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Binder 109, Heterophyidae Q-Z [Trematoda Taxon Notebooks]

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Galactostomum spinatum is another species that differs from our concept of the genus *Galactostomum* in respects that are judged to be of generic rank. Braun (1901, 1902) erected the genus *Microlistrum* for *G. spinatum*, *G. cochleariforme*, and *G. cochlear*. However, *Microlistrum* is unavailable as a generic name for *G. spinatum* because Braun designated *G. cochleariforme* as type species, making *Microlistrum* a synonym of *Galactostomum*. It thus is necessary to propose a new name in erecting the following genus:

Reteritellus n. g. *Cable, Connor, and Balling, 1960*

Diagnosis: Heterophyidae, Galactosomatinae. Similar to *Galactosomum* but with the following differences: body fusiform, tapering toward both ends without expansion of forebody; vitelline follicles not reaching posterior end of body by a considerable distance; median region of hindbody with a conspicuous network of vitelline ducts; seminal vesicle and uterus extend anterior to ventrogenital sac so that ejaculatory duct and metraterm approach gonotyl from direction of forebody; lobed or indented testes. Type and only species:

R. spinetus (Braun, 1901) *Cable, Connor, and Balling, 1960*

Cable, Connor, and Balling, 1960

Reticularis spinosum (Braun, 1901) n. comb. (FIGURES 21 to 23)

Synonyms:

Microlistrum spinosum Braun, 1901.

Galactostomum spinosum (Braun, 1901) Pratt, 1911.

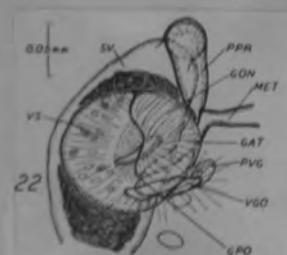
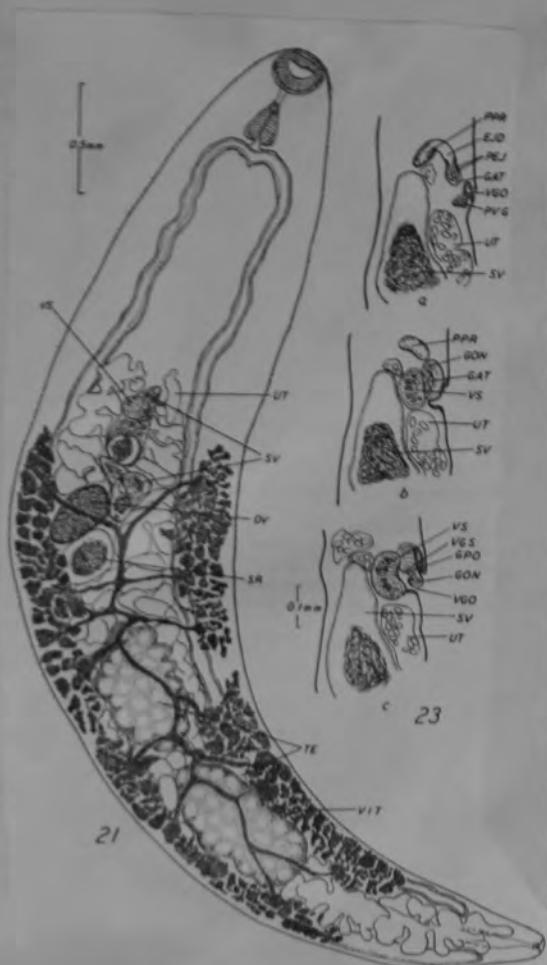
Description based on 9 mature specimens with the characters of the genus. Body flattened, widest at ovarian level, tapering toward ends, more pointed posteriorly, 4.74 to 5.72 long, 1.03 to 1.12 in maximum width. Cuticle spinose nearly to posterior end, spines decreasing in number and size posteriorly. Eyespot pigment in forebody; eosinophilic glands with ducts to ventral surface concentrated interceally in forebody but extending throughout it and into hindbody with a few scattered ones as far as ends of ceca. Oral sucker 0.19 to 0.24 long, 0.22 to 0.24 wide; prepharynx and pharynx subequal in length, pharynx 0.18 to 0.23 long, 0.12 to 0.14 wide; esophagus about one fourth as long as pharynx; ceca extend almost to posterior end of body; epithelial lining distinct. Excretory vesicle extending to posterior testis only, sac-shaped, with large, rather evenly spaced nuclei protruding into lumen; main excretory canals extend to pharyngeal level and turn posteriorly before dividing. Testes tandem, indented, with distinct muscle fibers between indentations that are more conspicuous in anterior testis. Posterior testis 0.68 to 0.79 long, 0.33 to 0.45 wide; anterior testis 0.46 to 0.62 long, 0.34 to 0.37 wide. Seminal vesicle bipartite; posterior division thin walled, sinuous; anterior division moderately thick walled, extending dorsally and then anteriorly to ventral sucker; from it the pars prostatica arches ventrally and then posteriorly to join metraterm; ejaculatory duct short, its termination forming a papilla extending into genital atrium. Gonotyl large, muscular, its base pierced by genital atrium; ventrogenital sac with a large posterolateral communicating pouch; ventrogenital opening median, with thick sphincterlike muscles. Ventral sucker 0.127 to 0.135 long, 0.103 to 0.119 wide, with spinose free surface. Ovary to right of midline, entire, ovoid, 0.24 to 0.30 by 0.17 to 0.24; seminal receptacle large, immediately posterior to ovary; Mehlis' gland and Laurer's canal evident. Vitellaria extend from near level of ventrogenital sac to about midway between posterior testis and end of body, their ducts as in generic diagnosis. Uterus voluminous, mostly intercecal from near posterior end of body to a level anterior to ventrogenital sac. Eggs numerous, 0.022 to 0.027 by 0.014 to 0.016.

Host: *Thalasseus maximus maximus* (royal tern).

Locality: sand spit off Punta Arenas, Puerto Rico.

Type host and locality: *Rynchops n. nigra* (black skimmer) Brazil, Braun (1901).

Deposited specimen: No. 38216.



{ RETEVITELLUS

Rossicentrum donicum Skrjabin et Lindtrop, 1919
(Рис. 78, 79, 80, 81)

Дефинитивные хозяева: млекопитающие — собака (*Canis familiaris*), кошка (*Felis catus domesticus*), лисица (*Vulpes vulpes*), песец (*Vulpes lagopus*), кролик (экспериментально); птицы — *Larus ridibundus*, *Buteo buteo*, *Mergus merganser*, *Nycticorax nycticorax*, *Ciconia ciconia*, *Sterna albifrons*.

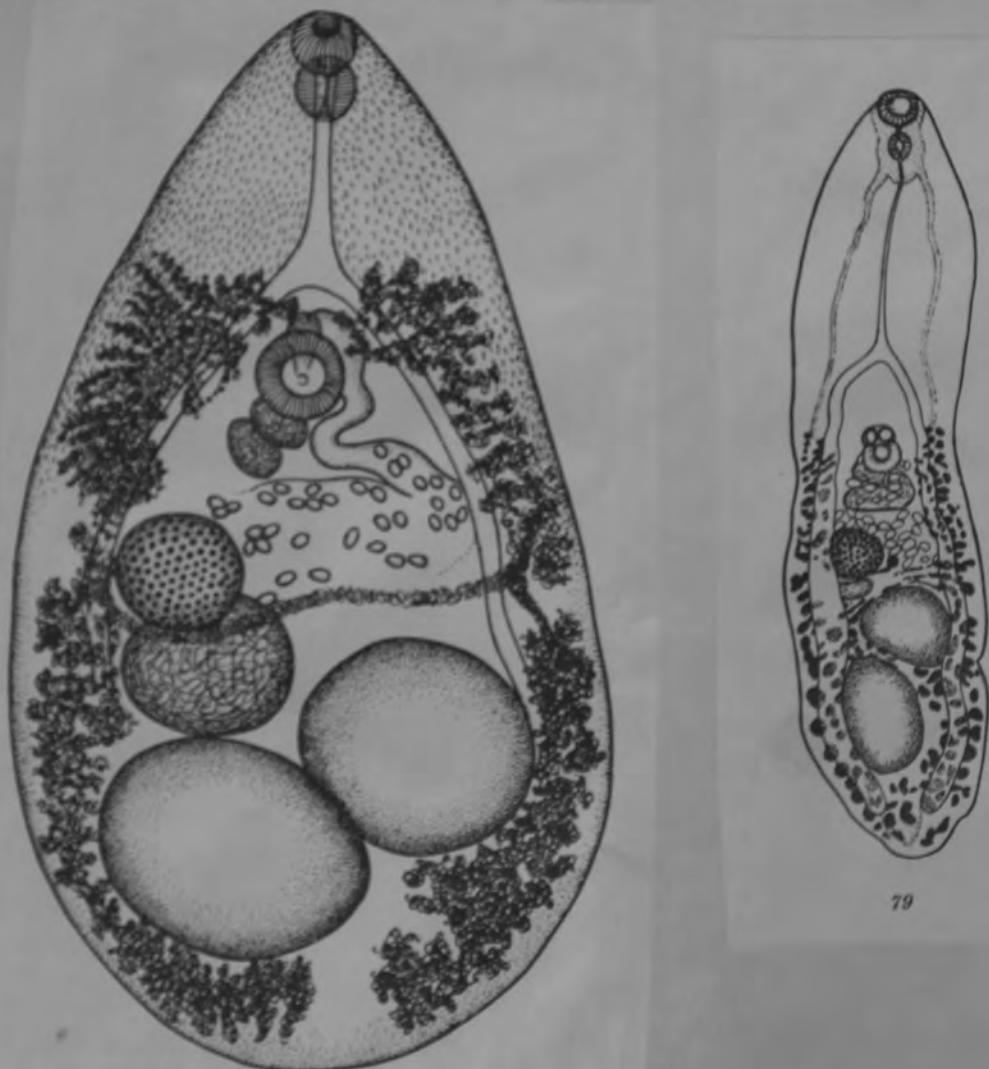
Дополнительные хозяева: рыбы — *Perca fluviatilis*, *Eucinoperca lucio-perca*, *L. longearia*, *Acerina cernua*, *A. schraetser*.

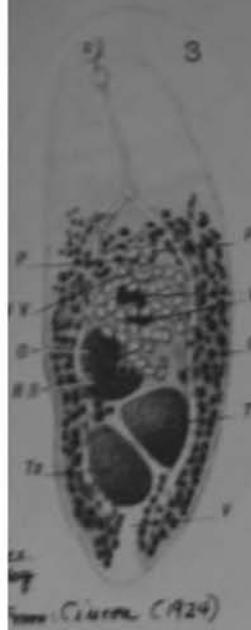
Промежуточные хозяева: неизвестны.

Локализация: взрослые — в кишечнике окончательных хозяев; метаптеригии — в чешуе и плавниках рыб.

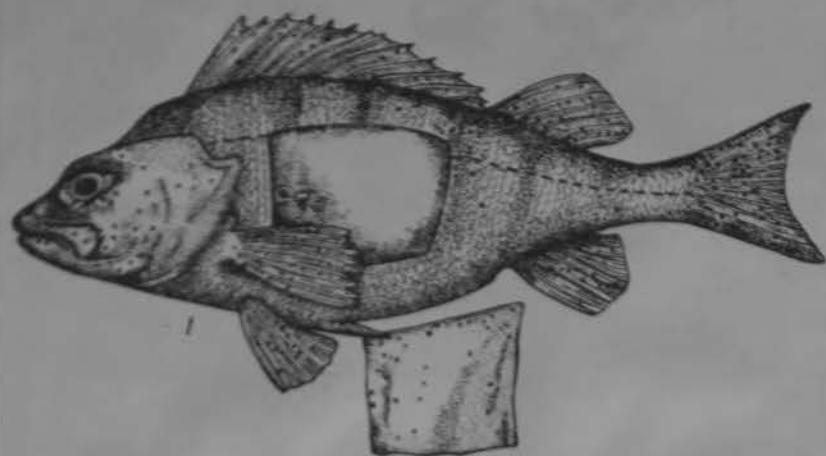
Место обнаружения: Румыния, СССР.

Описание вида (по К. И. Скрябину и Г. Линдтропу, 1919).
Весьма мелкие trematody, длина которых колеблется в пределах 1,12—1,3 мм при максимальной ширине 0,58—0,72 мм. Тело грушевидной или яйцевидной формы, с более узким передним и расширенным задним концом. Поверхность тела густо усажена хитиновыми щипиками, вернее, тупыми циатками, расположеннымными в шахматном порядке. Щитки эти рельефно выступают над поверхностью кутикулы и способствуют, несомненно, приспособлению паразита к стенке кишечника. Ротовая присоска длиной 0,06—0,077 мм при ширине 0,077—0,09 мм. Центр брюшно-половой присоски располагается на расстоянии 0,385—0,400 мм от переднего конца тела. Диаметр брюшно-половой присоски достигает 0,092 мм. Фаринкс достигает 0,04—0,06 мм длины и 0,05—0,07 мм ширины. Длина пищевода 0,154 мм. Кишечные стволы заходят за задний край заднего семеника и оканчиваются на небольшом расстоянии от конца тела.

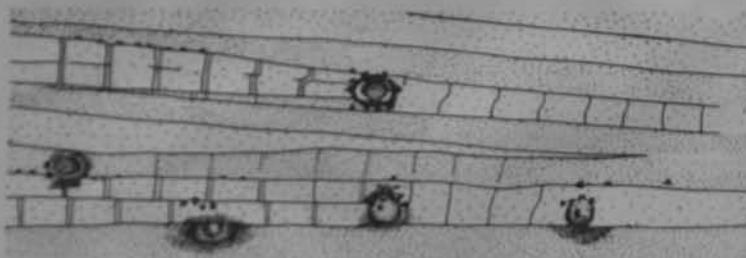




3



80



81

80. Окунь (*Perca fluviatilis*), кожа и плавники которого инвазированы метаперкариями *Bassilestremma donicum* Skryabin et Lindtrop, 1919 (по Циуреа, 1928)

81. Часть хвостового плавника окуня, инвазированного метаперкариями *Bassilestremma donicum* Skryabin et Lindtrop, 1919 (по Циуреа, 1928)

Ranicutrema venustum (Ransom, 1920)

Синонимы: *Cotylophallus venustum* Ransom, 1920; *Cotylophallus similis* Ransom, 1920; *Ranicutrema similis* (Ransom, 1920) Witenberg, 1929; *Aporhallas venustus* (Ransom, 1920) Price, 1931; *A. similis* (Ransom, 1920) Price, 1931.

(Рис. 82)

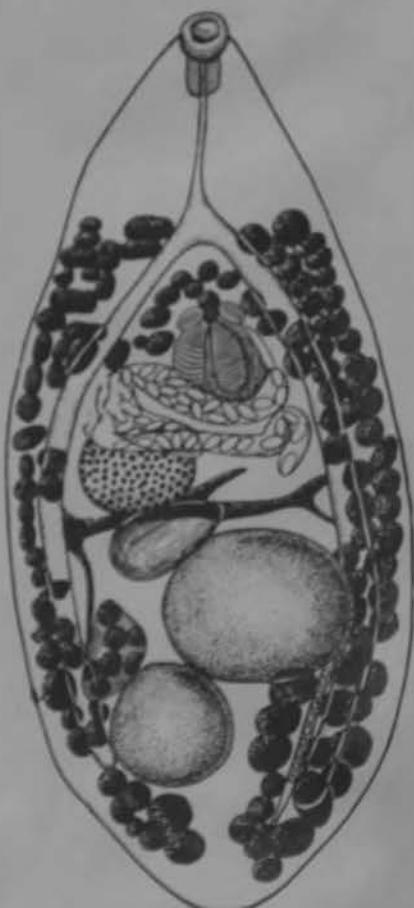
Дофигнатные хищники: лисица (*Vulpes vulpes*), кошка (*Felis catus domesticus*), собака (*Canis familiaris*), енот (*Procyon lotor*); тюлень (*Phoca vitulina*).

Локализация: тонкие кишki.

Место обнаружения: США, Аляска, Канада.

Описание вида (по Рансому, 1920). Тело грушевидное, 1,2 мм длины, 0,23—0,65 мм ширины. Кутину покрыта чешуйками 0,005 мм длины и 0,0015 мм ширины. Роговая присоска 0,040—0,090 мм в диаметре, Фаринкс 0,030—0,070 мм в диаметре. Кишечные ветви тянутся в заднюю четверть тела. Брюшная присоска 0,036—0,100 мм в диаметре, лежит на расстоянии около трети длины тела от переднего конца. Семенички овальные или шаровидные, 0,075—0,320 мм в диаметре, располагаются в задней трети тела, слегка плавающие. Яичник округлый, 0,070—0,180 мм в диаметре, расположена в передней части второй трети тела от переднего конца. Желточники состоят из небольшого количества фолликулов, которые впереди, на уровне переднего края брюшной присоски, сходятся на медианной линии, отсюда тянутся назад по бокам тела за концы кишечных ветвей. Поперечный желточный проток обычно проходит посередине тела. Яйца желтовато-коричневые, 0,025—0,035 мм длины и 0,015—0,020 мм ширины.

Литература: Рансом, 1920, стр. 353, 358, 559; Nicoll, 1923b, стр. 240, 243, 246; Hall, 1925, стр. 14; Ciurea, 1924, стр. 14; Смирн, 1926, стр. 43; Witenberg, 1929, стр. 182, 183, 227; Africa, 1929, стр. 81—86; Price, 1931, стр. 1—17; Ciurea, 1933, стр. 151—170; Garsia, 1933, стр. 445—447; Сашетон, 1936, стр. 59—60; 1936a, стр. 542; 1937, стр. 275; 1938, стр. 38—51; Lyster, 1940, стр. 106—121; Петров А. М., 1941, стр. 38.



ROSSI COTREMA

Scaphanocephalinae ~~—~~ YAMAGUTI, 1958

Subfamily diagnosis. — Heterophyidae: Forebody with wing-like lateral expansions; hindbody subcylindrical. Ceca looped in each wing of forebody, serpentine posteriorly; cloaca present. Acetabulum small, embedded in parenchyma, opening into genital atrium. Testes branched, tandem, in posterior part of body. Genital atrium with gonotyl, at junction of two body regions. Ovary multilobate, median, pretesticular. Uterus winding between ovary and genital atrium. Vitellaria extensive, in lateral fields of hindbody and region of cecal loop of forebody. Excretory vesicle Y-shaped; its stem bifurcating and reuniting to encircle each testis. Parasites of marine birds.

Scaphanocephalus Jägerskiöld, 1903

Generic diagnosis. — Heterophyidae, Scaphanocephalinae: Forebody widened laterally, winglike, with its anterior border crenulated and striated; hindbody subcylindrical. Cuticle beset with minute spines. Oral sucker at marginal notch, pharynx present, esophagus short, cecum forming an incomplete loop in each wing of forebody, serpentine posteriorly, opening at posterior extremity into excretory vesicle by a short narrow passage. Acetabulum imbedded in body parenchyma, opening into genital atrium lying immediately behind. Testes ramified, tandem, in posterior third of body. Vesicula seminalis tubular, long, winding in median field dorsal to uterus. Pars prostatica present. Genital atrium with gonotyl projecting from its dorsal wall, opening at or near junction of two body regions. Ovary multilobate, median, pretesticular. Receptaculum seminis and Lauer's canal present. Uterus winding in intercecal field between ovary and genital atrium. Vitellaria extending in lateral fields from posterior extremity to base of forebody, where they intrude into the intestinal loop. Excretory vesicle Y-shaped, stem bifurcating immediately behind posterior testis and uniting again between two testes and in front of anterior testis, thus encircling two testes; two arms approaching each other in front of acetabulum and then turning outward abruptly. Parasitic in intestine of birds. Larva encysted in fins or under scales of marine fishes.

Genotype: *S. expansus* (Crepl., 1842) Jägerskiöld, 1903 (Pl. 61, Fig. 734), in *Aquila haliaeetus*; Europe, Egypt, Asia, N. America. Larva encysted under scales or in fins, especially tailfin, of *Parapeneus multifasciatus*, Naha — Yamaguti (1942).

Other species:

S. adamsi Tubangui, 1933, encysted in fins and under scales of *Lepidaspis mesothorax*; Philippines.

S. australis Johnston, 1917, in *Haliaetus leucogaster*; Australia.

Heterophyidae

Scaphanocephalus australis Johnston, 1917

Line segment.

SCAPHANOCEPHALUS AUSTRALIS, sp. n. (Fig. 1 and 1a.)

Diagnosis.—Body like *S. expansus* in shape, but shorter and broader, yet with larger suckers and pharynx. Integument with a few small spines. Testes not deeply lobed, but fairly solid bodies, with their surfaces marked into low ridges by shallow grooves. Eggs larger, but especially broader than in *S. expansus*, from 0.024×0.019 mm., to 0.032×0.0213 mm.

Host—*Halioctetus leucogaster*, in the small intestine.

Type specimen in the Australian Museum, Sydney, No. W. 426.

In June 1910, at Terrigal, a coastal village fifty miles north of Sydney, I collected three specimens of a trematode from the small intestine of a white-bellied sea-eagle, *Halioctetus leucogaster*, which appeared at once to be very closely related to, if not identical with *Scaphanocephalus expansus*, Crepl., described by Jägerskiöld⁽¹⁾ and obtained from the stomach of a sea-eagle near Tor, on the Red Sea.



Scaphanocephalus australis

From JOHNSTON, 1917

Scaphanecphalus sp.
Host: *Epinephelus striatus* (J.).
Site: intestine.

The single specimen was large and well developed but lacked eggs. It probably was a recently ingested metacercaria that had excysted in the intestine of the fish but could not have persisted and matured there. The genus *Scaphanecphalus* is closely related to *Galactosomum* and species of both genera are parasites of piscivorous birds.

CURAZAO, JAMAICA; FROM NARRAS
- CAGLE 1964

Scaphanocephalus

Sobolevskya Morosov, 1950

Generic diagnosis. — Heterophyidae, Stictodorinae: Body very small, spatulate, not appreciably enlarged posteriorly. Oral sucker subterminal, prepharynx long, esophagus short, ceca terminating some distance short of posterior extremity. Acetabulum merged into genitosuctorial apparatus armed with two groups of spines, sharp and blunt. Genital pore submedian, about one third of body length from anterior extremity. Testes sagittal, intercoecal; in middle third of body. Seminal vesicle apparently not divided. Ovary in front of posterior testis. Seminal receptacle medial to ovary. Vitelline follicles large, extending on each side of body from behind testes to near posterior extremity. Uterus occupying most of posttesticular region; eggs small. Parasitic in birds.

Genotype: *S. salmarini* Morosov, 1952 (Pl. 75, Fig. 913), in *Larus* sp.; Russia.

Other species: *S. darbyi* (Price, 1934), n. comb., syn. *Galactosomum* d. P., in *Pelecanus occidentalis*; Dominica.

Yamaguti, 1958

Heterophyidae

Sobolephya darbyi (Price, 1934) Yamaguti, 1958
syn. Galactosomum darbyi Price, 1934



"Galactosomum
DARBYI" Yamaguti
Price, 1934

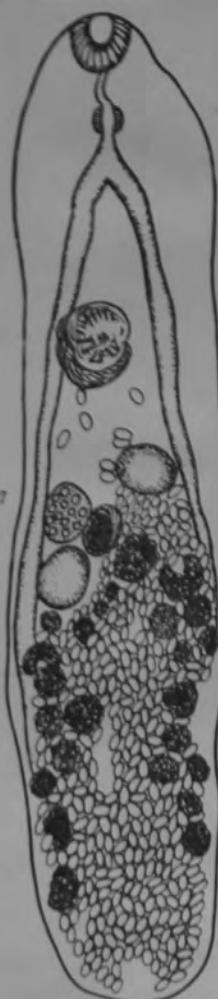
Дефинитивный хозяин: *Larus* sp.

Локализация: кишечник.

Место обнаружения: СССР

Описание вида (по Морозову, 1952). Очень мелкие трематоды, сидящие в сплющенно-брюшном направлении. Тело продолговатое, 0,96—1,136 мм длины и 0,240—0,298 мм ширины. Ротовая присоска терминальная или субтерминальная, 0,048—0,064 мм в диаметре. Префаринкс тонкий, 0,016—0,024 мм длины. Фаринкс маленький, 0,016—0,022 мм в поперечнике. Пищевод очень короткий. Кишечные ветви умеренной толщины, тянутся по бокам до заднего конца тела. Брюшная и половая присоски объединены в общий орган — брюшно-половую присоску, которая располагается на границе первой и второй третей тела на расстоянии 0,32—0,58 мм от переднего конца, причем брюшная присоска прикрывается половой присоской так, что остается свободным только задний край первой. На половой присоске имеются шипы шипилковидной формы, расположенные в виде незамкнутого круга, в количестве 33—44 штук. Семенники цельнокрайние, округло-овальной формы, лежат около середины длины тела напакось один за другим. Левый (передний) семенник округлый, 0,064—0,080 мм в диаметре, располагается около внутреннего края левой кишечной ветви, немного впереди от экваториальной линии трематоды; правый (задний) семенник продольно-овальный, 0,064—0,080 в диаметре по продольной оси, лежит позади экваториальной линии около правой ветви кишечника. Яичник цельнокрайний, неправильно продольно-овальный, 0,004 мм в диаметре, располагается непосредственно впереди правого семенника. Семиприемник округло-овальный, 0,048 мм в диаметре, лежит рядом с яичником, ближе к медианной линии, между передним и задним семенниками, несколько ближе к заднему семеннику.

Желточники состоят из крупных, рыхлых фолликулов, расположенных по бокам тела в задней его половине, причем фолликулы правой и левой стороны смыкаются между собою позади семиприемника; до заднего края тела желточники не доходят на $\frac{1}{4}$ часть всей длины червя. Матка занимает всю заднюю половину тела, прикрывая кишечные ветви позади семенников, и содержит большое количество яиц. Яйца овальной формы, желтого, коричневого и темного цвета (в зависимости от зрелости). Длина яиц 0,030—0,033 мм и ширина 0,015—0,018 мм.



б



б

SOBOLEPHYA

Stellantchasmus Onji et Nishio, 1915
Syn. *Diorchitremus* Witenberg, 1929

Generic diagnosis. — Heterophyidae, Metagoniminae: Body small, oval to biscuit-shaped or elliptical, covered with minute scale-like spines. Oral sucker subterminal, prepharynx present, esophagus moderately long, oeca reaching to testes. Acetabulum enclosed in genital atrium. Testes symmetrical, near posterior extremity. Vesicula seminalis spherical, followed by muscular expulsor which was interpreted by Onji and Nishio as cirrus pouch. Pars prostatica weakly developed. Ductus ejaculatorius opening into genital atrium along with uterus. Genital pore on the right of median line at about middle of body. Ovary median or submedian, immediately posterior or posteroventral to genital atrium. Receptaculum seminis present. Uterus winding between posterior extremity and genital atrium, partly covering rectum. Eggs small.

Vitellaria extending in dorsal area from level of ovary to posterior extremity. Excretory vesicle funnel-shaped, between two testes. Parasitic in intestine of birds and mammals.

Genotype: *S. falcatus* Onji et Nishio, 1915 (Pl. 78, Fig. 945), in *Colymbus arcticus pacificus*, experimentally also in cat. Metacercaria in *Mugil cephalus*. All other species reported for mammals.

Stellantchasmus Onji et Nishio, 1915

Generic diagnosis. — See p. 716.

Genotype: *S. falcatus* Onji et Nishio, 1915, in *Colymbus arcticus pacificus*, experimentally also in cat; metacercaria in *Mugil cephalus*; Japan. Also in man, Philippines, Hawaii; dog, Palestine, Philippines.

Representatives from mammals:

S. amplicaealis Katsuma, 1931 (PL 99, Fig. 1201), syn. of *S. pseudocirratus* Witenb. — Morosov (1952), in dog, cat and mouse (experimental infection); Formosa. Second intermediate host: *Mugil* sp.

S. formosanus Katsuma, 1931, syn. of *S. falcatus* Onji et Nishio —

¹⁾ Regarded by Price (1940) as a synonym of *Metagonimus* Katsurada.

FROM FEB 50 A, 1964

Other species. *Solidobaccharus* appears (mult).

Type species. *Solidobaccharus* Ogi & Nishio.

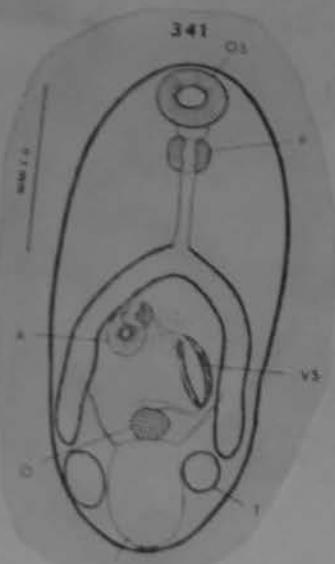
$2((m+m)+(m+m))$, where $m = 3$.

Exteriorly yellow brownish-orange, bare cell formula
Ovary median, or slightly to right; anterior to testis.
Utris with three primary loops, running from level of ovary to posterior end.
Second muscle fibers
part dorsal and ventral; one side part in expander with thick wall of spirally
twisted, opposite, posterior, subterminal. Seminal vesicle bipartite; first
separately into two longitudinal sacs. Ejaculatory duct and metraterm open
from anterior end of ventergenital sac. Ejaculatory duct pore or pores and arising
(second) uriniferous, uterine from and ventral to genital pore or pores and arising
medial to uriniferous; post-thoracic ventral sucker little modified; armed or not.
1966 Herpestidae. Helpertinae. *Helpertia* (group). Ventergenital sac
numerous to small the genitalic ducts to read: *Solidobaccharus* Ogi & Nishio,
1966. *Helpertia* (group). Helpertinae. *Helpertia* (group). *Ventergenital* sac
To take all the differences described below in *S. galutae* and *S. apionis*, it is
convenient.

Common (1963) recognized that *Solidobaccharus* and *Dorothyema* were syno-
nymous, but under the assumption that Kastuta had proposed *Solidobaccharus* to
replace *Dorothyema* as the valid name and regarded *Solidobaccharus* to
be established by Acheta & Solidobaccharus (1953); but despite this Morozov (1962)
still lists *Dorothyema* as a synonym of *Dorothyema*. This error
was repeated by Acheta & Solidobaccharus (1953); a synonymy of *Dorothyema*.
Kastuta (1953), although not formally accepting the generic distinction, stated that
Kastuta (1953) was still by virtue of predominating the type and only species, *S. galutae*.
The genus *Solidobaccharus* has been emended by Ogi & Nishio (1964) and by
Furukawa and others (1967). Type, by original designation and monotypy.
Species Ogi & Nishio
299. *Solidobaccharus* sensu a nudo. 1966. Testis, type, by monotypy. *Solidobaccharus*

Heterophyidae

Stellatichthys falcatus Onji et Nishio, 1915



Metacercaria
ex. Mugil cephalus

Hawaii

From Yamaguti, 1970

(b) *Stellantchasmus aspinosus* ——— Pearson, 1964

The description is based on a study of living material, unfattened whole mounts, and serial sections (cross and sagittal). Measurements (average and range) are given in microns of the type series (holotype and 9 paratypes) from a naturally infected water rat, *Hydromys chrysogaster*.

The specific name, *aspinosus*, is proposed to call attention to the absence of spines on the ventral sucker, a feature diagnostic of this species.

(1) Description (Figs. 38–40)

Small, pyriform to ellipsoidal, rounded posteriorly; 270 (249–280) μ long and 121 (101–148) μ wide; fore body flattened, concave ventrally and hind body plump, subcylindrical. Body closely covered with ribbed scales in quincunx; scales decrease in size posteriorly and end about half way between posterior margin of testes and posterior end; absent on lip-like anterior end and immediately about mouth of ventrogenital sac; with three rows of scales on body anterior to mouth of oral sucker, becoming one row of minute spines posterior to mouth; circumoral scales and spines separate from those on body.

Numerous unicellular, coarsely granular, eosinophilic gland cells in mesenchyme, especially of fore body; ducts from two groups of gland cells lateral to oesophagus pass forward dorsal to oral sucker and open in a single transverse row of about 12 pores in anterior lip-like projection; other, scattered gland cells open irregularly on surface, especially of fore body and margin of mouth of ventrogenital sac.

Mesenchyme with numerous, scattered, brown, cercarial pigment granules, most abundant around oesophagus anterior to gut bifurcation.

Oral sucker subterminal, opens antero-ventrally; 36 (31–49) μ long and 38 (33–41) μ wide. Prepharynx slender, variable in length; 9 (2–16) μ long. Pharynx small, ellipsoidal, with nuclei confined to posterior third; 20 (13–23) μ long and 18 (15–21) μ wide. Oesophagus slender, variable in length; 25 (17–36) μ long. Caeca short, wide, thick-walled; bifurcation in front of middle of body; caeca extend to between middle of ovary and anterior border of testes.

Testes paired, opposite, in anterior half of posterior third of body, wholly behind or slightly overlapping level of posterior border of ovary; right testis 47 (40–62) μ long and 38 (33–49) μ wide, left testis 46 (41–52) μ long and 36 (26–43) μ wide. Vasa efferentia from each testis arises anteriorly, runs antero-ventrally, two vasa efferentia unite and empty into first part of seminal vesicle. Seminal vesicle bipartite; first (proximal) part thin-walled, subspherical, 33 (25–43) μ long and 27 (17–38) μ wide, situated ventrally antero-lateral to ovary on left side; second (distal) part an expulsor with thick wall of spirally wound muscle fibres, fusiform, lying dorsally along medial face of left caecum, 35 (29–42) μ long and 18 (17–19) μ wide. Epaculatory duct relatively long, with thick muscular wall continuous with that of expulsor; without prostatic bulb runs ventrad from anterior end of expulsor and joins uterus from in front to form short genital sinus. Prostatic cells probably present, but not seen.

Ovary cuboidal; 31 (25–36) μ long and 29 (25–35) μ wide; typically median, occasionally slightly to right of midline; closer to ventral surface; between ventral sucker and testes. Oviduct arises dorso-laterally on right side; first part (ovicapt) a globular ciliated chamber; second part slender, not ciliated; runs postero-laterally, unites with ciliated duct from seminal receptacle to form fertilization canal, which turns mediad, is joined by common vitelline duct, and enters ootype through a valve. Ootype median, immediately behind ovary, closer to ventral surface; surrounded by Mehlis' gland. Seminal receptacle small, spherical, postero-lateral to ovary on right side dorsally; duct of seminal receptacle and Laurer's canal arise together. Laurer's canal long and slender; first third ciliated; runs transversely near dorsal surface to left side and opens dorsally behind expulsor. Uterus with three primary loops; first loop arises from ootype, runs posteriorly between testes dorsal to bladder to posterior end, coils loosely

Heterophyidae

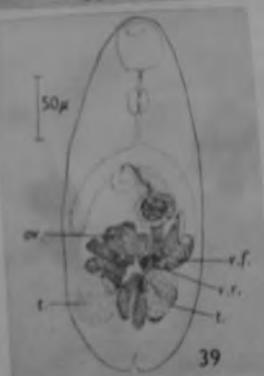
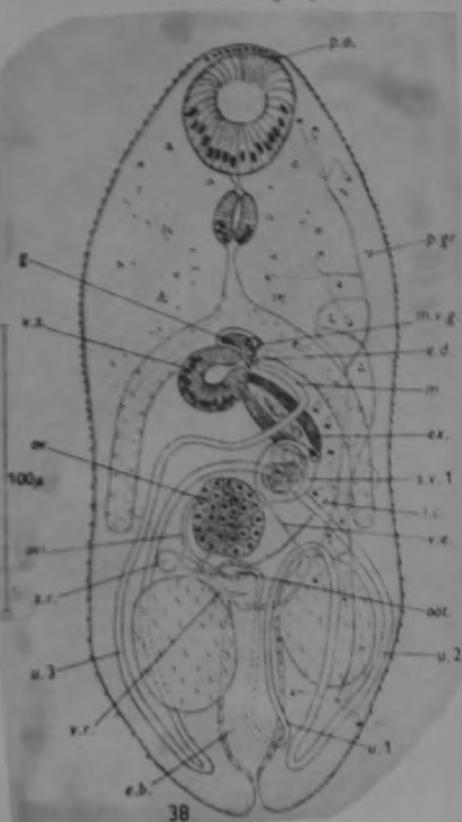


Fig. 40.
Ventrogenital complex

and then runs anteriorly between testes ventral to bladder; second loop runs posteriorly lateral or ventral to left testis to junction of vent. radix knowleyi, and then runs anteriorly dorsal, or lateral, to left testis, and curves medially to a point antero-dorsal to ovary and becomes third loop; third loop runs back posterolateral to right side, passes right testis close laterally or dorso-medially, ends lowly at posterior end, then ascends ventrally, lateral or medial to left testis, crosses ventrally to left side of body anterior to ovary, crosses expulsor ventrally, turns dorsad, then mediad along outer edge of expulsor, and recures ventrad as a short, muscular metraterm, crosses ejaculatory duct, and unites with ejaculatory duct from the posterior side to form a short genital sinus. Vitellaria in form of large follicles, forming a single, rectangular mass of radiating follicles lying dorsally and extending from the anterior margin of the ovary to, or slightly beyond the posterior margin of the testis, and extending laterally almost to margin of body; vitelline reservoir median, dorsal, between testes, postero-dorsal to ootyse. Eggs (15, uterine) 23.0 (21.0-25.6) μ long and 11.5 (10.7-12.4) μ wide. Ventrally, ² sac median, or slightly to right, immediately behind gut bifurcation, 1.8 (1.0-1.9) μ from anterior end; small, largely filled by gonotyl; without dorsal pocket; with muscular wall lined by thick, unarmed cuticle, with ventral sucker opening into sac postero-laterally on right and genital pore entering dorsolaterally on left, opposite mouth of ventral sucker. Ventral sucker little modified, solidly muscular; almost wholly embedded in body; with lip which may be sharp-edged projecting slightly into sac; unarmed; slightly to right of midline; with long nerve to it winding flat around mouth of sucker directed antero-ventrally toward left side; 23 (21-25) μ long and 23 (21-25) μ wide. Gonotyl an unarmed reniform flap, 9 (7-11) μ long and 5 (4-6) μ wide arising from anterior wall of ventrogenital sac, slightly to right of mouth of ventral sucker; genital pore enters dorso-lateral to gonotyl.

Excretory system mesostomate. Excretory pore terminal; opens into thick-walled, epithelial bladder. Bladder sacculate, extends between and almost to anterior border of testes. Primary collecting tubules arise antero-laterally; each bladder arm runs forward, crosses vasculum ventrally and divides at level of gut bifurcation into an anterior and a posterior collecting tubule; bladder arm without lateral thunes. Anterior collecting tubule gives off two branches, each ending in three flame cells, and ends, anterior to pharynx in a group of three flame cells; first two groups of flame cells (numbering from anterior end) with two flame cells ventral and one dorsal in each group, third group ventral to caecum, arising from posteriorly directed first branch of anterior collecting tubule. Posterior collecting tubule runs posteriorly ventral to caecum and gives off two branches, each ending in three flame cells, and ends posterior to testis in a group of three flame cells; first group dorsal to caecum, second and third groups ventral. Flame cell formula $2 [(3+3)+(3+3+3)] = 36$.

Habits. Type host: western water rat, *Hydromys chrysogaster* Geoff. (natural infection).

OYSTER HOSTS. Little pied cormorant, *Phalacrocorax melanoleucos* Vieillot (nat. inf.); cat (expt. inf.); chicken (day-old), expt. inf.; laboratory rat (expt. inf.).

LOCALITY. Lower third of small invertebrate.

LOCALITY. Brisbane, Queensland (water rat, commoner) type locality, Emerald, Queensland (water rat).

DISTRIBUTION OF MATERIAL. U.S. Nat. Mus. (W.H.M. Coll.) 60339 (holotype); 60340 (paratype). Brit. Mus. (Nat. Hist.) 1963.5.1.21/22.

DIAGNOSIS OF MOTYLE (Fig. 38). With the characters of the genus *Stellatichthys*, as extended above. Length 268 μ ; width of fore body 110 μ ; width of oesophagus 16 μ long, caeca extend to level of ovaries. Pharynx 38 long; pharynx 32 \times 17 μ ; 28 \times 26 μ ; uterine coils largely dorsal to ovary and testes; vitelline follicles few and large, dorsal, extend from anterior border of ovary to just beyond posterior border of testes; testes opposite, right testis 48 \times 30 μ , left testis 45 \times 34 μ ; seminal vesicle bipartite, first part thin-walled, 25 \times 21 μ , second part an expulsor with thick, muscular wall, 37 \times 17 μ . Ventrogenital sac median, immediately post-tibial, 105 μ from anterior end, contains ventral sucker, gonotyl, and genital pore; ventral sucker 23 \times 23 μ , unarmed, not highly modified, with somewhat sharpened lip; gonotyl 10 \times 6 μ , reniform, arising from anterior wall ventrally; genital sac; genital pore lateral to and separate from gonotyl on left side opposite mouth of ventral sucker.

(2) Comparison

The genus *Stellatichthys* contains a single species, as discussed above, namely the type, *S. falcatus*. *S. aspinosus* differs from *S. falcatus* in the following features: (i) ventral sucker little modified and unarmed in *S. aspinosus*; armed and with reversible ventral lip in *S. falcatus*; (ii) body size, 270 (249-280) \times 121 (101-148) μ ; of *S. aspinosus* less than that of *S. falcatus* (Hawaiian), 483 (428-585) \times 268 (187-335) μ ; (iii) expulsor size, 35 (29-42) \times 18 (17-19) μ , less than that of *S. falcatus* (Hawaiian), 77 (58-103) \times 26 (18-33) μ ; (iv) vitellaria of *S. aspinosus* in a rectangular mass not reaching posterior end; vitellaria of *S. falcatus* in a triangular mass which reaches posterior end; and (v) ejaculatory duct and metraterm unicellular sac in *S. falcatus*.

(3) Remarks

The presence of a genital sinus in *S. aspinosus* and its absence in *S. falcatus* would at first glance appear to militate against placing these two species in the same genus; but comparison of the two clearly demonstrates that they are in fact closely related, and hence some explanation is called for of the significance of this difference which, in other cases is of generic importance. First, it may be pointed out that the difference is, physically, a very small one in that the genital sinus is very short in *S. aspinosus* and the ejaculatory duct and metraterm open side by side in *S. falcatus*.

Diorchitrema formosanus (Katzuta, 1932)

Синоним: *Stellantchasma formosana* Katzuta, 1932

(Рис. 63)

Дефинитивные хозяева: собака (*Canis familiaris*), кошка (*Felis catus domesticus*), мышь (*Mus musculus*), а также и человек.

Дополнительный хозяин: рыба (*Mullus* sp.).

Локализация: кицельные — в кишечнике окончательного хозяина; метаптерии — в тканях рыб.

Место обнаружения: остров Тайвань.

Этот вид отличается от *D. pseudocirrala* меньшими размерами, более коротким пищеводом, узкими ветвями кишечника, более узким и длинным семенными пузырьком и меньшими размерами яиц.

Литература: Katzuta, 1932, стр. 20—39; Пакловский Е. Н., 1946, стр. 257.



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63

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Diorchitrema pseudocirrata Witenberg, 1929

Синоним: *Stellanchasmus amplexus* Katzua, 1932
(Рис. 62)

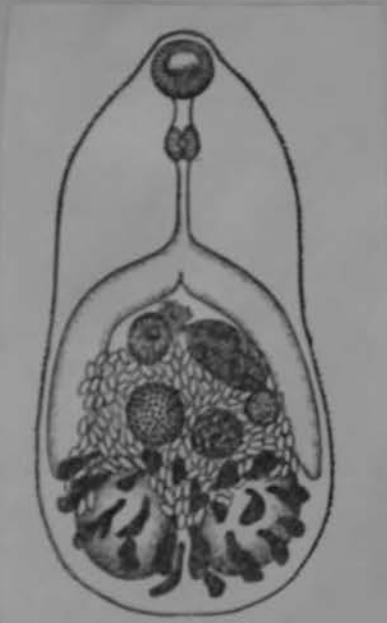
Дефинитивные хозяева: собака и кошка, а также человек.
Дополнительные хозяева: рыбы рода *Mugil*.

Локализация: кишечник.

Место обнаружения: Палестина.

Описание вида (по Витенбергу, 1929). Тело 0,3—0,6 мм длины и 0,2—0,3 мм ширины. На поперечном сечении тело почти круглое, передняя часть тела уже задней. Поверхность кутикулы, исключая самую заднюю часть тела, покрыта небольшими шишками. Ротовая присоска 0,04—0,05 мм в диаметре, префаринкс 0,01—0,04 мм, фаринкс 0,03—0,04 мм, пищевод 0,07—0,14 мм длины. Кишечный развилик располагается спереди от середины длины тела, кишечные стволы разные, иногда толще пищевода, достигают передних краев семеников. Семениники шаровидные или немногого удлиненные, лежат на одинаковом уровне у заднего конца тела и достигают 0,6—0,12 мм. Круглый яичник, 0,03—0,05 мм в диаметре, лежит спереди от семеников, вправо от средней линии. Налево и немногого позади него находится семяприемник, который может быть мелким или крупнее яичника, в зависимости от степени наполнения сперматозоидами. Желточки состоят из 20—40 удлиненных фолликулов, расположенных между дорсальной поверхностью тела и семениками.

Vasa efferentia открываются в небольшой, обычно круглой семенной пузырек 0,018—0,037 мм в диаметре и соединены короткой трубкой с



{ *STELLANTCHASMOS*
 (= *DIORHITRENA*) }

Stictodorinae n.-subfam. *Vernon*, 1958

Subfamily diagnosis. — Heterophyidae: Body very small, elongate pyriform to claviform, or subcylindrical. Oral sucker small, prepharynx long, pharynx well developed. Esophagus rather short, ceca terminating at or near posterior extremity. Acetabulum more or less atrophied and forming armed acetabulo-genital apparatus of varying structure. Testes diagonal to symmetrical, wide apart from posterior extremity. Seminal vesicle usually divided into two or more saccular portions. Genital pore submedian, situated in middle third of body or more anteriorly. Ovary median or submedian, anterior to either testis. Receptaculum seminis present. Uterus occupying most of hindbody and reaching posterior extremity. Vitellaria extending in posttesticular lateral fields, confluent medially or not, occasionally in median posttesticular field and enclosed in uterine coils. Excretory vesicle V- or Y-shaped, with short arms. Parasites of birds and mammals.

Key to genera of Stictodorinae from birds

1. Vitellaria in median posttesticular field, enclosed in uterine coils; ovary median *Acanthotrema*
- Vitellaria chiefly in lateral posttesticular fields; ovary submedian 2
2. Body enlarged posteriorly; seminal vesicle divided into 2 or more portions *Stictodora*
- Body flattened subcylindrical, seminal vesicle not divided *Sobolephya*

Stictodora Looss, 1899

Syn. *Cornatrium* Onji et Nishio, 1916

Genetic diagnosis. — Heterophyidae, Stictodorinae: Body small, flattened pear- or club-shaped, spinose. Oral sucker subterminal, pharynx conspicuous, esophagus usually rather short, ceca reaching to near posterior extremity. Acetabulum embedded in parenchyma, modified into non-suctorial organ with numerous spines projecting into genital atrium. Testes usually oblique, sometimes nearly symmetrical, in anterior or middle part of hindbody. No cirrus pouch. Vesicula seminalis constricted into 2 to 4 portions. Pars prostatica present. Ductus ejaculatorius very short, opening into genital atrium along with metraterm. Genital atrium relatively wide, enclosing acetabulum, opening in form of less submedian line some distance behind intestinal bifurcation. Ovary in front of posterior testis. Receptaculum seminis and Laurer's canal present. Uterus occupying most of pre-, inter-, and posttesticular regions; eggs thick-shelled, small. Vitellaria lateral or dorsal, in posterior part of hindbody. Excretory vesicle Y-shaped, funnel-shaped when distended. Parasitic in intestine of birds and mammals.

Genotype: *S. sawakihensis* Looss, 1899 (Pl. 65, Fig. 786) in *Larus* sp. *Puffinus hohli*; Egypt, Philippines. Also in dog and cat; Palestine, Philippines, Egypt. *Anas platyrhynchos*, "sterne du lac", Tunis; *Sturnus kurrundo*, W. Siberia. Metacercaria in *Mugil* spp. — Witenberg (1929).

Key to species — Morozov in Skrjabin (1962).

Other species from birds: (Larval forms marked with asterisks)

S. adulescens (Onji et Nishio, 1916) (syn. *Cornatrium adulescens* O. et N.) in *Larus*; Japan. Metacercaria in *Mugil cephalus* — Onji and Nishio (1916, 24).

S. displacantha Johnston, 1942, in *Phalacrocorax carrius*; S. Australia.

S. fuscata (Onji et Nishio, 1916), obtained experimentally in cat, may turn out to be an avian parasite in nature.

S. guerreroi Garcia et Refuerzo, 1936, in *Larus ridibundus*, native dog; Philippines.

Metacercaria in *Hoplostethus balabacensis*, *Homiramphus georgii*, *Ambassis buruensis*, *Mugil dussumieri*, adult experimentally in rat, mouse, puppy and cat — Vazquez-Colet and Africa (1938, 39, 40).

S. japonica Yamaguti, 1939, in *Mergus serrator*; Japan.

S. johnsoni (Price, 1934), syn. *Galactosomum* f. P., in *Sula leucogaster*; Puerto Rico.

S. lari Yamaguti, 1939, in *Larus crassirostris*; Japan.

S. manilensis Africa et Garcia, 1935, syn. *S. hainanensis* Kobayashi, in native dog; Manila. Metacercaria in *Gerris filamentosus*, *Pelates quadrilineatus*, *Mugil dussumieri*, *Therapon plumbeus*; adult experimentally in mouse, rat, dog, cat — Vazquez-Colet and Africa (1938, 39, 40), Africa and Garcia (1940), Chen (1961).

S. mergi Yamaguti, 1939, in *Mergus serrator*; Japan.

**S. palmirensis* Vazquez-Colet, 1943, in *Sillago maculata*; Luzon.

S. perpendiculum (Onji et Nishio, 1916) in *Larus*, experimentally also in cat and dog; Japan. Larva in *Mugil* and *Acanthogobius*,

S. pusilla (Onji et Nishio, 1916) in *Larus*, metacercaria in *Mugil cephalus* — Onji & Nishio (1916, 24).

S. tridactyla Martin et Kuntz, 1955.

Parapleurolophocercous cercaria with excretory formula $2[(3+3+3)+(3+3+3)]$ develops in *Pironella conica*. Adults in *Aphanianus fasciatus*, Egypt; experimentally in *Gambusia affinis* and *Gallus domesticus*. Natural hosts probably piscivorous birds and possibly man.

Parastictodora hancocki Martin, 1950, is tentatively relegated to subgeneric rank as it differs from the known members of the genus *Stictodora* only in the esophagus being much longer and bifurcating immediately in front of the genital pore.

S. (P.) hancocki Martin, 1950 (Pl. 62, Fig. 753); cercaria oculate, with lateral finfold on anterior half of its long tail and ventral finfold on posterior half, and flame cell formula $2[(3+3)+(3+3)]$, develops in marine snail, *Cerithidea californica*, encysts in tissue of lower jaw, around eyes, in muscle and connective tissue near bases of fins, in brain case and coelom of *Fundulus parvipinnis* and *parvipinnis* and *Gillichthys mirabilis*; adults were produced in chicks which had been fed the infected fish; natural definitive host may be piscivorous birds — Martin (1950).

Yamaguti, 1958

The genus *Stictodora* was discussed above in connection with *Galactosomidae*. A revised diagnosis is desirable because of errors made by Looss (1899) and some later investigators in interpreting certain features.

Genus *Stictodora* Looss, 1899, char. emend.

Synonyms:

Cornatrium Onji and Nishio, 1924.

Acanthotrema Travassos, 1928.

Parastictodora Martin, 1950.

Diagnosis: small heterophyid trematodes with oval, pyriform, or linguiform bodies. Cuticle spinose nearly to posterior end; eyespot pigment present. Oral sucker without appendage or circumoral spines, pharynx oval, prepharynx usually longer than esophagus, ceca extend well into hindbody, but usually terminate a considerable distance from posterior end. Ventrogenital sac median or submedian; ventral sucker to right within sac, ovoid to pyriform in shape, its free surface bearing pronglike hooks, spines or sclerotized plates; gonotyl small, unarmed, immediately to left of ventral sucker and overhanging genital pore; ventrogenital opening with sphincter. Testes 2, diagonal to almost symmetrical; seminal vesicle relatively thin-walled throughout, more or less distinctly bipartite. Ovary submedian or to right of midline anterior to testes; levels of ovary and anterior testis may overlap; seminal receptacle variable in position, between testes or on either side of, and dorsal to ovary. Vitelline follicles scattered among uterine coils posterior to testes, not arranged in rosettes. Excretory vesicle V- or Y-shaped with short arms. Eggs small, symmetrical, numerous. Type species, *Stictodora sawakinensis* Looss, 1899.

From: Cable, Connor, and Balling, 1960

Stictodora Looss, 1899

Generic diagnosis. — See p. 721.

Genotype: *S. sawakinensis* Looss, 1899, in *Larus* sp., *Puffinus kuhli*;

Egypt, Philippines. Also in dog and cat; Egypt, Palestine, Philippines. *Anas platyrhynchos*, "sterne du lac"; Tunis. Metacercaria in *Mugil* spp. — Witenberg (1929), in *Boleophthalmus pectinirostris*, Hainan Isl.; dogs (exper.) — Kobayasi (1942).

Other species from mammals:

S. fuscata (Onji et Nishio, 1916) in cat; Japan. Also in man and dog. Larva in *Pseudorhabdiorhina parva* — Hasegawa (1934).

S. guerreroi Garcia et Refuerzo, 1936, in *Canis familiaris* and *Larus ridibundus*; Philippines.

S. hainanensis Kobayasi, 1942 (PL 94, Fig. 1139), in dog fed on *Mugil affinis*, *Boleophthalmus pectinirostris* and *Cyprinus carpio*; Hainan Isl.

S. perpendicularum (Onji et Nishio, 1916) in cat and dog (exper.) and *Larus* (nat.). Larva in *Mugil* and *Acanthogobius*; Japan.

S. thapari Witenberg, 1953, in cat; Jerusalem.

Диагноз рода *Stictodora*

Galactostomatinae. Тело удлиненное, грушевидное или цилиндрическое. Кутину покрывают шипы. Ротовая присоска и фаринкс маленькие. Префаринкс длинный, пищевод обычно короткий. Кишечные ветви тянутся почти до заднего конца тела. Брюшная присоска отсутствует илиrudimentaria. Половая присоска хорошо развита и вооружена хитиновыми шипами; она помещается в генитальном синусе, внедренном в паренхому. Половое отверстие лежит у основания половой присоски. Семенины находятся в задней половине тела, где они лежат наискось. Яичник располагается между правого семенина. Семяприемник находится между семенинами, иногда позади левого семенина или между семенином и яичником. Семенной пузырь подразделен перегородками на две, три и четыре части; терминалная его часть соединена с коротким «испульсатором». Желточники лежат в задней трети тела. Матка занимает пространство между половым отверстием и задним краем тела. Яйца многочисленные, с толстой оболочкой. Экскреторный пузырь Y-образный. Паразиты млекопитающих и птиц.

Типичный вид: *Stictodora sawakinensis* Looss, 1899.

Таблица для определения видов рода *Stictodora* Looss, 1899

- 1 (1). Брюшная присоска отсутствует.
- 2 (2). На половой присоске имеется 6—10 рядов хитиновых треугольных пластинок *S. sawakinensis* Looss, 1899.
- 3 (2). На половой присоске 25—28 рядов тонких шипов *S. guerreroi* Garsia et Refuerzo, 1936.
- 4 (1). Имеется мышечная брюшная присоска.
- 5 (8). Семенины лежат наискось, желточники — латерально.
- 6 (7). На брюшной присоске имеются два подушковидных выдвинутых, вооруженных мелкими шипами *S. japonicum* Yamaguti, 1939.
- 7 (6). На брюшной присоске придатков нет. *S. mergi* Yamaguti, 1939.
- 8 (5). Семенины лежат по бокам тела одна против другой. Желточники в мезентериальном мешочке позади семенин *S. lari* Yamaguti, 1939.

Stictodora sawakinensis Looss, 1899

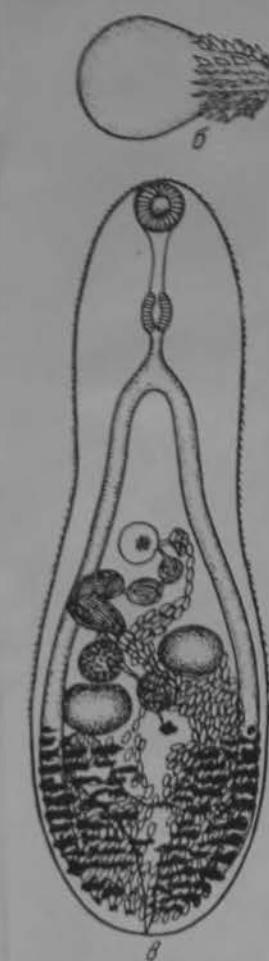
Синоним: *Stictodora manilensis* Africa et Garcia, 1935
(Рис. 122)

Дефинитивные хозяева: кошка (*Felis catus domesticus*), собака (*Canis familiaris*), *Puffinus kuhli*, *Larus* sp.

Дополнительные хозяева: *Mugil cephalus*, *M. capito*.

Локализация: взрослые — в кишечнике окончательного хозяина; метацеркарии — в тканях рыб.

Места обнаружения: Филиппинские острова, Тунис, Суэц, Палестина.



A species of *Stictodora* among our material apparently is the one Travassos (1928) described as *Acanthotrema acanthotrema*. Martin (1950) suggested that the species belongs in the genus *Stictodora*, and Witenberg (1953) disposed of it in the same way. The following description is based on 18 ovigerous specimens, several of which were dead when removed from the host.

Stictodora acanthotrema (Travassos, 1928) Martin, 1950. (FIGURES 24 and 25)

Synonym:

Acanthotrema acanthotrema Travassos, 1928.

With the characters of the genus. Body flattened, linguiform, widest at level of testes, length 0.78 to 0.86, width 0.19 to 0.28. Eyespot pigment and numerous intercoecal glands in forebody; cuticle spinose to level of testes. Oral sucker 0.048 to 0.060 long, 0.054 to 0.071 wide; pharynx 0.044 to 0.057 by 0.032 to 0.040; prepharynx about as long as pharynx, esophagus about one fourth of that length. Intestinal bifurcation at about midlevel of forebody; ceca terminate about one sixth length of body from posterior end; epithelial lining distinct. Ventrogenital sac slightly to left of median, pre-equatorial; ventral sucker oval to subspherical, its free portion with 3 evidently sclerotized pronglike structures 0.032 to 0.039 long and bearing extremely minute denticles on tips and inner edges; the small gonotyl extends from left wall of sac, ventral to genital pore; ventrogenital opening slightly to left of midline. Testes entire, diagonal to almost symmetrical; left testis 0.047 to 0.090 in diameter, right testis 0.048 to 0.079 long, 0.056 to 0.111 wide. Ovary subspherical, anteromedian to left testis, 0.041 to 0.075 in diameter; seminal receptacle dorsal and to right of ovary. Seminal vesicle with 2 elongate, thin-walled divisions; pars prostatica short, wide, surrounded by well developed prostate gland cells; ejaculatory duct short, joining metraterm to form genital atrium opening at genital pore in postero-dorsal wall of ventrogenital sac. Uterus intercecal or overlapping ceca and extending from near posterior end of body to level of pars prostatica. Excretory vesicle V-shaped, sphincter present, pore terminal. Eggs 0.019 to 0.021 by 0.009 to 0.011.

Host: *Thalasseus maximus maximus* (royal tern).

Site: intestine.

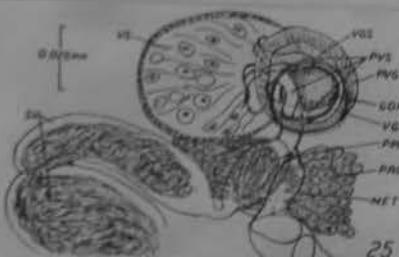
Localities: sand spit off Punta Arenas, Puerto Rico, and Brazil by Travassos (1928).

Deposited specimen: No. 38217.

From Cable, Conner, and Balling, 1960



24

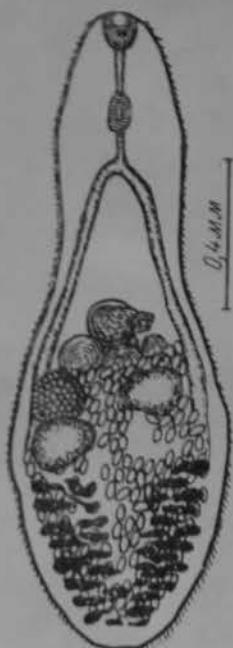


25

Stictodura guerreroi Garsia et Refuerzo, 1936
(Рис. 123)

Дефинитивные хозяева: *Canis familiaris*, *Larus ridibundus*.
Локализация: кишечник.

Место обнаружения: Филиппинские острова.
Описание вида (по Гарсиа и Рефурзо, 1936). Тело маленькое, продолговатое, около 1,10 мм длины и 0,24 мм ширины. Все половые органы расположены преимущественно в расширенной задней части. Кутинула покрыта шипиками. Пищевод короткий. Кишечные



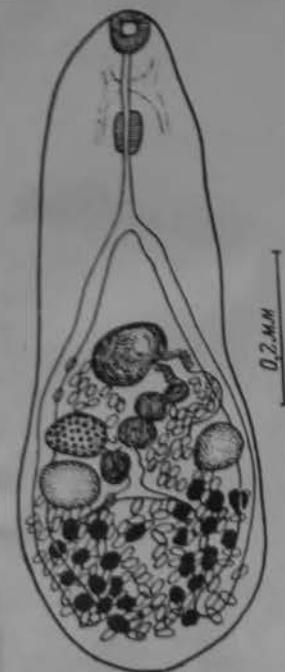
Дефинитивный хозяин: *Megulus setiferus*.

Локализация: ишечник.

Место обнаружения: Иония.

Описание вида (по Ямагути, 1939). Тело сплющено dorso-ventrально, 0,68—1,1 мм длины и 0,27—0,40 мм ширины, неподалеку от округлого заднего конца. Кутину покрыта мелкими щипниками. Ротовая присоска субтерминальная, $0,045-0,051 \times 0,048-0,060$ мм в диаметре. Префаринкс: 0,060—0,070 мм длины. Фаринкс бочкообразный, 0,048— $0,060 \times 0,036-0,054$ мм в диаметре. Пищевод 0,060—0,080 мм длины. Кишечные ветви заканчиваются неподалеку от заднего конца тела. Брюшная присоска овальной формы внедрена в циррехиму, достигает 0,060—0,080 мм ширины, имеет клеточное строение и окружена тонкой оболочкой, нечервневой назывными мышечными волокнами. Она расположена около середины тела, на ее свободном конце, направленном в генитальный синус, имеются два подушкообразных вздутия (половые присоски); одно, крупное, лежит в центре и имеет на своей поверхности около 30 щипов 0,012 мм длины и 0,005 мм толщиной в основании; другое в основании первого лежит немного дальше вперед и покрыто мелкими щипниками в количестве около 100. От свободного края присоски поднимается Е-образный мускулистый клапан, который подразделяет генитальный синус на две камеры. Семениники овальные, 0,060—0,090 мм длины и 0,070—0,120 мм ширины, лежат uno ad uno за другим в задней части средней трети тела или немного дальше назад, левый семеник впереди. Семеник состоит из трех частей, наибольшая из них проксимальная часть, 0,024—0,033 мм в диаметре, и лежит на медианной линии на уровне передней части ишечника. Простатическая часть овальная, 0,018—0,033 мм ширины и окружена простатическими клетками. Семязачергательный проток узкий и короткий, открывается в семенную камеру генитального синуса вместе с метратертом. Генитальное отверстие влево от медианной линии, посередине тела или немного вперед. Яичник шаровидный или поперечно-продолговатый, овальный, 0,060—

29 Голова. т. VI



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Heterophyidae

Stictodora johnsoni (Price, 1934)
syn. Galactosomum johnsoni Price, 1934



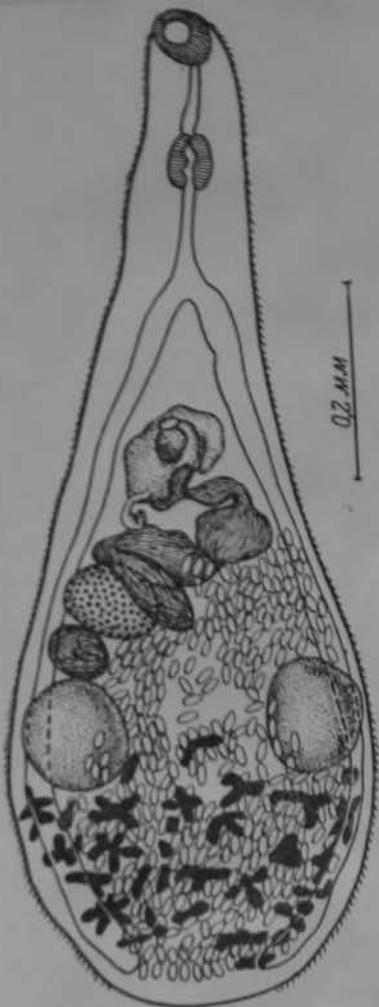
*Galactosomum
johnsoni* "sens.
Price, 1934"



2.

Stictodora lari Yamaguti, 1939

Host: Larus crassirostris



Stictodora lariformicola Sorandares-Bernal and Walton, 1965

DESCRIPTION (Based upon four specimens from *Lamprologus*).—**Stictodora.** Body elongate, inguinal, 0.361 to 1.281 long by 0.538 to 1.657 wide. Fins dark, 0.422 to 0.673 long, pelvic completely spined. Caudal spine acute and almost in anterior two-thirds of body, becoming smaller and blunt distad.

—**Anterior one-third of body.** Eyespot present in anterior one-third of body. Oral sucker well developed with medium longitudinal aperture, 0.186 to 0.218 long by 0.174 to 0.192 wide. Prepharynx about one-fifth the length of oral sucker. Pharynx elongate and conical in shape, 0.053 to 0.100 long by 0.038 to 0.064 wide. Esophagus from about above to about one-half the length of pharynx. Convolutions extending laterally from esophagus one on each side of body, abruptly bending towards posterior end of body, winding in helix course to end blindly in about posterior one-third of body. Ventrogenital pore slightly elevated to midline of body, about at equator. Ventrogenital sac densely surrounded by glandular cells containing usual and posteriorly directed acetabulae and smooth lateral glands. Acetabulae with protruding lobes which may extend through ventrogenital pore; lateral ventral borders of acetabular lobes have lobules. Gonadal mesocystic cavity in shape usually dumbbell-shaped bearing tenent armature of which terminal three tips end as spines. Atrial atrium short, muscular, partially surrounded by prostate gland cells at its distal tip posterior to ventrogenital sac or immediately lateral to gonads. Testes two, immediately postgenital, usually side by side, sometimes slightly oblique and in shape with small edges, right testis 0.148 to 0.205 long by 0.128 to 0.179 wide, left testis 0.141 to 0.166 long by 0.128 to 0.166 wide. External seminiferous tubule sacculi arises on dorsal to ventrogenital sac, extending transversely from midline of body to enter genital atrium via what appears to be a prostatic vesicle which is not clearly discernible due to gland cells surrounding it. Ducts usually median and equatorial, sometimes displaced to left of midline of body, sometimes partially overlapping posterior tip of ventrogenital sac; oblique and in roughly in shape 0.070 to 0.115 long by 0.038 to 0.115 wide. Seminal receptacle between ovary and distal testes, sacculi in shape. Vitelline follicles restricted to posttesticular space, sometimes overlapping posterior border of testes in contracted specimens. Vitelline reservoir intertesticular. Uterus filling posttesticular space, extending anteriorly into forebody to fill intercœcal space, partially overlapping recta, ending in genital atrium. Uterus eggs operculate, 0.012 to 0.028 long by 0.011 to 0.014 wide. Eversible vesicle not clearly observed, seems to extend to posterior border of testes.

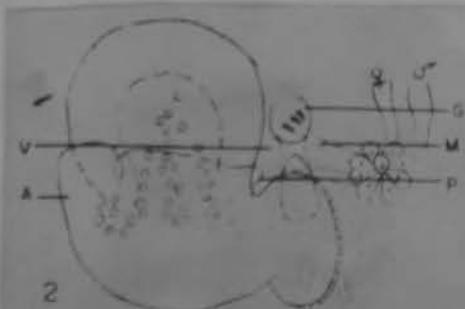


FIG. 2. *Stictodora lariformicola* from *Lamprologus*. Composite sketch of terminal genitalia with acetabulae profundae. A = recta; G = gonad; I = M = genital atrium; V = rectogenital sac; and P = ventrogenital pore.

Hosts: *Larus argentatus* Posttoppular hering gull; *L. arcticus* Linné long-legged gull; *L. delawarensis* Ordman ring-billed gull; *L. hyperboreus* Bonaparte glaucous gull.
 Location: Bottom of all hosts.
 Locality: St. Petersburg, Florida.
 Collector: U.S.N.M. Helm Coll. No. 10981.

DISCUSSION. The name *lariiformicola* is indicative that this species lives in larchine birds.

Soriano - 1958 has listed the species in the genus *Stictoflora*. To his list must be added *S. californica* Martin, 1955 and *S. martinii* Soriano, 1958. Cade et al. 1960 have, following Martin (1950) and Wilberg (1951), suggested that *Anthonomus grandis* (Fabricius, 1925) should also be included in the genus *Stictoflora*. For the present time we shall follow Martin (1950) and the others cited above in accepting the name *Stictoflora grandis* (Fabricius, 1925); Martin, 1950. However, we recognize

that there are several species groups in *Stictoflora* based on acetabular and gonostyle structure, which may well be regarded as subgenera or genera. Our concept of this genus of trichodes will doubtless need to be revised in the future. We have not attempted such a revision here since many of the species descriptions are inadequate and specimens are not presently available for study. *Stictoflora lariiformicola* seems to differ from other known species of the genus primarily by possessing an acetabulum which is lobed when protruded.

To avoid possible taxonomic problems in the future, if a parasite is found in more than one host, it is usually wise to base the original description on material from one host species. Accordingly, the description of *S. lariiformicola* is based upon material from the type host only. Table I presents comparative measurements of specimens identified as *S. lariiformicola* from different hosts in Florida.

Table I. Measurements of *Stictoflora lariiformicola* from different hosts.

Structure	Hosts				Total range
	<i>L. argentatus</i>	<i>L. arcticus</i>	<i>L. delawarensis</i>	<i>L. hyperboreus</i>	
Body length	1.45	0.376-1.211	0.691-1.182	0.876-1.239	0.876-1.445
width	0.33	0.490-0.766	0.518-0.617	0.590-0.667	0.590-0.667
Acetabular width	0.618	0.410-0.550	0.422-0.517	0.398-0.480	0.398-0.637
Total body length	0.278	0.245-0.290	0.166-0.218	0.154-0.179	0.154-0.230
width	0.228	0.166-0.207	0.154-0.192	0.128-0.154	0.128-0.205
Pharynx length	0.077	0.064-0.090	0.051-0.089	0.051-0.080	0.051-0.080
width	0.064	0.064-0.090	0.038-0.054	0.053-0.060	0.038-0.090
Ab. rectal length	0.192	0.128-0.154	0.148-0.205	0.102-0.179	0.102-0.192
width	0.174	0.128-0.154	0.128-0.179	0.102-0.172	0.102-0.192
Ab. rectal length	0.192	0.102-0.180	0.141-0.186	0.099-0.154	0.099-0.192
width	0.173	0.115-0.180	0.128-0.186	0.077-0.154	0.077-0.166
Ovary length	0.102	0.064-0.090	0.060-0.115	0.064-0.090	0.064-0.115
width	0.075	0.058-0.080	0.058-0.117	0.053-0.080	0.051-0.115
Type length	0.022-0.028	0.022-0.028	0.022-0.028	0.022-0.028	0.022-0.028
width	0.011-0.014	0.011-0.014	0.011-0.014	0.011-0.014	0.011-0.014

* This group includes red measured in 1958 and in 1960.

ABOVE IS ORIGINAL ACCOUNT FROM SORIANO-BERNAL AND WALTON (1965)

Among our material was another species represented by only 2 individuals, neither of which was fixed well extended; both were crowded with eggs that obscured many internal organs. For that reason the specimens were sectioned after being studied as whole mounts. Below is a description of the species to the extent that its features could be determined from the material available.

Stictodora sp. (FIGURES 26 and 27)

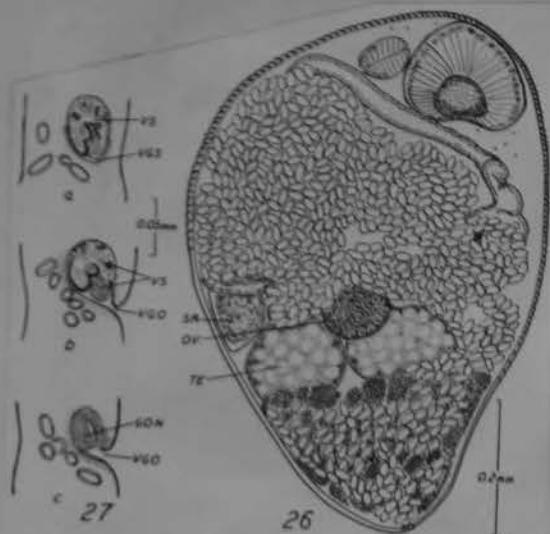
Cuticle spinose to level of testes; eyespot pigment present. Body 0.78 long, 0.52 in maximum width anterior to midlevel. Oral sucker 0.15 by 0.18; esophagus appears to be very short in sectioned material; pharynx 0.071 by 0.066; ceca extend to level of testes. Excretory vesicle Y-shaped, with short arms reaching testes; pore terminal, sphincter present. Ventral sucker lobed, it and gonotyl apparently unarmed. Testes entire, side by side or nearly so, right testis 0.142 by 0.150, left testis 0.126 by 0.166. Seminal vesicle large, its shape not determined. Ovary entire, 0.071 by 0.107, median, ventral to testes and partly covered by them; vitellaria with large, irregular follicles among uterine coils in posterior one third of body. Seminal receptacle large, to right of ovary. Uterus voluminous, evidently extending from posterior end of body to intestinal bifurcation. Eggs small, symmetrical, very numerous, embryonated, 0.023 to 0.025 by 0.010 to 0.012.

Host: *Thalasseus maximus maximus* (royal tern).

Site: intestine.

Locality: sand spit off Punta Arenas, Puerto Rico.

From: Cable, Connor, and Balling, 1960



Cable, Connor, and Balling (1960) reported a second, and partially described, unidentifiable species of *Stictodora* from a royal tern (*Thalasseus maximus*). But, from Figs. 26-27, little material was contributed and the uterus was filled with eggs, which obscured certain internal structures, making a specific identification impossible.

We have collected a new species of *Stictodora*, which seems identical with that reported as *Stictodora* sp. by Cable et al. (1960), from Royal Tern (*Larus argentatus* Ford), *T. atricilla* (Gmelin), *T. bengalensis* (Ogilby), and *T. maximus* (Linnaeus). This new species is named and described below.

See *Stictodora larivormicola*
Socorroares-Bernal and Walton, 1965

Stictodora macrotestis Belopolskaja, 1963

Host: Tringa incana

♂ juv.

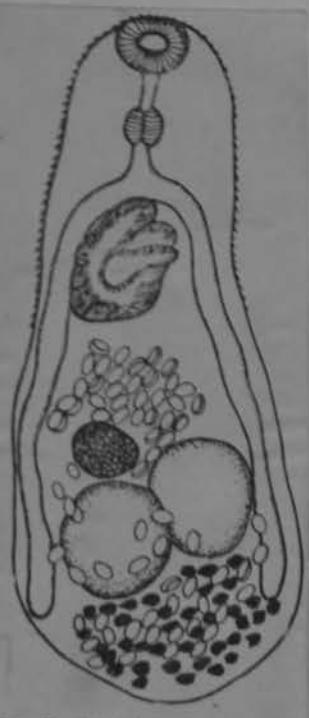


Рис. 7. *Stictodora macrotestis*
нов. sp. от *Tringa incana*,
типовой экземпляр

STICTODORA (PARASTICTODORA) MARTINI, n. sp. Segunderes-Bernal, 1959
 (Figs. 4 to 6)

Host: *Brychops nigra* Linn.; skimmer; family Rynchopidae
 Location: Intestine
 Locality: Little Gasparilla Pass, Gasparilla Sound, Florida
 Holotype: U. S. Nat. Mus. Helm. Coll. No. 39203

Heterophyidae

Diagnosis (based on 3 specimens, measurements on 2 favorable specimens): *Stictodora (Parastictodora)*: Body elongate, narrow, widest at level of genital organs, 1.19 to 2.142 long by 0.187 to 0.204 in maximum width. Forebody 0.782 long. "Eyespots" of diffuse granules present on each side of pharynx. Cuticle spined to posterior end of body. Oral sucker subterminal, 0.044 to 0.048 long by 0.048 to 0.056 wide. Acetabulum median, and in posterior $\frac{1}{4}$ body, bulbular in shape, 0.080 to 0.084 long by 0.056 to 0.060 wide, containing a U-shaped sclerotized armature (sinistral, dextral and basal portions of armature measure about 44 to 48, 40 to 44 and 36 microns respectively) embedded in its matrix; tips of armature anterior and covered with muscular tissue; also containing giant cells such as described for *Parastictodora hancocki* Martin, 1950. Prepharynx from 0.096 to 0.104, about 3 times length of pharynx. Pharynx 0.032 to 0.040 long by 0.028 to 0.032 wide. Esophagus 0.493 to 0.595 long, about 12 to 18 times length of pharynx. Cecal bifurcation about 0.784 to 0.782 from anterior end of body. Ceca 2, extending one on each side of body to end blindly about $\frac{2}{3}$ distance from acetabulum to posterior end of body, a short distance behind testes.

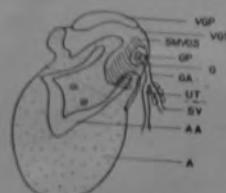
Ventrogenital pore median, immediately behind cecal bifurcation, followed by a ventrogenital sac posteromedially enclosing anterior portion of acetabulum which contains tips of U-shaped armature, and a gonotyl on sinistral side of ventrogenital sac wall. Spiral muscular fibers which appear as parallel striations on dextroventral wall of ventrogenital sac, extending from anterior border of gonotyl to level of acetabular insertion into the ventrogenital sac, probably representing a muscular thickening of the ventrogenital sac wall. A thickening on sinistral side of ventrogenital sac appears to fuse with acetabulum and may represent a vestige containing a rudimentary third sclerotized prong of the acetabular

armature. Testes 2, side by side, behind middistance from cecal bifurcation to posterior end of body, intercecal, roundish in shape and smooth in outline; dextral testis (measurable in a single specimen) 0.060 long by 0.056 wide; sinistral testis (measurable in a single specimen) 0.068 long by 0.056 wide. Posttesticular space 0.102 to 0.153 long. Seminal vesicle bipartid, median between acetabulum and testes, opening into a short non-muscular genital atrium which appears to penetrate gonotyl, opening into ventrogenital sac through genital pore. Prostate cells surrounding portion of seminal vesicle proximal to ventrogenital sac. Ovary dextral, intercecal, between acetabulum and dextral testis; roundish in shape and smooth in outline; 0.048 to 0.068 long by 0.044 to 0.064 wide. Seminal receptacle immediately postovarian, in contact with ovary and dextral testis. Vitellaria mainly intercecal in posttesticular space, at least overlapping posterior $\frac{1}{2}$ testes. Uterus descending from ovary to a point about midway between testes and posterior end of body, ascending intertesticularly, occupying space between ovary, testes and acetabulum to enter genital atrium on left side of seminal vesicle. Uncollapsed uterine eggs 20 to 24 microns long by 12 microns wide. Excretory vesicle not observed.

The name *martini* is in honor of Professor W. E. Martin, University of Southern California, in recognition of his life-history studies of the heterophyids.



4



5

Discussion. There is one other species in the sub-genus *Parastictodora* Martin, 1950. This species, *S. (P.) hancocki* (Martin, 1950), was obtained experimentally in chickens. *S. (P.) martini* differs from *S. (P.) hancocki* as follows: Spiral muscular fibers present in ventral left wall of ventrogenital sac, ceca ending a short distance posterior to testes, cecal bifurcation almost in posterior ½ body, seminal receptacle posterior to ovary and eggs 20 to 24 microns long by 12 microns wide, as compared with ventrogenital sac without spiral muscular fibers, ceca extending to posterior end of body, cecal bifurcation almost equatorial and eggs 25 to 28 microns long by 13 to 16 microns wide. Yamaguti (1958), though not Morozov (1953), would relegate *Parastictodora* to sub-generic rank in the genus *Stictodora*. I am not in complete agreement with Yamaguti (1958). My specimens of *P. martini* were instantly recognizable as belonging to the sub-genus *Parastictodora* on the basis of possessing an unspined acetabulum with a sclerotized U-shaped

armature and a very long esophagus. These characters make *S. (P.) hancocki* and *S. (P.) martini* very distinctive. Another view is that the rudimentary portion of the acetabulum on the dextral side of the ventrogenital sac of *S. (P.) martini* may contain a vestigial third prong of the sclerotized armature of the acetabulum. Due to insufficient material, I have not sectioned specimens to ascertain this point. If a reduction of size of the third acetabular prong occurs in my material, it would represent an intermediate condition between species of *Stictodora* and *Parastictodora hancocki* Martin, 1950. In this case, the only remaining character to separate *Stictodora* from *Parastictodora* would seem to be the length of the esophagus. This latter character could hardly be considered generic in value. Pending new collections and a study of additional material, Yamaguti's (1958) views concerning *Parastictodora* shall be retained with the above cited qualifications. Martin (1950) and Martin and Kuntz (1955) have studied the life histories of a species each of *Parastictodora* and *Stictodora*, respectively, and have found the cercariae to be very similar.

Stictodora mergi Yamaguti, 1939

(Рис. 124)

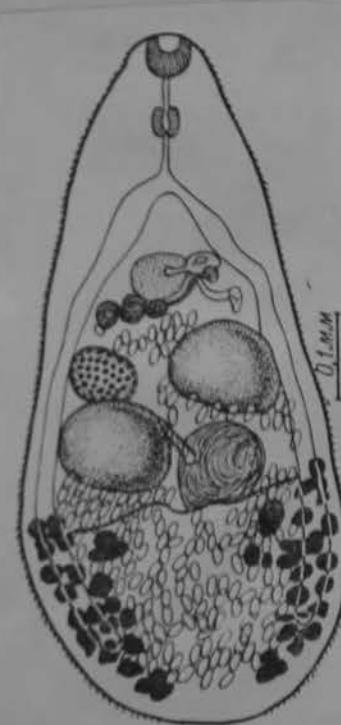
Дефинитивный хозяин: *Megathura aetralis*.

Локализация: кишечник.

Место обнаружения: Июния.

Описание вида (по Имагути, 1939). Тело грушевидное или дубовниквидное, сплющенное дорso-вентрально, 0,5—0,85 мм длины и 0,2—0,36 мм максимальной шириной. Кутинула тонкая, покрыта мелкими шипиками. Ротовая присоска расположена вентро-терминально, кубкообразная, 0,048—0,090 мм в диаметре. Префаринкс тонкий, 0,020—0,080 мм длины. Кишечные ветви заканчиваются неподалеку от заднего конца тела. Брюшная присоска внедрена в тело, представлена слабо-мышечным гемостазом, 0,040—0,070 мм в диаметре, состоящим из тонкой оболочки и компактной массы мелких клеток с круглыми ядрами. Он лежит на медианной линии или немного левее, обычно в передней части средней трети длины тела. Его апикальный конец вооружен тонкими, согнутыми испирательными шипами около 0,010 мм длины и открывается в гинтальный синус.

Семениники поперечно-продолговатые, овальные, лежат косо один за другим; передний семеник $0,1 \times 0,135$ мм в диаметре, располагается левее медианной линии, около середины длины тела; задний семеник $0,108 -$



PAPENF. 1964

Stictodora sclerogonocystis n.sp.
(Figures 35-38)

- Habitat:** metacercaria in *Tilapia galilaea* (Artedi), adult worms (experimentally) in *Ardea purpurea*, L.
- Habitat:** muscles (metacercariae), intestine (adult worms).
- Locality:** (metacercariae) Daliyya (Diplie) stream, coastal plain and Lake Tiberias (Israel).

Description of adult (based on the examination of 5 specimens). Body length 0.37-0.46 mm, width 0.14-0.17 mm. Body covered with 2-3 μ long spines. Oral sucker 0.4 mm in diameter. Prepharynx 0.025 mm. Pharynx 0.033 \times 0.02 mm. Oesophagus 0.03 mm. Intestinal caeca reach the level of the posterior testis. The gonotyl, 0.029 mm in diameter, is situated posterior to the intestinal bifurcation. It opens through a wide slit followed by two sclerotinoid 23 μ long spiny plates. Acetabulum absent or vestigial. There are three widenings of the vas deferens (the seminal vesicles) of which the distal one is the smallest (0.025 \times 0.01 mm), while the others are larger (0.029 \times 0.04 mm). Testes of 0.023-0.03 \times 0.04 mm are situated side by side at 0.075 mm from the posterior extremity of the body. Ovary compact, 0.02 mm in diameter, is situated in front of the posterior testis. Uterus winds in the area between the posterior extremity of the body and the gonotyl. Eggs 0.020-0.024 \times 0.11 mm.

The metacercaria resembles the adult worm in shape but lacks reproductive organs; the gonotyl is well developed. The large excretory vesicle occupies the posterior part of the body.

Discussion. Our species differs from all other representatives of the genus *Stictodora* by the peculiar armature of the gonotyl.

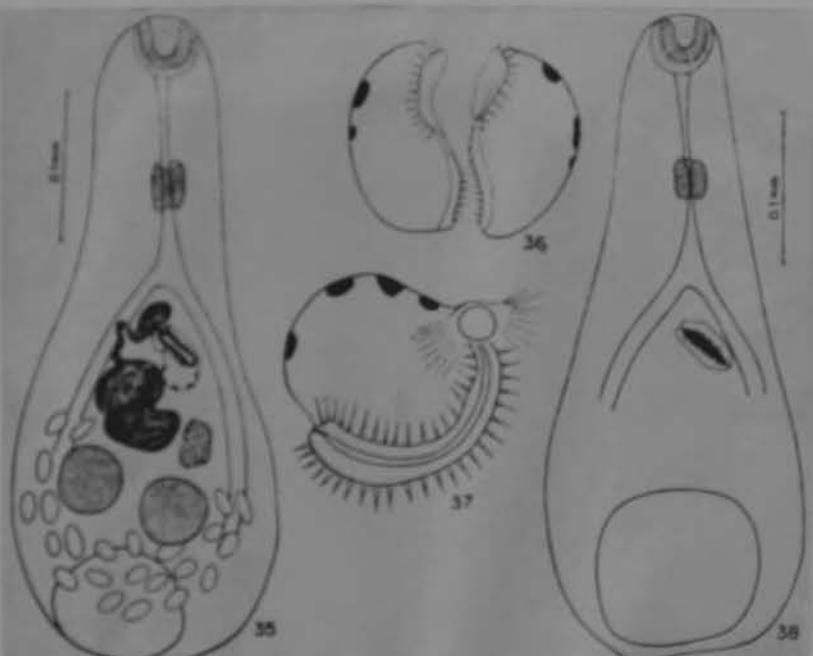


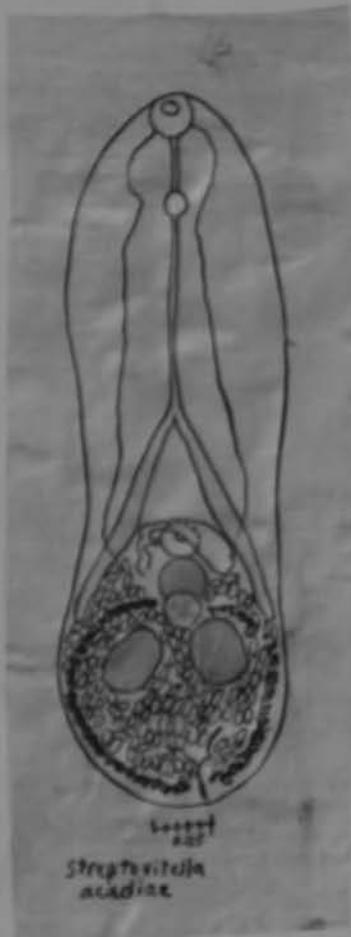
Figure 35-38
 35. *Stictodora sclerogonocystis*. Adult worm.
 36-37. *Stictodora sclerogonocystis*. Gonotyl.
 38. *Stictodora sclerogonocystis*. Metacercaria.

STICTODORA

STREPTOVITELLA Swales, 1933

Heterophyinae. Body narrow and of medium length; prepharynx, pharynx and esophagus well marked. Ventral sucker median, not included in a genital sac. Intestinal ceca short, not extending into the posterior fourth of the body. Ovary and seminal receptacle close together, on or near the median line. Vitellaria confined to the area behind the ovary, in a chain-like formation, following the outline of the body ventrally and meeting immediately caudad of the ovary. Ventro-genital sac contains no gonotyl, the genital opening being in the form of a simple aperture near the acetabulum.
Type species: *S. acadiae* Swales, 1933

This genus resembles *Diorchitrema* Witenberg, 1928 more closely than any other genus. The outstanding distinctions are in the situation of the testes, the formation and position of the vitellaria and the relative locations of the seminal receptacle, ovary and acetabulum.



STREPTOVITELLA

Taphrorychus Cohn, 1884

Generic diagnosis.—Heterophyidae; Pygidopspinae. Body submedium-sized, strongly flattened, elongiform anteriorly but enlarged posteriorly; Oral sucker followed by short prepharynx, esophagus short, ceca reaching to posterior extremity. Aestabulum small, at anterior corner of base of genital atrium. Testes diagonal, in last quarter of body. No cirrus pouch. Genital atrium median, at junction of two body regions. Ovary submedian, protostomial. Vitellaria confined to small pretesticular lateral area. Uterine coils passing between two testes as well as between ovary and anterior testis, and occupying most of hindbody. Excretory vesicle? Parasitic in esophagus of birds.

Genotype: *F. leucostomoides* (Mehlis in Crepl., 1846) Cohn, 1884, ?syn. *Mesostomum parvum* Mehlis in Crepl., 1846, n. sp. *Calyptorhynchus cristatus*; Entzep. X. figm. ex coll. 1884.

This genus was regarded by Poche (1926) as of uncertain subfamily status, but by Sauer (1933) as representing a new subfamily, and by

Price (1940) as probably belonging to the Cryptocotylinae. Therefore, it seems advisable not to make it the type genus of the subfamily under consideration, though it is older than *Pygidiopsis*.

TAPHROGONIMUS

Род *Tauridiana* Issaïschikoff, 1925

Диагноз рода

Klärwitztrematidae. Очень мелкие, прозрачные трематоды, с удлиненным или биссигнатообразным телом, смещенным в дорзо-центральном направлении.

Крупная ротовая присоска можно развита. Имеется довольно длинный профаринкс, почти цилиндрический или овальный фаринкс и пищевод.

Круглые и пельмообразные семеники и яичник расположены в задней половине тела, семеники близко к заднему концу, яичник впереди них.

Семеники лежат насквозь один позади другого, а яичник, смещенный влево от средней линии тела, локализуется впереди и против левого семеника. Можно развитый грушевидный семенной пузырек располагается впереди семеников, справа от яичника и брюшно-половой присоски. Рудимент брюшной присоски объединен с половой присоской в один орган — брюшно-половую присоску, смещенную влево от средней линии тела, причем брюшная присоска локализуется в заднем отделе брюшно-половой присоски, а половая — в переднем. Половое отверстие открывается в половую присоску.

Паразиты кошачника домашних плотоядных.

Типичный вид: *Tauridiana pontica* Issaïschikoff, 1925.

Tauridiana pontica Issaïschikoff, 1925

(Рис. 130)

Хозяин: домашняя кошка (*Felis catus domesticus*).

Локализация: тонкие кишki.

Место обнаружения: СССР.

Описание вида (по Исаичикову, 1925). Очень маленькая, плоская трематода с нежным, прозрачным телом удлиненной или биссигнато-видной формы, достигающим 0,917 мм в длину, при максимальной ширине 0,288 мм между фаринксом и брюшно-половой присоской. Ротовая присоска почти круглая, можно развита, 0,199—0,148 мм в диаметре с сильными, радиально расположеннымми мышечными пучками.

Слабая, круглая,rudimentарная брюшная присоска слегка сдвинута влево от средней линии тела и объединена с половой присоской, занимющей наружное положение и расположенной в левой стороне тела, в одни овальной формы брюшно-половую присоску, которая локализуется в передней части задней половины тела. Размеры брюшно-половой присоски равны $0,060 \times 0,058$ мм. Отдельно полована присоска достигает $0,040 \times 0,022$ мм, а брюшная 0,049 мм в диаметре. Центр брюшно-половой присоски отстоит от заднего конца тела на расстоянии 0,40 мм. За ротовой присоской следует резко выраженный довольно длинный профаринкс, достигающий 0,055 мм в длину и переходящий в почти цилиндрический или слабо овальный фаринкс, имеющий размеры $0,058 \times 0,049$ мм. Фаринкс переходит в пищевод, длина которого, а также расположение нишечника не выяснены.

Сильно сближенные, пельмообразные семеники локализуются в задней трети тела насквозь, один позади другого: правый впереди, левый позади. Задний край левого семеника отстоит от заднего конца тела на расстоянии 0,162 мм, а правого на расстоянии 0,230 мм. Правый семеник 0,085—0,101 мм и левый 0,099—0,108 мм в диаметре. В левой половине тела, несколько впереди левого семеника, располагается круглый



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LOOSE LEAF ORGANIZER

SCHEDULE

Period or time								
COURSE MON. INSTRUCTOR								
COURSE TUE. INSTRUCTOR								
COURSE WED. INSTRUCTOR								
COURSE THU. INSTRUCTOR								
COURSE FRI. INSTRUCTOR								
COURSE SAT. INSTRUCTOR								

NAME _____

ADDRESS _____

SCHOOL _____

TELEPHONE _____

Tetracladiinae n. subf. Yamaguti, 1951

Subfamily diagnosis. — Heterophyidae: Body elongate. Oral sucker and pharynx unusually large. Acetabulum small. Anterior cecal diverticula present. Testes tandem, in posterior region of body. Genital sucker postacetabular. Ovary submedian, intertesticular. Vitellaria confined to posterior extremity. Uterus closely coiled transversely, not reaching posterior extremity.

Tetracladium Kulačkowa, 1950

Generic diagnosis. — Heterophyidae, Tetracladiinae: Body elongate, spined anteriorly. Oral sucker subterminal, very large. Prepharynx present. Pharynx very large, followed by short esophagus. Anterior cecal diverticula running forward one on each side of pharynx. Acetabulum prominent but small, about one third of body length from anterior extremity. Testes tandem, in posterior third of body, separated one from the other by vitellaria and ovary. Genital sucker weakly muscular, posterolateral to acetabulum. Ovary submedian, intertesticular. Vitellaria occupying all available space among ovary and testes at posterior part of body, postuterine. Uterus forming close transverse coils between ovary and genital sucker; eggs small. Excretory system? Parasites of birds.

Genotype: *T. sternae* Kulačkowa, 1950 (Pl. 105, Fig. 1279), in *Sterna hirundo*; Russia (Danube), W. Siberia.

TETRACLADIUM