American Association of Zoo Veterinarians Infectious Disease Committee Manual 2013  
**SCHISTOSOMIASIS**

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<th>Animal Group(s) Affected</th>
<th>Transmission</th>
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<tr>
<td>Old World monkeys, great apes, humans, dogs, cows, rats, water buffaloes, pigs</td>
<td>Percutaneous in contaminated water</td>
<td><em>S. mansoni, S. japonicum</em>: fever, nausea, cough, diarrhea, abdominal pain, gastroesophageal bleeding, CNS signs; <em>S. haematobium</em>: hematuria, dysuria, SCC of the bladder</td>
<td>Sometimes fatal; more often a chronic disease</td>
<td>Praziquantel</td>
<td>Snail control, good sanitation, access to clean water</td>
<td>Yes, via snail vector</td>
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**Fact Sheet compiled by:** Christine Fiorello  
**Sheet completed on:** January 25, 2011; updated 1 November 2012  
**Fact Sheet Reviewed by:** Sara Childs Sanford, Walter Boyce

**Susceptible animal groups** Natural infections of *S. japonicum* have been reported in nearly 50 mammalian species, including humans, rhesus macaques, dogs, cats, rats, pigs, water buffalo, cows, horses, donkeys, goats, rabbits, wild carnivores, wild pigs, wild rodents, shrews, hedgehogs. Many more primates and other species have been experimentally infected. The most important species thought to maintain the disease in natural transmission cycles include humans, dogs, cows, and pigs. *S. haematobium* infects humans, and hybridizes with *S. bovis* to infect cattle.

**Causative organism** *Schistosoma japonicum, S. mansoni, S. haematobium*

**Zoonotic potential** Yes, via a snail vector. Humans are the most common host for *S. mansoni* and *S. haematobium*, but *S. japonicum* infects many domestic and wild mammals that can serve as reservoirs of the fluke. Old World monkeys, including baboons and vervet monkeys, are hosts for *S. mansoni*. These host species are commonly found around human settlements and share water sources with humans.

**Distribution** *S. mansoni*: Africa, Arabian peninsula, South America; *S. japonicum*: China, Phillipines, Indonesia; *S. haematobium*: African, Arabian peninsula

**Incubation period** 4-6 weeks (although signs due to the acute phase of infection may be immediate)

**Clinical symptoms** *S. japonicum* and *S. mansoni* (acute phase): fever, nausea, cough, diarrhea (chronic phase): anemia, bloody diarrhea, gastro-esophageal bleeding, hepatomegaly, splenomegaly, cirrhosis, cachexia, ascites, portal hypertension, pulmonary hypertension. *S. haematobium*: hematuria, dysuria, ureteral obstruction, hydrenephrosis, squamous cell carcinoma of the bladder

**Post mortem, gross, or histologic findings** Portal and periportal hepatic fibrosis, hepatosplenomegaly, gastroesophageal varices, granulomatous hepatic inflammation, mesenteric lymphadenopathy, colonic ulceration, urinary bladder and ureteral fibrosis, hydrenephrosis

**Diagnosis** Fecal sedimentation or centrifugation, Falcon assay screening test (FAST) ELISA, IgG-ELISA, PCR. Urine centrifugation (*S. haematobium*)

**Material required for laboratory analysis** Feces, serum, urine

**Relevant diagnostic laboratories:** Any commercial lab should be able to find ova in feces or urine; ARUP Laboratories in Salt Lake City, UT can perform antibody testing (800 522-2787; aruplab.com)

**Treatment** Praziquantel is the treatment of choice; it should be repeated in 4-6 weeks. Recently, resistance to praziquantel is being recognized in some areas.
## SCHISTOSOMIASIS

**Prevention and control** Snail control, improved sanitation, access to clean water

**Suggested disinfectant for housing facilities** Niclosamide 10 mg/l to kill snails

**Notification:** none

**Measures required under the Animal Disease Surveillance Plan:** none

**Measures required for introducing animals to infected animal** N/A (requires vector for transmission)

**Conditions for restoring disease-free status after an outbreak:** N/A (not in USA)

**Experts who may be consulted:**
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**References**

1. Brack, M. 2003. Schistosomiasis. EAZWV Transmissible Disease Fact Sheet, No. 120.