

西沙群岛鱼类复殖吸虫 II*

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作者继续整理 1977 年在西沙群岛采集的鱼类复殖吸虫标本,共得 4 科 19 种,其中有 7 新种,分别描述于后(新种的鉴定见表 1)。其它为地区或宿主新纪录(种名见表 2)。测量一律用毫米,卵子为微米。模式标本保存在中国科学院海洋研究所。

独睾科 Monorchiidae Odhner, 1911

1. 西沙拟独睾吸虫(新种) *Monorcheides xishaensis* sp. nov. (图 1)

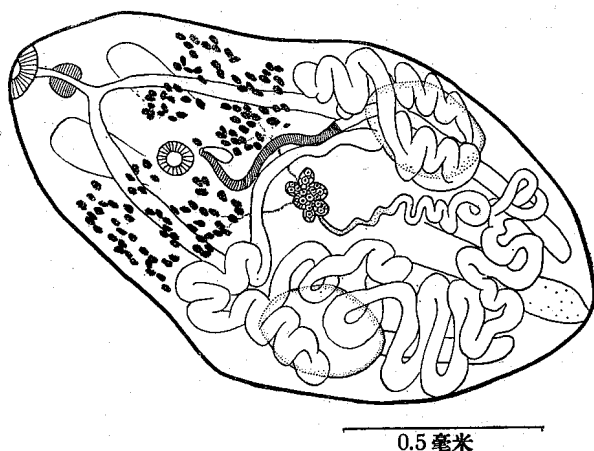


图 1 西沙拟独睾吸虫(新种) *Monorcheides xishaensis* sp. nov.

模式标本 正模: 865-4-1; 副模: 865-4-2, 865-4-3, 865-4-4, 865-5-1, 865-5-2, 865-5-3, 865-5-4。

宿主 紫红笛鲷 *Lutianus argentimaculatus* (Forsk.)。

寄生部位: 肠。

采集日期: 3 月 24 日。

感染强度: 检查 3 尾鱼,在 1 尾体内发现虫 18 个。

描述 虫体小而薄,尖卵形,体表被绒毛状小刺,极易脱落。生活时白色,体中间部分黑色(系子宫内的成熟卵子)。口吸盘在身体顶端,腹吸盘不发达,比口吸盘小,近圆形,

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业师顾昌栋教授生前对工作给予热情指导,复蒙刘瑞玉教授审阅全文,并提出宝贵意见,在此一并志谢。

收稿日期: 1981 年 7 月 1 日。

表 1 新种的鉴定测量

新种名称 身体与器官	西沙拟独睾吸虫 <i>Monorchides xishaensis</i>	紫色异膝肢吸虫 <i>Allolepidapedon pristipomoidis</i>	裸顶扁唇盘吸虫 <i>Labriifer gymnocrani</i>	石斑鱼斜孔吸虫 <i>Plagiorporus (Plagiorporus) epinepheli</i>	西沙缘肉吸虫 <i>Hamacracidium xishaense</i>	西沙芽腺吸虫 <i>Lecithocladium xishaense</i>	西沙前辜吸虫 <i>Prosorchis xishaensis</i>
体 长	1.088—1.938	5.610—7.174	3.672	2.057—3.128	1.887—3.400	正体2.975—6.698 尾长2.635—6.494	18.564—31.030
体 宽	0.629—0.935	0.595—0.799	1.479	0.578—0.765	0.697—1.462	0.799—1.394	3.536—4.794
口 吸 盘	0.085—0.119× 0.119—0.170	0.119—0.306× 0.289—0.442	0.510×0.595	0.136—0.170× 0.153—0.221	0.170—0.374× 0.204—0.304	0.442—0.765× 0.493—0.765	1.292—1.751× 1.445—1.836
腹 吸 盘	0.060—0.119	0.442—0.527× 0.425—0.544	0.850×1.020	0.374—0.425× 0.340—0.442	0.357—0.561× 0.374—0.612	0.391—0.578× 0.391—0.612	2.380—3.621× 2.210—3.825
前 咽	0.017—0.068× 0.034—0.051	0.799—1.139× 0.051—0.102	0.136×0.153	0.034—0.051× 0.068	0.034—0.068× 0.051—0.068		
咽	0.068—0.085× 0.085—0.119	0.306—0.357× 0.238—0.306	0.306×0.425	0.085—0.119× 0.153—0.170	0.119—0.238× 0.102—0.204	0.340—0.510× 0.204—0.306	0.425—0.646× 0.544—0.680
食 道	0.017—0.051× 0.034	0.136—0.272× 0.068—0.136	0.272×0.170		0.102—0.136× 0.051—0.068	0.102—0.221× 0.068—0.102	0.255—0.629× 0.119—0.187
辜 丸	左0.255—0.476× 0.221—0.306	前0.544—0.867× 0.374—0.510	前0.187×0.408	前0.272—0.306× 0.170—0.340	左0.136—0.289× 0.170—0.272	前0.238—0.612× 0.238—0.646	前0.736—0.833× 0.680—1.037
辜 丸	右0.306—0.391× 0.221—0.272	后0.748—1.105× 0.306—0.459	后0.221×0.374	后0.238—0.340× 0.255—0.374	右0.136—0.306× 0.187—0.340	后0.221—0.595× 0.255—0.680	后0.595—0.867× 1.020—1.071
贮精囊		0.323—0.680× 0.102—0.170	0.374×0.085	0.374—0.425× 0.085—0.119	0.119—0.289× 0.068—0.102	0.289—0.510× 0.087—0.187	1.275—2.941× 0.119—0.187
阴 茎 囊	0.066—0.119× 0.051—0.085	0.170—0.340× 0.136—0.289	0.935×0.136	1.326—1.615× 0.102—0.119	0.238—0.459× 0.085—0.170		
两 性 管						0.765—1.360× 0.085—0.102	0.663—0.765× 0.374—0.561
卵 巢	0.085—0.138× 0.068—0.204	0.170—0.289× 0.340—0.459	0.136×0.225	0.119—0.153× 0.153—0.187	0.119—0.289× 0.136—0.306	0.136—0.357× 0.255—0.476	0.765—1.207× 0.595—0.850
受 精 囊		0.102—0.204× 0.136—0.255	0.085×0.102	0.085—0.102× 0.085—0.136	0.102—0.170× 0.102—0.170	0.102—0.170× 0.136—0.255	0.357—0.680× 0.170—0.323
卵 子	15—19×9—12	45—51×33—42	66—69×39—48	51—57×33—36	57—66×30—36	15—18×6—9	21—24×15—18

表 2 已知种类及其宿主 (地区或宿主新纪录)

虫 名	宿 主
孔肠科 Opcoelidae	
1. 裸颊鲷类肉吸虫 <i>Hamacreadium lethrini</i> Yamaguti, 1934	长吻裸颊鲷 <i>Lethrinus miniatus</i> (Bloch et Schneider)* 灰裸顶鲷 <i>Gymnoscranius griseus</i> (Temminck et Schlegel)*
2. 石斑鱼新肉吸虫 <i>Cainocreadium epinepheli</i> Yamaguti, 1934	红鳍裸颊鲷 <i>Lethrinus haematopterus</i> (Temminck et Schlegel)
3. 住肠新肉吸虫 <i>Crinocreadium gulella</i> Linton, 1910	灰裸顶鲷 <i>Gymnoscranius griseus</i> (Temminck et Schlegel)*
半属科 Hemituriidae	
4. 似长双尾吸虫 <i>Dinurus longissimus</i> Iosss, 1907	麒麟 <i>Coryphaena hippurus</i> Linnaeus
5. 北梭指腺吸虫 <i>Lecithochirium albulae</i> Yamaguti, 1970	李氏裸胸鳐 <i>Gymnothorax richardsoni</i> (Bleeker)*
6. 叉尾鲷指腺吸虫 <i>Lecithochirium aphaerei</i> Yamaguti, 1970	扁鲷鳔 <i>Auxis thazard</i> (Lacepede)*
7. 康吉鳗指腺吸虫 <i>Lecithochirium congeri</i> Yamaguti, 1970	波纹裸胸鳐 <i>Gymnothorax undulatus</i> (Lacepede) Gymnothorax richardsoni (Bleeker)*
8. 鲟指腺吸虫 <i>Lecithochirium kawalea</i> Yamaguti, 1970	鲟 <i>Sphyræna</i> sp.
9. 鲷指腺吸虫 <i>Lecithochirium kawakawa</i> Yamaguti, 1970	白卜鲷 <i>Eulhynnus yaio</i> Kishinouge
10. 大孔指腺吸虫 <i>Lecithochirium magnaporum</i> Manter, 1940	扁鲷鳔 <i>Auxis thazard</i> (Lacepede)* 黑点裸胸鳐 <i>Gymnothorax melanoptilus</i> (Bleeker)*
11. 大眼鲷指腺吸虫 <i>Lecithochirium priacanthi</i> Yamaguti, 1953	锯鳞鱼 <i>Maristis murdjan</i> (Forsk.)*
12. 特克萨斯指腺吸虫 <i>Lecithochirium texanum</i> (Chandler, 1941) Manter, 1947	白卜鲷 <i>Eulhynnus yaio</i> Kishinouge*

注: 虫皆为地区新记录; * 为宿主新记录。

位于体前 1/2 中间。

具前咽,咽扁球状;食道短,肠管开始时稍细,向后延伸近体末。

睾丸 1 对,卵形,左右对称排列,位于体后 1/2 中间两侧。两睾丸通出输精小管汇合为输精管通到阴茎囊。囊小茄形,位于腹吸盘后缘。生殖孔开口于腹吸盘后缘附近。

卵巢多缺刻,位于身体中央,与两睾丸成三角形;没有见到受精囊,卵巢下通有受精囊子宫部,弯曲向下形成子宫盘曲达体后端,然后沿体右侧向上,在右睾丸周围形成多个子宫环,再水平向左,于左睾丸处又形成数个盘曲,上行成子宫末段,通到生殖孔。卵黄腺滤泡状,散布在卵巢与肠叉之间,在后缘两侧各通出输卵黄管于卵巢处汇合。卵子壳厚,老熟者深褐色或黑色。

排泄管 Y 形,两臂可伸达咽处。

讨论 本属已报道 7 种: *M. diplorchis* Odhner, 1905, *M. cumingae* Manter, 1940, *M. soldatovi* Issaitshikoff, 1928, *M. pterowi* Layman, 1930, *M. popovicii* Szidat, 1950, *M. alexanderi* Arai, 1962, *M. soldatoviorientalis* Mamaev, Parukhin et Baeva, 1963。西沙标本体形虽小,但与上述各种相比仍为最大者,而且其生殖孔在腹吸盘后缘,距肠叉远,卵子小,宿主亦均不同。

鳞肉科 Lepocreadiidae (Odhner, 1905) Nicoll, 1935

2. 紫鱼异鳞肢吸虫(新种) *Allolepidapedon pristipomoidis* sp. nov. (图 2)

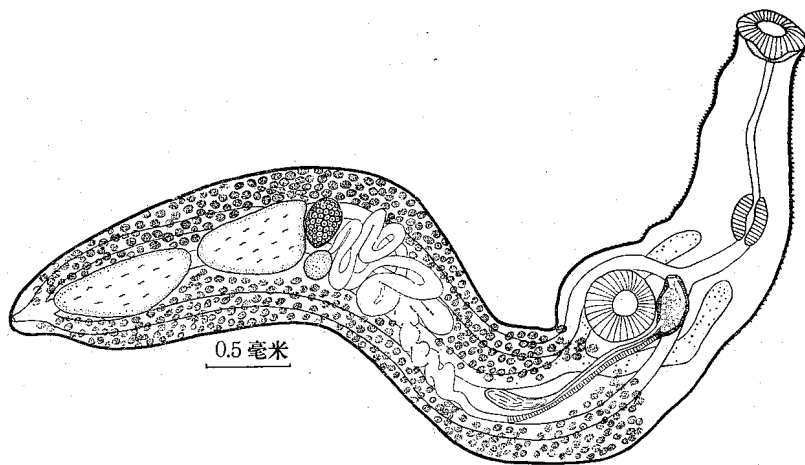


图 2 紫鱼异鳞肢吸虫(新种) *Allolepidapedon pristipomoidis* sp. nov.

模式标本 正模: 808-11-10, 副模: 808-11-1, 808-11-2, 808-11-3, 808-11-4, 808-11-5, 808-11-6, 808-11-7, 808-11-8, 808-11-9, 808-11-11。

宿主 细鳞紫鱼 *Pristipomoides microlepis* (Bleeker)。

寄生部位: 肠。

采集日期: 3月16日。

感染强度: 解剖2尾鱼, 在1尾体内发现虫47个。

描述 虫体扁长, 似瓶状, 前端钝尖, 腹吸盘前细。体表有疣状突, 向后成弱刺而逐渐消失。生活时虫体为白色。睾丸处体宽0.799—1.139。口吸盘在身体顶端, 呈漏斗形, 口吸盘深 0.238×0.289 。腹吸盘位于体前1/2中间, 腹吸盘距体前1.785—2.176。

前咽长管状, 咽发达, 长椭圆形, 食道直, 肠管在体后缘与排泄管相连。

睾丸1对, 橄榄形, 前后排列, 两睾相距极近, 为0.017—0.102, 两睾位于体后1/2的后半部。贮精囊棒状, 位于腹吸盘与卵巢之间, 向前有前列腺细胞。阴茎囊似梨形, 在腹吸盘前。生殖孔在肠叉附近。

卵巢为椭圆形, 在睾丸之前, 距前睾0.018—0.085。受精囊在其一侧, 卵圆形。子宫自受精囊通出, 平行向前盘曲, 到贮精囊附近成子宫末段, 经阴茎囊背侧, 通向生殖孔。卵黄腺滤泡状, 自腹吸盘后缘起始, 沿体两侧向后占满后体。卵子色浅, 近球形, 具胚胎。

排泄管Y形, 主干长, 在腹吸盘后缘分出两臂, 向前伸仅达咽后。

讨论 本属报道有2种: *A. fistulariae* Yama guti, 1940 和 *A. petimba* Yamaguti, 1970, 宿主都是 *Fistularia petimba*。西沙标本与它们的区别是: (1) 生殖孔在腹吸盘前, 而不在身体一侧; (2) 卵巢与睾丸成一直线, 相距极近, 中间不为卵黄腺所隔; (3) 卵黄腺起自腹吸盘后缘水平, 不在贮精囊后缘; (4) 卵子横径大; (5) 排泄管两臂短, 仅达咽后; (6) 宿主为细鳞紫鱼。

3. 裸顶鲷唇盘吸虫(新种) *Labrifer gymnocrani* sp. nov. (图3)

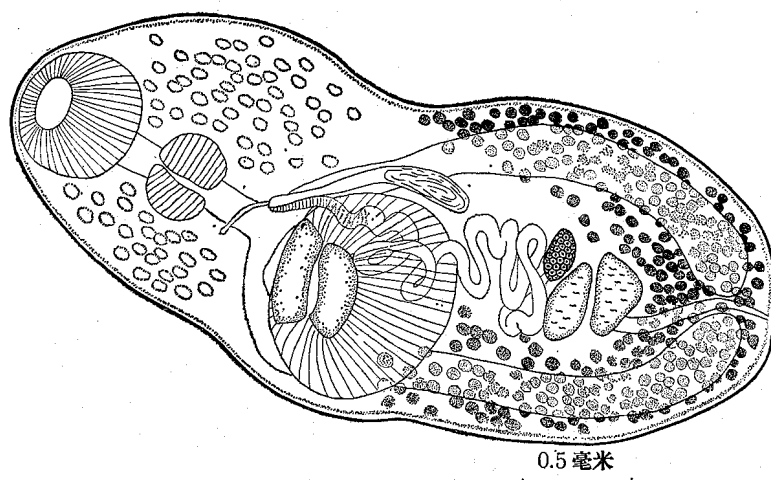


图3 裸顶鲷唇盘吸虫(新种) *Labrifer gymnocrani* sp. nov.

模式标本 正模: 811-1-1。

宿主: 灰裸顶鲷 *Gymnocranius griseus* (Temminck et Schegel)。

寄生部位: 肠。

采集日期: 3月17日。

感染强度: 解剖5尾鱼, 在1尾体内找到虫1个。

描述 虫体短而粗,椭圆形,生活时白色。口吸盘在身体近前端,腹吸盘在身体中线上,比口吸盘大,口、腹吸盘比为 1:1.7,腹吸盘内缘具肌肉质唇,上叶 0.153×0.459 ,下叶 0.153×0.425 。

前咽明显,咽发达,球状。食道中等,肠管伸向体后,管径逐渐加粗。

睾丸 1 对,前后排列,在体后半部 1/2 中间。阴茎囊长棒状,在腹吸盘左侧,前端有细而长的阴茎,其大小为 0.289×0.019 。贮精囊包于阴茎囊内,生殖孔开口在腹吸盘前缘肠叉处。

卵巢扁卵形,在睾丸之前,靠近左肠管,受精囊在卵巢前一侧。子宫简单,盘曲于卵巢与腹吸盘之间。卵黄腺泡囊状,自腹吸盘后缘起,向后到体末。卵子大,具胚胎。

排泄囊管状,末端开口于体末缘中线。

讨论 本属迄今只报道 4 种: *L. semicossyphi* Yamaguti, 1936, *L. secundus* Manter, 1940, *L. tertius* Pritchard, 1960, *L. balli* Arai, 1971。西沙标本与此四种比较,体形大,内部器官与卵子亦大,阴茎囊长,卵巢与睾丸形态亦不同。Manter (1940) 提出该属吸虫多寄生在隆头鱼科 Labridae 鱼类体上,而西沙标本却不是。

孔肠科 Opecoelidae Ozaki, 1925

4. 石斑鱼斜孔吸虫(新种) *Plagioporus (Plagioporus) epinepheli* sp. nov. (图 4)

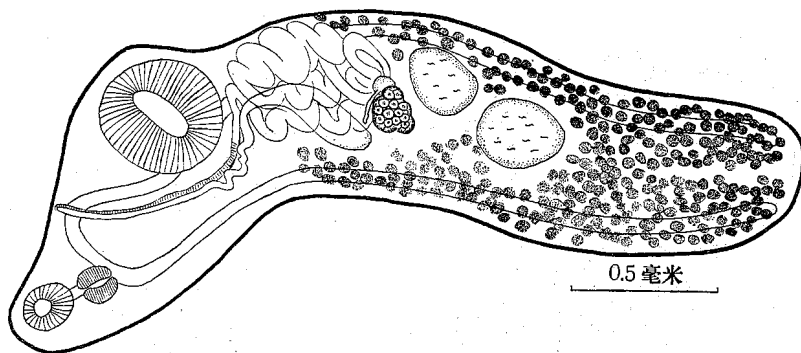


图 4 石斑鱼斜孔吸虫(新种) *Plagioporus (plagioporus) epinepheli* sp. nov.

模式标本 正模: 817-4-3, 副模: 817-4-1, 817-4-2。

宿主: 石斑鱼 *Epinephelus kohleri* Schultz。

寄生部位: 肠。

采集日期: 3 月 18 日。

感染强度: 解剖 6 尾鱼,只在 1 尾体内找到虫 3 个。

描述 虫体小,短棒状,表皮光滑且厚,生活时显白色。口吸盘在身体前端腹面,距体前缘 0.017—0.051。腹吸盘大,略突出,距体前缘 0.527—0.714。

前咽短,咽发达,食道不明显,肠管直,伸达体末。

睾丸 1 对,卵形,前后排列于体后 1/2 前部两肠管间。阴茎囊很长,后缘接近卵巢,内

包贮精囊,向前为前列腺部,生殖孔开口在肠叉后,身体左侧。

卵巢形状不规则,有3—4瓣,在睾丸之前,距前睾0.034—0.068;受精囊在其一侧,近圆形,劳氏管横列在卵巢前面。卵黄腺滤泡状,起自腹吸盘与卵巢之间,沿身体两侧向后分布,于后睾后相汇。子宫盘曲在卵巢与腹吸盘之间,最后向前成子宫末段,通于生殖孔。卵子黄色,椭圆形。

排泄囊长管状。

讨论 西沙标本体形与器官排列和 *P. prooseveltiae* Yamaguti, 1970, 相似,但后者体形与内部器官均大,卵子也大($55-70 \times 39-40$),卵黄腺起自腹吸盘前缘,阴茎囊短($0.85-1.2 \times 0.09-0.18$),位于腹吸盘一侧,宿主是 *Rooseveltia brighami*,而西沙标本阴茎囊明显的长。在本属中阴茎囊长的只有 *P. lengisacculus* Yamaguti, 1970, 但这一种体形与内部器官均大,卵子也大($60-70 \times 39-49$),阴茎囊长($1.0-1.8 \times 0.12-0.16$),卵黄腺起于腹吸盘前缘,宿主为 *Pristipomoides microlepis*,也与西沙标本显然不同。

5. 西沙绦肉吸虫(新种) *Hamacreadium xishaene* sp. nov. (图5)

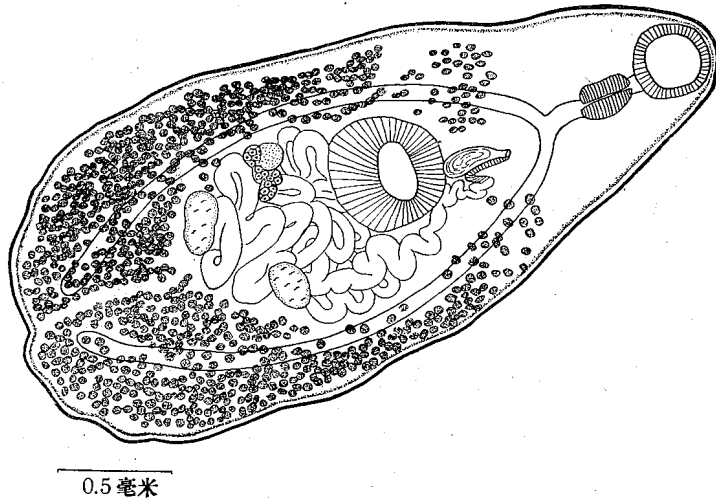


图5 西沙绦肉吸虫(新种) *Hamacreadium xishaene* sp. nov.

模式标本 正模: 752-5-2, 副模: 752-5-1, 752-5-3, 752-5-4, 752-5-5。

宿主: 四带笛鲷 *Lutianus kasmira* (Forsk.)。

寄生部位: 肠。

采集日期: 3月2日。

感染强度: 解剖3尾鱼,于1尾体内找到虫5个。

描述 虫体扁卵形,角质层厚。口吸盘在体前,腹吸盘在近体前的中间。

前咽短,咽发达,食道细,肠管可直达身体后缘。

睾丸斜列在体后1/2的中央,通常左睾在前。阴茎囊小,瓶状,在腹吸盘前,贮精囊包于阴茎囊内。生殖孔开口在肠叉下面。

卵巢叶状,在睾丸之前,靠近左侧肠管。受精囊椭圆形,位于卵巢背侧。子宫发达,分布在腹吸盘与睾丸间,两睾间有子宫盘曲。卵黄腺滤泡状,起自肠叉之后,沿体两侧向后,在

右睾后占满后体。卵子小。

排泄囊长管状。

讨论 西沙标本在体形上与 *H. mutabile* Liuton, 1910 相近, *H. mutabile* 寄生在笛鲷属 *Lutianus* 的常见种中, Manter (1940) 于加拉帕戈斯群岛的 *Lutianus viridis* 和 *Mycteroperca xenarcha* 两种鱼体内采到该种, 以后 Hafezullah (1971) 在孟加拉湾及阿拉伯海也采到, 宿主是 *Lutianus rivulatus* 和 *L. fulviflamma*。西沙标本宿主虽也是笛鲷属鱼类, 但它的虫体较短、宽, 外膜较厚; 睾丸周缘无凹陷或缺刻; 子宫盘曲向后延伸达两睾间; 卵黄腺起自肠叉之后; 卵子小; 这些特征均与 *H. mutabile* 不同。

半尾科 Hemiuridae (Looss, 1899) Luhe, 1901

6. 西沙芽腺吸虫(新种) *Lecithocladium xishaense* sp. nov. (图 6)

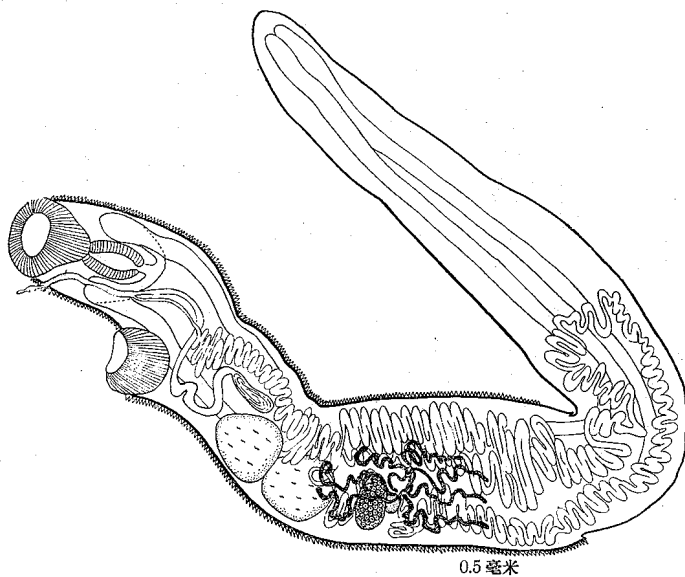


图 6 西沙芽腺吸虫(新种) *Lecithocladium xishaense* sp. nov.

模式标本 正模: 799-7-5, 副模: 871-3-1, 797-3-3, 798-2-1, 798-2-2, 799-7-2, 799-7-3, 799-7-4, 799-7-6, 799-7-7, 797-3-2。

宿主: 刺尾鱼 *Acanthurus olivaceus* (Bloch et Schneider)。

寄生部位: 胃。

采集日期: 3月14日。

感染强度: 检查7尾鱼, 在4尾体内发现虫2, 3, 3, 7个。

描述 虫体长筒形(部分标本固定时弯曲成U形), 生活时棕色。通常尾长约为正体长的4/5强, 外膜较厚, 在正体部具横纹, 外缘成整齐锯齿状突。口吸盘端腹位, 近似漏斗形。腹吸盘小于口吸盘, 稍有突出, 位于正体前1/2中央, 口、腹吸盘间距离0.561—1.156, 口、腹吸盘比为1:0.76—0.88。

咽大,接近口吸盘,为长圆筒形,食道短,肠管自肠叉处分出后,先上行至咽侧,再下行沿体侧成M状伸向体后,末端近尾末。

睾丸1对,前后相接排列于正体前1/2的后部,前睾呈锥形,后睾类圆形。贮精囊长茄形,位于前睾的前方背侧,其前通有极发达的前列腺部,略弯曲,0.374—1.955×0.085—0.136,外围有发达的前列腺细胞。两性管长,起自腹吸盘前,包有射精管与阴茎,顶端稍尖,中间膨大,可能像吸管的橡皮头,以便于精子或卵排出。有的标本阴茎伸出,为0.214×0.071。生殖孔开口于口吸盘前部下缘。

卵巢长椭圆形,在后睾的后面,其间隔有几条子宫盘曲。受精囊扁圆形,位于卵巢后面。卵黄腺长带状,呈螺旋盘曲,共7条,分布在虫体后半部的前中央,前3条,后4条(也可说左侧4,右侧3)。子宫从受精囊通出,沿体右侧下行,进入尾部一段,又折向上,沿体左盘曲向上,经睾丸背面,越过腹吸盘,成子宫末段,通到两性管。卵子在子宫内密集。

讨论 西沙标本口吸盘大于腹吸盘,外膜具环纹,卵巢与卵黄腺均在正体部的中央,尾长,两睾前后相接,而不重叠,子宫部分进入尾部,肠管伸入尾部末端等,似均与 *L. annulatum* Chauhan, 1945 相近似,然西沙标本虫体、睾丸与卵子均较大,宿主则为刺尾鱼。

7. 西沙前睾吸虫(新种) *Prosorhis xishaensis* sp. nov. (图 7)

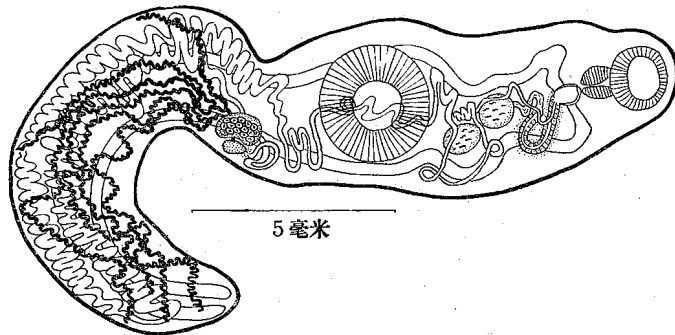


图 7 西沙前睾吸虫(新种) *Prosorhis xishaensis* sp. nov.

模式标本 正模: 871-3-2, 副模: 870-3-1, 870-3-3, 871-3-1。

宿主: 刺尾鱼 *Acanthurus olivaceus* (Bloch et Schneider)。

寄生部位: 胃、肠。

采集日期: 3月29日。

感染强度: 6尾鱼中,只1尾体内找到虫4个。

描述 虫体大,扁筒状,生活时淡粉色。外膜光滑。口吸盘亚腹位,扁圆形,距体前缘0.051—0.272。腹吸盘大,位于体前1/2的后部,口、腹吸盘间距离为3.400—4.505。

咽发达,部分为口吸盘前缘所遮。食道长而直,分出肠叉折向两侧成肠管,肠粗,斜向上成肩状,再折下成门字形,向后直达体末,肠内因储有宿主的血液显黑褐色。

雄性生殖器官皆在腹吸盘前,睾丸1对,橄榄形,前后稍斜列于口腹吸盘之间;后睾比前睾大,各于前端通出输精小管,汇合成输精管,接于贮精囊,贮精囊弯曲而窄,始自前睾前方;前列腺部极发达,长1.054—1.564,沿管两侧布满前列腺细胞,向前至两性管,两性

管呈球形,伸入生殖窝;在肠叉处开口为生殖孔,孔口大 0.034×0.085 。

卵巢肾形,纵列于体中部,距腹吸盘后缘 1.122—3.026。受精囊长椭圆形,一般在卵巢左侧。子宫很发达,起始即盘曲下行,到近体末端折而向上,越过腹吸盘背面,通过两睾间,在前睾前成子宫末段,通到两性管。卵黄腺为螺旋形长带,共 6 条,有 4 条可达体末;卵黄腺最后汇合为一总输卵黄管,通到成卵腔。卵子浅黄色,卵圆形。

排泄管 Y 形,两臂于咽处相连。

讨论 西沙标本虫体特大,睾丸斜列于口腹吸盘间,卵黄腺数目等特征均不同于该属所有记载种。

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DIGENETIC TREMATODES OF FISHES FROM THE XISHA ISLANDS, II*

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ABSTRACT

The present paper deals with 19 species of parasitic trematodes, belonging to 4 families, collected from the Xisha Islands. Among them 7 species are new and described as follows:

All the measurements are in mm, excepting ova in μm . the type specimens are depo-

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sited in the Institute of Oceanology, Academia Sinica.

Monorchidae Odhner, 1911

1. *Monorcheides xishaensis* sp. nov. (fig. 1)

Type species: Holotype: 865-4-1; paratypes: 865-4-2, 865-4-3, 865-4-4, 865-5-1, 865-5-2, 865-5-3, 865-5-4.

Host: *Lutianus argentimaculatus* (Forsk.)

Location: intestine.

Date: March, 24 1977.

Infection: 18 specimens from 1 of the 3 hosts.

Description: Body small, oblong, spinulate, 1.088—1.938 long, 0.629—0.935 wide. Oral sucker terminal, $0.085-0.119 \times 0.119-0.170$, acetabulum $0.060-0.119$ in diameter, lies at middle of anterior half of body, smaller than oral sucker.

Perpharynx $0.017-0.068 \times 0.034-0.051$, pharynx globe-shaped, $0.068-0.085 \times 0.085-0.119$, oesophagus short, $0.017-0.051 \times 0.034$, intestine extending posterior end of body.

Testes paired oval, symmetrical on each side of hindbody, left testis $0.255-0.436 \times 0.221-0.306$, right testis $0.306-0.391 \times 0.221-0.272$. Cirrus pouch eggplant-shaped, $0.068-0.119 \times 0.051-0.085$ situated near posterior end of acetabulum. Genital pore opens ventrally on one side of acetabulum.

Ovary, deeply lobed, $0.085-0.138 \times 0.068-0.204$, situated at the middle of body. Vitellaria follicular, arranged in front of ovary. Uterus extending posteriorly to hindbody, then turning anteriorly and acrossing from right to left side of body. Eggs small $15-18 \times 9-12$.

Excretory vesicle Y shaped.

Discussion: This species differs from all described species of the genus in 1) the body being large, 2) the eggs being small, 3) the location of the genital pore and the host being different.

Lepocreadiidae (Odhner, 1905) Nicoll, 1935

2. *Allolepidapedon pristipomoidis* sp. nov. (fig. 2)

Type species: Holotype: 808-11-10; paratypes: 808-11-1, 808-11-2, 808-11-3, 808-11-4, 808-11-5, 808-11-6, 808-11-7, 808-11-8, 808-11-9, 808-11-11.

Host: *Pristipomoides microlepis* (Bleeker).

Location: intestine.

Date: March 16, 1977.

Infection: 47 specimens from 1 of 2 hosts.

Description: Body elongate, with wart-shaped protruding, 5.610—7.174 long, 0.595—0.799 wide. Oral sucker funnel-shaped, $0.119-0.306 \times 0.289-0.442$. Acetabulum $0.442-0.527 \times 0.425-0.544$, situated near middle of anterior half of body.

Prepharynx long, $0.799-1.139 \times 0.051-0.102$, pharynx $0.306-0.357 \times 0.238-0.306$, esophagus straight, $0.136-0.272 \times 0.068-0.136$. Ceca conjoined at posterior end forming cloaca.

Testes tandem situated near middle of posterior half of body, anterior testis $0.544-0.867 \times 0.374-0.501$; posterior testis $0.748-1.105 \times 0.306-0.459$. Vesicula seminalis claviform, $0.323-0.680 \times 0.102-0.170$ situated between acetabulum and ovary. Cirrus pou-

ch peariform $0.170-0.340 \times 0.136-0.289$. Genital pore opens at intestinal bifurcation.

Ovary $0.170-0.289 \times 0.340-0.459$ anterior to testis. Recepatulum seminis $0.102-0.204 \times 0.136-0.255$, near the ovary. Vitelline follicles commencing at level of posterior end of acetabulum. Uterus between ovary and acetabulum, metraterm crossing cirrus pouch to genital pore. Eggs and embryo $45-51 \times 33-42$.

Excretory vesicle Y shaped with two arms extending anteriorly to acetabulum, not united anteriorly.

Discussion: In this genus two species are recored, *A. fistulariae* Yamaguti, 1940 and *A. petimba* Yamaguti, 1970. This new species is distinguished in 1) genital pore being situated at anterior acetabulum, 2) ovary and testes tandem not separated by vitelline follicles, 3) vitelline follicles commencing at level of posterior end of acetabulum, 4) eggs broader, 5) excretory vesicle with two short arms extending to anterior acetabulum, 6) the host being *Pristipomoides microlepis*.

3. *Labrifer gymnocrani* sp. nov. (fig. 3)

Type species: Holotype: 811-1-1.

Host *Gymoncranius griseus* (Temminck and Schlegel)

Location: intestine.

Date: March 17, 1977.

Infection: 1 specimen from 1 of 5 hosts.

Description: Body 3.627 long, 1.479 wide, oral sucker subterminal 0.501×0.595 , acetabulum 0.850×1.020 , lies on middle line of body. Sucker ratio 1:1.7, interior edge of acetabulum with two muscular lips, anterior muscular lip 0.153×0.549 , posterior muscular lip 0.153×0.425 .

Prepharynx 0.136×0.153 ; pharynx globeshaped 0.306×0.425 esophagus 0.272×0.170 ; ceca extending to posterior end of body.

Testes tandem lies at middle of posterior half of body. Anterior testis 0.187×0.408 , posterior testis 0.221×0.374 ; cirrus pouch club-shaped, enclosing seminal vesicle which measured 0.374×0.085 . Genital pore opens at interstitial bifurcation.

Ovary 0.136×0.255 , near left ceca. Recepatulum seminis 0.085×0.102 , laying at anterior end of body. Uterus coiled between ovary and acetabulum. Vitelline follicles from posterior of acetabulum to hindbody. Eggs and embryo, $66-69 \times 39-48$.

Discussion: There are 4 species in the genus *Labrifer*: *L. semicorsyphi* Yamaguti, 1936, *L. secundus* Manter, 1940, *L. tertius* Pritchard, 1960, *L. balli* Arai, 1971. This new species differs from them in the larger sizes of body, internal organs, eggs, and the cirrus pouch and in the testes and ovary being also distinct.

Manter (1940) noted that specimens of this genus are parasite in Labridae, but this species is not.

Opecoelidae Ozaki, 1925

4. *Plagioporus (Plagioporus) epinepheli* sp. nov. (fig. 4)

Type species: Holotype: 817-4-3; paratypes: 817-4-1, 817-4-2.

Host: *Epinephelus kohleri* Schultz.

Location: intestine.

Date: March 18, 1977.

Infection: 3 specimens from 1 of 6 hosts.

Description: Body 2.057—3.182 long, 0.578—0.765 wide. Oral sucker ventroterminal, 0.136—0.170 $\times$ 0.135—0.221. Acetabulum large, protruding, 0.374—0.425 $\times$ 0.340—0.442.

Prepharynx short, 0.034—0.051 $\times$ 0.068, pharynx developed, 0.085—0.119 $\times$ 0.135—0.170, esophagus not distinct, ceca extend to the end of body.

Testes oblique at about middle of hindbody, anterior testis 0.272—0.306 $\times$ 0.170—0.340; posterior testis 0.238—0.340 $\times$ 0.255—0.374. Cirrus pouch very long, 1.326—1.615 $\times$ 0.102—0.119, extending to ovary. Seminal vesicle 0.374—0.425 $\times$ 0.085—0.119, enclosed in cirrus pouch. Genital pore behind intestinal bifurcation at left side of body.

Ovary irregular-shaped, with 3—4 lobes, 0.119—0.153 $\times$ 0.153—0.187, anterior to testis. Receptaculum seminis rounded, 0.085—0.103 $\times$ 0.085—0.136, at one side of body. Laurer's canal arising from anterior end of ovary. Vitelline follicles commencing between acetabulum and ovary confluent in posttesticular field. Uterin coils occupying entire intercecal field between, ovary and acetabulum. Eggs 51—57 $\times$ 33—36.

Excretory vesicle tubular.

Discussion: This species resembles *P. prooseveltiae* Yamaguti, 1970 and *P. longisacculus* Yamaguti, 1970 but differ from two species in the larger sizes of body, seminal vesicle, and egg and in its host being different.

5. *Hamacreadium xishaense* sp. nov. (fig. 5)

Type species: Holotype: 752-5-2; paratypes: 752-5-1, 752-5-3, 752-5-4, 752-5-5.

Host: *Lutianus kasmira* (Forsk.)

Location: intestine.

Date: March 2, 1977.

Infection: 5 species from 1 of 3 hosts.

Description: Body 1.887—3.400 long, 0.691—1.462 wide. Oral sucker 0.170—0.374 $\times$ 0.204—0.340. Acetabulum 0.357—0.561 $\times$ 0.374—0.612, lies at the middle of the anterior part of body.

Prepharynx short, pharynx developed, 0.119—0.238 $\times$ 0.102—0.204, esophagus slender, ceca terminating at posterior extremity.

Testes obelique, lie at the middle of anterior half of body, usually with the left testis in front, 0.136—0.289 $\times$ 0.170—0.272, posterior testis 0.136—0.306 $\times$ 0.187—0.340. Cirrus pouch small, 0.238—0.495 $\times$ 0.085—0.170, anterior to acetabulum. Vesicula seminalis closed to cirrus pouch. Genital pore opens behind the intestinal bifurcation.

Ovary lobed, 0.119—0.289 $\times$ 0.136—0.306, anterior to testis. Receptaculum seminis 0.102—0.170 $\times$ 0.102—0.170 situated at the antero-dorsal side of ovary. Uterus occupying intertesticular space forms a few coils. Vitelline follicles extending from posterior of intestinal bifurcation to hindbody. Eggs 57—66 $\times$ 30—36.

Discussion: This genus is usually parasitic to *Lutianus* fishes. This species is similar to *H. mutabile* Linton, 1910 but differs from the latter in 1) the body being wide, the cuticle being thicker, 2) without depression of incision on testes, 3) the uterus extending to intertesticular space, 4) vitelline extending from posterior of intestinal bifurcation to hindbody, 5) the eggs being smaller.

Hemiuridae (Looss, 1899) Luhe, 1901

6. *Lecithocladium xishaense* sp. nov. (fig. 6)

Type species: Holotype: 799-7-5; paratypes: 871-3-1, 797-3-3, 798-2-1, 799-7-2, 799-7-3, 799-7-4, 799-7-6, 799-7-7, 797-3-2, 798-2-2.

Host: *Acanthurus olivaceus* (Bloch and Schneider)

Location: stomach

Date: March 14, 1977

Infection: 2,3,3,7 specimens from 4 of 7 hosts

Description: Body cylindrical, 2.975—6.698 in length (excluding the tail which is 2.635—6.494 long) and 0.799—1.394 in width. The cuticular denticulation extending to posterior of body. Oral sucker subterminal, $0.422-0.765 \times 0.493-0.765$. Acetabulum $0.391-0.578 \times 0.391-0.612$, situated at about middle of anterior half of body.

Pharynx cylindrical, $0.340-0.510 \times 0.204-0.306$, esophagus short $0.102-0.221 \times 0.068-0.102$ intestinal ceca M-shaped, terminating near the posterior end of tail.

Testes tandem situated at posterior part of body. Anterior testis $0.238-0.612 \times 0.238-0.664$, posterior testis $0.221-0.595 \times 0.225-0.680$. Vesicle seminalis eggplant-shaped, $0.289-0.510 \times 0.087-0.187$, pars prostatica developed, ductus hermaphroditicus long, $0.765-1.360$, containing ductus ejaculatorius and cirrus. Genital pore opens at anterior border of oral sucker.

The ovary $0.136-0.357 \times 0.255-0.476$ lies just behind the posterior testis. The receptaculum seminis lies behind the ovary, $0.102-0.170 \times 0.136-0.255$. The vitelline gland consists of 7 tubular lobes, 3 anterior and 4 posterior. The uterus extending posteriorly into the tail and turning anteriorly to the testes, finally joining duct hermaphroditic. The uterine eggs are numerous, $15-18 \times 6-9$.

Discussion: This species closely resembles *L. annulatum* Chauhan, 1945, but differs from it in the body being small, the egg being larger and the host being *Acanthurus olivaceus*.

7. *Prosorthis xishaensis* sp. nov. (fig. 7)

Type species: Holotype: 871-3-2; paratypes: 870-3-1, 870-3-3, 871-3-1.

Host: *Acanthurus olivaceus* (Bloch and Schneider)

Location: stomach and intestine

Date: March 29, 1977

Infection: 4 specimens from 1 of 6 hosts

Description: Body large, 18.564—31.030 long, 3.536—4.794 wide. Oral sucker subterminal, $1.292-1.751 \times 1.445-1.836$. Acetabulum $2.380-3.621 \times 2.210-3.825$, near the posterior end of anterior half of body.

The pharynx developed, $0.425-0.646 \times 0.544-0.680$, esophagus long, $0.255-0.629 \times 0.119-0.187$, ceca extending to posterior extremity of body.

Testes diagonal, pre-acetabulum, anterior testis $0.763-0.833 \times 0.680-1.034$, posterior testis $0.595-0.867 \times 1.020-1.071$. Vesicula seminalis elongate, $1.275-2.941 \times 0.119-0.187$, situated in front of the testes. Ductus hermaphroditicus $0.663-0.765 \times 0.374-0.561$, extending into genital atrium. Genital pore ventral to oral sucker.

Ovary $0.765-1.207 \times 0.595-0.850$, situated at middle of body. Receptaculum seminis lying in left of ovary. Vitellaria consisting of 6 convoluted tubules, 4 of which extending to posterior end of body. Uterus extending posteriorly, along right side of ovary, to the posterior end of body and turning up forwards to genital pore. Eggs oval, $21-24 \times 15-18$.

Excretory vesicle Y shaped with its two arms united behind pharynx.

Discussion: This species differs from any of the known species of the genus *Prosorthis* in the body being very large in size, the testes diagonal being situated between the acetabulum and the oral sucker.