Around the world, 40 to 50 million people are currently estimated to be infected with food-borne intestinal trematodes (Fried et al., 2004), including at least 18 million people infected by fish-borne trematodes (Chai et al., 2005a). However, this may be an underestimate of the total number of humans infected. The number of trematode species, currently known to be involved, is 70 (Yu and Mott, 1994; Chai and Lee, 2002). Morphologically they are diverse, belonging to the families Heterophyidae, Echinostomatidae, Plagiorchiidae, Lecithodendriidae, Neodiplodostomidae, Nanophyetidae, Paramphistomatidae, Cathaemaciidae, Fasciolidae, Gastrodiscidae, Gymnophallidae, Microphallidae, Strigeidae, and Brachylaimidae (Yu and Mott, 1994; Chai and Lee, 2002; Fried et al., 2004). Life cycles and geographical distributions are also diverse and characteristic for each species. This chapter, briefly describes the characteristics of each species of intestinal fluke involved, in terms of the biology, epidemiology, host–parasite relationships, pathogenicity, clinical aspects, diagnosis, and treatment.

Brachylaimidae Joyeux and Foley, 1930

*Species Infecting Humans*

*Brachylaima cribbi* Butcher and Grove, 2001

The first human infection with this fluke was reported in South Australia (Butcher et al., 1998), and subsequently 10 adults and children in South Australia (Butcher et al., 2003) were reported as infected. Birds, reptiles, and mammals were found to be infected with this fluke (Butcher et al., 1998; Butcher and Grove, 2001, 2005). The first intermediate host is a helicid land snail, *Theba pisana*, and cercariae begin to emerge 8 weeks after exposure to the eggs (Butcher and Grove, 2001). Cercariae encyst in other species of helicid land snails, such as *Cernuella virgata*, which serve as the source of human infections (Butcher and Grove, 2005). Symptoms due to this fluke infection vary depending on the worm burden and include diarrhea, abdominal pain, low-grade fever, and fatigue (Butcher et al., 2003).
Cathaemaciidae Fuhrmann, 1928

Species Infecting Humans

*Cathaemacia cabrerai* Jueco and Monzon, 1984

The first human infection with this fluke was reported from a patient in the Philippines (Jueco and Monzon, 1984). No information is available on the life cycle and the source of infection.

Echinostomatidae Poche, 1926

Species Infecting Humans

*Acanthoparyphium tyosenense* Yamaguti, 1939 (Fig. 2.1)

This species was originally found in the small intestines of ducks *Melanitta fusca stejnegeri* and *M. nigra americana* caught in the Republic of Korea (Yamaguti, 1939a). It is characterized by 23 collar spines on the oral sucker, a long cirrus sac reaching beyond the posterior margin of the acetabulum, and the vitellaria extending to the level of the cirrus sac or the Mehlis’ gland (Chai et al., 2001b). Human infections were first identified in 10 patients residing in two coastal villages in Chollabuk-do Province (Chai et al., 2001b). The patients had consumed various species of brackish water mollusks caught in an estuary near their villages; two species of bivalves, *Mactra veneriformis* and *Solen grandis*, and a gastropod *Neverita bicolor* were found to have the metacercariae (Chai et al., 2001b). The first intermediate hosts include the marine megagastropods *Lunatia fortuni* and *Glassaulax didyma* (Kim et al., 2004). The adult flukes were confirmed after experimental infection of metacercariae in chicks (Chai et al., 2001b; Han et al., 2003) and sea gulls *Larus crassirostris* (Kim et al., 2004).

*Artyfechinostomum malayanum* (Leiper, 1911), Railliet, 1925


This fluke (under the name *A. surfrartyfex*) was first found in an Assamese girl in India and then found in pigs in India (Beaver et al., 1984). The source of infection is a snail, *Digoniostoma pulchella*, and the dog and rat are other definitive hosts (Yu and Mott, 1994). The taxonomic position of this species, in relation to related genera and species, has been confusing (Yamaguti, 1958; Lie, 1963; Beaver et al., 1984). However, a review by Kostadinova et al. (2002) suggested *A. surfrartyfex* to be conspecific with *A. malayanum*, which precedes *A. surfrartyfex*. In the meantime, *Artyfechinostomum mehrai* was reported from human infections in India (Beaver et al., 1984), but synonymized with *A. surfrartyfex* (Ahluwalia, 1962).