-69, 93, 95-97, 121, 129, 178-179, pl. XXII, fig. 141 (DB), 202-203, pl. XXXIV, figs. 247-251 (DVB, DH, AE, HI, FCA). Fraguezia do O' and Horto Florestal, São Paulo / Brazil.

Geoplana phocaica : E. M. Froehlich, 1955 a : 329.

Geoplana phocaica : E. M. Froehlich, 1955 b : 202, 206.

Geoplana phocaica : C. G. Froehlich, 1955 c : 264, 266.

Geoplana phocaica : C. G. Froehlich, 1956 a : 232, 340-341.

Geoplana phocaica : C. G. Froehlich, 1959 : 230.

Geoplana phocaica : C. G. Froehlich, 1967 : 159.

Geoplana (Geoplana) pichuna du Bois-Reymond Marcus, 1951

- Geoplana pichuna* n. sp. du Bois-Reymond Marcus, 1951 : 225-227, 246-247, pl. IV, figs. 29-32 (DB, HI, FCA). Hacienda Chaquil (alt. 3150 m), near Cajamarca / Peru.

Geoplana pichuna : du Bois-Reymond Marcus, 1957 : 166.

Geoplana pichuna : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) picta Froehlich, 1956

- Geoplana picta* n. sp. C. G. Froehlich, 1956 a : 314, 337, 339-340, figs. 53-56 (DB, DH, HI, FCA), 342. Ubatuba, Rio de Janeiro / Brazil.

Geoplana (Geoplana) placilla E. M. Froehlich, 1978

- Geoplana placilla* n. sp. E. M. Froehlich, 1978 : 32-34, 36, 38, 60-63, figs. 45-51 (DB, DH, AE, CP, HI, FCA). San Alfonso de Maipo, near Santiago / Chile.

Geoplana (Geoplana) poca Froehlich, 1958

- Geoplana poca* n. sp. C. G. Froehlich, 1958 : 93, 98-100, 112-113, pl. 2, figs. 9-12 (DB, DH, AE, HI, FCA). Piraquara, Itanhaen Municipality, São Paulo / Brazil.

Geoplana poca : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) polyophtalma von Graff, 1899

- Geoplana polyophtalma* n. sp. von Graff, 1899 : 308; taf. I, figs. 31-37 (DB, AE in color). Blumenau and Joinville, Santa Catharina; Raguarro, Rio Grande do Sul / Brazil.

Geoplana polyophtalma : von Linden, 1900 : 559.

Geoplana polyophtalma : von Graff, 1914 : 2916, fig. 114 (DH, AE).

Geoplana polyophtalma (in part) : Schirch, 1929 : 30-31, 36-37. Spelling error.

Geoplana polyophtalma : Riester, 1938 : 38, 46-47, 56. Syn. of *Geoplana metzi* von Graff, 1899.

Geoplana polyophtalma : Marcus, 1951 : 67, 89-91, 102, 129, 131.

Geoplana polyophtalma : C. G. Froehlich, 1955 b : 190. [nec *Geoplana polyophtalma* von Graff,

1899, in Schirch (1929)].

Geoplana polyophtalma : E. M. Froehlich, 1955 b : 213.

Geoplana polyophtalma : C. G. Froehlich, 1956 b : 174-176, 187-188, 191 ; pls. IV-V, figs. 1-10 (DB, DH, AE, FCA). Caiobá, Paraná ; Blumenau and Rio do Testo, Santa Catarina / Brazil.

Geoplana polyophtalma : C. G. Froehlich, 1967 : 158.

Note : See *Geoplana (Geoplana) burmeisteri* Schultze et Müller, 1857 ; *Geoplana (Barreirana) barreirana* Riester, 1938 ; *Geoplana (Geoplana) metzi* von Graff, 1899.

Geoplana (Geoplana) preta Riester, 1938

Geoplana preta n. sp. Riester, 1938 : 35-37, figs. 37-38 (DH, AE, FCA), 87. Therezópolis, Rio de Janeiro / Brazil.

Geoplana preta : de Beauchamp, 1939 b : 77.

Geoplana preta : du Bois-Reymond Marcus, 1951 : 231-232.

Geoplana preta : Marcus, 1951 : 6, 74-76, 83, 97, 121-123, 129, 176-177, pl. XXI, fig. 131 (DB), 192 -193, pl. XXIX, figs. 194-196 (DH, AE, HI, FCA). Cidade Jardim, São Paulo / Brazil.

Geoplana preta : C. G. Froehlich, 1955 a : 195, 211-212, 241.

Geoplana preta : E. M. Froehlich, 1955 a : 329.

Geoplana preta : E. M. Froehlich, 1955 b : 206.

Geoplana preta : C. G. Froehlich, 1956 a : 332, 341.

Geoplana preta : C. G. Froehlich, 1956 b : 184.

Geoplana preta : C. G. Froehlich, 1959 : 227, 230.

Geoplana preta : C. G. Froehlich, 1967 : 159.

Geoplana preta : E. M. Froehlich & C. G. Froehlich, 1972 : 39.

Geoplana (Geoplana) pseudovaginuloides Riester, 1938

Geoplana pseudovaginuloides n. sp. Riester, 1938 : 34-35, fig. 36 (FCA), 74, 87-88 ; taf. 1, fig. 9 (CP in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana pseudovaginuloides : Marcus, 1951 : 56, 88, 117, 127.

Geoplana pseudovaginuloides : E. M. Froehlich, 1955 a : 328.

Geoplana pseudovaginuloides : E. M. Froehlich, 1955 b : 210.

Geoplana pseudovaginuloides : C. G. Froehlich, 1956 a : 314, 323, 325-327, figs. 23-27 (DB, DH, AE, FCA). Alto, Teresópolis, Rio de Janeiro / Brazil.

Geoplana pseudovaginuloides : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) quagga Marcus, 1951

Geoplana quagga n. sp. Marcus, 1951 : 6, 97-98, 129-130, 178-179, pl. XXII, fig. 142 (DB), 204-205, pl. XXXV, figs. 252-254 (DH, AE, HI, FCA). Horto Florestal and Jardim Europa, São Paulo / Brazil.

Geoplana quagga : C. G. Froehlich, 1955 c : 265, 270.

Geoplana quagga : E. M. Froehlich, 1955 a : 329.

Geoplana quagga : E. M. Froehlich, 1955 b : 206.

Geoplana quagga : C. G. Froehlich, 1956 a : 314, 330. Teresópolis, Rio de Janeiro / Brazil.

Geoplana quagga : C. G. Froehlich, 1959 : 202, 212, 239. Blumenau, Santa Catarina / Brazil.

Geoplana (Geoplana) quenua du Bois-Reymond Marcus, 1958

Geoplana quenua n. sp. du Bois-Reymond Marcus, 1958 : 400-401, 405, 414-415, pl. 4, figs. 26-28 (VB, HI, FCA). The Chanchamayo River (alt. 3500 m), Hacienda Maraynioc, E of Tarma, the Andes / Peru.

Geoplana (*Geoplana*) *quichua* du Bois-Reymond Marcus, 1951

Geoplana quichua n. sp. du Bois-Reymond Marcus, 1951 : 222-223, 244-245, pl. III, figs. 18-21 (DB, HI, FCA), 254-255, pl. VIII, figs. 74-75 (CP in color). Contumazá (alt. 2850 m), SW of Cajamarca / Peru.

Geoplana quichua : du Bois-Reymond Marcus, 1957 : 162, 176. Cajabamba, SE of Cajamarca (alt. 2800 m) / Peru.

Geoplana quichua : du Bois-Reymond Marcus, 1958 : 396.

Geoplana (*Geoplana*) *regia* E. M. Froehlich, 1955

Geoplana regia n. sp. E. M. Froehlich, 1955 a : 291, 315-317, 328, 331-332 ; pls. IX-X, figs. 54-59 (DB, DH, AE, CP, HI, FCA). Araraquara, São Paulo / Brazil.

Geoplana regia : E. M. Froehlich, 1955 b : 205.

Geoplana regia : de Beauchamp, 1958 : 360.

Geoplana regia : C. G. Froehlich, 1967 : 158.

Geoplana (*Geoplana*) *riesteri* Froehlich, 1955

Geoplana splendida : Riester, 1938 : 66-68, figs. 76-78 (DB, DH, AE, FCA), 85, 87-88 ; taf. 1, fig. 19 (DB, CP in color), 2, fig. 75 (DB in color). Arras, Minas Geraes ; Therezópolis, Rio de Janeiro / Brazil.

Geoplana splendida in Riester (1938) : C. G. Froehlich, 1955 b : 194-197.

Geoplana riesteri nom. nov. C. G. Froehlich, 1955 b : 197, 200.

Geoplana splendida in Riester (1938) : E. M. Froehlich, 1955 b : 207.

Geoplana riesteri : E. M. Froehlich, 1955 b : 209-210.

Geoplana riesteri : C. G. Froehlich, 1956 b : 180, 188.

Geoplana riesteri : C. G. Froehlich, 1958 : 102.

Geoplana riesteri : C. G. Froehlich, 1967 : 158.

Note : [nec *Geoplana splendida* von Graff, 1899]. See *Pasipha splendida* (von Graff, 1899).

Geoplana (*Geoplana*) *rufiventris* Schultze et Müller, 1857

Geoplana rufiventris n. sp. Schultze & Müller, 1857 : 24. Blumenau, Santa Catharina / Brazil.
[nec *Geoplana marmorata* Müller, 1857, in von Graff (1899)].

Geoplana rufiventris : Schultze, 1857 : 4.

Geoplana rufiventris : Diesing, 1861 : 509.

Geoplana rufiventris : Moseley, 1877 a : 288.

Geoplana rufiventris (in part) : von Graff, 1894 : 2.

Geoplana rufiventris (in part) : von Graff, 1899 : 294-296 ; taf. I, figs. 26-27 (DB, CP in color).
[nec *Geoplana marmorata* Müller, 1857]. Cf. C. G. Froehlich, 1959.

Geoplana rufiventris (in part) : Busson, 1903 : 407, 410, 415.

Geoplana rufiventris (in part) : de Beauchamp, 1912 : V.

Geoplana rufiventris (in part) : von Graff, 1913 : 2723, 2729, 2741, 2747-2748, 2754, 2757, 2761, 2764-2765, 2793, 2796, 2805, 2812, 2814, 2816.

Geoplana rufiventris (in part) : von Graff, 1914 : 2887 2889, 2907-2908, 2910, 2928, 2930, 2939, 2950, 2957.

Geoplana rufiventris (in part) : von Graff, 1915 : 2975-2976, 2985, 2991, 3027, 3030-3031, 3035.

Geoplana rufiventris (in part) : von Graff, 1917 : 3354.

Geoplana rufiventris (in part) : Frieb, 1923 : 512.

Geoplana rufiventris (in part) : Steinböck, 1925 : 171, 173, 175-178.

Geoplana rufiventris : Wood, 1926 : 608.

- Geoplana rufiventris* (in part): Bresslau, 1927 : 222-223.
Geoplana rufiventris (in part): Bresslau, 1930 : 72.
Geoplana rufiventris (in part): Carlé, 1935 : 529.
Geoplana rufiventris (in part): Riester, 1938 : 7, 52-54, 56.
Geoplana rufiventris (in part): de Beauchamp, 1939 b : 75.
Geoplana rufiventris : Marcus, 1951 : 82, 84, 91, 125. [nec *Geoplana rufiventris* Müller, 1857, in Schirch (1929)]. See *Geoplana (Geoplana) appanata* von Graff, 1899.
Geoplana rufiventris : C. G. Froehlich, 1955 a : 209.
Geoplana rufiventris : C. G. Froehlich, 1955 b : 192-193.
Geoplana rufiventris : E. M. Froehlich, 1955 b : 213.
Geoplana rufiventris : C. G. Froehlich, 1959 : 204, 214, 223, 233, 235-236, 240. [nec *Geoplana rufiventris* Müller, 1857, in von Graff (1899 ; in part)].
Geoplana rufiventris : C. G. Froehlich, 1967 : 158.

Note: C. G. Froehlich (1959, pp. 235-236) wrote: "Fr. Müller's *G. rufiventris* presented a dark brown back and a brick-red ventral side. Several "large, broad, and flat" species of *Geoplana* have a dark back and a reddish ventral side, and Graff, misguided by these characters, lumped a heterogenous material into *G. rufiventris* (cf. e. g., Riester, 1938, p. 53). Only one of Graff's specimens can, with reasonable certainty, be considered as *G. rufiventris*: it is the worm collected at Blumenau by G. W. Müller, for both the locality and the colour are the same as those of Fr. Müller's specimen (Graff, 1899, p. 296, pl. I, figs. 26-27). Graff's anatomical analysis of *G. rufiventris* is also impaired by the fact that he doesn't indicate which specimens he studied." See *Geoplana (Geoplana) marmorata* Schultze et Müller, 1857, and *Pseudogeoplana* sp. (species of von Graff's *G. rufiventris*; in part).

Geoplana (Geoplana) ruiva E. M. Froehlich, 1972

Geoplana ruiva n. sp. E. M. Froehlich & C. G. Froehlich, 1972 : 31, 36-37, figs. 8-12 (DB, HI, FCA), 42, 44. Serra do Navio, Território do Amapá, Amazonas / Brazil.

Geoplana (Geoplana) saima du Bois-Reymond Marcus, 1951

Geoplana saima n. sp. du Bois-Reymond Marcus, 1951 : 226-227, 230-231, 248-249, pl. V, figs. 45-48 (DB, CP, HI, FCA). Puno on Lago Titicaca (alt. 3900 m) / Peru.

Geoplana saima : C. G. Froehlich, 1967 : 159.

Geoplana (Geoplana) schubarti Froehlich, 1958

Geoplana schubarti n. sp. C. G. Froehlich, 1958 : 93, 100-102, 112-115, pls. 2-3, figs. 13-20 (DVB, DH, CP, HI, FCA). Piraquara, Itanhaém Municipality, São Paulo ; Cidade Jardim, São Paulo / Brazil.

Geoplana schubarti : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) shapra du Bois-Reymond Marcus, 1957

Geoplana shapra n. sp. du Bois-Reymond Marcus, 1957 : 166-168, 176, 186-187, pl. 4, figs. 19-20 (DB, CP, FCA). Cajabamba (alt. 2800 m), SE of Cajamarca / Peru.

Geoplana shapra : C. G. Froehlich, 1967 : 158.

Geoplana (Geoplana) suva Froehlich, 1959

Geoplana suva n. sp. C. G. Froehlich, 1959 : 202, 228-230, 239 ; pls. 10-11, figs. 71-77 (DB, DH, AE, CP, HI, FCA). Blumenau, Santa Catarina / Brazil.

Geoplana suva : C. G. Froehlich, 1967 : 159.

Geoplana (Geoplana) takia du Bois-Reymond Marcus, 1951

Geoplana takia n. sp. du Bois-Reymond Marcus, 1951 : 224-225, 244-245, pl. III, figs. 26-28 (VB, HI, FCA). The River Terma, Huacapistana (alt. 1800 m) / Peru.

Geoplana takia : du Bois-Reymond Marcus, 1958 : 400.

***Geoplana (Geoplana) talpa* du Bois-Reymond Marcus, 1951**

Geoplana talpa n. sp. du Bois-Reymond Marcus, 1951 : 231-232, 250-251, pl. VI, figs. 49-51 (DV, HI, FCA). The River Tarma, Huailah Uichán (alt. 2900 m), near Palca / Peru.

Geoplana talpa : du Bois-Reymond Marcus, 1958 : 400.

Geoplana talpa : C. G. Froehlich, 1959 : 228.

***Geoplana (Geoplana) tamboensis* Fuhrmann, 1914**

Geoplana tamboensis n. sp. Fuhrmann, 1914 : 759, fig. 5 (DH), 792 ; pl. XV, fig. 6 (DB). Tambo, Sabana de Bogota (alt 2000 m) / Colombia.

Geoplana tamboensis : E. M. Froehlich, 1955 a : 323.

Geoplana tamboensis : Hyman, 1962 : 2.

Geoplana tamboensis : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) tamoia* E. M. Froehlich, 1955**

Geoplana tamoia n. sp. E. M. Froehlich, 1955 a : 291, 319-321, 328, 332 ; pl. XII, figs. 69-72 (DB, DH, AE, HI, FCA). Teresópolis, Alto, Rio de Janeiro / Brazil.

Geoplana tamoia : E. M. Froehlich, 1955 b : 207, 210.

Geoplana tamoia : C. G. Froehlich, 1956 a : 314. Teresópolis, Rio de Janeiro / Brazil.

Geoplana tamoia : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) tapira* Froehlich, 1958**

Geoplana tapira n. sp. C. G. Froehlich, 1958 : 93, 102-103, 116-117, pl. 4, figs. 23-25 (DH, AE, HI, FCA). Tapiraí, between Piedade and Juquiá, São Paulo / Brazil.

***Geoplana (Geoplana) taxiarcha* Marcus, 1951**

Geoplana taxiarcha n. sp. Marcus, 1951 : 6, 87-88, 101-102, 127, 130-131, 178-179, pl. XXII, fig. 144 (DB), 206-207, pl. XXXVI, figs. 259-264 (DB, DH, AE, HI, FCA), 214-215, pl. XL, fig. 310 (CP in color). Horto Florestal and Mogi das Cruzes, São Paulo / Brazil.

Geoplana taxiarcha : C. G. Froehlich, 1955 c : 263-264, 266-267, 270.

Geoplana taxiarcha : E. M. Froehlich, 1955 a : 327-328, 332.

Geoplana taxiarcha : E. M. Froehlich, 1955 b : 209-210.

Geoplana taxiarcha : C. G. Froehlich, 1956 a : 314, 326, 331. Ubatuba, Rio de Janeiro / Brazil.

Geoplana taxiarcha : C. G. Froehlich, 1958 : 100.

Geoplana taxiarcha : Hyman, 1962 : 7.

Geoplana taxiarcha : C. G. Froehlich, 1967 : 158-159, 161.

Geoplana taxiarcha : E. M. Froehlich & C. G. Froehlich, 1972 : 39, 44.

Geoplana taxiarcha : E. M. Froehlich, 1978 : 34, 36, 38, 40.

***Geoplana (Geoplana) tirua* E. M. Froehlich, 1978**

Geoplana tirua n. sp. E. M. Froehlich, 1978 : 37-38, 40, 64-67, figs. 57-58, 60-62 (DB, DH, AE, CP, HI, FCA). Palmas de Cocalán, Provincia O'Higgins / Chile.

***Geoplana (Geoplana) toriba* Froehlich, 1958**

Geoplana toriba n. sp. C. G. Froehlich, 1958 : 93, 104-105, 116-119, pls. 4-5, figs. 26-30 (DB, DH, AE, CP, HI, FCA). Monte Serrote, near Juquiá, São Paulo / Brazil.

Geoplana toriba : C. G. Froehlich, 1967 : 158.

***Geoplana (Geoplana) trigueira* E. M. Froehlich, 1955**

Geoplana trigueira n. sp. E. M. Froehlich, 1955 a : 291, 321-323, 328, 332 ; pls. XIII-XIV, figs. 73-79 (DV, DH, AE, CP, HI, FCA). Teresópolis, Alto and Barreira, Rio de Janeiro /

Brazil.

Geoplana trigueira : E. M. Froehlich, 1955 b : 211.

Geoplana trigueira : C. G. Froehlich, 1955 c : 267-268.

Geoplana trigueira : C. G. Froehlich, 1956 a : 314. Ubatuba, Rio de Janeiro / Brazil.

Geoplana trigueira : C. G. Froehlich, 1967 : 158-159.

Geoplana (Geoplana) ubaquensis Fuhrmann, 1914

Geoplana ubaquensis n. sp. Fuhrmann, 1914 : 762-763, figs. 11-12 (DH, FCA). Ubaque (alt. 2200 m) / Colombia.

Geoplana ubaquensis : Hyman, 1962 : 2.

Geoplana (Geoplana) vaginuloides (Darwin, 1844)

Planaria vaginuloides n. sp. Darwin, 1844 : 244. Rio de Janeiro / Brazil.

Polycelis vaginuloides : Diesing, 1850 : 192.

Geoplana vaginuloides : Schultze & Müller, 1857 : 28, 31.

Geoplana vaginuloides : Schultze, 1857 : 7.

Geoplana vaginuloides : Stimpson, 1857 : 24.

Geoplana vaginuloides : Diesing, 1861 : 511.

Geoplana vaginuloides : Moseley, 1877 a : 287.

Geoplana vaginuloides : von Graff, 1899 : 331. Brazil.

Geoplana vaginuloides : Riester, 1938 : 34, 68, 72-75, figs. 85-87 (DH, AE, FCA), 85, 87-88 ; taf. 1, figs. 21-22 (DB, CP in color), 2, fig. 84 (DB in color). Barreira, Therezópolis, Rio de Janeiro / Brazil.

Geoplana vaginuloides : Prudhoe, 1949 a : 422-424, fig. 2 (FCA). Mount Aripo, Trinidad / Trinidad and Tobago. Misidentification ?

Geoplana vaginuloides : Marcus, 1951 : 6, 54-56, 68, 88, 117-118, 121, 127, 176-177, pls. XXI, fig. 120 (DB), 180-181, XIII, figs. 146-150 (DH, AE, HI, FCA). Eldorado, São Paulo / Brazil.

Geoplana vaginuloides : Marcus, 1952 : 5, 76-77, 168-169, pl. 23, fig. 136 (CP). São Paulo / Brazil.

Geoplana vaginuloides : C. G. Froehlich, 1955 a : 195, 208, 211, 241, pl. III, fig. 18 (FGO). von Graff's (1899) type series.

Geoplana vaginuloides : C. G. Froehlich, 1955 c : 265, 267.

Geoplana vaginuloides : E. M. Froehlich, 1955 a : 293, 328, 332.

Geoplana vaginuloides : E. M. Froehlich, 1955 b : 202, 210-211.

Geoplana vaginuloides : C. G. Froehlich, 1956 a : 314-315, 346. Barreira, Teresópolis, Rio de Janeiro / Brazil.

Geoplana vaginuloides : C. G. Froehlich, 1956 b : 177-178, 188.

Geoplana vaginuloides : C. G. Froehlich, 1958 : 93-94. Piraquara, Itanhaém Municipality, São Paulo / Brazil.

Geoplana vaginuloides : C. G. Froehlich, 1958 : 93. Spelling error.

Geoplana vaginuloides : Hyman, 1962 : 2.

Geoplana vaginuloides : C. G. Froehlich, 1967 : 159.

Geoplana vaginuloides : Ogren & Kawakatsu, 1988 b : 59, 61.

Note : This species has been recollected several times, redescribed and its copulatory apparatus made known (Riester, 1938 ; Marcus, 1951, 1952 ; C. G. Froehlich, 1955 a, 1956 a, 1958). Prudhoe's (1949 a) record from Trinidad is very doubtful.

Geoplana (Geoplana) vicuna du Bois-Reymond Marcus, 1957

Geoplana vicuna n. sp. du Bois-Reymond Marcus, 1957 : 165-166, 176, 184-185, pl. 3, figs. 16-18 (DB, HI, FCA). Between Cerro de Pasco and Rafael (alt. 3800 m) / Peru.

Geoplana vicuna : du Bois-Reymond Marcus, 1958 : 400.

Geoplana vicuna : C. G. Froehlich, 1967 : 159.

Geoplana (Geoplana) yara E. M. Froehlich, 1955

Geoplana yara n. sp. E. M. Froehlich, 1955 a : 291, 325-328, 331-332 ; pl. XVI, figs. 95-98 (DB, CP, AE, HI, FCA). Teresópolis, Alto, Rio de Janeiro / Brazil.

Geoplana yara : E. M. Froehlich, 1955 b : 206.

Geoplana yara : C. G. Froehlich, 1956 a : 314, 326.

Geoplana yara : C. G. Froehlich, 1958 : 100.

Geoplana yara : C. G. Froehlich, 1967 : 159.

Geoplana (Polycladus) Gayi (Blanchard, 1845)

See *Polycladus gayi* Blanchard, 1845.

Genus *Gigantea* Ogren et Kawakatsu, gen. nov.

Gigantea n. g. Ogren & Kawakatsu : described in the present paper. See page 86.

Type species : *Geoplana gigantea* von Graff, 1899.

Literature : von Graff, 1899 ; Prudhoe, 1949 a : E. M. Froehlich, 1955 b ; Hyman, 1962 ; C. G. Froehlich, 1967.

Gigantea bistriata (Hyman, 1962) comb. nov.

Geoplana bistriata n. sp. Hyman, 1962 : 8, 10-11, figs. 11-13 (DB, DH, AE, FCA). El Velo (alt. 1723 m), Finca Lerida / Panama.

Gigantea cameliae (Fuhrmann, 1914) comb. nov.

Geoplana cameliae n. sp. Fuhrmann, 1914 : 754-758, figs. 3-4 (HI, FCA), 792 ; pl. XV, figs. 10-11 (DB). Cafetal La Camelia près Angelopolis and Sabaletas près Titiribi (alt. 1400-1800 m) / Colombia.

Geoplana cameliae : Hyman, 1939 b : 428, 430.

Geoplana cameliae : Hyman, 1941 : 4-7 (in part). Barro Colorado Island, Canal Zone / Panama. Misidentification.

Geoplana cameliae : de Beauchamp, 1947 : 5.

Geoplana cameliae : du Bois-Reymond Marcus, 1951 : 222, 225.

Geoplana cameliae : Marcus, 1951 : 60, 82, 125.

Geoplana cameliae : E. M. Froehlich, 1955 a : 301, 330.

Geoplana cameliae : Hyman, 1962 : 2, 17-18 (in part).

Geoplana cameliae : C. G. Froehlich, 1967 : 158.

Note: Hyman (1941, 1957) reported *Geoplana cameliae* from the Canal Zone, Panama, and Trinidad. These specimens were misidentification of *Geoplana fuhrmanni* Hyman, 1962. *G. fuhrmanni* is classified as *Geoplana (Geoplana) fuhrmanni* Hyman, 1962, in this Index.

Gigantea chiriquii (Hyman, 1962) comb. nov.

Geoplana chiriquii n. sp. Hyman, 1962 : 16, 18-19, figs. 19-20 (DB, FCA). El Volcan (alt. 839 m), Chiriqui / Panama.

Geoplana chiriquii : C. G. Froehlich, 1967 : 158.

Gigantea gigantea (von Graff, 1899) comb. nov.

Landplanarien von 20 cm Länge und beinahe 1 cm Breite : von Kennell, 1883 : 279. Trinidad /

Trinidad and Tobago.

Geoplana gigantea n. sp. von Graff, 1899: 329-326; taf. VI, fig. 23 (DB in color). Arima, Marácas, Ortoire-Wald, Trinidad / Trinidad and Tobago ; Carácas and Apure (alt. 1000 m) / Venezuela.

Geoplana gigantea : Meixner, 1906: 665.

Geoplana gigantea : Schirch, 1929: 30.

Geoplana gigantea : de Beauchamp, 1939 b: 75.

Geoplana gigantea : Prudhoe, 1949 a: 420-422, fig. 1 (FCA), 427. Mt. Aripo, Trinidad / Trinidad and Tobago.

Geoplana gigantea : du Bois-Reymond Marcus, 1951: 220.

Geoplana gigantea : Marcus, 1951: 93, 100, 107, 128, 130.

Geoplana gigantea : Hyman, 1962: 1-5, figs. 1-2 (DB, AE, FCA). Simla, Trinidad / Trinidad and Tobago.

Geoplana gigantea : C. G. Froehlich, 1967: 158, 161.

Geoplana gigantea : E. M. Froehlich & C. G. Froehlich, 1972: 37.

Gigantea idaia (du Bois-Reymond Marcus, 1951) comb. nov.

Geoplana idaia n. sp. du Bois-Reymond Marcus, 1951: 218, 232-234, 238, 250-251, pl. VI, figs. 52-55 (VB, HI, FGO, FCA). Puna (alt. 4000 m), Abancay / Peru.

Geoplana idaia : du Bois-Reymond Marcus, 1957: 166.

Geoplana idaia : du Bois-Reymond Marcus, 1958: 401.

Geoplana idaia : C. G. Froehlich, 1959: 228.

Geoplana idaia : C. G. Froehlich, 1967: 158.

Geoplana idaia : E. M. Froehlich, 1978: 31.

Gigantea montana (Hyman, 1939) comb. nov.

Geoplana montana n. sp. Hyman, 1939 b: 424, 426-430, figs. 48 D-E (DVB, DVH, AE), 49 A-D (CP, HI, FCA). Coronado (alt. 1600 m) and Volcán Barba (alt. 2800 m) / Costa Rica.

Geoplana montana : du Bois-Reymond Marcus, 1951: 233-234.

Geoplana montana : Marcus, 1951: 93, 128.

Geoplana montana : Hyman, 1962: 2.

Geoplana montana : C. G. Froehlich, 1967: 158.

Gigantea picadoi (de Beauchamp, 1912) comb. nov.

Geoplana Picadoi n. sp. de Beauchamp, 1912: III-V, fig. 1 (FCA). Broméliaceés / Costa Rica.

Geoplana Picadoi : de Beauchamp, 1913: 41.

Geoplana picadoi : du Bois-Reymond Marcus, 1951: 218, 233-234.

Geoplana picadoi : Hyman, 1962: 2.

Geoplana picadoi : C. G. Froehlich, 1967: 158.

Gigantea sandersoni (Prudhoe, 1949) comb. nov.

Geoplana sandersoni n. sp. Prudhoe, 1949 a: 424-426, figs. 3-5 (CP, FCA, HI). Mount Aripo, Trinidad / Trinidad and Tobago.

Geoplana sandersoni : du Bois-Reymond Marcus, 1951: 218, 233-234.

Geoplana sandersoni : Hyman, 1962: 2.

Geoplana sandersoni : C. G. Froehlich, 1967: 158.

Gigantea unicolor (Hyman, 1955) comb. nov.

Geoplana unicolor n. sp. Hyman, 1955: 26, 28, figs. 36-37 (DB, AE, FCA). Lucma (alt. 2100 m) / Peru.

Geoplana unicolor : du Bois-Reymond Marcus, 1958 : 401.

Gigantea vongunteni (Fuhrmann, 1914) comb. nov.

Geoplana von gunteni n. sp. Fuhrmann, 1914 : 758, 760-762, figs. 6-10 (HI, FCA), 792 ; pl. XV, fig. 7 (DB). Medelline, Porce / Colombia.

Geoplana von gunteni : Prudhoe, 1949 a : 425.

Geoplana vongunteni : du Bois-Reymond Marcus, 1951 : 218, 224, 233-234, 238.

Geoplana vongunteni : E. M. Froehlich, 1955 a : 311, 323, 331.

Geoplana von Gunteni : Hyman, 1962 : 2.

Geoplana vongunteni : C. G. Froehlich, 1967 : 158.

Geoplana vongunteni : E. M. Froehlich, 1978 : 30, 32.

Genus *Gusana* E. M. Froehlich, 1978

Gusana n. g. E. M. Froehlich, 1978 : 8-9.

Type species : *Geoplana cruciata* von Graff, 1899.

Literature : E. M. Froehlich, 1978 : 8-14 ; see page 88 in the present paper.

Gusana cruciata (von Graff, 1899)

Geoplana cruciata n. sp. von Graff, 1899 : 316 ; taf. VII, figs. 30-33 (DVB, DH, CP in color). Tumbes / Chile.

Geoplana cruciata : Goetsch, 1933 : 245, 249, 254, fig. 3 b (DB), 261, 263-264, 284, 286. Tumbes, Concepción, Platte / Chile.

Geoplana cruciata : Marcus, 1951 : 85, 87, 126.

Geoplana cruciata : C. G. Froehlich, 1967 : 160.

Gusana cruciata : E. M. Froehlich, 1978 : 4-14, 44-47, figs. 1-8 (DVB, DVH, CP, AE, HI, FGO, FCA), 70-73, figs. 68-71 (HI). Isola Mancera and Lago Calafquén, Provincia Valdivia ; Nahuebuta, Provincia Malleco / Chile.

Note: See *Gusana platei* (von Graff, 1899).

Gusana lata (von Graff, 1899) comb. nov.

Geoplana lata n. sp. von Graff, 1899 : 320 ; taf. V, figs. 11-12 (DB, CP in color). Corral / Chile.

Geoplana lata : Böhmig, 1902 : 24. Corral / Chile.

Geoplana lata : Goetsch, 1933 : 245, 248, 248, 286.

Geoplana lata : de Beauchamp, 1958 : 360.

Geoplana lata : C. G. Froehlich, 1967 : 160.

Geoplana lata : E. M. Froehlich, 1978 : 23, 25.

Note: For the taxonomic position of this species, see *Amaga ruca* (Marcus, 1954).

Gusana platei (von Graff, 1899) comb. nov.

Geoplana platei n. sp. von Graff, 1899 : 312 ; Taf. VII, figs. 37-39 (DVB in color). Corral / Chile.

Geoplana platei : von Graff, 1912 : taf. XXXII, figs. 17-19 (DVB).

Geoplana platei : von Graff, 1914 : 2908.

Geoplana platei : Goetsch, 1933 : 245, 249, 254, fig. 3-a (DB), 261, 263-264, 284, 286. Corral, Plate / Chile.

Geoplana platei : Marcus, 1951 : 87, 126.

Geoplana platei : E. M. Froehlich, 1978 : 10, 14.

Note: E. M. Froehlich (1978, p. 19) wrote: "I suspect that *Geoplana platei* which approaches *Gusana cruciata* by

the shape and locality, and that was described by Graff as possessing a sensory border clearly visible, is another species to be assigned to *Gusana*." She (p.14) also wrote: "Another Chilean species, *G. platei*, from a little more distant locality, but similar biotope, could be conspecific with *G. cruciata*. Both the form of the body and the colour pattern are very similar." "Nevertheless, as its internal anatomy is not known it is better to keep it separated from *G. cruciata*." See *Gusana cruciata* (von Graff, 1899).

Genus *Issoca* Froehlich, 1955

Issoca n. g. C. G. Froehlich, 1955 a : 226.

Type species: *Geoplana rezendei* Schirch, 1929.

Literature: C. G. Froehlich, 1955 a : 226-234; C. G. Froehlich, 1958 : 105-107; see page 88 in the present paper.

Issoca jandaia Froehlich, 1955

Issoca jandaia n. sp. C. G. Froehlich, 1955 a : 195, 230-234, 243, 248; pls. VIII, X, figs. 47, 52-54 (DB, DH, FCA). Monte do Jaraguá, São Paulo / Brazil.

Issoca piranga Froehlich, 1955

Issoca piranga n. sp. C. G. Froehlich, 1955 a : 195, 232-234, 243, 248; pls. VIII, XI, figs. 48, 55-58 (DB, VH, AE, FGO, FCA). Teresópolis, Rio de Janeiro / Brazil.

Issoca piranga: C. G. Froehlich, 1958 : 107.

Issoca potyra Froehlich, 1958

Issoca potyra n. sp. C. G. Froehlich, 1958 : 93, 105-107, 118-121; pls. 5-6, figs. 31-38 (DB, DH, AE, CP, HI, FGO, FCA). Eldorado (Xiririca), Rio Ribeira, São Paulo / Brazil.

Issoca rezendei (Schirch, 1929)

Geoplana rezendei n. sp. Schirch, 1929 : 31-32, 36; pl. III, fig. 5 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana rezendei: Riester, 1938 : 43-45, figs. 44-47 (DB, DH, AE, FCA), 85, 88; taf. 1, figs. 13-14 (DB in color). Barreira, Therezópolis, Rio de Janeiro / Brazil.

Geoplana rezendei: Marcus, 1951 : 6, 69-70, 121, 176-177, pl. XXI, fig. 128 (DB), 188-182, pl. XXVII, figs. 178-189 (DH, AE, CP, HI, FGO, FCA), 212-213, pl. XXXIX, fig. 292 (CP in color). Jardim Europa, São Paulo / Brazil.

Issoca rezendei: C. G. Froehlich, 1955 a : 195, 228-231, 234, 242, 245, 248; pls. VIII-IX, figs. 46, 49-51 (DH, AE, HI, FGO). Ubatuba, Vila Atlântica and Itanhaen, São Paulo; Basa, Santa Catarina; Teresópolis, Rio de Janeiro / Brazil.

Issoca rezendei: C. G. Froehlich, 1955 c : 265.

Issoca rezendei: C. G. Froehlich, 1956 a : 314. Ubatuba, Rio de Janeiro / Brazil.

Issoca rezendei: C. G. Froehlich, 1956 b : 186.

Geoplana rezendei: Hyman, 1962 : 21.

Issoca rezendei: Almeida, Yamada & E. M. Froehlich, 1988 : 764-765. $2x=14$.

Issoca rezendei: Almeida, Yamada & E. M. Froehlich, 1990 : 48. $2x=14$.

Issoca spatulata (von Graff, 1899)

Choeradoplana spatulata n. sp. von Graff, 1899 : 398-399; taf. VII, figs. 1-3 (VB, DH, CP in color). Blumenau, Santa Catharina / Brazil.

Choeradoplana spatulata: Marcus, 1951 : 106.

Issoca spatulata: C. G. Froehlich, 1955 a : 227, 234, 248.

Genus *Liana* E. M. Froehlich, 1978

Liana n. g. E. M. Froehlich, 1978 : 18-19.

Type species : *Liana guasa* E. M. Froehlich, 1978.

Literature : E. M. Froehlich, 1978 : 18-22 ; see pages 88-89 in the present paper.

Liana guasa E. M. Froehlich, 1978

Liana guasa n. sp. E. M. Froehlich, 1978 : 18-22, 52-53, fig. 24 (HI), 76. Nahuelbuta, Provincia Malleca / Chile.

Genus *Microplana* Vejdovský, 1890

Microplana n. g. Vejdovský, 1890 : 129-148.

Type species : *Microplana humicola* Vejdovský, 1890.

Microplaninae ; Rhynchodemidae. Cf. Ogren & Kawakatsu, 1988 b (pp. 47-49), 1989 (p. 60).

Microplana ruca Marcus, 1954

See *Amaga ruca* (Marcus, 1954).

Genus *Notogynaphallia* Ogren et Kawakatsu, gen. nov.

Notogynaphallia n. g. Ogren & Kawakatsu : described in the present paper. See pages 86-87.

Type species : *Geoplana plumbea* Froehlich, 1956.

Literature : Riester, 1938 ; E. M. Froehlich, 1955 b ; C. G. Froehlich, 1956 b, 1967.

Notogynaphallia abundans (von Graff, 1899) comb. nov.

Geoplana marginata : von Graff, 1894 : 2. San Pedro and Colonie Neu-Germania / Paraguay.
[nec *Geoplana marginata* Schultze et Müller, 1857].

Geoplana marginata : von Graff, 1896 b : 81.

Geoplana marginata : von Graff, 1899 : 187, fig. 36 (FCA), 305-307 ; taf. V, figs. 27-30 (DB, CP in color), LVIII, fig. 36 (FCA). Santa Catharina and Taguara, Rio Grande do Sul / Brazil ; San Pedro and Colonie Neu-Germania / Paraguay.

Geoplana marginata var. *abundans* n. var. von Graff, 1899 : 306. Brazil ; Paraguay.

Geoplana marginata : von Graff, 1912 : taf. LI, fig. 5 (FCA).

Geoplana marginata : von Graff, 1914 : 2959.

Geoplana marginata : von Graff, 1915 : 3075.

Geoplana marginata : von Graff, 1916 : 3139.

Geoplana marginata (in part) : Schirch, 1929 : 30.

Geoplana marginata : Goetsch, 1933 : 264.

Geoplana marginata : Marcus, 1951 : 6, 56-58, 60-69, 118, 121, 176-177, pl. XXI, fig. 121 (DB), 180-181, pl. XXIII, figs. 151-154 (CP, HI, FCA), 212-213, pl. XXXIX, fig. 286 (CP in color). Cidade Jardim, Mogi des Cruzes, Parque Paulista, and Ribeirão Pires, São Paulo ; Vila Atlântica, Santos, Serra do Mar, São Paulo / Brazil.

Geoplana marginata : C. G. Froehlich, 1955 c : 264, 267-269.

Geoplana marginata : E. M. Froehlich, 1955 b : 205.

Geoplana marginata : C. G. Froehlich, 1956 b : 173. Curitiba and Caiobá, Paraná / Brazil.

Geoplana marginata : de Beauchamp, 1958 : 360.

Geoplana marginata: C. G. Froehlich, 1958: 93-94, 110-111, pl. 1, fig. 1 (FCA). Cananeia, São Paulo / Brazil.

Geoplana abundans: C. G. Froehlich, 1959: 201, 208, 235, 239. São Leopoldo, Rio Grande do Sul / Brazil.

Geoplana abundans: C. G. Froehlich, 1967: 159, 161.

Geoplana abundans: Almeida, Yamada & E. M. Froehlich, 1988: 764-765. 2x=14.

Geoplana marginata (auctorum): Almeida, Yamada & E. M. Froehlich, 1990: 48. 2x=14.

Note: [nec *Geoplana marginata* Schultze et Müller, 1857; nec *Geoplana marginata* Müller, 1857, in Schirch (1929) and Riester (1938)]. See *Geoplana* (*Geoplana*) *marginata* Schultze et Müller, 1857; *Notogynaphallia caissara* (Froehlich, 1955).

Notogynaphallia albonigra (Riester, 1938) comb. nov.

Geoplana albonigra n. sp. Riester, 1938: 7-9, figs. 4-5 (AE, FCA), 86-87; taf. 1, fig. 2 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana albonigra: E. M. Froehlich, 1955 a: 329, 332.

Geoplana albonigra: E. M. Froehlich, 1955 b: 209.

Geoplana albonigra: C. G. Froehlich, 1967: 159.

Notogynaphallia andina (Hyman, 1962) comb. nov.

Geoplana andina n. sp. Hyman, 1962: 6-10, figs. 6-10 (DB, DH, AE, FCA). Bitace, Departamento del Valle / Colombia.

Notogynaphallia atra (Schultze et Müller, 1857) comb. nov.

Geoplana atra n. sp. Schultze & Müller, 1857: 24. Blumenau, Santa Catharina / Brazil.

Geoplana atra: Schultze, 1857: 4.

Geoplana atra: Diesing, 1861: 513.

Geoplana atra: Moseley, 1877 a: 288.

Geoplana atra (in part): von Graff, 1899: 307. Santa Catharina / Brazil.

Geoplana atra (in part): von Graff, 1914: 2888, 2953.

Geoplana atra (in part): von Graff, 1915: 2978.

Geoplana atra (in part): Steinböck, 1925: 176.

Geoplana atra (in part): Riester, 1938: 36.

Geoplana atra (in part): du Bois-Reymond Marcus, 1951: 232.

Geoplana atra (in part): Marcus, 1951: 75-76, 102, 122-123, 131.

Geoplana atra (in part): E. M. Froehlich, 1955 b: 212.

Geoplana atra (in part): C. G. Froehlich, 1956 b: 184, 186.

Geoplana atra: Fyfe, 1956: 513.

Geoplana atra: C. G. Froehlich, 1959: 227, 234-235, 239-240. Syn. *Geoplana nana* Froehlich, 1956.

Note: [nec *Geoplana atra* Müller, 1857, in von Graff (1899)]. See *Geoplana* (*Geoplana*) *nigra* Froehlich, 1959, and *Notogynaphallia nana* (Froehlich, 1956).

Notogynaphallia bergi (von Graff, 1899) comb. nov.

Geoplana bergi n. sp. von Graff, 1899: 323; taf. VII, figs. 18-19 (DB in color). São Paulo / Brazil.

Geoplana bergi: Meixner, 1906: 665.

Geoplana bergi (?): Riester, 1938: 16-19, figs. 13-15 (DH, AE, FCA), 86-87; taf. 1, fig. 5 (DB in color). Fazenda Macacú and Therezópolis, Rio de Janeiro / Brazil.

Geoplana bergi: Marcus, 1951: 6, 58-60, 62, 118, 176-177, pl. XXI, fig. 122 (DB), 182-183, pl.

XXIV, figs. 155-159 (DVB, DH, HI, FCA), 212-213, pl. XXXIX, figs. 287-288 (CP in color). Alto da Serra, Cidade Jardim, Horto Florestal, and Jardim Europa, São Paulo; Vila Atlântica, Santos, Serra do Mar, São Paulo / Brazil. *Syn. Choeradoplana iheringi*? in Schirch (1929); *Geoplana meixneri* Riester, 1938.

Geoplana bergi: C. G. Froehlich, 1955 a: 195, 212-213, 241.

Geoplana bergi: C. G. Froehlich, 1955 c: 266.

Geoplana bergi: E. M. Froehlich, 1955 a: 305, 330, 332.

Geoplana bergi: E. M. Froehlich, 1955 b: 211-212.

Geoplana bergi: C. G. Froehlich, 1956 a: 313, 316-318. Teresópolis, Rio de Janeiro / Brazil.
Syn. Geoplana bergi Riester, 1938.

Geoplana bergi: C. G. Froehlich, 1956 b: 174. Curitiba, Serra do Mar, Paranaguá, and Morretes, Paraná; Blumenas, Santa Catarina / Brazil.

Geoplana bergi: C. G. Froehlich, 1967: 157.

Note: See *Notogynaphallia meixneri* (Riester, 1938); *Choeradoplana iheringi* von Graff, 1899.

Notogynaphallia caissara (E. M. Froehlich, 1955) comb. nov.

Geoplana marginata: Schirch, 1929: 30, 36; taf. II, fig. 10 (DB in color). Brazil.

Geoplana marginata: Riester, 1938: 29-32, figs. 31-33 (DH, AE, HI, FCA), 86-87; taf. 1, fig. 7 (DB, CP in color), fig. 30 (DB). Boa Fé, Fazenda Arnaldo Guinlé and Therezópolis, Rio de Janeiro; Ribeirão Piros, Serra de Mar, São Paulo / Brazil.

Geoplana caissara: C. G. Froehlich, 1955 c: 267. Cf. E. M. Froehlich (1955 a).

Geoplana caissara nom. nov. E. M. Froehlich, 1955 a: 291, 295-297, 317, 329-332; pl. I, figs. 1-8 (DH, CP HI, FCA). Ubatuba, São Paulo; Teresópolis and Barreira, Rio de Janeiro / Brazil.

Geoplana marginata in Schirch (1929) and Riester (1938): E. M. Froehlich, 1955 a: 295, 297, 329-332.

Geoplana caissara: E. M. Froehlich, 1955 b: 205.

Geoplana caissara: C. G. Froehlich, 1956 a: 314, 331. Cávea Pequena, Rio de Janeiro / Brazil.

Geoplana marginata in Schirch (1929) and Riester (1938): C. G. Froehlich, 1956 a: 330.

Geoplana caissara: C. G. Froehlich, 1959: 219, 235.

Note: [nec *Geoplana marginata* Schultze et Müller, 1857; nec *Geoplana marginata* Müller, 1857, in von Graff (1894, 1896, 1899)]. See *Geoplana* (*Geoplana*) *marginata* Schultze et Müller, 1857; *Notogynaphallia abundans* (von Graff, 1899).

Notogynaphallia fita (Froehlich, 1959) comb. nov.

Geoplana fita n. sp. C. G. Froehlich, 1959: 202, 217-219, 239; pls. 6-7, figs. 45-48, 50-52 (DB, DH, AE, CP, HI, FCA). Blumenau, Santa Catarina / Brazil.

Geoplana fita: C. G. Froehlich, 1967: 160.

Notogynaphallia froehlichae Ogren et Kawakatsu, nom. nov.

Geoplana modesta (?) (in part): Riester, 1938: 22-25, figs. 21-23 (DB, DH, AE, FCA), 86-87; taf. 1, fig. 6 (DB in color). Penha, Cabo Branco, Parahyba do Norte / Brazil.

Geoplana modesta (?) (in part): Marcus, 1951: 100, 130.

Geoplana modesta: E. M. Froehlich, 1955 a: 313-314, 331. [nec *Geoplana modesta* von Graff, 1899].

Geoplana modesta: E. M. Froehlich, 1955 b: 204.

Note: E. M. Froehlich (1955 a, p. 314) wrote: "A espécie que Riester (1938, p. 24; t. 1, f. 6), com reserva acentuada, chamou de *G. modesta* possui aparêlho genital não incompatível com o de *G. parca*. O

tamanho, colorido e a distribuição dos olhos em tanto de parca como de *G. modesta* Graff. A espécie de Riester deveria, oportunamente, receber nova denominação." See *Notogynaphallia modesta* (von Graff, 1899).

Notogynaphallia garua (du Bois-Reymond Marcus, 1951) comb. nov.

Geoplana garua n. sp. du Bois-Reymond Marcus, 1951: 217-218, 240-241, pl. I, figs. 1-6 (VB, CP, HI, FCA). Contumazá (alt. 2850 m), SW of Cajamarca / Peru.

Geoplana garua: du Bois-Reymond Marcus, 1958: 400.

Notogynaphallia goetschi (Riester, 1938) comb. nov.

Geoplana goetschi n. sp. Riester, 1938: 20-24, figs. 19-20 (DH, AE, FCA), 86. Fazenda Macacú, Rio de Janeiro / Brazil.

Geoplana fryi var. *bruna* n. sp. Riester, 1938: 24, 69-71, figs. 80-81, 83 (DB, DH, FCA). Alto de Therezópolis, Dedo de Deus, Fazenda Arnaldo Guinlé, and Therezópolis, Rio de Janeiro / Brazil.

Geoplana goetschi: Marcus, 1951: 6, 68-69, 72, 74-75, 83, 121-123, 129, 176-177, pl. XXI, fig. 130 (DB), 190-191, pl. XXVIII, figs. 189-193 (DB, AE, HI, FCA), 212-213, pl. XXXIX, fig. 293 (CP in color). Eldorado, Horto Florestal and Mogi das Cruzes, São Paulo; Vila Atlântica, Santos, Serra do Mar, São Paulo / Brazil. Syn. *Geoplana fryi* var. *bruna* Riester, 1938.

Geoplana fryi var. *bruna*: Marcus, 1951: 72, 74, 122.

Geoplana goetschi: C. G. Froehlich, 1955 c: 264-266, 270.

Geoplana goetschi: E. M. Froehlich, 1955 a: 329.

Geoplana goetschi: E. M. Froehlich, 1955 b: 210-211.

Geoplana goetschi: C. G. Froehlich, 1956 a: 314, 324-325, 341. Barreira and Ubatuba, Rio de Janeiro / Brazil.

Geoplana fryi var. *bruna*: C. G. Froehlich, 1956 a: 324.

Geoplana goetschi: C. G. Froehlich, 1958: 93, 96, 110-111, fig. 2 (CP). Guapiara, São Paulo / Brazil.

Geoplana fryi var. *bruna*: C. G. Froehlich, 1958: 96.

Geoplana goetschi: C. G. Froehlich, 1967: 159.

Notogynaphallia matuta (E. M. Froehlich, 1955) comb. nov.

Geoplana matuta n. sp. E. M. Froehlich, 1955 a: 291, 299, 311-312, 329, 331; pls. VI-VII, figs. 38-39, 42-43 (DB, DH, AE, HI, FCA). Teresópolis, Alto, Rio de Janeiro / Brazil.

Geoplana matuta: E. M. Froehlich, 1955 b: 212.

Geoplana matuta: C. G. Froehlich, 1955 c: 267.

Geoplana matuta: C. G. Froehlich, 1956 a: 320, 332.

Notogynaphallia meixneri (Riester, 1938) comb. nov.

Geoplana meixneri n. sp. Riester, 1938: 11-13, figs. 7-9 (DB, AE, FCA), 16, 18, 87; taf. 1, fig. 3 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana meixneri: Marcus, 1951: 58, 60, 118. Syn. of *Geoplana bergi* von Graff, 1899.

Geoplana meixneri: C. G. Froehlich, 1956 a: 316.

Geoplana meixneri: C. G. Froehlich, 1956 b: 174.

Note: Marcus (1951) and C. G. Froehlich (1956 a, b) considered this species is a synonym of *Geoplana bergi* von Graff, 1899. See *Notogynaphallia bergi* (von Graff, 1899).

Notogynaphallia modesta (von Graff, 1899) comb. nov.

Geoplana modesta n. sp. von Graff, 1899: 322; taf. VI, figs. 1-4 (DB, VH, CP in color).

Asunción / Paraguay.

Geoplana modesta (?) (in part) : Riester, 1938 : 22-25. Cf. E. M. Froehlich (1955 a, b).

Geoplana modesta (?) (in part) : Marcus, 1951 : 110, 130.

Geoplana modesta in von Graff (1899) : E. M. Froehlich, 1955 a : 294, 313-314, 329, 331-332.
[nec *Geoplana modesta* (?) in Riester (1938)].

Geoplana modesta : E. M. Froehlich, 1955 b : 204.

Note: E. M. Froehlich (1955 a, b) considered this species is different from *Geoplana modesta* von Graff, 1899, in Riester (1938). See *Notogynaphallia froehlichae* Ogren et Kawakatsu, nom. nov.

Notogynaphallia mourei (Froehlich, 1956) comb. nov.

Geoplana mourei n. sp. C. G. Froehlich, 1956 b : 181-183, 186, 189, 191 ; pls. VI-VII, figs. 22-27
(DB, DH, AE, CP, HI, FCA). Serra do Mar, Curitiba and Paranaguá, Paraná / Brazil.

Notogynaphallia muelleri (Diesing, 1861) comb. nov.

Geoplana elegans n. sp. Schultze & Müller, 1857 : 23-24. Brazil. [nec *Planaria elegans* Darwin, 1844 ; *Geoplana elegans* (Darwin, 1844) ; *Geoplana (Barreirana) elegans* (Darwin, 1844)].

Geoplana elegans : Schultze, 1857 : 4, 7.

Geoplana Mülleri nom. nov. Diesing, 1861 : 511.

Planaria elegans : Diesing, 1861 : 511.

Geoplana Mülleri : Moseley, 1877 a : 288.

Geoplana muellerae : von Graff, 1899 : 333. Brazil.

Geoplana müllerae : E. M. Froehlich, 1955 b : 205.

Geoplana müllerae : C. G. Froehlich, 1959 : 201, 204-208, 239 ; pls. 2-3, figs. 10-18 (DB, DH, AE, CP, HI, FCA). Paranapiacaba, São Paulo ; Blumenau, Rio do Testo, Pommerode, Itajaí and Brusque, Santa Catarina / Brazil. Syn.: *Geoplana elegans* Schultze et Müller, 1857 ; *Geoplana pallida* Schultze et Müller, 1857 : *Geoplana schultzei* Diesing, 1861.

Geoplana müllerae : C. G. Froehlich, 1967 : 160.

Geoplana müllerae : E. M. Froehlich, 1978 : 31.

Note: See *Geoplana (Barreirana) elegans* (Darwin, 1844).

Notogynaphallia nana (Froehlich, 1956) comb. nov.

Geoplana nana n. sp. C. G. Froehlich, 1956 b : 183-185, 188-189, 191 ; pls. VII-VIII, figs. 28-31, 34-35 (DB, DH, AE, HI, FCA). Lapa, Paraná ; Blumenau, Itajaí, Rio do Testo and Brusque, Santa Catarina / Brazil.

Geoplana nana : C. G. Froehlich, 1959 : 235, 239.

Note: In his latter paper C. G. Froehlich (1959, pp. 234-235) pointed out that this species is a synonym of *Geoplana atra* Müller, 1857. [nec *Geoplana atra* Müller, 1857, in von Graff (1899)]. See *Notogynaphallia atra* (Schultze et Müller, 1857), and *Geoplana (Geoplana) nigra* Froehlich, 1959.

Notogynaphallia nataliae (Froehlich, 1959) comb. nov.

Geoplana nataliae n. sp. C. G. Froehlich, 1959 : 202, 226-228, 239 ; pl. 9, figs. 62-66 (DVB, CP, HI, FCA). Blumenau, Santa Catarina / Brazil.

Notogynaphallia octostriata (Schultze et Müller, 1857) comb. nov.

Geoplana octostriata n. sp. Schultze & Müller, 1857 : 23. Blumenau, Santa Catharina / Brazil.
Geoplana octostriata : Schultze, 1857 : 4.

Geoplana octostriata : Diesing, 1861 : 512-513.

Geoplana octostriata : Moseley, 1877 a : 288.

Geoplana octostriata : von Graff, 1899 : 331-332 ; taf. VII, figs. 4-5 (CP in color). Santa Catha-

rina and Rio Grande do Sul / Brazil.

Geoplana octostriata : Schirch, 1929 : 30, 36 ; pl. II, fig. 3 (CP in color). Therezópolis, Rio de Janeiro / Brazil. Cf. *Geoplana octostriata* Schirch, 1929.

Geoplana octostriata : Riester, 1938 : 5-6.

Geoplana octostriata : E. M. Froehlich, 1955 b : 204. Syn. *Geoplana sexstriata* von Graff, 1899.

Geoplana octostriata : C. G. Froehlich, 1959 : 233-234, 239. Syn. *Geoplana sexstriata* von Graff, 1899 ; *Geoplana octostriata* Schirch, 1929.

Note: C. G. Froehlich (1959, p. 234) wrote: " *Geoplana sexstriata* Graff could be a synonym [of] this species, but only the study of eight-striped worms from the type locality can settle this problem. The eight-striped worm [which] Graff had from Rödersburg, State of Rio Grande do Sul, probably was correctly identified. Schirch's *G. octolineata* is a synonym of *G. sexstriata* (du B.-R. Marcus, 1951, p. 236), and the same may be the case with his *G. octostriata*." See *Notogynaphallia sexstriata* (von Graff, 1899) and *Pseudogeoplana octolineata* (Schirch, 1929).

Notogynaphallia parca (E. M. Froehlich, 1955) comb. nov.

Geoplana parca n. sp. E. M. Froehlich, 1955 a : 291, 312-314, 329, 331-332 ; pl. VIII, figs. 45-49 (DB, DH, AE, CP, HI, FCA). Horto Florestal da Cantareira, São Paulo / Brazil.

Geoplana parca : E. M. Froehlich, 1955 b : 203.

Geoplana parca : C. G. Froehlich, 1956 b : 183, 186, 188-189.

Notogynaphallia plumbea (Froehlich, 1956) comb. nov.

Geoplana plumbea n. sp. C. G. Froehlich, 1956 b : 173, 185-186, 189, 191 ; pls. VII-VIII, figs. 32-33, 36-38 (DB, DH, AE, HI, FCA). Serra do Mar, Curitiba and Paranaguá, Paraná ; Horto Florestal da Cantareira and Jaraguá, São Paulo / Brazil.

Geoplana plumbea : C. G. Froehlich, 1959 : 227-228.

Notogynaphallia quinquestriata (Hyman, 1962) comb. nov.

Geoplana quinquestriata n. sp. Hyman, 1962 : 11-14, fig. 14 (DB). Barro Colorado Island, Canal Zone / Panama.

Notogynaphallia schultzei (Diesing, 1861) comb. nov.

Geoplana pallida n. sp. Schultze & Müller, 1857 : 24. Blumenau, Santa Catharina / Brazil. [nec *Planaria pallida* Darwin, 1844 ; *Geoplana pallida* (Darwin, 1844)]. See *Pseudogeoplana pallida* (Darwin, 1844).

Geoplana pallida : Schultze, 1857 : 4, 7.

Geoplana Schultzei nom. nov. Diesing, 1861 : 512.

Geoplana Schultzei : Moseley, 1877 a : 288.

Geoplana schultzei : von Graff, 1899 : 327. Brazil.

Geoplana schultzei : E. M. Froehlich, 1955 b : 205.

Geoplana pallida : C. G. Froehlich, 1959 : 204, 207, 234, 239.

Geoplana schultzei : C. G. Froehlich, 1959 : 201, 204, 207, 239. Blumenau, Itajaí and Brusque, Santa Catarina / Brazil.

Note: C. G. Froehlich (1959) considered this species and *Geoplana elegans* Schultze et Müller, 1857, are synonyms of *Geoplana Müllerii* Diesing, 1861. See *Notogynaphallia muelleri* (Diesing, 1861).

Notogynaphallia sexlineata (Riester, 1938) comb. nov.

Geoplana sexlineata n. sp. Riester, 1938 : 5-7, figs. 1-3 (DB, DH, FCA), 85-87 ; taf. 1, fig. 1 (DB in color). Arras, Minas Geraes ; Therezópolis and Cascata Imbuhy, Rio de Janeiro / Brazil.

Geoplana sexlineata : du Bois-Reymond Marcus, 1951 : 237-238.

Geoplana sexlineata : Marcus, 1951 : 100, 130.

Notogynaphallia sexstriata (von Graff, 1899) comb. nov.

Geoplana sexstriata n. sp. von Graff, 1899 : 329 ; taf. VII, figs. 10-11 (DB, CP in color). Taqua, Rio Grande do Sul / Brazil.

Geoplana sexstriata : Riester, 1938 : 6. Spelling error.

Geoplana sexstriata : du Bois-Reymond Marcus, 1951 : 235-236, 238, 252-253, pl. VIII, figs. 79-81 (DH, CP in color). Brusque, Santa Catarina ; São Paulo / Brazil. Syn. *Geoplana octolineata* Schirch, 1929.

Geoplana sexstriata : Marcus, 1951 : 100, 130.

Geoplana sexstriata : E. M. Froehlich, 1955 a : 329. Spelling error.

Geoplana sexstriata : E. M. Froehlich, 1955 a : 332.

Geoplana sexstriata : E. M. Froehlich, 1955 b : 204. Syn. of *Geoplana octostriata* Müller, 1857.

Geoplana sexstriata : C. G. Froehlich, 1956 a : 313, 317, 318-319, figs. 3-7 (DH, CP, FCA), 341. Teresópolis, Rio de Janeiro / Brazil.

Geoplana sexstriata : C. G. Froehlich, 1959 : 206, 234, 239. Syn. *Geoplana octolineata* Schirch, 1929. Syn. *Geoplana octostriata* Müller, 1857.

Note : See *Notogynaphallia octostriata* (Schultze et Müller, 1857), and *Pseudogeoplana octolineata* (Schirch, 1929).

Notogynaphallia tuxaua (E. M. Froehlich, 1955) comb. nov.

Geoplana tuxaua n. sp. E. M. Froehlich, 1955 a : 291, 299, 308-309, 323-325, 329, 331 ; pls. XIV-XV, figs. 80-94 (DB, DH, AE, HI, FGO, FCA). Morro do Jaraguá and Horto Florestal da Cantareira, São Paulo / Brazil.

Geoplana tuxaua : E. M. Froehlich, 1955 b : 206.

Geoplana tuxaua : C. G. Froehlich, 1955 c : 267.

Geoplana tuxaua : C. G. Froehlich, 1956 a : 320, 332.

Geoplana tuxaua : C. G. Froehlich, 1956 b : 186.

Genus *Pasipha* Ogren et Kawakatsu, gen. nov.

Pasipha n. g. Ogren & Kawakatsu : described in the present paper. See page 86.

Type species : *Geoplana pasipha* Marcus, 1951.

Literature : von Graff, 1899 ; E. M. Froehlich, 1955 a : 1978 ; C. G. Froehlich, 1967.

Pasipha aphalla (Hyman, 1941) comb. nov.

Geoplana aphalla n. sp. Hyman, 1941 : 1, 4, 6-7, 9, figs. 6-7 (DB, AE, FCA). Barro Colorado Island, Canal Zone / Panama.

Geoplana aphalla : C. G. Froehlich, 1967 : 159.

Geoplana aphalla : Hyman, 1962 : 2.

Pasipha astraea (Marcus, 1951) comb. nov.

Geoplana astraea n. sp. Marcus, 1951 : 6, 79-80, 124, 178-179, pl. XXII, fig. 133 (DB), 194-195, pl. XXX, figs. 203-204 (DB, HI, FCA). Cidade Jardim and Mogi das Cruzes, São Paulo / Brazil.

Geoplana astraea : E. M. Froehlich, 1955 a : 327, 331.

Geoplana astraea : C. G. Froehlich, 1956 a : 336.

Geoplana astraea : C. G. Froehlich, 1956 b : 184, 186.

Geoplana astraea : C. G. Froehlich, 1959 : 227.

Geoplana astraea : C. G. Froehlich, 1967 : 159.

Pasipha biseminalis (Riester, 1938) comb. nov.

Geoplana biseminalis n. sp. Riester, 1938: 9-10, fig. 6 (FCA), 86. Therezópolis, Rio de Janeiro / Brazil.

Pasipha caeruleonigra (Riester, 1938) comb. nov.

Geoplana caeruleo-nigra n. sp. Riester, 1938: 19-21, 86, figs. 16-18 (DB, DH, AE, FCA). Fazenda Arnaldo Guinlê, Rio de Janeiro / Brazil.

Geoplana caeruleo-nigra: Marcus, 1951: 93, 128.

Geoplana caeruleonigra: C. G. Froehlich, 1967: 159.

Geoplana caeruleo-nigra: Ogren, 1989: 141.

Geoplana caeruleonigra: Ogren, 1989: 141.

Geoplana caeruleo-nigra: Ogren, 1989: 141. Spelling error.

Pasipha chilensis (von Graff, 1899) comb. nov.

Geoplana chilensis n. sp. von Graff, 1899: 332-333; taf. II, figs. 38-42 (DB, DH, CP in color). Coyinhue, Valdivia and Quinta Normal, Santiago / Chile.

Geoplana chilensis: Böhmig, 1902: 24. Coyihué bei Valdivia / Chile.

Geoplana chilensis (in part): Schirch, 1929: 30, 36. Syn. of *Geoplana burmeisteri* Schultze, 1857.

Geoplana chilensis: Goetsch, 1933: 245, 257-258, 286.

Geoplana chilensis: E. M. Froehlich, 1955 a: 293, 319, 331.

Geoplana chilensis: C. G. Froehlich, 1967: 159.

Geoplana chilensis: E. M. Froehlich, 1978: 7, 25-28, 54-57, figs. 29-31, 34-35 (BD, VH, AE, CP, HI, FCA). Palmas de Cocalán, near Santiago / Chile.

Note: C. G. Froehlich (1955 b, p. 190) classified Schirch's animal from Therezópolis as *Geoplana burmeisteri* Schultze, 1857. See *Geoplana* (*Geoplana*) *burmeisteri* Schultze et Müller, 1857.

Pasipha chimbeva (Froehlich, 1955) comb. nov.

Geoplana chimbeva n. sp. E. M. Froehlich, 1955 a: 291, 303-305, 312, 327, 330-331; pls. III-V, figs. 20-25 (DB, DH, AE, HI, FGO, FCA). Morto do Jaraguá, São Paulo / Brazil.

Geoplana chimbeva: E. M. Froehlich, 1955 b: 212.

Geoplana chimbeva: C. G. Froehlich, 1956 a: 336, 342.

Geoplana chimbeva: C. G. Froehlich, 1967: 159.

Pasipha diminutiva (Hyman, 1955) comb. nov.

Geoplana diminutiva n. sp. Hyman, 1955: 27-30, figs. 38-40 (DB, DH, AE, FCA). The River Charape / Peru.

Pasipha ercilla (E. M. Froehlich, 1978) comb. nov.

Geoplana ercilla n. sp. E. M. Froehlich, 1978: 8, 28-32, 54-61, figs. 32-33, 36-44 (DB, DH, CP, HI, FGO, FCA). Nahuelbuta, Provincia Malleco / Chile.

Pasipha hauseri (Froehlich, 1959) comb. nov.

Geoplana maximiliani (in part): von Graff, 1899: 299-300; taf. III, figs. 33-34 (CP in color). Taquara, Rio Grande do Sul / Brazil.

Geoplana Maximiliani (in part ?): de Beauchamp, 1913: 41.

Geoplana maximiliani (in part): von Graff, 1913: 2724.

Geoplana maximiliani (in part): von Graff, 1914: 2916, fig. 113 (DH, AE).

Geoplana maximiliani (in part): Goetsch, 1933: 261.

Geoplana hauseri n. sp. C. G. Froehlich, 1959: 202, 223-225, 237-239; pl. 10, figs. 67-70 (DB, CP, AE, HI, FCA). São Leopoldo, Rio Grande do Sul / Brazil.

Geoplana hauseri: C. G. Froehlich, 1967: 159.

Geoplana hauseri : E. M. Froehlich & C. G. Froehlich, 1972 : 31, 34-35, figs. 5-7 (DB, FCA).
Utinga, Belén, Pará / Brazil.

Note: C. G. Froehlich (1959, p. 238) pointed out the similarity of external appearance between this species and *Geoplana maximiliani* Müller, 1857, in von Graff (1899). Thus, von Graff's species is tentatively placed here. See *Pseudogeoplana maximiliani* (Schultze et Müller, 1857).

Pasipha oliverioi (Froehlich, 1955) comb. nov.

Geoplana oliverioi n. sp. C. G. Froehlich, 1955 b : 191, 198, fig. 3 (DB), 200. Alto de Teresópolis, Rio de Janeiro / Brazil.

Geoplana oliverioi : E. M. Froehlich, 1955 b : 207, 209.

Geoplana oliverioi : C. G. Froehlich, 1956 a : 314, 331-336, figs. 44-47 (DH, AE, HI, FCA), 341. Teresópolis, Rio de Janeiro / Brazil.

Geoplana oliverioi : C. G. Froehlich, 1967 : 159.

Pasipha pasipha (Marcus, 1951) comb. nov.

Geoplana pasipha n. sp. Marcus, 1951 : 6, 56, 62-63, 69, 86, 91-93, 117, 121, 128, 130, 178-179, pl. XXII, fig. 139 (DB), 200-201, pl. XXXIII, figs. 237-241 (DH, AE, HI, FCA). Cidade Jardim, Horto Florestal, Jardim Europa and Parque Paulista, São Paulo / Brazil.

Geoplana pasipha : E. M. Froehlich, 1955 b : 207.

Geoplana pasipha : C. G. Froehlich, 1955 c : 265.

Geoplana pasipha : E. M. Froehlich, 1955 a : 305, 308-309, 325, 327, 330-331.

Geoplana pasipha : C. G. Froehlich, 1956 a : 336.

Geoplana pasipha : C. G. Froehlich, 1956 b : 186.

Geoplana pasipha : C. G. Froehlich, 1967 : 159.

Geoplana pasipha : E. M. Froehlich, 1978 : 28.

Pasipha penhama (Riester, 1938) comb. nov.

Geoplana penhama n. sp. Riester, 1938 : 13-16, figs. 10-12 (DB, DH), 18, 20 (AE, CP, FCA), 86 -87 ; taf. 1, fig. 4 (DB in color). Penha, Cabo Branco (Parahyba do Norte) / Brazil.

Geoplana penhama : Marcus, 1951 : 80, 93, 100, 124, 128, 130.

Geoplana penhama : E. M. Froehlich, 1955 a : 305, 327, 330-331.

Geoplana penhama : E. M. Froehlich, 1955 b : 204.

Geoplana penhama : C. G. Froehlich, 1967 : 159.

Pasipha pinima (E. M. Froehlich, 1955) comb. nov.

Geoplana pinima n. sp. E. M. Froehlich, 1955 a : 291, 314-315, 327, 329, 331 ; pls. VIII-IX, figs. 50-53 (DB, CP, HI, FCA). Holto Florestal da Cantareira, São Paulo / Brazil.

Geoplana pinima : E. M. Froehlich, 1955 b : 209-210.

Geoplana pinima : C. G. Froehlich, 1967 : 159.

Pasipha plana (Schirch, 1929) comb. nov.

Geoplana plana n. sp. Schirch, 1929 : 31, 33-34, 36 ; pl. III, fig. 4 (DB in color). Terozópolis, Rio de Janeiro / Brazil.

Geoplana plana : Riester, 1938 : 84-85, fig. 99 (DB), 86, 88 ; taf. 1, fig. 31 (DB in color). Fazenda Macacú, Rio de Janeiro / Brazil.

Geoplana plana : du Bois-Reymond Marcus, 1951 : 225.

Geoplana plana : Marcus, 1951 : 82.

Geoplana plana : E. M. Froehlich, 1955 a : 291, 299-302, 319, 327, 330-331 ; pls. II-III, figs. 12-15 (DB, CP, HI, FCA). Teresópolis, Rio de Janeiro / Brazil.

Geoplana plana : E. M. Froehlich, 1955 b : 207.

Geoplana plana : C. G. Froehlich, 1956 a : 313. Teresópolis, Rio de Janeiro / Brazil.

Geoplana plana : C. G. Froehlich, 1967 : 159.

Geoplana plana : E. M. Froehlich, 1978 : 28, 31.

Note: [nec *Geoplana plana* Schirch, 1929, in Hyman (1955)]. See *Geoplana (Geoplana) catharina* Hyman, 1957.

Pasipha pulchella (Schultze et Müller, 1857) comb. nov.

Geoplana pulchella n. sp. Schultze & Müller, 1857 : 25. Blumenau, Santa Catharina / Brazil.

Geoplana pulchella : Schultze, 1857 : 5.

Geoplana pulchella : Diesing, 1861 : 509-510.

Geoplana pulchella : Moseley, 1877 a : 288.

Geoplana pulchella : von Graff, 1899 : 330. Brazil.

Geoplana pulchella (in part) : du Bois-Reymond Marcus, 1951 : 234-235, 238.

Geoplana pulchella : C. G. Froehlich, 1955 b : 189-191, fig. 1 (DB), 199. Blumenau, Santa Catharina / Brazil. [nec *Geoplana pulchella* Schultze et Müller, 1857]. See *Pasipha velina* (Froehlich, 1955).

Geoplana pulchella : E. M. Froehlich, 1955 a : 315, 327, 331.

Geoplana pulchella : E. M. Froehlich, 1955 b : 206, 210, 212.

Geoplana pulchella : C. G. Froehlich, 1959 : 238, 240.

Note: Concerning the taxonomy of this species, C. G. Froehlich (1955 b, p. 199) wrote: "One immature worm, whose colours fit very well to Fritz Müller's (1857) description of *G. pulchella* is considered by us to belong to this species. *G. pulchella* du Bois-Reymond Marcus 1951 is not conspecific with Müller's species, and the new name *G. velina* is given to it." The description in Portuguese, see pages 189-190. He (1959, p. 238) also wrote: "We collected an immature specimen of this species at the original locality. Although we could not describe its copulatory apparatus, the colour pattern is distinctive enough to avoid any misidentification (C. G. Froehlich, 1955 b, pp. 189-90, p. 191 fig. 1)." See *Pasipha velina* (Froehlich, 1955).

Pasipha rosea (E. M. Froehlich, 1955) comb. nov.

Geoplana rosea n. sp. E. M. Froehlich, 1955 a : 291, 317-319, 327, 331 ; pls. X-XII, figs. 60-68 (DB, DH, AE, CP, HI, FGO, FCA). Piraçununga and Horto Florestal da Cantareira, São Paulo / Brazil.

Geoplana rosea : E. M. Froehlich, 1955 b : 207.

Geoplana rosea : C. G. Froehlich, 1955 c : 264-265.

Geoplana rosea : C. G. Froehlich, 1956 a : 334.

Geoplana rosea : C. G. Froehlich, 1956 b : 177. Lepa, Paraná / Brazil.

Geoplana rosea : C. G. Froehlich, 1958 : 93, 96. Lagoa Infernão, W of the mouth of the Rio Jataí, São Simão, São Paulo / Brazil.

Geoplana rosea : C. G. Froehlich, 1959 : 225.

Geoplana rosea : C. G. Froehlich, 1967 : 159.

Geoplana rosea : E. M. Froehlich, 1978 : 28.

Pasipha splendida (von Graff, 1899) comb. nov.

Geoplana splendida n. sp. von Graff, 1899 : 326-327 ; taf. I, fig. 8 (CP in color). Colonia Alpina in Santa Catharina / Brazil.

Geoplana splendida : Marcus, 1951 : 86-87, 97, 126-127, 129.

Geoplana splendida : C. G. Froehlich, 1955 b : 191, 194-195, fig. 2 (DB), 200. Teresópolis, Rio de Janeiro / Brazil.

Geoplana splendida : E. M. Froehlich, 1955 a : 328, 332.

Geoplana splendida : E. M. Froehlich, 1955 b : 207.

Geoplana splendida : C. G. Froehlich, 1956 a : 313, 317, 319-321, figs. 8-12 (DB, DH, FCA), 341.

Teresópolis, Rio de Janeiro / Brazil.

Geoplana splendida : C. G. Froehlich, 1967 : 159.

Note : [nec *Geoplana splendida* von Graff, 1899, in Riester (1938)]. See *Geoplana (Geoplana) riesteri* Froehlich, 1955.

Pasipha tapetilla (Marcus, 1951) comb. nov.

Geoplana tapetilla n. sp. Marcus, 1951 : 6, 79, 87, 98-101, 123, 128, 130, 178-179, pl. XXII, fig. 143 (DB), 204-205, pl. XXXV, figs. 255-258 (DB, AE, CP, HI, FCA), 214-215, pl. XL, figs. 308-309 (CP in color). Pirassununga, Estação de Caça e Pesca, Emas, São Paulo / Brazil.

Geoplana tapetilla : E. M. Froehlich, 1955 a : 330, 332.

Geoplana tapetilla : E. M. Froehlich, 1955 b : 204, 207, 209.

Geoplana tapetilla : C. G. Froehlich, 1955 c : 265, 267-268, 270.

Geoplana tapetilla : C. G. Froehlich, 1956 a : 314, 330. Barreira and Ubatuba, Rio de Janeiro / Brazil.

Geoplana tapetilla : C. G. Froehlich, 1959 : 202, 212, 239. Blumenau and Itajaí, Santa Catarina / Brazil.

Pasipha trina (Marcus, 1951) comb. nov.

Geoplana trina n. sp. Marcus, 1951 : 6, 79, 102-103, 123, 131, 178-179, pl. XXII, fig. 145 (DB), 206-207, pl. XXXVI, figs. 265-268 (DH, AE, CP, FGO, HI, FCA). Alto da Serra, São Paulo / Brazil.

Geoplana trina : C. G. Froehlich, 1955 a : 210, 242, 245.

Geoplana trina : C. G. Froehlich, 1955 c : 269.

Geoplana trina : E. M. Froehlich, 1955 a : 329, 332.

Geoplana trina : E. M. Froehlich, 1955 b : 205.

Pasipha velina (Froehlich, 1955) comb. nov.

Geoplana pulchella (in part) : du Bois-Reymond Marcus, 1951 : 234-235, 238, 250-253, pls. VI-VII, figs. 56-59 (DB, CP, HI, FCA), 254-255, pl. VIII, fig. 78 (DH in color). Brusque, Santa Catarina / Brazil. [nec *Geoplana pulchella* Schultze et Müller, 1857].

Geoplana velina nom. nov. C. G. Froehlich, 1955 b : 190, 199.

Geoplana velina : E. M. Froehlich, 1955 b : 206, 210.

Geoplana velina : C. G. Froehlich, 1959 : 202, 212, 239. Blumenau, Santa Catarina / Brazil.

Note : See *Pasipha pulchella* (Schultze et Müller, 1857).

Pasipha velutina (Riester, 1938) comb. nov.

Geoplana velutina n. sp. Riester, 1938 : 22-23, fig. 24 (DH, AE), 25-28, fig. 25 (FCA), 86. Corduras, Sierra do Curral, Minas Geraes / Brazil.

Geoplana velutina : Marcus, 1951 : 80, 93, 100, 124, 128, 130.

Geoplana velutina : E. M. Froehlich, 1955 a : 301, 305, 319, 327, 330-331.

Geoplana velutina : E. M. Froehlich, 1955 b : 204.

Geoplana velutina : C. G. Froehlich, 1967 : 159.

Pasipha weyrauchi (du Bois-Reymond Marcus, 1951) comb. nov.

Geoplana weyrauchi n. sp. du Bois-Reymond Marcus, 1951 : 223-224, 244-245, pl. III, figs. 22-25 (DB, HI, FCA), 254-255, pl. VIII, fig. 76 (DH in color). The River Tarma, Huacapistana (alt. 1800 m) / Peru.

Geoplana weyrauchi : C. G. Froehlich, 1956 b : 184, 189.

Geoplana weyrauchi : du Bois-Reymond Marcus, 1957 : 163, 176, 184-185, pl. 3, figs. 11-13 (DB, DH, AE, CP). Vale Chanchamayo (alt. 800 m) / Peru.

Genus *Planaria* Müller, 1776

Planaria n. sp. Müller, 1776 : 221.

Type species : *Fasciola torva* Müller, 1774.

Paludicola or Probursalia (sensu stricto). Cf. Kenk, 1974. For land planarians (sensu lato), see Ogren & Kawakatsu, 1987 (p. 111), 1988 b (pp. 60-61), 1989 (p. 87).

Planaria bilinearis Darwin, 1844

See *Pseudogeoplana bilinearis* (Darwin, 1844).

Planaria brasiliensis Blainville, 1826

See *Pseudogeoplana brasiliensis* (Blainville, 1826).

Planaria elegans Darwin, 1844

See *Geoplana (Barreirana) elegans* (Darwin, 1844).

Planaria elongata Darwin, 1844

See *Pseudogeoplana elongata* (Darwin, 1844).

Planaria maculata Darwin, 1844

See *Pseudogeoplana maculata* (Darwin, 1844).

Planaria nigro-fusca Darwin, 1844

See *Pseudogeoplana nigrofusca* (Darwin, 1844).

Planaria pallida Darwin, 1844

See *Pseudogeoplana pallida* (Darwin, 1844).

Planaria pulla Darwin, 1844

See *Pseudogeoplana pulla* (Darwin, 1844).

Planaria semilineata Darwin, 1844

See *Pseudogeoplana semilineata* (Darwin, 1844).

Planaria vaginuloides Darwin, 1844

See *Geoplana (Geoplana) vaginuloides* (Darwin, 1844).

Genus *Polycelis* Ehrenberg, 1831

Polycelis n. g. Ehrenberg, 1831.

Type species : *Fasciola nigra* Müller, 1774.

Paludicola or Probursalia. Cf. Kenk, 1974 (p. 54).

Polycelis bilinearis (Darwin, 1844)

See *Pseudogeoplana bilinearis* (Darwin, 1844).

Polycelis elegans (Darwin, 1844)

See *Geoplana (Barreirana) elegans* (Darwin, 1844).

Polycelis nigro-fusca (Darwin, 1844)

See *Pseudogeoplana nigrofusca* (Darwin, 1844).

Polycelis pallida (Darwin, 1844)

See *Pseudogeoplana pallida* (Darwin, 1844).

Polycelis pulla (Darwin, 1844)

See *Pseudogeoplana pulla* (Darwin, 1844).

Polyclelis vaginuloides (Darwin, 1844)

See *Geoplana (Geoplana) vaginuloides* (Darwin, 1844).

Genus *Polyclade* (Syn. of *Polycladus*)

Polyclade (Polycladus) Gayi (Blanchard, 1845)

See *Polycladus gayi* Blanchard, 1845.

Genus *Polycladus* Blanchard, 1845

Polycladus n. sp. Blanchard, 1845 : 70-73.

Type species: *Polycladus gayi* Blanchard, 1845.

Syn. *Polyclade*: Blanchard, 1847 : 146-149.

Literature: Moseley, 1877 a : 287; von Graff, 1886 a : 66, 74; von Graff, 1896 b : 80-81; von Graff, 1899 : 399-400; von Graff, 1916 : 3225; see page 90 in the present paper.

Polycladus andicola Schmarda, 1859

See *Pseudogeoplana andicola* (Schmarda, 1859).

Polycladus Andicola Schmarda, 1859

See *Pseudogeoplana andicola* (Schmarda, 1859).

Polycladus Darwini Diesing, 1850

See *Pseudogeoplana elongata* (Darwin, 1844).

Polycladus elongatus (Darwin, 1844)

See *Pseudogeoplana elongata* (Darwin, 1844).

Polycladus gayi Blanchard, 1845

Polycladus Gayi n. sp. Blanchard, 1845 : 70-73; pl. I, figs. 1-1e. Chile. Cited from von Graff, 1899 : 400.

Polyclade (Polycladus) Gayi: Blanchard, 1847 : 146-149; pls. 1, figs. 2-2c, 2, fig. 2-d.

Polycladus Gayi: Diesing, 1850 : 201.

Geoplana (Polycladus) Gayi: Schultze & Müller, 1857 : 31-32.

Geoplana (Polycladus) Gayi: Schultze, 1857 : 7.

Polycladus Gayi: Stimpson, 1857 : 25.

Polycladus Gayi: Diesing, 1861 : 495.

Polycladus Gayi: Humbert & Claparède, 1862 : 295.

Polycladus Gayi: Moseley, 1877 a : 287. He (p. 287) wrote: "Blanchard gives some details of anatomy, but he mistook the head for the tail of the animal."

Polycladus Gayi: Hallez, 1892 : 21.

Polycladus Gayi: Hallez, 1893 : 57, 121-122. Cited from von Graff, 1899 : 400.

Polycladus gayi: von Graff, 1896 a : 66.

Polycladus gayi: von Graff, 1896 b : 80-81, fig. 7 (FCA).

Polycladus gayi: von Graff, 1899 : 192, fig. 43 (FCA), 193, fig. 44 (FCA), 400-401; taf. III, figs. 9-11 (DVB in color), XXX, figs. 3-9 (HI in color). Valdivia and Corral / Chile.

Polycladus Gayi: Böhmig, 1902 : 26.

Polycladus Gayi: Busson, 1903 : 409.

- Polycladus gayi*: Mell, 1904: 480.
- Polycladus gayi*: von Graff, 1912: taf. XXXII, figs. 25-26 (DVB), XLV, fig. 21 (HI), XLVII, fig. 9 (HI), XLIX, fig. 14 (FGO), LI, fig. 4 (FCA).
- Polycladus gayi*: von Graff, 1913: 2723, 2741, 2748, 2763, 2775, 2814.
- Polycladus gayi*: von Graff, 1914: 2888, 2908, 2916, 2950, 2958.
- Polycladus gayi*: von Graff, 1915: 2975-2976, 2979, 2985, 2992.
- Polycladus gayi*: von Graff, 1917: 3349.
- Polycladus gayi*: Arndt & Manteufel, 1925: 347.
- Polycladus gayi*: Goetsch, 1933: 245-247, fig. 1 (DB), 256, 266-267, 284, 286-287. Temuco / Chile.
- Polycladus gayi*: Froehlich, 1967: 160.
- Polycladus Gayi* Blanchard, 1845
See *Polycladus gayi* Blanchard, 1845.
- Polycladus maculatus* (Darwin, 1844)
See *Pseudogeoplana maculata* (Darwin, 1844).
- Polycladus semilineatus* (Darwin, 1844)
See *Pseudogeoplana semilineata* (Darwin, 1844).
- Genus *Pseudogeoplana* Ogren et Kawakatsu, gen. nov. (collective group)
- Pseudogeoplana* n. g. Ogren & Kawakatsu: described in the present paper as a collective group. See page 90. Cf. ICZN (3rd Ed., 1985, Art. 42 (b) (i)).
- Pseudogeoplana albopunctata* (von Graff, 1899) comb. nov.
Geoplana albopunctata n. sp. von Graff, 1899: 311; taf. VII, figs. 40-42 (DB, CP in color). Corral / Chile.
- Geoplana albopunctata*: Goetsch, 1933: 245, 251-254, fig. 2-b (DB), 255, 263-264, 284, 286. Corral, Platte / Chile.
- Geoplana albopunctata*: Riester, 1938: 62.
- Pseudogeoplana andicola* (Schmarda, 1859) comb. nov.
Polycladus andicola n. sp. Schmarda, 1859: 15; taf. II, figs. 31, 31-a (DVB). Quito / Ecuador. His figures are printed on the reverse direction.
- Polycladus andicola*: Diesing, 1861: 495.
- Polycladus Andicola*: Moseley, 1877 a: 287.
- Polycladus andicola*: Hallez, 1893: 121.
- Geoplana andicola*: von Graff, 1899: 312-313. The vicinity of Pichincha, Quito / Ecuador.
- Geoplana andicola*: du Bois-Reymond Marcus, 1951: 219, 227.
- Pseudogeoplana atropurpurea* (Riester, 1938) comb. nov.
Geoplana (?) atropurpurea n. sp. Riester, 1938: 81-82, fig. 95 (DH), 86, 88; taf. 1, fig. 28 (DB, CP in color). Therezópolis, Rio de Janeiro / Brazil.
- Geoplana (?) atropurpurea*: C. G. Froehlich, 1955 b: 198, 200. Syn. of *Geoplana lumbrioides* Schirch, 1929.
- Geoplana atropurpurea*: E. M. Froehlich, 1955 b: 206.
- Note: C. G. Froehlich (1955 b) and E. M. Froehlich (1955 b) considered this species is a synonym of *Geoplana lumbrioides* Schirch, 1929. See *Pseudogeoplana lumbrioides* (Schirch, 1929).
- Pseudogeoplana bilinearis* (Darwin, 1844) comb. nov.

Geoplana bilinearis n. sp. Darwin, 1844 : 245. Monte Video (Montevideo) and Maldonado / Uruguay.

Polycelis bilinearis : Diesing, 1850 : 194.

Geoplana bilinearis : Schultze & Müller, 1857 : 29.

Geoplana bilinearis : Schultze, 1857 : 7.

Geoplana bilinearis : Stimpson, 1857 : 24.

Geoplana bilinearis : Moseley, 1877 a : 288.

Geoplana bilinearis : von Graff, 1899 : 334. Uruguay.

Geoplana bilinearis : C. G. Froehlich, 1958 : 103.

Pseudogeoplana bilineata (Fuhrmann, 1914) comb. nov.

Geoplana bilineata n. sp. Fuhrmann, 1914 : 749, 766, figs. 16-17 (CP, AE). Guaduas (alt. 1015 m) / Colombia.

Geoplana bilineata : du Bois-Reymond Marcus, 1951 : 221.

Geoplana bilineata : C. G. Froehlich, 1958 : 103.

Geoplana bilineata : Hyman, 1962 : 2, 11.

Pseudogeoplana blanchardi (von Graff, 1899) comb. nov.

Geoplana blanchardi n. sp. von Graff, 1899 : 317 ; taf. II, figs. 25-26 (DH in color). Colonie Toros / Venezuela.

Pseudogeoplana bohlisi (von Graff, 1899) comb. nov.

Geoplana bohlisi n. sp. von Graff, 1899 : 333 ; taf. VII, fig. 17 (CP in color). Asunción / Paraguay.

Geoplana bohlisi : Marcus, 1951 : 56-57, 118.

Pseudogeoplana bonita (Schirch, 1929) comb. nov.

Geoplana bonita n. sp. Schirch, 1929 : 31, 34, 36 ; pl. III, fig. 6 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana bonita : Riester, 1938 : 78-79, fig. 91 (DH, AE), 86. Quebra Frasco, Therezópolis, Rio de Janeiro / Brazil.

Geoplana bonita : E. M. Froehlich, 1955 b : 210.

Pseudogeoplana brasiliensis (Blainville, 1826) comb. nov.

Ver terrestre du Brésil : Férussac, 1821 : 20-92, tab. CXVI, figs. 2-3. Cited from von Graff, 1899 : 318.

Planaria brasiliensis n. sp. Blainville, 1826 : 216, fig. 16. Brazil. Cited from von Graff, 1899 : 318.

Rhynchodemus Taunayi n. sp. Diesing, 1861 : 504.

Rhynchodemus tannagi : Moseley, 1875 : 107. Spelling error.

Rhynchodemus Tannayi : Moseley, 1877 a : 289. Spelling error.

Geoplana brasiliensis : von Graff, 1899 : 318-319. Santos, São Paulo ; Rio de Janeiro / Brazil ; Buenos Aires / Argentina.

Geoplana brasiliensis : E. M. Froehlich, 1955 a : 293.

Geoplana brasiliensis : E. M. Froehlich, 1955 b : 203.

Geoplana brasiliensis : Ogren & Kawakatsu, 1988 b : 59, 61, 81.

Pseudogeoplana brittlebanki (von Graff, 1897)

Geoplana brittlebanki n. sp. von Graff, 1897 b : 2-3. Tigre, Buenos Aires / Argentina.

Geoplana brittlebanki : von Graff, 1899 : 334 ; taf. XVIII, fig. 3 (CP in color). Argentina.

Pseudogeoplana burri (Riester, 1938) comb. nov.

- Geoplana burri* n. sp. Riester, 1938 : 82-83, fig. 96 (DH, AE), 86, 88 ; taf. 1, fig. 29 (DB in color).
 Fazenda Arnaldo Guinlé, Rio de Janeiro / Brazil.
- Geoplana burri* : E. M. Froehlich, 1955 b : 204.
- Pseudogeoplana cardosi* (Schirch, 1929) comb. nov.
- Geoplana cardosi* n. sp. Schirch, 1929 : 31, 32. Therezópolis, Rio de Janeiro / Brazil.
- Geoplana cardosi* : E. M. Froehlich, 1955 b : 203.
- Pseudogeoplana collini* (von Graff, 1899) comb. nov.
- Geoplana collini* n. sp. von Graff, 1899 : 330-331 ; taf. V, fig. 1 (DH, AE in color). Rio de Janeiro / Brazil.
- Pseudogeoplana columbiana* (Fuhrmann, 1914) comb. nov.
- Geoplana columbiana* n. sp. Fuhrmann, 1914 : 765, fig. 15 (BD), 792 ; pl. XV, fig. 14 (DB). Cafetal La Camelia près Angelopolis (alt. 1820 m) / Columbia.
- Geoplana columbiana* : du Bois-Reymond Marcus, 1951 : 222.
- Geoplana columbiana* : Hyman, 1962 : 2.
- Pseudogeoplana distincta* (von Graff, 1899) comb. nov.
- Geoplana distincta* n. sp. von Graff, 1899 : 316-317 ; taf. III, figs. 3-8 (DB, DVH, AE in color). Blumenau, Santa Catharina / Brazil.
- Geoplana distincta* : von Graff, 1914 : 2916, fig. 116 (DH, AE).
- Geoplana distincta* : E. M. Froehlich, 1955 b : 204, 206.
- Pseudogeoplana doederleini* (Schirch, 1929) comb. nov.
- Geoplana doederleini* n. sp. Schirch, 1929 : 31, 33, 38 ; pl. III, fig. 9 (CP in color). Rio Doce, Rio de Janeiro / Brazil.
- Geoplana doederleini* : E. M. Froehlich, 1955 b : 204.
- Geoplana doederleini* : C. G. Froehlich, 1959 : 221.
- Pseudogeoplana ehlersi* (von Graff, 1899) comb. nov.
- Geoplana ehlersi* n. sp. von Graff, 1899 : 323-324 ; taf. II, fig. 27 (DB in color). Tumpune and Tamana, Trinidad / Trinidad and Tobago.
- Geoplana ehlersi* : Schirch, 1929 : 30.
- Geoplana ehlersi* : de Beauchamp, 1939 b : 75.
- Geoplana ehlersi* : Prudhoe, 1949 a : 427.
- Geoplana ehlersi* : Hyman, 1962 : 1.
- Pseudogeoplana elongata* (Darwin, 1844) comb. nov.
- Planaria elongata* n. sp. Darwin, 1844 : 243, 246. Cape Tres Montes / Chile.
- Polycladus Darwini* n. sp. Diesing, 1850 : 202.
- Geoplana elongata* : Schultze & Müller, 1857 : 30.
- Geoplana elongata* : Schultze, 1857 : 7.
- Polycladus elongatus* : Stimpson, 1857 : 25.
- Polycladus Darwinii* : Stimpson, 1857 : 25.
- Polycladus Darwini* : Diesing, 1861 : 495.
- Geoplana elongata* : Moseley, 1877 a : 288.
- Geoplana Darwini* : Hallez, 1893 : 122.
- Geoplana elongata* : von Graff, 1899 : 333-334. Chile.
- Geoplana elongata* : Böhmig, 1902 : 26.
- Geoplana elongata* : Goetsch, 1933 : 245, 248, 284, 286.
- Note: For this species it should be noted that Diesing (1850) introduced an erroneous new specific name of

"*Darwini*" [sic], which was corrected by Stimpson (1857) who made the name "*Polycladus Darwini*" [sic], a synonym of *Polycladus elongata* (Darwin, 1844).

Pseudogeoplana eugeniae (von Graff, 1897) comb. nov.

Geoplana eugeniae n. sp. von Graff, 1897 b: 1-2. S. Lorenzo, Jujuy and Chaco Boliviano / Argentina.

Geoplana eugeniae: von Graff, 1899: 313-314; taf. VII, figs. 22-23 (DB, VH in color). Paraguay; Argentina.

Geoplana eugeniae: von Graff, 1914: 2957.

Geoplana eugeniae: von Graff, 1916: 3200.

Geoplana eugeniae: Meixner, 1928: 593.

Geoplana eugeniae: du Bois-Reymond Marcus, 1951: 232.

Geoplana eugeniae: C. G. Froehlich, 1959: 228.

Pseudogeoplana flava (Moseley, 1877) comb. nov.

Geoplana flava n. sp. Moseley, 1877 a: 273-275, 283-284, 288; pl. XX, figs. 10-17 (DB, HI). Bahia / Brazil.

Geoplana flava: von Graff, 1899: 345-346; taf. III, figs. 28-31 (DVB, DH, AE), XXVI, fig. 5 (HI). Brazil.

Geoplana flava: von Graff, 1914: 2916, fig. 115 (DH, AE).

Geoplana flava: E. M. Froehlich, 1955 a: 293.

Geoplana flava: E. M. Froehlich, 1955 b: 207.

Geoplana flava: C. G. Froehlich, 1959: 232-233.

Pseudogeoplana goeldii (von Graff, 1899) comb. nov.

Geoplana goeldii n. sp. von Graff, 1899: 309; taf. I, figs. 29-30 (CP in color). Boa Fé, near Rio Parahyba, Rio de Janeiro / Brazil.

Geoplana goeldii: von Graff, 1899: taf. I, figs. 29-30 (CP in color).

Geoplana goeldii ?: Riester, 1938: 59.

Geoplana goeldii: E. M. Froehlich, 1955 b: 209.

Pseudogeoplana gollmeri (von Graff, 1899) comb. nov.

Geoplana gollmeri n. sp. von Graff, 1899: 310; taf. I, figs. 9-12 (DB, VH in color). Colonie Toros, District Caracas / Venezuela.

Geoplana gollmeri: von Graff, 1916: 3157.

Geoplana gollmeri: de Beauchamp, 1939 b: 75.

Geoplana gollmeri: Hyman, 1962: 1.

Pseudogeoplana gonzalezi (Fuhrmann, 1914) comb. nov.

Geoplana gonzalezi n. sp. Fuhrmann, 1914: 781, 792; pl. XVII, fig. 3 (HI). Ubaque (alt. 1900 m) / Colombia.

Geoplana gonzalezi: du Bois-Reymond Marcus, 1951: 219.

Geoplana gonzalezi: Hyman, 1962: 2.

Pseudogeoplana halbani (von Graff, 1899) comb. nov.

Geoplana halbani n. sp. von Graff, 1899: 322-323; taf. VII, figs. 20-21 (DB in color). Asunción / Paraguay.

Pseudogeoplana lumbrocoidea (Schirch, 1929) comb. nov.

Geoplana lumbrocoidea n. sp. Schirch, 1929: 31, 34, 36-37, figs. 3-4 (DB); pl. III, figs. 2-3 (DVB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana lumbrocoidea: C. G. Froehlich, 1955 b: 198, 200. Syn. *Geoplana* (?) *atropurpurea* Rie-

ster, 1938.

Geoplana lumbrocoidea: E. M. Froehlich, 1955 b: 206.

Note: C. G. Froehlich (1955 b) and E. M. Froehlich (1955 b) considered *Geoplana atropurpurea* Riester, 1938, is a synonym of this species. See *Pseudogeoplana atropurpurea* (Riester, 1938).

Pseudogeoplana maculata (Darwin, 1844) comb. nov.

Planaria maculata n. sp. Darwin, 1844: 246. Valdivia, Estancilla / Chile.

Polycladus maculatus: Diesing, 1850: 201.

Geoplana maculata: Schultze & Müller, 1857: 30-31.

Geoplana maculata: Schultze, 1857: 7.

Polycladus maculatus: Stimpson, 1857: 25.

Polycladus maculatus: Diesing, 1861: 495.

Geoplana maculata: Moseley, 1877 a: 288.

Geoplana maculata: Hallez, 1893: 122.

Geoplana maculata: von Graff, 1899: 321; taf. I, figs. 13-14 (DB, VI in color). Valdivia, Estancilla / Chile.

Geoplana maculata: Böhmig, 1902: 25. Estamilla bei Valdivia / Chile.

Geoplana maculata: Goetsch, 1933: 245, 250, 252-254, fig. 2-a and c (DB), 255-256, 260-264, 267, 284-286. Puyehue-See and Valdivia / Chile.

Geoplana maculata: du Bois-Reymond Marcus, 1951: 229-230.

Pseudogeoplana maximiliani (Schultze et Müller, 1857) comb. nov.

Geoplana Maximiliani n. sp. Schultze & Müller, 1857: 24. Blumenau, Santa Catharina / Brazil.

Geoplana Maximiliani: Schultze, 1857: 5.

Geoplana Maximiliani: Diesing, 1861: 513.

Geoplana Maximiliani (= *G. pulla* Darwin, 1844 ?): Moseley, 1877 a: 288.

Geoplana maximiliani (in part): von Graff, 1899: 299-300. Santa Catharina / Brazil.

Geoplana Maximiliani (in part): de Beauchamp, 1913: 41.

Geoplana maximiliani (in part): von Graff, 1914: 2916.

Geoplana maximiliani (in part): Schirch, 1929: 30, 36; taf. II, fig. 10 (DB in color). Theresópolis, Rio de Janeiro / Brazil.

Geoplana maximiliani (in part): Goetsch, 1933: 261.

Geoplana maximiliani: E. M. Froehlich, 1955 b: 206.

Geoplana maximiliani: C. G. Froehlich, 1959: 225, 233, 237-238, 240. [nec *Geoplana maximiliani* Müller, 1857, in von Graff (1899)].

Note: C. G. Froehlich (1959, pp. 237-238) wrote: "Graff (1889, p. 299) classified as *G. maximiliani* some specimens H. von Ihering sent him from Taquara, but his justification for doing so is not stated with much conviction (l. c.). We cannot agree with Graff's identification, for his specimens belong to a very elongated species, the colour has a violet shade not referred to by Müller, and, chiefly, because the unripe copulatory apparatus (similar to that of his "*G. burmeisteri*") lacks a penis."...."Graff (l. c., p. 299) states also that the distribution of the eyes of his specimens agrees with that of Müller's, but Müller says nothing about the eyes of *G. maximiliani*. Graff's species agrees very well with *G. hauseri*, the pharynx excepted, being collar-shaped in the latter, and cylindrical (type c) in Graff's material." "The shape and colour pattern of *G. maximiliani*, Schirch....seem to be compatible with Müller's data, but as its anatomy is unknown, and as it is from a locality far from Blumenau, nothing can be advanced about its real identity." See *Pasipha hauseri* (Froehlich, 1959); see also *Geoplana (Geoplana) apeva* Froehlich,

1959 : *Pseudogeoplana schirchi* Ogren et Kawakatsu, nom. nov.

Pseudogeoplana meyerhansi (Fuhrmann, 1914) comb. nov.

Geoplana meyerhansi n. sp. Fuhrmann, 1914 : 778-779, 792 ; pl. XVI, fig. 27 (DB). Boca del Monte (alt. 2400 m) / Colombia.

Geoplana meyerhansi : Marcus, 1951 : 60.

Geoplana meyerhansi : Hyman, 1962 : 2.

Pseudogeoplana nephelis (Schultze et Müller, 1857) comb. nov.

Geoplana Nephelis n. sp. Schultze & Müller, 1857 : 24. Santa Catharina / Brazil.

Geoplana Nephelis : Schultze, 1857 : 5.

Geoplana Nephelis : Diesing, 1861 : 513.

Geoplana nephelis : Moseley, 1877 a : 288.

Geoplana nephelis (in part) : von Graff, 1899 : 337-338. Blumenau, Santa Catharina / Brazil.

Geoplana nephelis (in part) : von Graff, 1913 : 2806.

Geoplana nephelis (in part) : von Graff, 1914 : 2950.

Geoplana nephelis (in part) : von Graff, 1915 : 3020, 3074, 3076, 3119.

Geoplana nephelis (in part) : von Graff, 1916 : 3137, fig. 159 (FCO).

Geoplana nephelis : C. G. Froehlich, 1955 a : 200.

Geoplana nephelis : E. M. Froehlich, 1955 a : 319.

Geoplana nephelis : E. M. Froehlich, 1955 b : 211.

Geoplana nephelis : C. G. Froehlich, 1959 : 233, 236-237, 240.

Geoplana nephelis : E. M. Froehlich, 1978 : 28.

Note : [nec *Geoplana nephelis* Müller, 1857, in von Graff (1899)]. See *Caenoplana graffi* Froehlich, 1959. Cf.

Ogren & Kawakatsu (Ms).

Pseudogeoplana nigrocephala (Fuhrmann, 1914) comb. nov.

Geoplana nigrocephala n. sp. Fuhrmann, 1914 : 766-767, 792 ; pl. XV, figs. 12-13 (DVB). Bogota (alt. 2650 m) and la Sabana de Bogota, Boca del Monte (alt. 2400 m) / Colombia.

Geoplana nigrocephala : du Bois-Reymond Marcus, 1951 : 219.

Geoplana nigrocephala : Hyman, 1962 : 2.

Pseudogeoplana nigrofusca (Darwin, 1844) comb. nov.

Planaria nigro-fusca n. sp. Darwin, 1844 : 245. Maldonado / Uruguay.

Polytelis nigro-fusca : Diesing, 1850 : 193.

Geoplana nigrofusca : Schultze & Müller, 1857 : 30. Santa Catharina / Brazil.

Geoplana nigrofusca : Schultze, 1857 : 7.

Geoplana nigro-fusca : Stimpson, 1857 : 25.

Geoplana nigrofusca : Diesing, 1861 : 510.

Geoplana nigrofusca : Moseley, 1877 a : 288.

Geoplana nigrofusca : von Graff, 1899 : 186, fig. 35 (FCA), 297-298 ; taf. II, figs. 1-2 (DB in color). Uruguay ; Blumenau, Santa Catharina ; Taquara, Rio Grande do Sul / Brazil ; Asunción / Paraguay ; Frontera, Tabasco / Mexico.

Geoplana nigrofusca : Walton, 1912 : 940.

Geoplana nigrofusca : von Graff, 1914 : 2907, 2910, 2933.

Geoplana nigrofusca : Schirch, 1929 : 30, 38 ; pl. III, fig. 8 (DVB in color).

Geoplana nigrofusca : Riester, 1938 : 40.

Geoplana nigrofusca : Marcus, 1951 : 74, 122.

Geoplana nigrofusca : E. M. Froehlich, 1955 a : 293, 328, 332.

Geoplana nigrofusca : E. M. Froehlich, 1955 b : 211.

Geoplana nigrofusca : C. G. Froehlich, 1956 : 176, 187-188.

Pseudogeoplana nobilis (von Graff, 1899) comb. nov.

Geoplana nobilis n. sp. von Graff, 1899 : 334-335 ; taf. VII, figs. 27-29 (DVB in color). Corral / Chile.

Geoplana nobilis : Goetsch, 1933 : 245, 248, 284, 286.

Geoplana nobilis : du Bois-Reymond Marcus, 1951 : 220.

Pseudogeoplana obscura (Schirch, 1929) comb. nov.

Geoplana obscura n. sp. Schirch, 1929 : 31, 35. Rio de Janeiro / Brazil.

Geoplana obscura : E. M. Froehlich, 1955 b : 203.

Pseudogeoplana octolineata (Schirch, 1929) comb. nov.

Geoplana octolineata n. sp. Schirch, 1929 : 36.

Geoplana octolineata var. *esverdeada* n. var. Schirch, 1929 : 36 ; pl. II, fig. 13 (DB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana octolineata : du Bois-Reymond Marcus, 1951 : 235-236, 238. Syn. *Geoplana sexstriata* von Graff, 1899.

Geoplana octostriata : C. G. Froehlich, 1959 : 233-234, 239. Syn. of *Geoplana octostriata* Müller, 1857 ; *Geoplana sexstriata* von Graff, 1899.

Note: See *Notogynaphallia octostriata* (Schultze et Müller, 1857) and *Notogynaphallia sexstriata* (von Graff, 1899).

Pseudogeoplana oerstedi (von Graff, 1899) comb. nov.

Geoplana oerstedi n. sp. von Graff, 1899 : 320-321 ; taf. XVIII, figs. 4-5 (DB, VH in color).

Palermo, Buenos Aires / Argentina.

Geoplana oerstedi : Marcus, 1951 : 102, 131.

Pseudogeoplana pallida (Darwin, 1844) comb. nov.

Planaria pallida n. sp. Darwin, 1844 : 242-243, 245. Maldonado, Valparaiso / Uruguay. [nec *Geoplana pallida* Schultze et Müller, 1857; *Geoplana Schultzei* Diesing, 1861]. See *Notogynaphallia schultzei* (Diesing, 1861); *Notogynaphallia muelleri* (Diesing, 1861).

Polycelis pallida : Diesing, 1850 : 194.

Geoplana pallida : Schultze & Müller, 1857 : 30.

Geoplana pallida : Schultze, 1857 : 7.

Geoplana pallida : Stimpson, 1857 : 25.

Geoplana pallida : Diesing, 1861 : 509.

Planaria pallida : Diesing, 1861 : 512.

Geoplana pallida : Moseley, 1877 a : 288.

Geoplana pallida : von Graff, 1899 : 316. Uruguay.

Geoplana pallida : Goetsch, 1933 : 245, 256-259, 262, 268, 285, 287.

Geoplana pallida : C. G. Froehlich, 1959 : 204, 207, 234, 239.

Planaria pallida : C. G. Froehlich, 1959 : 207.

Pseudogeoplana panamensis (Hyman, 1941) comb. nov.

Geoplana panamensis n. sp. Hyman, 1941 : 1, 4, 6, fig. 5 (DB, AE). Barro Colorado Island, Canal Zone / Panama.

Geoplana panamensis : Hyman, 1962 : 2.

Pseudogeoplana pardalina (von Graff, 1899) comb. nov.

Geoplana pardalina n. sp. von Graff, 1899 : 330 ; taf. II, figs. 29-30 (CP in color). Valparaiso, Viña del Mar, and Quilpué / Chile.

Geoplana pardalina : Goetsch, 1933 : 245, 248, 284, 286.

Geoplana pardalina (?) : Riester, 1938 : 83-84, figs. 97-98 (DB, DH, AE), 87. Therezópolis, Rio de Janeiro / Brazil.

Geoplana pardalina : Marcus, 1951 : 95, 97, 129.

Geoplana pardalina : E. M. Froehlich, 1955 a : 294.

Pseudogeoplana pavonina (Riester, 1938) comb. nov.

Geoplana pavonina n. sp. Riester, 1938 : 80-81, figs. 93-94 (DB, DH, AE), 86-88 ; taf. 1, fig. 27 (DB in color). Fazenda Arnaldo Guinlé and Therezópolis, Rio de Janeiro / Brazil.

Geoplana pavonina : E. M. Froehlich, 1955 b : 208.

Pseudogeoplana perspicillata (von Graff, 1899) comb. nov.

Geoplana perspicillata n. sp. von Graff, 1899 : 335 ; taf. VI, figs. 19-22 (DH, CP, AE in color). Blumenau, Santa Catharina / Brazil.

Geoplana perspicillata : von Graff, 1912 : taf. XXXIII, fig. 8 (DB, AE).

Geoplana perspicillata : von Graff, 1913 : 2716.

Geoplana perspicillata : von Graff, 1914 : 2908.

Geoplana perspicillata : Riester, 1938 : 43-44.

Geoplana perspicillata : du Bois-Reymond Marcus, 1951 : 220.

Geoplana perspicillata : Marcus, 1951 : 70, 100, 130.

Geoplana perspicillata : E. M. Froehlich, 1955 b : 204.

Pseudogeoplana pulla (Darwin, 1844) comb. nov.

Planaria pulla n. sp. Darwin, 1844 : 245. Monte Video (Montevideo) and Maldonado / Uruguay.

Polycelis pulla : Diesing, 1850 : 192.

Geoplana pulla : Schultze & Müller, 1857 : 29, 31.

Geoplana pulla : Schultze, 1857 : 7.

Geoplana pulla : Stimpson, 1857 : 24.

Geoplana pulla : Diesing, 1861 : 510.

Geoplana pulla (*G. olivacea* ? or *G. Maximiliana* ?) : Moseley, 1877 a : 288.

Geoplana pulla (in part) : von Graff, 1894 : 3.

Geoplana pulla (in part) : von Graff, 1899 : 301-302.

Geoplana pulla (in part) : Böhmig, 1902 : 24.

Geoplana pulla (in part) : von Graff, 1913 : 2785, 2814, 2820.

Geoplana pulla (in part) : von Graff, 1914 : 2890, 2891, 2907, 2953.

Geoplana pulla (in part) : von Graff, 1915 : 3031.

Geoplana pulla (in part) : von Graff, 1916 : 3200.

Geoplana pulla (in part) : Bresslau, 1930 : 73, fig. 51 (HI), 259, fig. 255 (DB, HI).

Geoplana pulla (in part) : Goetsch, 1933 : 245, 256, 259-260, 261-262, 264, 268-269, 271, 285-287.

Geoplana pulla (in part) : Marcus, 1951 : 87, 93, 107, 126.

Geoplana pulla (in part) : C. G. Froehlich, 1967 : 158.

Geoplana pulla : E. M. Froehlich, 1978 : 8, 34, 36.

Note : [nec *Geoplana pulla* (Darwin, 1844) in von Graff (1894, 1899)]. See *Geoplana (Geoplana) mixopulla* Ogren et Kawakatsu, nom. nov.

Pseudogeoplana reticulata (von Graff, 1899) comb. nov.

Geoplana reticulata n. sp. von Graff, 1899 : 319-320 ; taf. VII, figs. 34-36 (DVB in color). Corral / Chile.

- Geoplana reticulata* : von Linden, 1900 : 558.
- Geoplana reticulata* : Goetsch, 1933 : 245, 250, 252-254, fig. 2-e (DB), 255, 263-264, 284, 286. Corral / Chile.
- Geoplana reticulata* : Marcus, 1951 : 87, 126.
- Pseudogeoplana riedeli* (Schirch, 1929) comb. nov.
- Geoplana riedeli* n. sp. Schirch, 1929 : 31. Jacarépaguá / Brazil.
- Geoplana riedeli* : E. M. Froehlich, 1955 b : 203.
- Pseudogeoplana rosenbergi* (Meixner, 1906) comb. nov.
- Geoplana rosenbergi* n. sp. Meixner, 1906 : 665-668, figs. 1-3 (DB, DVH, AE). Santo Domingo (alt. 1985 m) / Peru.
- Pseudogeoplana rostrata* (von Graff, 1899) comb. nov.
- Geoplana rostrata* n. sp. von Graff, 1899 : 328-329 ; taf. VI, figs. 24-26 (DVH, AE in color). Blumenau, Santa Catharina / Brazil.
- Geoplana rostrata* : Meixner, 1906 : 666.
- Geoplana rostrata* : Schirch, 1929 : 30, 34-35, 37, fig. 17 (DH, AE).
- Geoplana rostrata* : Marcus, 1951 : 100, 130.
- Geoplana rostrata* : E. M. Froehlich, 1955 b : 208.
- Geoplana rostrata* : C. G. Froehlich, 1958 : 105.
- Pseudogeoplana sagittata* (von Graff, 1899) comb. nov.
- Geoplana sagittata* n. sp. von Graff, 1899 : 311-312 ; taf. I, figs. 18-19 a (DVB, HI in color). Valdivia, Estancilla / Chile.
- Geoplana sagittata* : von Linden, 1900 : 558.
- Geoplana sagittata* : Böhmig, 1902 : 24. Estancilla bei Valdivia / Chile.
- Geoplana sagittata* : Goetsch, 1933 : 245, 251-254, fig. 2-d (DB), 225, 263, 284, 286. Valdivia / Chile.
- Pseudogeoplana schirchi* Ogren et Kawakatsu, nom. nov.
- Geoplana maximiliani* (in part) : Schirch, 1929 : 30, 36 ; taf. II, fig. 10 (DB in color). Theresópolis, Rio de Janeiro / Brazil.
- Geoplana maximiliani* : C. G. Froehlich, 1959 : 237-238. [nec *Geoplana maximiliani* Müller, 1857, in von Graff (1899); *Geoplana maximiliani* Schultze et Müller, 1857].
- Note: C. G. Froehlich's (1959) opinion on this species is cited in the section of *Pseudogeoplana maximiliani* (Schultze et Müller, 1857). Schirch's (1929) species needs another name to avoid further confusion. Cf. ICZN, 3rd Ed., Art. 49.
- Pseudogeoplana semilineata* (Darwin, 1844) comb. nov.
- Planaria semilineata* n. sp. Darwin, 1844 : 246. Chonos Islands, North of Cape, Tres Montes / Chile.
- Polycladus semilineatus* : Diesing, 1850 : 201.
- Geoplana semilineata* : Schultze & Müller, 1857 : 30.
- Geoplana semilineata* : Schultze, 1857 : 7.
- Polycladus semilineatus* : Stimpson, 1857 : 25.
- Polycladus semilineatus* : Diesing, 1861 : 495.
- Geoplana semilineata* : Moseley, 1877 a : 288.
- Geoplana semilineata* : Hallez, 1893 : 122.
- Geoplana semilineata* : von Graff, 1899 : 330. Chile.
- Geoplana semilineata* : Böhmig, 1902 : 26.

Geoplana semilineata: Goetsch, 1933: 245, 248, 284, 286.

Pseudogeoplana stolli (von Graff, 1899) comb. nov.

Geoplana stolli n. sp. von Graff, 1899: 314; taf. II, fig. 22 (DH in color). Hacienda Capetillo, Antigua (alt. 3500 m) / Guatemala.

Geoplana stolli: Walton, 1912: 940.

Pseudogeoplana taenioides (von Graff, 1899) comb. nov.

Geoplana taenioides n. sp. von Graff, 1899: 324; taf. V, figs. 3-4 (DB, CP in color). Venezuela.

Geoplana taenioides: von Graff, 1912: taf. XXXII, figs. 9-10 (DB, CP).

Geoplana taenioides: Goetsch, 1933: 263.

Geoplana taenioides: Hyman, 1962: 1.

Pseudogeoplana theresopolitana (Schirch, 1929) comb. nov.

Geoplana theresopolitana n. sp. Schirch, 1929: 31, 34. Therezópolis, Rio de Janeiro / Brazil.

Geoplana theresopolitana: E. M. Froehlich, 1955 b: 208.

Geoplana theresopolitana: C. G. Froehlich, 1958: 103.

Pseudogeoplana tricolor (Riester, 1938) comb. nov.

Geoplana tricolor n. sp. Riester, 1938: 79-80, fig. 92 (DH), 87-88; taf. 1, fig. 26 (DVB in color). Therezópolis, Rio de Janeiro / Brazil.

Geoplana tricolor: E. M. Froehlich, 1955 b: 208.

Pseudogeoplana tristriata (Schultze et Müller, 1857) comb. nov.

Geoplana tristriata n. sp. Schultze & Müller, 1857: 23. Blumenau, Santa Catharina / Brazil.

Geoplana tristriata: Schultze, 1857: 3-4.

Geoplana tristriata: Diesing, 1861: 512.

Geoplana tristriata: Moseley, 1877 a: 288.

Geoplana tristriata: von Graff, 1899: 327-328, 331, note 1; taf. V, figs. 25-26 (DB, CP in color). Brazil.

Geoplana tristriata: von Graff, 1912: taf. XXXII, fig. 11 (DB).

Geoplana tristriata: Goetsch, 1933: 264.

Geoplana tristriata (?): Riester, 1938: 32, 68.

Geoplana tristriata: Marcus, 1951: 103, 131.

Geoplana tristriata: E. M. Froehlich, 1955 b: 205.

Geoplana tristriata: C. G. Froehlich, 1959: 233-234, 239.

Pseudogeoplana ucayalensis (Hyman, 1955) comb. nov.

Geoplana ucayalensis n. sp. Hyman, 1955: 24-25, 28, figs. 32-35 (DB, VB, DH, AE, CP). The Ucayali River, Contemana (alt. 300 m) / Peru.

Pseudogeoplana wetzeli (Schirch, 1929) comb. nov.

Geoplana wetzeli n. sp. Schirch, 1929: 31-32, 35-37, fig. 18 (DH, AE), 38; pl. III, fig. 10 (DB in color). Rio Doce, near Maylasky, Rio de Janeiro / Brazil.

Geoplana wetzeli: E. M. Froehlich, 1955 b: 211.

Genus *Xarapoa* - See under *Xerapoa*

Genus *Xerapoa* Froehlich, 1955

Xerapoa n. sp. C. G. Froehlich, 1955 a: 234.

Type species: *Xerapoa hystrix* Froehlich, 1955.

Xarapoa : C. G. Froehlich, 1955 a : 195, 234. Spelling error.

Literature : C. G. Froehlich, 1955 a : 234-243; see page 89 in the present paper.

Xerapoa hystrix Froehlich, 1955

Xerapoa hystrix n. sp. C. G. Froehlich, 1955 a : 195, 235-241, 243-244, 248; pls. XI-XIII, figs. 59-71 (DVB, DH, HI, FGO, FCA). Horto Florestal and Mogi das Cruzes, São Paulo; Curitiba, Paraná / Brazil.

Xerapoa hystrix : C. G. Froehlich, 1955 c : 264, 270.

Xerapoa hystrix : C. G. Froehlich, 1956 b : 187.

Xerapoa una Froehlich, 1955

Xerapoa una n. sp. C. G. Froehlich, 1955 a : 195, 238-241, 243-244, 248; pls. XIII-XIV, figs. 72-77 (DVH, DH, AE, HI, FCA). Brusque, Santa Catarina / Brazil.

Genus *Rhynchodemus* Leidy, 1851

Rhynchodemus n. g. Leidy, 1851.

Type species : *Planaria sylvatica* Leiby, 1851.

Rhynchodeminae ; Rhynchodemidae. Cf. Ogren & Kawakatsu, 1988 b (pp. 44-46, 48).

Rhynchodemus tannagi Diesing, 1861, in Moseley, 1875

See *Pseudogeoplana brasiliensis* (Blainville, 1826).

Rhynchodemus Tannayi Diesing, 1861, in Moseley, 1877

See *Pseudogeoplana brasiliensis* (Blainville, 1826).

Rhynchodemus Taunayi Diesing, 1861

See *Pseudogeoplana brasiliensis* (Blainville, 1826).

UNDESCRIPTED GEOPLANINAES SPECIES

Choeradoplana sp.? Schirch, 1929.

Choeradoplana sp.? Schirch, 1929 : 35, 37, figs. 5-9 (DB).

Geoplana der Collection Michaelsen (No. 6) des Hamburger Museums. von Graff, 1899.

See *Pseudogeoplana* sp. of Central-Chile. von Graff, 1899.

Geoplana grisea in E. M. Froehlich, 1978.

Geoplana grisea nom. nud. E. M. Froehlich, 1978 : 31.

Geoplana sp. of Arkansas (U. S. A.). Daly & Darlington, 1981.

Geoplana sp. : Daly & Darlington, 1981 : 83, fig. 1 B (DB). Arkansas / U. S. A.

Geoplana sp. : Ogren, 1990 a : 27.

Note : This species will be described by Ogren & Darlington (1991) as a new species of *Geoplana* (*Geoplana*).

Geoplana sp. of the Bermuda Islands. Crozier, 1918.

See *Pseudogeoplana* sp. of the Bermuda Islands. Crozier, 1918.

Geoplana sp. of Casacara (Colombia). de Beauchamp, 1947.

See *Pseudogeoplana* sp. of Casacara (Colombia). de Beauchamp, 1947.

Geoplana sp. of Central-Chile. Böhmig, 1902.

See *Pseudogeoplana* sp. of Central-Chile. von Graff, 1899.

Geoplana sp. of Manaus (Brazil). E. M. Froehlich, 1972.

See *Pseudogeoplana* sp. of Manaus (Brazil). E. M. Froehlich, 1972.

Geoplana sp. of Santa Cruz de la Sierra (Peru). de Beauchamp, 1939.

See *Pseudogeoplana* sp. of Santa Cruz de la Sierra (Peru). de Beauchamp, 1939.

Geoplana sp. A of Simla (Trinidad). Hyman, 1962.

See *Pseudogeoplana* sp. of Simla (Trinidad), A. Hyman, 1962.

Geoplana sp. B of Simla (Trinidad). Hyman, 1962.

See *Pseudogeoplana* sp. of Simla (Trinidad), B. Hyman, 1962.

Geoplana sp. C of Simla (Trinidad). Hyman, 1962.

See *Pseudogeoplana* sp. of Simla (Trinidad), C. Hyman, 1962.

Geoplana sp. D. of Bocas del Tolo (Panama). Hyman, 1962.

See *Pseudogeoplana* sp. of Bocas de Toro (Panama). Hyman, 1962.

Geoplana sp. of Surinam. Prudhoe, 1949.

See *Pseudogeoplana* sp. of Shrinam. Prudhoe, 1949.

Geoplana (?) sp. of Therezópolis (Rio de Janeiro) (fig. 30). Riester, 1938.

See *Pseudogeoplana* sp. of Therezópolis (Rio de Janeiro), 1. Riester, 1938.

Geoplana (?) sp. of Therezópolis (Rio de Janeiro) (fig. 32). Riester, 1938.

See *Pseudogeoplana* sp. of Therezópolis (Rio de Janeiro), 2. Riester, 1938.

Geoplana sp. of Trinidad. Prudhoe, 1949.

See *Pseudogeoplana* sp. of Trinidad. Prudhoe, 1949.

Geoplana n. ssp. of Chile. Goetsch, 1933.

See *Pseudogeoplana* spp. of Chile. Goetsch, 1933.

Geoplanide der Collection Michaelsen (No. 47) des Hamburger Museums. von Graff, 1899.

See *Pseudogeoplana* sp. of Corral (Chile). von Graff, 1899.

Geoplanide (sp.) of Corral (Chile). Böhmig, 1902.

See *Pseudogeoplana* sp. of Corral (Chile). von Graff, 1899.

Grünen *Geoplana* aus Rio Grande do Sul in Ijima, 1884.

See *Geoplana* (*Geoplana*) *ladislavii* von Graff, 1899.

Landplanarien von 20 cm Länge und beinahe 1 cm Breite in von Kennell, 1883.

See *Gigantea gigantea* (von Graff, 1899).

Pseudogeoplana sp. of the Bermuda Islands. Crozier, 1918.

Geoplana sp. Crozier, 1918 : 272. Point Shares, Pembroke Parish, Agar's Island, the Bermuda Islands / U. K.

Pseudogeoplana sp. of Bocas del Toro (Panama). Hyman, 1962.

Geoplana sp. D. Hyman, 1962 : 20-22, fig. 26 (DB, AE). Almirante, Bocas del Toro / Panama.

Pseudogeoplana sp. of Casacara (Colombia). de Beauchamp, 1947.

Geoplana sp. de Beauchamp, 1947 : 4-5. Cascara, Casa, Cordillère Orientale (alt. 300 m) / Colombia.

Pseudogeoplana sp. of Central-Chile. von Graff, 1899

Dazu eine unbestimmbare *Geoplana* der Collection Michaelsen (No. 6) des Hamburger Museums. von Graff, 1899 : 566. Quilpué (zwischen Valparaiso und Santiago) / Chile.

Geoplana sp. : Böhmig, 1902 : 25. Central-Chile.

Pseudogeoplana sp. of Corral (Chile). von Graff, 1899.

Dazu eine unbestimmbare Geoplanide der Collection Michaelsen (No. 47 "röhlich-orange mit helleren Streifen") des Hamburger Museums. von Graff, 1899 : 566. Corral (Seehafen von Valdivia) / Chile.

Geoplanide (sp.): Böhmig, 1902 : 25. Corral / Chile.

Pseudogeoplana sp. of Manaus (Brazil) E. M. Froehlich, 1972.

Geoplana sp. E. M. Froehlich & C. G. Froehlich, 1972 : 42-43, fig. 26 (FCA). Manaus, Amazonas / Brazil.

Pseudogeoplana sp. of Santa Cruz de la Sierra (Peru). de Beauchamp, 1939.

Geoplana sp. de Beauchamp, 1939 b : 77. Santa Cruz de la Sierra (alt. 400 m) / Peru.

Pseudogeoplana sp. of Simla (Trinidad), A. Hyman, 1962.

Geoplana sp. A. Hyman, 1962 : 20-22, fig. 23 (DB, AE). Simla, Trinidad / Trinidad and Tobago.

Pseudogeoplana sp. of Simla (Trinidad), B. Hyman, 1962.

Geoplana sp. B. Hyman, 1962 : 20-22, fig. 24 (DB, AE). Simla, Trinidad / Trinidad and Tobago.

Pseudogeoplana sp. of Simla (Trinidad), C. Hyman, 1962.

Geoplana sp. C. Hyman, 1962 : 20-22, fig. 25 (DB, AE). Simla, Trinidad / Trinidad and Tobago.

Pseudogeoplana sp. (species of von Graff's *G. burmeisteri*; in part).

Geoplana burmeisteri (in part) : von Graff, 1894 : 3. Asunción / Paraguay.

Geoplana burmeisteri (in part) : von Graff, 1899 : 166, fig. 15 (FCA), 303-305 ; taf. III, figs. 21-27 (DG, CP in color). Blumenau, Santa Catharina ; Taguara, Rio Grande do Sul / Brazil ; Paraguay ; Buenos Aires / Argentina.

Geoplana burmeisteri (in part) : von Graff, 1913 : 2765.

Geoplana burmeisteri (in part) : von Graff, 1914 : 2907.

Geoplana burmeisteri (in part) : von Graff, 1915 : 3018, fig. 132 (FCA).

Geoplana burmeisteri (in part) : Riester, 1938 : 7.

Geoplana burmeisteri in von Graff (1899) : E. M. Froehlich, 1955 b : 206, 208-210. [nec *Geoplana burmeisteri* Schultze, 1857].

Note: According to C. G. Froehlich (1959), *Geoplana burmeisteri* Schultze, 1857, in von Graff (1899) consists of heterogeneous animals. von Graff's records of uncertain species and their citation are tentatively listed here. See *Geoplana* (*Geoplana*) *burmeisteri* Schultze et Müller, 1857.

Pseudogeoplana sp. (species of von Graff's *G. rufiventris*; in part).

Geoplana rufiventris (in part) : von Graff, 1894 : 2. Asunción and Provinz San Pedro / Paraguay.

Geoplana rufiventris (in part) : von Graff, 1899 : 86, fig., 4 (HI), 124, fig. 6 (HI), 184, fig. 32 (FCA), 294-296 ; taf. I, figs. 21, 28 (DB, DH in color), XX, figs. 1-10 (HI in color), XXI, figs. 1-7 (FCA, HI), XXII, figs. 1-11 (HI). Taguara, Rio Grande do Sul / Brazil ; Asunción / Paraguay ; Buenos Aires / Argentina.

Geoplana rufiventris (in part) : Busson, 1903 : 407, 410, 415.

Geoplana rufiventris (in part) : de Beauchamp, 1912 : V.

Geoplana rufiventris (in part) : von Graff, 1912 : taf. XXXII, figs. 16-18 (HI), XXXIII, fig. 2 (DVB), XXXV, figs. 4-8 (HI), XXXVIII, figs. 4, 10 (HI), XXXIX, fig. 1 (HI), XL, fig. 7 (HI), XLIV, fig. 1 (HI), XLVI, figs. 1-4 (HI), XLVII, fig. 14 (FGO), XLIX, fig. 2 (HI), LII, fig. 3 (FGO).

Geoplana rufiventris (in part) : von Graff, 1913 : 2723, 2729, 2741, 2747-2748, 2754, 2757, fig. 22 (HI), 2761, 2764-2765, 2793, 2796, 2805, 2812, 2814, 2816.

Geoplana rufiventris (in part) : von Graff, 1914 : 2887, fig. 94 (HI), 2899, 2907-2908, 2910, 2928, 2930, 2939, 2950, 2957.

Geoplana rufiventris (in part) : von Graff, 1915 : 2975-2976, 2985, 2991, 3027, 3030-3031, 3035.

Geoplana rufiventris (in part) : von Graff, 1917 : 3354.

Geoplana rufiventris (in part) : Frieb, 1923 : 512.

Geoplana rufiventris (in part) : Steinböck, 1925 : 171, fig. 1 (HI), 173, 175-178, figs. 4-5 (HI).

Geoplana rufiventris (in part) : Bresslau, 1927 : 222-223.

Geoplana rufiventris (in part) : Bresslau, 1930 : 72, figs. 49-50 (HI).

Geoplana rufiventris : Goetsch, 1933 : 261, 263.

Geoplana rufiventris (in part) : Carlé, 1935 : 529.

Geoplana rufiventris (in part) : Riester, 1938 : 7, 52-54, 56.

Geoplana rufiventris (in part) : de Beauchamp, 1939 b : 77.

Geoplana rufiventris in von Graff (1899) : C. G. Froehlich, 1959 : 214, 223, 235, 236.

Note: According to C. G. Froehlich (1959), *Geoplana rufiventris* Müller, 1857, in von Graff (1899) consists of several species. von Graff's records of uncertain species and their citation are tentatively listed here.

See *Geoplana (Geoplana) rufiventris* Schultze et Müller, 1857; *Geoplana (Geoplana) marmorata* Schultze et Müller, 1857; and *Geoplana (Geoplana) apeva* Froehlich, 1959.

Pseudogeoplana sp. of Surinam. Prudhoe, 1949.

Geoplana sp. Prudhoe, 1949 a : 426. Kaimanstone / Surinam (Repùblic Suriname; Netherlands Guiana).

Pseudogeoplana sp. of Therezópolis (Rio de Janeiro), 1. Riester, 1938.

Geoplana (?) sp. Riester, 1938 : 84-88; taf. 1, fig. 30 (DB in color). Barreira, Therezópolis, Rio de Janeiro / Brazil.

Pseudogeoplana sp. of Therezópolis (Rio de Janeiro), 2. Riester, 1938.

Geoplana (?) sp. Riester, 1938 : 85, 87-88 : taf. 1, fig. 32 (DB, DH in color). Barreira, Therezópolis, Rio de Janeiro / Brazil.

Pseudogeoplana sp. of Trinidad. Prudhoe, 1949.

Geoplana sp. Prudhoe, 1949 a : 426-427. Mount Aripo, Trinidad / Trinidad and Tobago.

Pseudogeoplana spp. of Chile. Goetsch, 1933.

Geoplana n. ssp. Goetsch, 1933 : 255, table II. Chile.

Xerapoa sp. of Teresópolis. C. G. Froehlich, 1955.

C. G. Froehlich, 1955 a : 195, 240-241, 244, 249; pl. XIV, fig. 78 (DVB). Teresópolis, Alto, Rio de Janeiro / Brazil.

A LIST OF NEW SPECIFIC NAMES FOR JUNIOR HOMONYMS

The following 5 new specific names have been established in the present Index.

Geoplana (Geoplana) eudoxiae for *Geoplana argus* in Riester (1938; in part).

Geoplana (Geoplana) eudoximariae for *Geoplana bresslaui* in Riester (1938).

Geoplana (Geoplana) mixopulla for *Geoplana pulla* in von Graff (1894, 1899; in part).

Notogynaphallia froehlichae for *Geoplana modesta* (?) in Riester (1938; in part).

Pseudogeoplana schirchi for *Geoplana maximiliani* in Schirch (1929; in part).

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