We are IntechOpen, the world’s leading publisher of Open Access books
Built by scientists, for scientists

6,600
Open access books available

177,000
International authors and editors

195M
Downloads

154
Countries delivered to

TOP 1%
Our authors are among the most cited scientists

12.2%
Contributors from top 500 universities

WEB OF SCIENCE™
Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com
1. Introduction

Adult cestode is parasitic in the intestine of the vertebrate and/or Human being. It contains a series of parasites in the world. The taxonomy position of the parasites is as follows: Platyhelminthes, Cestoda. Cestodes parasitic in human and vertebrates can cause parasitic diseases. Chinese ancestors in Tang dynasty had already concerned about this. Chao Yuanfang recorded that “… the worm is an inch in length with white colour…” [“Discussion of disease origins”, 610 A.D. From Zhao, 1983] and it is infected by eating the beef that roasted by porking with mulberry twigs. So we can see that the Chinese ancestors had cestode knowledge very earlier. The little problem is that ancestors took the gravid proglottids as the whole worm and had no complete idea about this worm, nor had the life-history recognition. The report and research work of cestodes are just modern history and the work is a little later than foreign scientists.

*Taenia saginata* and *Taenia solium* are parasites of the human intestine, they may cause diseases. The more serious condition is that the cestode larvae parasitic in the liver, brain and other important organs, especially the *Echinococcus* which contain *Echinococcus granulosus* and *E. multilocularis*. These parasites take human and sheep as the intermediate host but cat and dog as the final host. The development of *E. multilocularis* larva in the host liver can cause serious result as a cancer. *Echinococcus* cause the disease called Echinococcosis and it was spreaded broadly in pasturing area of China. So we need to propagandize to those people that they cannot feed the dogs and cats with the bowels of the goats and cattles so that they may cut the mechanisms for transmission of the disease.

The studies of cestode is mainly with taxonomy level before 1960 but there are some other research of them as the life-cycle (Liao & Shi, 1956; Tang, 1982; Li, 1962a; Lin, 1962b, etc) and ultrastructure (Li & Arai, 1991) as well as molecular biology (Liao & Lu, 1998).

According to Professor Lin Yuguang, cestodes species found in China was 213 in 1979 and it reached about 400 recorded by Cheng Gonghuang (2002).

Here we mainly discuss the life-history researches of cestode in China. These research works can be mainly divided into the following 4 aspects: Cestodes of Fishes (Liao & Shi, 1956; Tang, 1982); Cestodes of Snakes (Cheng, Wu et Lin, 2008); Cestodes of chicken and ducks (Lin, 1959; Su et Lin, 1987); Cestodes of mammals (Lin, 1962a; Lin, 1962b; Lin & He, 1975). It is to say...
common species of cestodes from fishes, snakes, birds, and mammals in China have all been studied with their life-history and it takes long time and hard work to finish these jobs.

2. Brief introduction to the works done by scientists in China

2.1 Life cycle of Polyonchobothrium ophiocephalina Dubinina (Tang C. C., 1982)

The cestode was collected from Monopterus albus (Zuiew), but ever collected by Tseng Shen from Ophiocephalus agrus and named as Anchistrocephalus ophiocephalina. And it was transferred to Genus Polyonchobothrium by Dubinina (1962).

Description for the adult (Plate 1: Fig 1-4): worm length is 15.5 cm, scolex, 1.2×0.6 mm. Scolex rectangular. Bothria shallow in both ventral and dorsal; apical disc present, armed with 48-62 hooks arranged in 2 and a half cycles. External segmentation present but feebly demarcated. Mature proglottid, 1×1.6 mm. Genital pore median, dorsal, pre-equatorial. Testes medullary, in two lateral fields. Ovary posterior, bilobed, 0.14×0.44 mm, transversed, elongated. Vitelline follicles cortical, in lateral bands dorsally and ventrally, occasionally continuous around lateral margins of proglottid. Uterus loops forward, forms small uterine sac which opens midventrally when laid. In freshwater teleosts.

Development: the eggs were obtained from uterus of the cestode and put in a culture dish with fresh water for 3 days at temperature of 22-29°C. The coracidium turned out to swim. It measured 65μm in diameter with a cilia membrane 5-16μm outside. There is a spherical hexacanth in it, 60-64μm. In the development the front part of the worm is more active while old tissue is left in late part. Hexacanth had 2 granula unicellular penetrated glands with ducts to edge at the front of it. Reid ever reported hexacanth of Raillitina cesticillus also has the same glands.

Infection experiments show that Mesocyclops leuckartii Claus and Thermocyclops hyalinus (Rehberg) can serve as intermediate host of the cestodes. These 2 species of cyclops were put in the dish with the coracidium and coracidium were eaten. The hexacanth pierced into the body cavity of the cyclops and developed into a spherical larva then become narrow. 15 days later there come a tail of the worm, 18 days later it turned to procercoid (Plate 1: Fig 7-8) as the mature larva of the worm at the temperature of 21-23°C. Procercoid larva measured 0.40×0.18 mm in the body, and 0.24×0.07 mm for tail. The front of the body swelled with a pit, following part is narrow and slender, penetrated glands are spherical with bulbed nucleus.

After 18 days of development the procercoid become mature, measured 067×0.16 mm for the body, 0.34×0.08 mm for tail. At this time the excretory system is much more obvious. collecting pipes were 4 longitudinal ducts with small cross discharging ducts at the first 1/5 of the body. It may become the discharge ducts of the adult cestode scolex. Ducts of the tail is not clear, only 4 flaming cells. 8 pairs of granula glands and buddles of tunnels are still there. Procercoid can survive for 30 days in a cyclops by experiment observation.

Final host infection: 15 M. albus from a negative area were used as infection plan. They were fed with cyclops infected with cestode for 18 day, dissected the M. albus after 3 days of infection and a 0.53 mm worm were found with 2 and a half cycles of hooks, but it is just a little for each hook. 7 days after infection, 3 mature worms with 50 more hooks in the scolex were found. The whole life cycle is now completed.
Explanation to Plate 1. 1. Scolex of *Polyonchobothrium ophiocephalina* 2. Mature proglottid of *P. ophiocephalina* 3. Hooks on top of the scolex 4. Genital systems of mature proglottid 5. Eggs and coracidium 6. Procercoid 7. A mature procercoid 8. Early stages of procercoid developed in a intestine of *M. albus* 9. Scolex in a intestine of *M. albus* 10. A cyclops with a procercoid in it.
2.2 The development process of *Ophiotaenia monnigi* in the copepods is as follows (Cheng, Wu et Lin, 2008)

Experimental animals: Copepods (*C. leuckarti* and *C. prasinus*) were obtained from ponds and ditches in Fuzhou with dredging nets. Snakes, *Enhydris plumbae*, were bought from Markets. The research was carried out in the laboratory on September in southern China.

The freshwater snakes, *E. plumbae*, were dissected. After the cestodes were collected, their gravid proglottids were torn into very small pieces to release the eggs if mature tapeworms were found. Then, the pieces of the gravid proglottids were cultivated with water for 4–10 days and fed to the copepods. In the cultivation processes, water should be changed everyday, otherwise the eggs would be poisoned by their metabolites. To make the copepods take in more eggs, it is necessary to stop feeding the copepods for 24 h before they were fed with the pieces of the tapeworm.

Copepods were dissected after they were fed with eggs 1, 3, 6, 8, and 11 days according to the development speed of the tapeworm’s larvae, the procercoid, in their host. Shapes of the larva of different stages were drawn under the microscope (Olympus) (measurement unit is μm).

The tapeworms obtained by the authors were identified as *O. monnigi* Fuhrmann, 1924. Furthermore, no more species of cestodes parasitizing the same host, the water snake (*E. plumbae*), were found. During the experiment the temperature is around 28°C.

1. One day after infection: Hexacanths with a diameter of 0.020 μm in the eggs developed into procercoid larvae with a size of 0.027 x 0.039, and the hooks became dispersing. Embryonic cells increased apparently and were larger than those in the hexacanths (Plate 2: Figs. 1, 2).

2. Three days after infection: There appeared two parts in the procercoids. Hooks were in the larger part, which became the cercomere (tail) gradually and came off in the future. Embryonic cells luxuriantly developed, where the larger ones measured 0.010 x 0.008 and the smaller only 0.005 in diameter. The procercoid measured 0.024 x 0.020 and 0.037 x 0.029 in *C. prasinus* and *C. leuckarti* respectively, and the embryonic cells developed slower in the former host. The following description is based on the development of procercoid larvae in *C. leuckarti* (Plate 2: Fig. 3).

3. Five days after infection: Procercoids measured 0.041-0.082 x 0.059-0.100. An embryonic coelom, which measured as 0.019–0.063 x 0.011–0.045, appeared. In front of the coelom, embryonic cells were densely gathered; of the cells, there were four that contain a lot of granules looking like glands. Hooks were around the later edge of the embryonic coelom (Plate 2: Fig. 4).

4. Six days after infection: Procercoids were divided into body and tail parts, measuring 0.085 x 0.137 and 0.056 x 0.059, respectively. In the body part of the procercoid larvae, there was a primary apical sucker of the tapeworm (Plate 2: Fig. 5).

5. Eight days after infection: Procercoids were the same shape as that described above. Two pairs of gland cells, whose tubules reach the front edge of the worm through the apical sucker, appeared behind the sucker. Large dark cells could be seen in the center of the body. About ten calcareous granules were in the body. The tail part was spherical and had a transparent coelom. Cells in the tail were soft and transparent. The sizes of the worm were: the body 0.096 x 0.241, the cercomere, 0.059 x 0.052 (Plate 2: Fig. 6).
Explanation to Plate 2. 1. Mature egg with a hexacanth 2. Procercoid developed after 1 day in *Cyclops leuckarti* 3. Procercoid of 3 days after infection 4. Procercoid of 5 days after infection 5. Procercoid of 6 days after infection 6. Procercoid of 8 days after infection 7. A mature procercoid in the copepod, *Cyclops leuckarti*; the cercmere had come off.

6. Eleven days after infection: Most procercoids became oval mature larvae whose cercmere dropped in the copepods. There were crowded fibers on the surface of the worm. An apical sucker was in front of the procercoid. Two pairs of gland cells were behind the sucker. Some cell might be the primitive embryonic cells that will develop in the next host. The worm measured 0.195 × 0.112, while the apical sucker is 0.091 in diameter. In a high density of infected copepods, ten mature and one immature larvae with a cercmere were found. In general, three to four procercoids were parasitizing in one copepod (Plate 2: Fig. 7).
2.3 Chicken and duckcestode lifecycle (Su et Lin, 1987)

During 1981~1984, a total of 250 ducks and geese were examined in Xiamen, Fujian. It was found that 92 out of 228 ducks (40.4%) and 6 out of 22 geese (27.3%) were found to be infected with 9 species of cestodes, such as (1) *Hymenolepis paramicrosoma*, (2) *H. gracilis*, (3) *H. venusta*, (4) *H. setigera*, (5) *H. przewalskii*, (6) *Drepanidotaenia lanceolata*, (7) *Diorchis stevensii*, (8) *Dicranotaenia coronuna* and (9) *Fimbriaria fasciolaris*.

The development of larval stages within the hemocoel of intermediate hosts of five species of cestodes, namely *Hymenolepis venusta*, *H. setigera*, *Fimbriaria fasciolaris*, *Drepanidotaenia lanceolata* and *Diorchis stevensii* were also studied, and the specific characters of each stage of larvae, especially their cysticercoids, were carefully studied and compared. It was revealed that they had a general pattern in the course of their oncogenesis. The process of larval growth can be divided into five stages: a. oncosphere stage, b. lacuna stage, c. cysticavity stage, d. scolex formation stage, and e. cysticeroid stage. Based on their observations, the features of these hymenolepidae cysticercoids, including the shape and size of cysticercoid, the cystic wall and fibrous membrane, the shape, size and number of rostellar hooks etc. can be identified as the specific diagnostic characters of species. Take *H. venusta* as an example to explain the development process of these cestodes.

Egg of *H. venusta* is with a feeble, transparent shell, roundish, 51-61×39-46 μm, with an oval out embryomembrane, then innermembrane which enclosed the hexacanth. The intermediate host of the cestode is freshwater *Heterocypris* sp. The egg can developed into a cysticercoid in 11 days at the temperature of 26-30°C (average, 28°C) after infected with its host. At least 15 days is needed to become whole mature cysticercoid which is infective. 5 development stages can be seen in the whole developmental course.

1. **Stage of hexacanth** (Plate 3: Fig 2-4). After 24 hours the egg is taken by its host (it is called infection, thereafter), the hexacanth can get through the gut and enter the body cavity of *Heterocypris* sp. It takes 2-3 days for the development of this stage. The worm is roundish or oval, with a diameter of 20-50 μm. Sometimes the worms moved like an amoeba. The measurement for cells in it is variously changed but the cells’ membrane and nucleus are very clear. The 6 hooks become to leave their position and arranged irregularly.

2. **Lacuna stage** (Plate 3: Fig 5-8). 4-6 days after infection hexacanth becomes bigger, 60-180 μm. A transparent cavity comes out in the center of the worm and it is the primitive cavity. It increased with the growth of the worm, and become a ball body with empty center. The 6 hooks arranged in surface of the cavity, arranged irregularly. The characteristics of the stage are the worm growing fast and the primitive cavity formation.

3. **Cysticavity stage** (Plate 3: Fig 9). From 5 to 8 days after infection, the growth of the worm toward to 2 ends. The first part of the worm grows more fast with quite often cell division and become sturdy tissue then comes a cavity called cysticavity. Another part of the worm with little growth and showed sag states, the hooks and the primitive cavity stay there. So the worm can be divided into 2 parts, and 2 cavities at this time. In the beginning the two cavities are communicating with each other, after development, the primitive cavity with hooks is blocked with cells and it becomes the tail part of the worm. The first part of the worm developed well with fast cell division and form the organs of suckers, and rostellum etc. The length of worm is 250-330 μm.
Explanation to Plate 3. Larva development of *H. venusta* 1. Egg 2. Oncosphere 2 days after infection 3 and 4. 3th day oncosphere 5 and 6. 4th day oncosphere 7. 5th day lacuna stage 8. 7th day lacuna 9. 8th day cysticavity stage. 10. 9th day scolex formation stage 11. 10th day scolex formation stage 12. 12th day cysticercoid
4. Scolex formation stage (Plate 3: Fig 10-11). 9 days after infection the worm comes to this stage. In front of the worm there comes the scolex, then in the middle there is the roundish or oval cavity body, after then there is a slender tail part. 4 oval suckers can be seen in the scolex, then rostellum come into being, then hooks come at the top of the rostellum. After the scolex the neck present, there are many calcium carbonate granules. At the center of the cavity body part there is the cavity and it connected with the neck at the front. The cavity wall is composed of several layer of cells arranged tidily. The tail part is slender and with 6 hooks. Sometimes the primitive cavity still can be seen in the tail. The measurement of the worm at the time is as follows: scolex width, 90-110μm; suckers, 40-50x70-72μm; cavity body width, 130-200μm; tail length, 300-400μm; rostellum 50-60μm; hooks, 14-15μm.

5. Cysticercoid stage (Plate 3: Fig 12). After 11 days of infection the scolex of the worm retracted into the cavity body part and the cysticercoid is formed. It is not infective unless after 15 day of infection it becomes mature enough. The mature cysticercoid 210-237x187-205μm, is composed of three layers of body wall. Outside it is transparent cuticle, 3-5μm; the middle layer is composed of soft cells with one line of mast cells and several lines of round cells, 3.5-18μm; inner layer is with fibers, 9-15μm. The scolex is retracted in the cavity, 4 suckers, 62-64x77-81μm. Outside the rostellum there is a rostellum sac. At the top of rostellum there are 8 hooks, 39-42μm. Calcium carbonate granules ever at the neck is now around the scolex. The tail, 300-400μm. With the development of the worm to mature calcium carbonate granules increased with those fibers and the cysticercoid become more and more infective.

Other 4 species of cestode developed in the same course mainly but with different host, egg, development time as well as characteristics.

2.4 Studies on the developmental cycle of Paranoplocephala ryjikovi Spassky,1950 in the intermediate hosts (Lin, Guan, Wang et. al.,1982)

From Aug to Nov 1980 21 Marmorta himalayana Hodgson were dissected in Amuke River and Longriba pastures of Hongyuan County, Sichuan Province and found 3 of them infected with Paranoplocephala ryjikovi 95 worms (4-78). The mature segments of the worm were fed the soil mites and various stages of cysticercoids of the worm were obtained. The results are as follows:

1. Materials and Method:
   a. Selection of the pregnant segments: take few of the pregnant proglottids to dissect and release the eggs and observe under microscopes. To prove them is full mature by that the embryo is developed enough with quite active hexacanth. And take 5-10 pregnant proglottids to do the experiment. The pregnant segments from feces of Marmorta himalayana can also be used to infect the mites.
   b. Collection, isolation and feed with soil mites. Same as Lin Yuguang (1962,1975). The soil mites were taken from the local place.

2. The results of study for the life cycles
   a. Adult (measurement unit is mm)
      The adult worm is 12-451 in length with a width of 4.5-23, and 133-184 segments. Genital pores irregularly alternate at the late 1/3 of both sites with spherical genital atrium which can turn out of the body. The scolex is square and/or spherical,0.214-
Cestode Development Research in China: A Review

0.386×0.171-0.329. Testes 122-144, distributed around the uterus and opposite site of the genital pore, without the sperm reservoir. Cirrus sac is oval, 1.128×0.233 (0.104-1.289×0.204-0.263). Inner sperm reservoir take take the most part of the cirrus sac, 0.526×0.263. There are thorns on the cirrus surface. Ovary is fan shaped, with many lobes, 1.368×0.395. Vitelline glands are reseshoe,0.696×0.175. spermatheca is fusiform, 0.683×0.309. Early stage of uterus is a transverse tube then it becomes to enlarge with 20-30 branches in both sites. The adult worms are quite similar with the description of Spassky (1950,1951). But Spassky only got 3 specimen with the biggest worm of 190×10, and the scientists in China got 95 worms with the biggest one of 450×23.

b. The eggs
The fresh Hexacanth eggs are white, spherical with thin wall, 70.9×74.16, easy to be broken. Egg shell is transparent, 51.48×51.12, the membrane Outside embryo is transparent, ruffled, 72.12×41.04. There are many vitelline granule between the outside embryo membrane and the egg shell. Inner embryo membrane is specialized as pyriform organ, 34.2×25.2. Hexacanth, oval, 18.0×23.4.

c. Various stages of systicercoid (measurement unit is μm).
In Sep. 5-8,1980, three batches of soil mites were infected with P. ryjikovi but the temperature in Longriba is too low to continue the research so specimen were taken to Chengdu and put in the incubator at 29-30°C to continue the experimental study. So all the following experimental results were under this temperature condition and the development processs were observed under the fit constant temperature.

1. Hexacanth stage: after one day of infection the soil mites can be dissected and the hexacanth was found to be 21.6x28.8, with 8-12 embryo cells, the location of hooks are the same as that in eggs. Since the temperature is so low that the embryo stopped to develop without any changes from 8-16 Sep. (Plate 4: 5-6)

2. Lacuna stage: from 16 to 23 Sep, after 5 days in incubator the hexacanths are in different stages, the smallest one—36x25.5, then 43.2x32.4, the biggest one, roundish, 43.2x39.6, the lacuna is appeared in the central, with big embryo cells 6-8, small embryo cells 12-14. (Plate 4: 7 )
23-26 Sep. (8 days after incubator culture), all hexacanths developed into lacuna stage, spherical. The hexacanth is 46.8×46.8, lacuna is 18.0×28.8. hooks are changed the location to the outside of lacunna. (Plate 4: 8)

27-30 Sep. (12 days after incubator culture): hexacanth oval,104.4×122.4, lacuna is decreased. Hexacanth developed to pear shaped, 158.4×115.2. Lacuna is locted at the narrow part of the worm, hooks are outside of lacuna. (Plate 4: 9,10,11)
1-4 Oct. (16 days after incubator culture): An extended worm or lacuna, 162×115.2 were found in Parakalumma lydia, front part is blunt, with small and crowded cells, late part with the lacuna, cells are incompact around it, hooks are irregularly arranged around the lacuna. (Fig 1:12)

3. blastula stage: 4-5 Oct. (17-18 days after incubator culture): All worms are at blastula stage, the larvae are now divided into two parts—the front body and the tail. The small worm with a body of 144.0x86.4, early stage of blastula was at the center of the late half, boundary irregular. The tail, 90×28.8, has no distinct boundary with the body, more transparent. The developed ones were splitting head part,115.2x118.8, apart the body. The suckers are faintly seen. The blastula tail, 108.0x115.2. Blastula cavity is bottle shaped with irregularly boundary. Tail, slender, biggest width 64.8. (Plate 4: 13)
Explanation to Plate 4: 1. Scolex 2. mature proglottid 3. gravid proglottid 4. egg 5. Hexacanth of 24 h after infection to soil mite 6. Hexacanth of 8 days after infection 7. hexacanth of 5 days after incubator culture; 8. Lacuna stage larva of 7 days after incubator culture. 9-11 Lacuna stage larva of 12 days after incubator culture 12. Blastula stage larva of 16 days after incubator culture 13. Blastula stage larva of 17 days after incubator culture 14. Scolex formation stage larva of 20 days after incubator culture

4. Scolex formation stage:
6-7 Oct. (20 days after incubator culture) in a Scheloribates sp. a worm of scolex formation stage were found. Front part of the worm are developed into a
scolex, 118.8×122.4. 4 suckers are seen, 32.4×43.2. Blastula cavity, 90.0×165.0, front of the blastula connected with scolex, with no distinct boundary between them. Tail part stripped, 216.0×36.0. Lacuna and hooks are still at the end, there are 10 more calcium carbonate granules between scolex and the blastula cavity (Plate 4: 14). Another worm of the stage were found: scolex 108.0×116.6. Blastula cavity, 72.0×97.2, with distinct cavity in it, blastula wall 4-5 lines of cells, the cavity is fusiformis but the tail is stripped, 187×46.5. (Plate 5: 15).

8 Oct. (21 days after incubator culture): the scolex extended and become active, 118.8×198.0. Suckers can be stretched, there are 11 calcium carbonate granules at the end of the tail. The blastula cavity developed mature as a bottle, 162×104.4. The balstula wall with 3-5 line of cells. There is a cuticula r around the scolex and the blastula cavity. The tail are decreased to degenerate: 74.4×50.4. Hooks are arranged at the late part of the tail.

19-13 Oct. (26 days after incubator culture): early stage of cysticercoid, the scolex retracted to the blastula cavity. The blastula cavity, 205.2×216.0. There is a cuticular around it, a big hole at the front can be seen, Scolex, 162.0×172.8. The suckers are much active, 64.8×46.8. 42 calcium carbonate granules are at the base, and they are in different sizes. Blastula wall is constructed by 2-3 column epithelial cells. The tail is connected with the base of blastula cavity and there is distinct boundary. The tail is stripped with a width of 54.0, the hooks are there. (Plate 5: 17).

14-15 Oct. (28 days after incubator culture): cysticercoid developed almost the same. Blastula body is quite sturdy, 140.4×160.5. Scolex are separated with blastula wall, 104.4×11.6. Blastula wall are divided two layers, out layer are one line cells. Inner wall are soft cells, and with fibrosis. The calcium carbonate granules are distributed at the base of the scolex and around the inner layer of the blastula wall. The tail is apparently decreased to as a stick, 54.0×28.8. (Plate 5: 18)

16-19 Oct. (32 days after incubator culture): cysticercoids are almost mature. The blastula is spherical, 133.2×187.2. Scolex oval, 108.0×126.0, suckers, 79.2×39.6. Cuticular layer with deep colour, become thick, the edge of the blastula sac it is corrugation. The wall is with two layers, out layer is with epithelial cells arranged very tidy, thickness is 7.2, inner layer is fibrosis, 18.0-21.6. More calcium carbonate granules are appeared, most of them are distributed late part of the scolex and front part of the blastula sac. Tail like a small sac, 43.2×28.8. (Plate 5: 19)

20-26 Oct. (39 days after incubator culture), whole mature cysticercoids are found, oval body, 198.0×172.8. The cuticule is black, with compactness fiber lines, out side with irregular undulance protuberance, with a thickness of 3.6-10.8. The blastula wall is two layer, out part with 1-2 lines of epithelial cells, transparent, thickness, 10.8-18.0. Number of calcium carbonate granules is 63-70, mainly distributed at base of scolex and fiber layer. Tail degenerated to a small sac, transparent, 50.4×36, hooks are still there. After then all the cysticercoids are almost the same, changed quite few (Plate 5: Fig 20,21; Plate 4: Fig 1-5)

2 rabbits were used as host to infect the cysticercoids, adult worms were not found after 58 days of infection. 2 Guinea pigs were also used to infect with 4 and 6 mature cysticercoids, after 28 days adult worms were still not found. Maybe they are not suitable normal hosts.
Explanations to Plate 5: 15. Scolex formation stage larva of 20 days after incubator culture. 16. formation stage larva of 21 days after incubator culture Scolex. 17. Early stage of cysticercoid, 26 days after incubator culture. 18. Cysticercoid, 28 days after incubator culture. 19. Cysticercoid, 32 days after incubator culture (near to mature). 20. and 21. Cysticercoid, 39 and 70 days after incubator culture. 22. Dorsal view of Scheloribates sp. I. 23. Ventral view of Scheloribates sp. I. 24. Pseudostomatal apparatus of Parakalumma lydia. 25. Pseudostomatal apparatus of Scheloribates sp. I. 26. Dorsal view of Parakalumma lydia. 27. Ventral view of Parakalumma lydia.
3. Afterwords

These are the mainly representative works, but there are still very good jobs done by many other scientists in China: The life-cycle, ecology and prevention of *Bothriocephalus gowkongensi* (Liao et Shi, 1956); Studies on the development and intermediate hosts of *Moniezia expansa* (Rudolphi, 1810) (Lin, 1962a); Comparative studies on the procercoid development in their intermediate hosts for *Hymenolepis diminuta* and *H. nana* (Lin, 1962b); Studies on the lifecycle of *Moniezia benedeni* (Cai et Jin, 1984); Studies on the life cycle of *Ctenotaenia citelli* (Kirshenblat) and *Mosgovoia pectinata* (Goeze) (Lin et Hong, 1986), etc. But it is limited pages to put everything here so the author can just take those papers mainly introduced as above.

4. Appendix

**A Catalogue of Cestodes in China**

A. Proteocephalidea Mola, 1928

1. *Proteocephalidea* La Rue, 1911

1. *Proteocephalus* Weinland, 1853
   1. *P. fina* (Meggitt, 1927)
   2. *P. fixus* (Meggitt, 1927)
   3. *P. exiguus* La Rue, 1911
   4. *P. longicollis* (Zeder, 1800)
   5. *P. torulosus* (Butsch, 1786)
   6. *P. parasiluri* Yamaguti, 1934

2. *Ophiotaenia* La Rue, 1911

7. *O. nankingensis* Hsu, 1935
   8. *O. fixa* Meggitt, 1927
   9. *O. sinensis* Cheng et Lin, 2002
   10. *O. akgistrodontis* Harwood, 1933
   11. *O. moomigi* Fuhrmann, 1924
   12. *Ophiotaenia wuyiensis* n. sp.

3. *Gangesia* Woodland, 1924

13. *G. oligorchis*Roylman et Frece, 1964
14. *G. parasiluri* Yamaguti, 1934
15. *G. pseudobagre* Chen, 1984

4. *Silurotaenia* Nybelin, 1924

16. *S. spinula* Chen, 1984
17. *S. siluri* (Batsch, 1786)

5. *Paraproteocephalus* Chen, 1984

18. *P. parasiluri* Chen, 1962

6. *Corallotaenia* Frece, 1965

19. *C. nanfengensis* Cheng, 1997
7. *Corallobothrium* Fritsch, 1886  
(20) *C. parasiluri* Zmeev, 1936

B. *Cyclophyllidea* van Beneden in Braun, 1900

II Dilepididae (Railliet et Henry, 1909) Lincicome, 1939

8. *Ophiowalipora* Hsü, 1935 
(21) *O. houdemeri* Hsü, 1935 
(22) *O. lintonis* Yamaguti, 1959

9. *Paradilepis* Hsü, 1935 
(23) *P. dubaïsi* Hsü, 1935

10. *Amoebotaenia* Cohn, 1900 
(24) *A. cuneata* Linstow, 1872 
(25) *A. oligorchis* Yamaguti, 1935 
(26) *A. brevicollis* Fuhrmann, 1907 
(27) *A. vanelli* Fuhrmann, 1907 
(28) *A. pekingensis* Tseng, 1932 
(29) *A. fuhrmanni* Tseng, 1932 
(30) *A. lingi* Li et al, 1994 
(31) *A. scolopax* Li et al, 1994 
(32) *A. lumbirici* Villot, 1883 
(33) *Amoebotaenia* sp. 
(34) *A. tropica* Xu, 1959

11. *Unciania* Skrjabin, 1914 
(35) *U. ciliata* (Fuhrmann, 1913) 
(36) *U. sinensis* Lin, 1976 
(37) *U. falconis* Lin, 1976 
(38) *U. hypsipetis* Lin, 1976

12. *Anomotaenia* Cohn, 1900 
(39) *A. hoepplii* Tseng, 1933 
(40) *A. microhyncha* (Krabbe, 1869) 
(41) *A. citrus* (Krabbe, 1869) 
(42) *A. nymphaea* (Schrank, 1790) 
(43) *A. stentorea* (Frölich, 1802) 
(44) *Anomotaenia* sp. Tseng, 1932 
(45) *A. nycticoracis* Yamaguti, 1935 
(46) *A. ciliata* Fuhrmann, 1913 
(47) *A. erolia* Li et al., 1994 
(48) *A. hypoleucus* Li et al., 1994 
(49) *A. passerum* Joyeux et Timon-David, 1934 
(50) *A. rustica* Neslobinsky, 1911

www.intechopen.com
(51) A. arionis (Siebold,1850) 
(52) A. garrulax Li et. al.,1994 
(53) A. amaurornisus Cheng et Lin,2002 

13. Choanotaenia Railliet,1896 
(54) C. infundibulum (Bloch,1779) 
(55) C. quiarti Tseng,1932 
(56) C. macracantha (Fuhrmann,1907) 
(57) C. joyeuxi Tseng,1932 
(58) C. cingulifera (Krabbe,1869) 
(59) C. porosa (Rudolphi,1810) 
(60) C. coromandus Li et. al.,1994 
(61) C. merula Li et. al.,1994 
(62) C. stenura Li et. al.,1994 
(63) C. joyexibaeri López -Neyra,1952 
(64) C. decacantha (Fuhrmann,1913) 
(65) C. slesvicensis (Krabbe,1882) 
(66) C. stellifera (Krabbe,1869) 
(67) C. rotunda (Clerc,1913) 

14. Anonchotaenia Cohn,1900 
(68) A. globata (Linstow,1819) 
(69) A. oriolina Cholodkovsky,1906 
(70) A. dendrocittta (Woodland,1929) 

15. Paricterotaenia Fuhrmann,1932 
(71) P. paradoxa (Rudolphi,1802) 
(72) P. arquata (Clerc,1906) 

16. Dilepis Weinland,1858 
(73) Dilepis sp.1 Tseng,1932 
(74) Dilepis sp.2 
(75) D. undula (Schrank,1788) 
(76) D. unilaterals (Rudolphi,1819) 

17. Dipylidium Leuckart,1863 
(77) D. caninum (Linnaeus,1758) 
18. Diplopylidium Beddard,1913 
(78) D. nölleri Skrjabin,1914 

19. Paruterina Fuhrmann,1906 
(79) Paruterina sp. 1 
(80) Paruterina sp.2 

20. Biuterina Fuhrmann,1902
21. *Cyclorchida* Fuhrmann, 1907

(82) *C. omalancristrota* Wedl, 1855

22. *Kowalewskiella* Baczynska, 1914

(83) *K. buzzardia* Tubangui et Masilungan, 1937

23. *Vitta* Burt, 1938

(84) *V. wulingensis* Yun et Tang, 1993

(85) *V. magniuncinata* (Burt, 1938)

24. *Lateriporus* Fuhrmann, 1907

(86) *L. exiensis* Yun et Tang, 1992

25. *Deltokeras* Meggitt, 1927

(87) *D. delachauxi* Hsü, 1935

26. *Angularella* Strand, 1928

(88) *A. ripariae* Yamaguti, 1940

27. *Parvirostrum* Fuhrmann, 1908

(89) *P. magisomum* Southwell, 1930

III. *Nematotaeniidae* Lühe, 1910

28. *Nematotaenia* Lühe, 1910

(90) *N. dispar* (Goeze, 1782)

29. *Baerietta* Hsü, 1935

(91) *B. baeri* Hsü, 1935

IV. *Diploposthidae* (Poche, 1926) Southwell, 1929

30. *Diploposthie* Jacobi, 1896

(92) *D. skrjabini* Mathevoossian, 1942

(93) *D. laevis* (Bloch, 1782)

V. *Anoplocephalidae* Cholodkovsky, 1902

31. *Oochoristica* Lühe, 1898

(94) *O. hainanensis* Hsü, 1935

(95) *O. crassiceps* Baylis, 1920

(96) *Oochoristica* sp.

(97) *O. ratti* Yamaguti et Miyata, 1937
32. *Schizorchis* Hanson,1948  
(98)*S. tibetana* Wa-cheih,1965  
(99)*S. changduensis* Wa-cheih,1965  
(100)*S. altaica* Gvozdev,1951  
(101)*S. tangi* Guan et al.,1986

33. *Anoplocephala* Blanchard,1848  
(102)*A. magna* (Abildgaard,1789)  
(103)*A. perfoliata* (Goeze,1782)

34. *Paranoplocephala* Li,1910  
(104)*P. mamillana* (Mehlis,1831)  
(105)*P. ryjikovi* Spassky,1950  
(106)*P. transversaria* Krabe,1879

35. *Moniezia* Blanchard,1891  
(107)*M. benedeni* Moniez,1879  
(108)*M. expansa* Rudolphi,1810  
(109)*M. denticulata* (Rudolphi,1810)  
(110)*M. planissima* Stiles et Hassall,1892  
(111)*M. sichuanensis* Wu,1982

36. *Cittotaenia* Riehm,1881  
(112)*C. denticulata* Rudolphi,1804  
(113)*C. citelli* (Kirschenblatt,1939)

37. *Bertiella* Stiles et Hassal,1902  
(114)*B. studeri* Blanchard,1891  
(115)*Bertiella* sp.

38. *Paronia*.Diamare,1700  
(116)*P. pycnonoti* Yamaguti,1935  
(117)*P. corei* Guan et Lin,1987  
(118)*P. calcacterina* Burt,1939

39. *Avitellina* Gough,1911  
(119)*A. minuta* Yang et al.,1977  
(120)*A. tatia* Bhulerao,1936  
(121)*A. magavesiculata* Yang et al.,1977  
(122)*A. centripunctata* Rivolta,1874

40. *Stilesia* Railliet,1893  
(123)*S. globipunctata* (Rivolta,1874)

41. *Pseudanoplocephala* Baylis,1927  
(124)*P. croefordi* Baylis,1927
42. Aprostatandrya (Kirschenblat, 1938) 
(125) A. macrocephala Douthitt, 1915 
(126) A. (S.) cricetuli Lin et al., 1984

43. Mosgovoquia Spassky, 1951 
(127) M. pectinata (Goeze, 1782)

44. Killigrewia Meggitt, 1927 
(128) K. orientalis (Yun et Tang, 1992) 
(129) K. delafondi (Railliet, 1892)

45. Thysaniezia Skrjabin, 1926 
(130) T. giardi Moniez, 1879 
(131) T. ovilla (Rivolta, 1878)

46. Diuterinothaenia Gvosdev, 1961 
(132) D. daofuensis Guan et Lin, 1992 
(133) D. polyclada Yun et Lin, 2000

VI. Amabilliidae Fuhrmann, 1908

47. Schistotaenia Cohn, 1900 
(134) S. indica Johr, 1959 
(135) S. macrorhycha (Rudolphi, 1810)

48. Tatria Kowalewski, 1904 
(136) T. acanthorhyncha (Wedl, 1855)

VII. Dioecocestidae (Southwell, 1930) Burt, 1939

49. Gyrocoelia Fuhrmann, 1900 
(137) G. fausti Tseng, 1933 
(138) Gyrocoelia sp.

50. Dioecocestus Fuhrmann, 1900 
(139) Dioecocestus sp.

VIII. Taeniidae Ludwig, 1866

51. Echinococcus Rudolphi, 1801 
(140) E. granulosus (Batsch, 1786) 
(141) E. multilocularis Leuckart, 1863 
(142) Echinococcus rassicus Tang et al., 2007

52. Multiceps Goeze, 1782 
(143) M. multiceps (Leske, 1780) 
(144) M. serialis (Gervais, 1847) 
(145) M. skrjabini Popov, 1937
53. *Taeniarhynchus* Weinland, 1858
(146) *T. saginata* (Goeze, 1782)

54. *Hydatigera* Lamarck, 1816
(147) *H. taeniaeformis* (Batsch, 1780)

55. *Taenia* Linnaeus, 1758
(148) *T. hydatigera* Pallas, 1766
(149) *T. solium* Linnaeus, 1758
(150) *T. pisiformis* Bloch, 1780
(151) *T. tenuicollis* Rudolphi, 1819
(152) *T. ovis* Cobbold, 1860

56. *Cladotaenia* Cohn, 1901
(153) *C. cylindracea* (Bloch, 1782)
(154) *Cladotaenia* sp.
(155) *C. cirri* Yamaguti, 1935

IX. *Catenotaeniidae* Wardle et McLeod, 1952

57. *Catenotaenia* Janicki, 1904
(156) *C. pusilla* (Goeze, 1782)
(157) *Catenotaenia* sp.
(158) *C. linsdalei* McIntosh, 1941

X. *Mescestoididae* Perrier, 1897

58. *Mesocestoïdes* Vaillant, 1863
(159) *M. lineatus* Goeze, 1782
(160) *Mesocestoïdes* sp.

XI. *Davaineidae* Fuhrmann, 1907

59. *Cottugnia* Diamare, 1893
(161) *C. digonopora* (Pasquale, 1890)
(162) *C. taiwanensis* Yamaguti, 1935
(163) *C. seni* Meggitt, 1926

60. *Davainea* Blanchard, 1891
(164) *D. proglottina* (Davaine, 1860)
(165) *D. himatopodis* Johnston, 1911
(166) *Davainea* sp. Hoeppli, 1920
(167) *D. anderi* Fuhrmann, 1933
61. Raillietina Fuhrmann, 1920
(168) R. cesticillus (Molin, 1858)
(169) R. echinobothrida (Megnin, 1881)
(170) R. tetragona (Molin, 1858)
(171) R. taiwanensis Yamaguti, 1935
(172) R. shantungensis Winfield et al., 1936
(173) R. tetragonoides Baer, 1926
(174) R. huebscheri Hsü, 1935
(175) Raillietina (Fuhrmannetta) sp. Tseng, 1933
(176) R. garrisoni Tubangui, 1931
(177) R. sinensis Hsü, 1935
(178) Raillietina sp. Chen, 1933
(179) R. celebensis (Tanicki, 1902)
(180) R. madagascariensis (Davaine, 1870)
(181) R. fragilis Meggitt, 1931
(182) R. compacta (Clerc, 1906)
(183) R. parvicincta Meggitt et Saw, 1924
(184) R. sartica (Skrjabin, 1914)
(185) R. kantipura Sharma, 1943
(186) R. pyconoti Yamaguti et Mitunaga, 1943
(187) R. torquata Meggitt, 1924
(188) R. lini Cheng et Lin, 2002

62. Ophryocotyle Friis, 1870
(189) O. insignis Lonnbery, 1890

63. Fernandezia López-Neyra, 1936
(190) F. indicus (Singh, 1964) Artjuch, 1964

XII. Hymenolepididae Railliet et Henry, 1907

64. Aploparaksis Clerc, 1903
(191) A. sinensis Tseng, 1933
(192) A. filum (Goeze, 1782)
(193) A. parafilum Joyeux et Bear, 1939
(194) A. crassirostris (Krabbe, 1869)
(195) A. brachyphallos (Krabbe, 1869)
(196) A. penetrans Clerc, 1902
(197) A. fukienensis Lin, 1959
(198) A. bubulcus Li et al., 1994
(199) A. larina Fuhrmann, 1921

65. Diorchis Clerc, 1903
(200) D. flavescentes (Krefft, 1871)
(201) D. anatina Ling, 1959
(202) D. anomallus Schmelz, 1941
(203) *D. crassicollis* Sugimoto, 1934
(204) *D. formosensis* Sugimoto, 1934
(205) *D. nigrocae* Yamaguti, 1935
(206) *D. wigginsi* Schultz, 1940
(207) *Diorchis* sp.
(208) *D. ransomi* Schultz, 1940
(209) *D. sobolevi* Spasskaja, 1950
(210) *D. inflata* (Rudolphi, 1891)
(211) *D. elisae* Skrjabin, 1914
(212) *D. bulbodes* Mayhew, 1929

66. *Fimbriaria* Froelich, 1802
(213) *F. amurensis* Kotellnikov, 1960
(214) *F. fasciolaris* (Pallas, 1781)

67. *Drepanidotaenia* Railliet, 1892
(215) *D. ryrocae* (Yamaguti, 1935)
(216) *D. lanceolata* (Bloch, 1782)
(217) *D. przewalskii* (Skrjabin, 1914)

68. *Hsiolepis* Yang et al, 1957
(218) *H. shengi* Yang et al, 1957
(219) *H. shensiensis* (Liang et Cheng, 1963)
(220) *H. crowfordi* (Baylis, 1927)

69. *Echinocotyle* Blanchard, 1891
(221) *E. anatina* (Krabbe, 1869)

(222) *E. echinocotyle* (Fuhrmann, 1907)
(223) *E. nitida* (Krabbe, 1869)

70. *Echinolepis* Spassky et Spasskaja, 1954
(224) *E. carioca* (Magelhas, 1898)

71. *Hymenosphenacanthus* López-Neyra, 1958
(225) *H. exiguis* (Yoshida, 1910)
(226) *H. fasciculata* (Ransom, 1909)
(227) *H. giranensis* (Sugimoto, 1934)
(228) *H. longicirrosa* (Fuhrmann, 1906)
(229) *H. oshincai* (Sugimoto, 1934)
(230) *H. venusta* (Rosseter, 1897)

72. *Anatinella* Spassky et Spasskaja, 1954
(231) *A. meggitti* (Tseng, 1932)
(232) A. spinulosa

73. Cloacotaenia Wolffhügel, 1938
(233) C. megalops (Creplin, 1829)

74. Dicranotaenia Railliet, 1892

(234) D. coronula (Dujardin, 1845)
(235) D. introversa (Mayhew, 1923)
(236) D. pingi (Tseng, 1932)
(237) D. mergi (Yamaguti, 1940)
(238) D. querquedula (Fuhrmann, 1921)
(239) D. simplex (Fuhrmann, 1926)
(240) D. himantopodis (Krabbe, 1869)
(241) D. aequabilis (Rudolphi, 1819)
(242) Dicranotaenia sp. (Li, 1994)

75. Abortilepis Yamaguti, 1959
(243) A. abostiva (Linstow, 1904)

76. Sobolevicanthus Spassky et Spasskaja, 1954
(244) S. fragilis (Krabbe, 1869)
(245) S. gracilis (Zeder, 1903)
(246) S. octacantha (Krabbe, 1869)
(247) S. rugosas (Clerc, 1906)
(248) S. krabbeella (Krabbe, 1869)

77. Dubininolepis Spassky et Spasskaja, 1954
(249) D. multistriata (Rudolphi, 1810)

78. Nadejdolepis Spassky et Spasskaja, 1954
(250) N. solovowi (Skrjabin, 1914)
(251) N. compressa Linton, 1892.
(252) N. longicirrosa Fuhrmann, 1906
(253) N. nitidulans (Krabbe, 1882)

79. Wardoides Spassky et Spasskaja, 1954
(254) W. anasa Yun, 1973
(255) W. nyrocae Yamaguti, 1935

80. Tschertkovilepis Spassky et Spasskaja, 1954
(256) T. setigera (Froelich, 1789)
(257) Tschertkovilepis sp.

81. Stylolepis Yamaguti, 1959
(258) S. longistylosa (Tseng, 1932)
82. Microsomacanthus López-Neyra,1942
(259) M. collaris (Batach,1786)
(260) M. compressus (Linton,1892)
(261) M. microsoma (Creplin,1829)
(262) M. fausti (Tseng,1932)
(263) M. paramicrosoma (Gasowska,1931)
(264) M. tritesticulata Fuhrmann,1907
(265) M. mayhewi (Tseng,1932)
(266) M. teresoides (Fuhrmann,1906)
(267) M. clerci (Tseng,1933)
(268) M. styloides (Fuhrmann,1906)
(269) Microsomacanthus sp.
(270) M. arcuata (Kowalewski,1904)
(271) M. floreata (Meggitt,1930)
(272) M. paraconpressa Czapinski,1956
(273) M. carioca Magalhaes,1898
(274) M. parvula (Kowalewski,1904)

83. Rodentolepis Spassky,1954
(275) R. sinensis (Oldhan,1929)
(276) R. xinensis Yun et Tang,1999

84. Hymenolepis Weinland,1858
(277) H. diminuta (Rudolphi,1819)
(278) H. nana (Siebold,1852)
(279) H. peipingsensis Hsü,1935
(280) H. uralensis Cleric,1902
(281) H. parafola Ling,1959
(282) H. hipposidera Ling,1962
(283) Hymenolepis sp.1 Tseng,1933
(284) Hymenolepis sp.2 Tseng,1933
(285) Hymenolepis sp.3 Tseng,1933
(286) H. cantaniana Polonio,1860
(287) H. chibia Li et al.,1994
(288) H. abundus Li et al.,1994
(289) H. punctulata Li et al.,1994
(290) H. fringillarinus Rudolphi,1809
(291) H. recurvirostroides Meggitt,1927
(292) H. stylosa Rudolphi,1809
(293) H. amphitricha Rudolphi,1819
(294) H. clandestina Krabbe,1869
(295) H. brachycephala Creplin,1829
(296) H. variabile Mayhew,1925
(297) H. interrupta Rudolphi,1809
(298) H. fasciculata Ranson,1909
(299) H. parvula Kowalewsky,1905
(300) H. citelli McLeod,1933
(301) H. carioca (Magalhaes, 1898)  
(302) H. exigua Yoshida, 1910  
(303) H. rustica (Meggitt, 1926)  

85. *Retinometra* Spassky, 1955  
(304) *R. chinensis* Yun, 1982  
(305) *R. giranensis* (Sugimoto, 1934)  
(306) *R. venusta* (Rosseter, 1897)  

86. *Mayhewia* Yamaguti, 1959  
(307) *M. acidotheris* Cheng et Lin, 1995  
(308) *M. serpentulus* (Schrank, 1788)  

87. *Vampirolepis* Spasskii, 1954  
(309) *V. taiwannensis* Sawada, 1984  
(310) *V. copihamata* Sawada, 1984  
(311) *V. curvihamata* Sawada, 1985  
(312) *V. versihamata* Sawada, 1985  
(313) *V. longicollaris* Sawada, 1985  
(314) *V. chiangmaiensis* Sawada, 1985  
(315) *V. acollaris* Sawada, 1985  

XIII. *Progynotaeniidae* Burt, 1936  

88. *rogynotaenia* Fuhrmann, 1909  
(316) *P. odhnei* Nybelin, 1914  

89. *Proterogynotaenia* Fuhrmann, 1911  
(317) *P. variabilis* Belopolskaya, 1863  

C. Caryophyllidea van Beneden in Carus, 1863  

XIV. *Lytocestidae* Wardle et McLeod, 1952  
90. *Khawia* Hsü, 1935  
(318) *K. sinensis* Hsü, 1935  
(319) *K. tenuicollis* Li, 1964  
(320) *K. cyprini* Li, 1964  
(321) *K. japonensis* Yamaguti, 1934  
(322) *K. rosittensis* (Szidat, 1937)  

91. *Caryophyllaeides* Nybelin, 1922  
(Tsengia Li, 1964)  
(323) *C. neimongkuensis* (Li, 1964)  
(324) *C. lungi* Cheng et Lin, 2002  

www.intechopen.com
(325) C. xiamenensis (Liu et al., 1995)

92. *Lytocestus* Cohn, 1908  
(326) *L. adhaerens* Cohn, 1908

XV. Caryophyllaeidae Leuckart, 1878  
93. *Caryophyllaeus* Müller, 1787  
(327) *C. parcus* Zmeev, 1936  
(328) *C. brachycollis* Janiszewksa, 1953  
(329) *C. laticeps* (Pallas, 1781)  
(330) *C. minutus* Chen, 1964

94. *Paracaryophyllaeus* Kulakovskaya, 1961  
(331) *P. dubininae* Kulakovskaya, 1962

95. *Breviscolex* Kulakovskaya, 1962  
(332) *B. orientalis* Kulakovskaya, 1962

D. Pseudophyllidea Carus, 1863

XVI. Amphicotylidae Ariola, 1899

96. *Eubothrium* Nybelin, 1922  
(333) *Eubothrium* sp.

XVII. Triaenophoridae (Loennberg, 1889)

97. *Triaenophorus* Rudolphi, 1793  
(334) *T. nodulosus* (Pallas, 1781)  
(335) *T. crassus* Forel, 1868

98. *Anchistrocephalus* Monticelli, 1890  
(336) *Anchistrocephalus* sp. Cheng et Liu, 2008

XVIII. Dibothriocephalidae Lühe, 1902

99. *Digrama* Cholodkovsky, 1915  
(337) *D. interrupta* (Rudolphi, 1809)  
(338) *D. nemachili* Dubinina, 1957

100. *Ligula*. Bloch, 1782  
(339) *L. intestinalis* (Goeze, 1782)

101. *Bothridium* Blainville, 1824  
(340) *B. pythonis* Blainville, 1824
102. *Diphyllobothrium* Cobbold, 1858
(341) *D. fuhrmanni* Hsiü, 1935

103. *Spirometra* Mueller, 1937
(342) *S. mansoni* (Cobbold, 1883)
(343) *S. decipiens* (Diesing, 1850)
(344) *S. erinacei* (Rudolphi, 1819)

104. *Duthiersia* Perrier, 1873
(345) *D. fimbriata* (Diesing, 1850)

105. *Dibothriocephalus* Lühe, 1899
(346) *D. latu* (Linnaeus, 1758)

XIX. *Ptychobothriidae* Lühe, 1902

106. *Senga* Dollfus, 1934
(347) *Senga* sp.
(348) *S. ophioccephalina* (Tseng, 1933)

107. *Polyonchobothrium* Diesing, 1854
(349) *P. magnum* (Zmeev, 1936)
(350) *P. ophioccephalina* (Tseng, 1933) Dubinina, 1962

XX. *Bothriocephalidae* (Rudolphi, 1808) Lühe, 1899

108. *Bothriocephalus* (Rudolphi, 1808) Lühe, 1899
(351) *B. scorpii* (Müeller, 1776)
(352) *B. brachysoma* Wang, 1977
(353) *B. gourkongensis* Yeh, 1955
(354) *B. japonicus* Yamaguti, 1934
(355) *B. opsarichthydis* Yamaguti, 1934
(356) *B. sinensis* Chen, 1964
(357) *Bothriocephalus* sp.

109. *Taphrobothrium* Lühe, 1899
(358) *T. japonensis* Lühe, 1899

110. *Oncodiscus* Yamaguti, 1934
(359) *O. sauridae* Yamaguti, 1934

XXI. *Parabothriocephalidae* Yamaguti, 1959

101. *Parabothriocephaloides* Yamaguti, 1934
(360) *Parabothriocephaloides* sp. Wang et. al., 2001
112. *Parabothriocephalus* Yamaguti, 1934

(361) *P. gracilis* Yamaguti, 1934

XXII. *Echinophallidae* Schumacher, 1914

113. *Echinophallus* Schmacher, 1914

(362) *E. japonicus* (Yamaguti, 1934)

E. *Tetraphyllidea* Carus, 1863

XXIII. *Phyllobothridae* Braun, 1900

114. *Phyllobothrium* Beneden, 1849

(363) *P. lactuca* Beneden, 1850

(364) *P. laciniatum* (Linton, 1889)

(365) *P. loculatum* Yamaguti, 1952

(366) *P. tumidum* Linton, 1922

(367) *P. ptychocephalum* Wang, 1984

115. *Dinobothrium* Beneden, 1889

(368) *D. septaria* Beneden, 1889

116. *Echeneibothrium* Beneden, 1850

(369) *E. hui* Tseng, 1933

(370) *E. variabile* Beneden, 1850

117. *Anthobothrium* Beneden, 1850

(371) *A. bifidum* Yamaguti, 1952

(372) *A. parvum* Stossich, 1895

(373) *A. pteroplateae* Yamaguti, 1952

118. *Rhodobothrium* Linyon, 1889

(374) *R. palvinatum* Linton, 1889

119. *Rhinebothrium* Euzet, 1953

(375) *R. xiamenensis* Wang et al., 2001

120. *Pithophorus* Southwell, 1925

(376) *P. musculosus* Subhaparadha, 1957

XXIV. *Onchobothridae* Braun, 1900

121. *Acanthobothrium* Beneden, 1850

(377) *A. coronatum* (Rudolphi, 1819) Beneden, 1849

(378) *A. benedeni* Loennberg, 1889

(379) *A. grandiceps* Yamaguti, 1952
(380) A. ijimai Yoshida, 1917
(381) A. microcantha Yamaguti, 1952
(382) A. tsingtaoensis Tseng, 1933
(383) A. pingtanensis Wang, 1984
(384) A. xiamenensis Yang, 1994
(385) A. zugeimensis Yang, 1994
(386) A. polytesticularis Wang et al., 2001

F. Trypanorhyncha Diesing, 1863

XXV. Otobothriidae Dollfus, 1942

122. Otobothrium Linton, 1890
(387) O. linstowi Southwell, 1912
(388) Otobothrium sp.

123. Tetrarhynchus Shipley et Hornell, 1906
(389) T. equidentata Shipley et Hornell, 1906

XXVI. Hornelliellidae Yamaguti, 1954

124. Hornelliella Yamaguti, 1954
(390) H. musteli Wang et al., 2001

XXVII. Gymnorhynchidae Dollfus, 1935

125. Gymnorhynchus Rudolphi, 1819
(391) Gymnorhynchus sp. Wang et al., 2001

XXVIII. Eutetrarhynchidae (Guiart, 1927)

126. Eutetrarhynchus Pintner, 1913
(392) Eutetrarhynchus sp. Wang et al., 2001

XXIX. Tentaculariidae Poch, 1926

127. Nybelinia Poch, 1926
(393) N. rhyncobatus Yang et al., 1995

XXX. Grillotiidae Dollfus, 1969

128. Grillotia Guiart, 1927
(394) G. dollfusi Carvajal, 1976

G. Lecanicephalidea Baylis, 1920
XXXI. Lecanicephalidae Braun, 1900

129. Lecanicephalum Linton, 1890
   (395) L. xiamenensis Liu et al., 1995
   (396) L. peltatum Linton, 1890

130. Cephalobothrium Shipley et Hornell, 1906
   (397) C. longisegmentum Wang, 1984

XXX. Tetragonocephalidae Yamaguti, 1952

131. Tetragonocephalum Shipley et Hornell, 1905
   (398) T. akajeienesis Yang et al., 1995

H. Spathebothriidea Wardle et McLeod, 1952

XXXII. Cyathocephalidae Nybelin, 1922

132. Cyathocephalus Kessler, 1868
   (399) C. truncatus (Pallas, 1781)

133. Schyzocotyle Achmerov, 1960
   (400) S. fluviatilies Achmerov, 1960

I. Nippotaeniidea Yamaguti, 1939

XXXIII. Nippotaeniidae Yamaguti, 1939

134. Amurotaenia Achmerov, 1941
   (401) N. percotti Achmerov, 1941

135. Nippotaenia Yamaguti, 1939
   (402) N. mogurndae Yamaguti et Miyata, 1940

5. Reference

Cai XP and Jin JS. 1984. Studies on the lifecycle of Moniezia benedeni. Chinese Journal of Veterinary Science and Technology, 12, 26-30
Cheng GH. 2002. Studies on the cestodes in China. China women publishing house. Beining: 3-49
Cheng GH, Wu ZH and Lin Y. 2008. The experimental development of Ophiotaenia monnigi Fuhrmann, 1924 in Cyclops leuckarti. Parasitol Res: 875-878
Li M. et Arai, H. P. 1991. On the ultrastructure of the scolex tegument, organelles and sensory receptors of Gloridacris catostomi Cooper (Cestoda: Caryophyllidea). Acta Zoologica Sinica, 37(2): 113-122
Liao XH & Lun ZR. 1998. Taxonomy and relatives studies for Bothriocephalus opsariichthydis parasitic in grass carp, carp and opsariichthyd in China. *Science Bulletin*, 43(10): 1073~1076.

Liao XH et Shi LZ. 1956. A fry disease of Guangdong, the life-cycle, ecology and prevention of Bothriocephalus gowkongensis. *Bulletin of hydrobiology*, 2: 129~186.

Lin Yuguang. 1979. Catalog of Cestodes in China, memoir of the meeting for Cestoda fauna in China.

Lin Y. 1962a, Studies on the development of Moniezia expansa (Rudolphi, 1810) and its intermediate host. *Journal of Fujian Normal College*. 2:45~68.

Lin Y. 1962b, Comparative studies on the development of cysticercoid for Hymenolepis expansa and *H. nana* within the intermediate hosts. *Journal of Fujian Normal College*. 2:263~283.

Lin Y., and Guan JZ, Wang PP and Yang WC. 1982. Studies on the developmental cycle of Paranoplocephala ryjikovi Spassky, 1950 in the intermediate host. *Acta Zoologica Sinica*, 28(3): 262~271.

Lin, Y. and Hong LX. 1986. Studies on the life cycle of Ctenotaenia citelli (Kirshenblat) and Mosgovoyia pectinata (Goeze). *Acta Zoologica Sinica*, 32 (2): 144~151.

Su XZ & Lin Y. 1987. Studies on the developmental cycle of cestodes from domestic ducks and geese in Xiamen, China. *Acta Zoologica Sinica*, 33(4): 334~340.

Tang C. C. (Tang Zhongzhang). 1982. Developmental studies on Polyonchobothrium ophioccephalina (Tseng, 1933) and bothriocephalus opsariichthydis Yamaguti, 1934. *Acta Zoologica Sinica*, 28(1): 53~59.

Zhao WX, editor in chief, 1983. *Human Parasitology*, People’s medical publishing house. Beijing: 484~491.
Parasitology is an established discipline that covers a wide area of subjects, ranging from the basics (study of life cycle, ecology, epidemiology, taxonomy, biodiversity, etc) to the advanced and applied aspects (human and animal related, although control aspect remains the most important task). There is a great scarcity in the amount of available literature that is freely accessible to anyone interested in the subject. This book was conceptualized with this in mind. The entire book is based on the findings of various studies performed by different authors, comprising reviews and original scientific papers. I hope this book will be helpful to diverse audiences like biologists, zoologists, nematologists, parasitologists, microbiologists, medical doctors, pathologists as well as the molecular biologists, by providing them with a better understanding of the subject.

How to reference
In order to correctly reference this scholarly work, feel free to copy and paste the following:

Gonghuang Cheng (2012). Cestode Development Research in China: A Review, Parasitology, Dr. Mohammad Manjur Shah (Ed.), ISBN: 978-953-51-0149-9, InTech, Available from: http://www.intechopen.com/books/parasitology/cestode-development-research-in-china-a-review
