

斯氏并殖吸虫的螺类宿主两新种*

康在彬

(湖北医学院寄生虫学教研室)

本文报道了斯氏并殖吸虫的两种螺类宿主。标本系1979年6—9月及1981年10—12月采自湖北省的兴山县和五峰县。经过详细的分析研究,鉴定为新种,分别隶属于觿螺科的小豆螺属(*Bythinella*)和拟小豆螺属(*Pseudobythinella*)。并命名为建国小豆螺和刘氏拟小豆螺。正模和副模标本均保存在湖北医学院寄生虫学教研室医学贝类研究组。现将新种描述如下。

1. 建国小豆螺(新种) *Bythinella gongjianguoi* sp. nov.¹⁾ (图1—2)

形态描述 螺壳微小,短圆柱形,淡黄色或红棕色,壳质薄,半透明。壳面光滑,无纵肋,在双目解剖镜下放大(7×5倍)观察,亦仅能见到极细之生长线。4—4½螺层,每一螺层均圆凸,呈阶梯状排列。壳顶矮而钝。红棕色的标本,有些壳顶残缺不全。两螺层之间的缝合线狭而明显。各螺层的长度增长迅速,宽度则增长缓慢。背面观,倒二螺层(penultimate)和倒三螺层(antepenultimate)皆呈带状。体螺层很大,约占全长的2/3(66%)。壳宽与高之比为1:2,壳口高与体螺层长度之比为1:1.78。壳口宽卵圆形,口缘完整,具有黑色框边。外唇单薄、弯圆,不外折,其背侧无唇脊。内唇略呈直线形而微向外翻,其中部贴附于体螺层。脐孔小,呈沟裂状。螺厣椭圆形,角质,薄而透明,黄棕色。厣核靠近厣底偏于内缘一侧,从厣核发出细致的放射状的厣纹。厣长0.636mm,近厣底处宽0.369mm,近厣尖处宽0.323mm。

正模标本 壳高2.2mm,宽1.1mm;壳口高0.636mm,宽0.877mm。1979年6月30日采自湖北兴山县三阳公社龙头坪龚建国住屋后面山上小沟。

副模标本 壳高1.9—2.2mm,宽1—1.1mm;壳口高0.602—0.688mm,宽0.67—0.877mm。1979年6月30日,9月4日及1981年10月29日采自湖北省兴山县三阳公社龙头坪龚建国住屋后面山上小沟。

内部结构 去壳后动物头足部及其他部分均为灰白色,肝脏有浅黄色小颗粒。肠管细长。粪粒呈棱形,深黄色。触角在活动时伸得很长,末端钝圆。在酒精固定标本中,触角粗短,边缘有皱褶,长0.284mm,宽0.154mm,与吻等长或稍长。眼点小,黑色,位于触角基部背侧,两眼点间距离等于0.34mm。口吻前端中部微凹。阴茎细长盘曲于颈部,长0.565mm,基部宽0.156mm,末端尖,宽0.087mm。齿舌带状,长0.462mm,宽0.069mm,每

* 参加标本采集的除作者外,尚有向逸森、张培喜、敖世喜三同志,文中插图由胡鸣中同志覆墨,照片由胡武生同志拍摄,在此一并致谢。

收稿日期: 1982年3月2日。

1) 本新种标本系在龚建国住屋后采集的,同时龚建国又系作者1964年6月初鉴定的湖北省第一例肺吸虫病患者(余绍祖等,1965),从此揭开了湖北省肺吸虫病的调查研究序幕,故将此小豆螺命名为建国小豆螺,借作纪念。

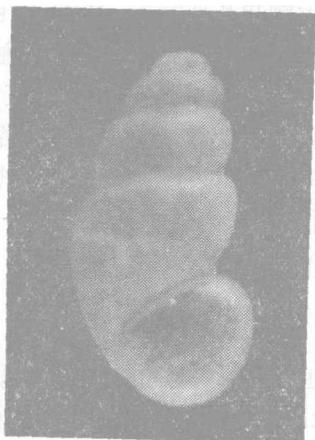


图1 建国小豆螺(×22)



图2 建国小豆螺的齿舌

一横排有 7 个齿片: 中央齿片略呈梯形, 其上缘有 7 个尖齿, 中间 1 个最大, 下缘两侧各有 2 个尖齿; 侧齿片有 6 个较大尖齿, 第 3 个最大; 内缘齿片有 24 个尖齿; 外缘齿片有 18 个尖齿, 齿舌公式: $\frac{3-1-3}{2-2}$; 2-1-3; 24; 18。

栖息环境 生活在海拔 1000m 的高山上。山为石山, 但表层泥土较多, 树木亦多, 多为松树, 在山腰有宜(昌)兴(山)公路通过, 其上下有住屋几栋, 屋后不远处有一小山沟, 宽 65—80cm, 沟底有细沙及小石块, 沟旁有杂草, 沟中终年细水长流, 水质清凉。建国小豆螺即附着在小石块的底面。

寄生虫 本新种为斯氏并殖吸虫 (*Paragonimus skrjabini* Chen, 1959) 的第一中间宿主。其自然感染率为 1.4%(17/1214)。

讨论 本新种与日本小豆螺 (*Bythinella nipponica*) 近似, 但本新种个体较大, 各螺层较圆凸, 以及齿式均有不同。

2. 刘氏拟小豆螺(新种) *Pseudobythinella liui* sp. nov.¹⁾ (图 3—5)

形态描述 螺壳微小, 略呈圆柱形, 壳质薄, 淡黄白色而透明。壳面光滑, 无纵肋。在双目解剖镜下放大(7×5倍)观察, 仅能看见极细之生长线, 有时也不明显。4—4½螺层, 各层稍圆凸, 呈阶梯状排列。其长度增长迅速, 宽度则增长缓慢。体螺层高大约为壳高的 70%。壳宽与高之比为 1:2, 壳口高与体螺层高度之比为 1:1.65。壳顶矮而钝。缝合线深陷。壳口呈卵圆形, 口缘完整, 具有深棕色框边。外唇单薄, 弯圆而不外折。内唇微向外翻, 但不贴附于体螺层, 在双目解剖镜高倍放大下观察, 可见两者之间有一条极小之间隙。内唇中部有一小齿, 此乃拟小豆螺属的特点之一。脐孔小而明显。螺厩卵圆形, 角质, 极薄而易碎, 白色透明。厩核靠近厩底偏内, 厩纹呈放射状。厩长 0.45mm, 最宽为 0.3mm。

正模标本 壳高 2mm, 宽 0.87mm; 壳口高 0.78mm, 宽 0.61mm。1981 年 10 月 26 日采自湖北五峰县渔关公社杨家河电站后面山上小沟里。

副模标本 壳高 1.8—2.1mm, 宽 0.87—0.95mm; 壳口高 0.69—0.87mm, 0.57—0.69mm。1981 年 10 月 26 日及 1981 年 12 月 28 日采自湖北五峰县渔关公社杨家河电站后面山上小沟里。

1) 本新种以著名的鱼类学家和生态学家刘建康教授的名字命名。

内部结构 动物的全部软体均为乳白色。眼点位于触角基部背侧,较大、黑色,少数标本从壳外即可看见。触角细长,活动时不断向左右摇动。在酒精固定标本中,触角粗短,末端较细而圆,其长度为 0.034mm,最宽为 0.017mm,比吻稍长。口吻前端平直,前端中部微凹,活动时凹陷几乎看不见。解剖 30 个螺蛳,计雌螺 19 个,雄螺 11 个。雄螺阴茎稍弯而细长,位于颈部背侧,末端较尖。齿舌带状,长 0.39mm,宽 0.043mm,每一横排共有 7 个齿片:中央齿片上缘有 9 个尖齿,下缘两侧各有 2 个尖齿;侧齿片上缘有 8 个尖齿,第 4 个较大;内缘齿片有 25 个尖齿;外缘齿片有 19 个尖齿,齿舌公式:

$$\frac{4-1-4}{2-2}; 3-1-4; 25; 19。$$

栖息环境 刘氏拟小豆螺孳生在杨家河电站后面山上小沟里,海拔 600m,山腰有一住屋。此小沟的水从山顶流到山脚,再流入小溪(杨家河)。坡度较陡,但由上而下,逐段有小坎,沟宽 50—70cm,沟底为细沙及小石块,沟旁有芭蕉树、小竹子、杉木及小灌木,还有芦苇和杂草,草木密茂,遮荫良好。小沟的水流缓慢,水质清凉,一年四季,长流不断。刘氏拟小豆螺即附着在小石块的底面及侧面,而以底面为多,每一人工小时内可找到 500 多只。偶在小石块压着的腐叶上面亦能找到少数刘氏拟小豆螺。

寄生虫 本新种为斯氏并殖吸虫 (*Paragonimus skrjabini* Chen, 1959) 的第一中间宿主。其自然感染率为 1.25% (6/480)。

讨论 本新种与建瓯拟小豆螺 (*Pseudobythinella jianouensis*) 近似,但本新种个体较大,各螺层较圆凸,外形略呈不均匀的圆柱形,体螺层的宽度总是略大于倒二螺层的宽度,壳口里面为淡黄色不是瓷白色,以及齿式亦有不同。



图 3 刘氏拟小豆螺 ($\times 20$)



图 5 刘氏拟小豆螺的孳生地

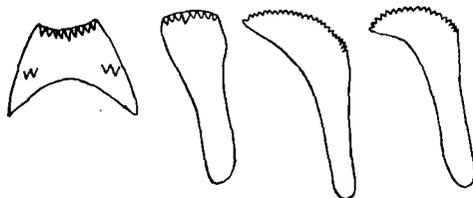


图 4 刘氏拟小豆螺的齿舌

参 考 文 献

- [1] 刘多, 1979. 中国小豆螺 (*Bythinella chinensis* Liu, 1977) 作为肺吸虫第一中间宿主的新发现. 湖南医学院学报 4(1-2): 1-2.
- [2] 刘月英、张文珍, 1979. 携带肺吸虫尾蚴的淡水螺类一新属二新种记述. 动物分类学报 4(2): 132-136.
- [3] 余绍祖、周述龙、伍安顺、胡振序, 1965. 湖北兴山发现肺吸虫病一例. 武汉医学杂志 2(1): 51-52.
- [4] 林宇光、康杰、吕建华等, 1980. 福建建瓯县肺吸虫病流行区的发现和病原学的研究. 动物学报 26(1): 52-60.
- [5] Habe, T., 1961. *Bythinella (Moria) kikuchii* sp. nov., a new minute freshwater snail from Japan. *Venus* 21(2): 164-167.
- [6] ———, 1965. Descriptions of one new species and one new subspecies of freshwater gastropods from Japan. *Venus* 23(4): 205-209.
- [7] Hashiguchi, Y. and I. Miyazaki, 1968. The experimental infection of a snail, *Blthinella (Moria) nipponica akiyoshiensis* (Kuroda et Habe, 1957) with larval lung fluke, *Paragonimus miyazakii* Kamo, Nishida, Hatsushika et Tomimura. 1961. *Jap. J. Parasit.* 17: 10-18. (in Japanese)
- [8] Hatsushika, R., J. Maejima, and H. Kamo, 1966. Discovery of the natural first intermediate host of *Paragonimus miyazakii*. *ibid.* 15: 560-561. (in Japanese)
- [9] Kuroda, T. and T. Habe, 1957. Trogllobiontic aquatic snails from Japan. *Venus* 19(3-4): 183-196.
- [10] Moquin-Tandon, A., 1855. Histoire naturelle des mollusques terrestres et fluviatiles de France. (Paris.) p. 516, Pl. XXXVIII. (Description and figures of *Bithinella*.)
- [11] Mori, S., 1937. Description of a new freshwater snail, *Bythinella nipponica* n. sp. and its habitat. *Venus* 7(3): 113-116.
- [12] Жадин, В. И., 1952. Моллюски пресных и солоноватых вод СССР. М.-Л., Изд. АН СССР, стр 228-229.

TWO NEW MOLLUSCAN HOSTS FOR *PARAGONIMUS SKRJABINI*

Kang Zaibin

(Department of Parasitology, Hubei Medical College)

ABSTRACT

The present paper reports on two molluscan hosts of the lung fluke *Paragonimus skrjabini* Chen, 1959. The specimens were collected in Wufeng County and Xingshan County, Hubei Province from June to September, 1979 and October to December, 1981. After having been examined they prove to be new to science, belonging to two different genera of the family Hydrobiidae, namely *Bythinella gongjianguoi* n. sp. and *Pseudobythinella liui* n. sp. Holotype and Paratype specimens are deposited in the Department of Parasitology, Hubei Medical College. The diagnoses of these new species are given below.

Bythinella gongjianguoi sp. nov. (Figs. 1—2)

Diagnosis The shell of this species is short cylindrical, minute, thin and translucent; with an obtuse apex, sometimes incomplete; consisting of 4—4½ whorls. The color of uncleaned shells varies from light yellow to reddish-brown. The shell surface is smooth except for very fine axial lines of growth. The whorls are more convex and scalariform, increase rapidly in height, but slowly in breadth. The suture between each two whorls is distinct, pronounced but narrow. The first whorl is minute, the penultimate and antepenultimate whorls are band-shaped. The body whorl is fairly large, about two-thirds of the length of the shell. The aperture is widely ovate, continuous, with a black margin. The outer lip is simple, thin, roundly curved, and not reflected. The inner lip is more or less straight and slightly expanded outward its middle portion closely adherent on the surface of the body whorl. The umbilicus is narrow, chink-like. The operculum is elliptical in shape, horny, thin, yellowish-brown, transparent, with fine curved growth lines. In the radula the central tooth has the formula $\frac{3-1-3}{2-2}$. The lateral tooth has 6 denticles, of which the third is larger than the rest. The inner marginal has 24 denticles, the outer 18.

Holotype Length 2.2 mm, breadth 1.1 mm; length of aperture 0.636 mm, breadth of aperture 0.877 mm; collected on June 30, 1979 at Longtouping, Sanyang Commune, Xingshan County, Hubei Province.

Paratypes Length 1.9—2.2 mm, breadth 1—1.1 mm; length of aperture 0.602—0.688 mm, breadth of aperture 0.67—0.87 mm; collected on June 30, 1979 and on September 4, 1979 from Longtouping, Sanyang Commune, Xingshan County, Hubei Province.

Parasite *Paragonimus skrjabini* Chen, 1959.

Remarks This new species is related to *Bythinella nipponica* Mori, 1937 but differs from the latter by its larger size, and more convex whorls and by its radula formula:

$\frac{3-1-3}{2-2}$; 2—1—3; 24; 18.

Etymology The new species is named after Comrade Gong Jianguo the first case of paragonimiasis in Hubei Province, identified by the author in early June, 1964.

Pseudobythinella liui sp. nov. (Figs. 3—5)

Diagnosis The adult shell is minute, cylindrical, very thin, dull white, and transparent. The shell surface is smooth, without ribs, but under high magnification it shows very weak growth lines which are sometimes indistinct. Whorls 4—4½, each of which is somewhat convex and scalariform. The body whorl is large, occupying about 70% of the shell length. The apex is low and blunt. The suture is well constricted. The aperture is ovate, continuous, with a chestnut brown margin. The outer lip is simple, smooth and round curved. The inner lip is slightly reflected but not attached to the body whorl, and under high magnification a rift may be seen between them. There is a small tooth at the middle part of inner lip. This character is similar to that of *Pseudobythinella*. The umbilicus is narrow and distinct. The operculum is ovate, corneous, very thin, fragile, white, transparent, paucispiral with excentric nucleus. In the radula the central tooth has the formula $\frac{4-1-4}{2-2}$.

There are 8 denticles on the lateral tooth, of which the fourth is larger than the rest. The inner marginal has 25 denticles, the outer 19.

Holotype Length 2 mm, breadth 0.87 mm; length of aperture 0.78 mm, breadth of aperture 0.61 mm; collected on October 26, 1981 at the Yangjia River, Yuguan Commune, Wufeng County, Hubei Province.

Paratypes Length 1.8—2.1 mm, breadth 0.87—0.95 mm; length of aperture 0.69—0.87 mm, breadth of aperture 0.57—0.69 mm; collected with the holotype.

Parasite *Paragonimus skrjabini* Chen, 1959.

Remarks This species closely resembles *Pseudobythinella jianouensis* Liu et Zhang, 1979 in many respects. But the shell of the species in question is larger than that of Liu's species and the whorls in most cases of our specimens are more convex, the breadth of body whorl is always wider than that of penultimate, the color within the aperture is light yellow rather than porcellaneous, and the radula formula is also different.

Etymology The new species is dedicated to Prof. Liu Jiankang, the famous Chinese ichthyologist and ecologist, member of the Division of Biological Science, Academia Sinica, the director of the Institute of Hydrobiology, Academia Sinica.