

3 Phases of Dicrocoeliasis

1. Migratory Phase (first few weeks)

- When juveniles migrate “upstream” to the common bile duct
- Asymptomatic
- Juveniles do very little damage

2. Acute Phase (months)

- Adults consume cells of the bile duct
- Symptoms: severe abdominal pain
- Pathologies: Inflammation from feeding worms

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3. Chronic Phase (years)

- adult worms are feeding and reproducing
- worms begin blocking bile duct flow
- **Symptoms:** 1) Diarrhea and nutritional deficiency
- **Pathologies:** 1) Overproduction of mucus
 - mucus is over-secreted by the bile duct in response to the worms
 - Mucus collects in duodenum and interferes with digestion (nutritional deficiency)
 - Mucus collects in large intestine and interferes with water absorption (diarrhea)

3 Phases of Dicrocoeliasis

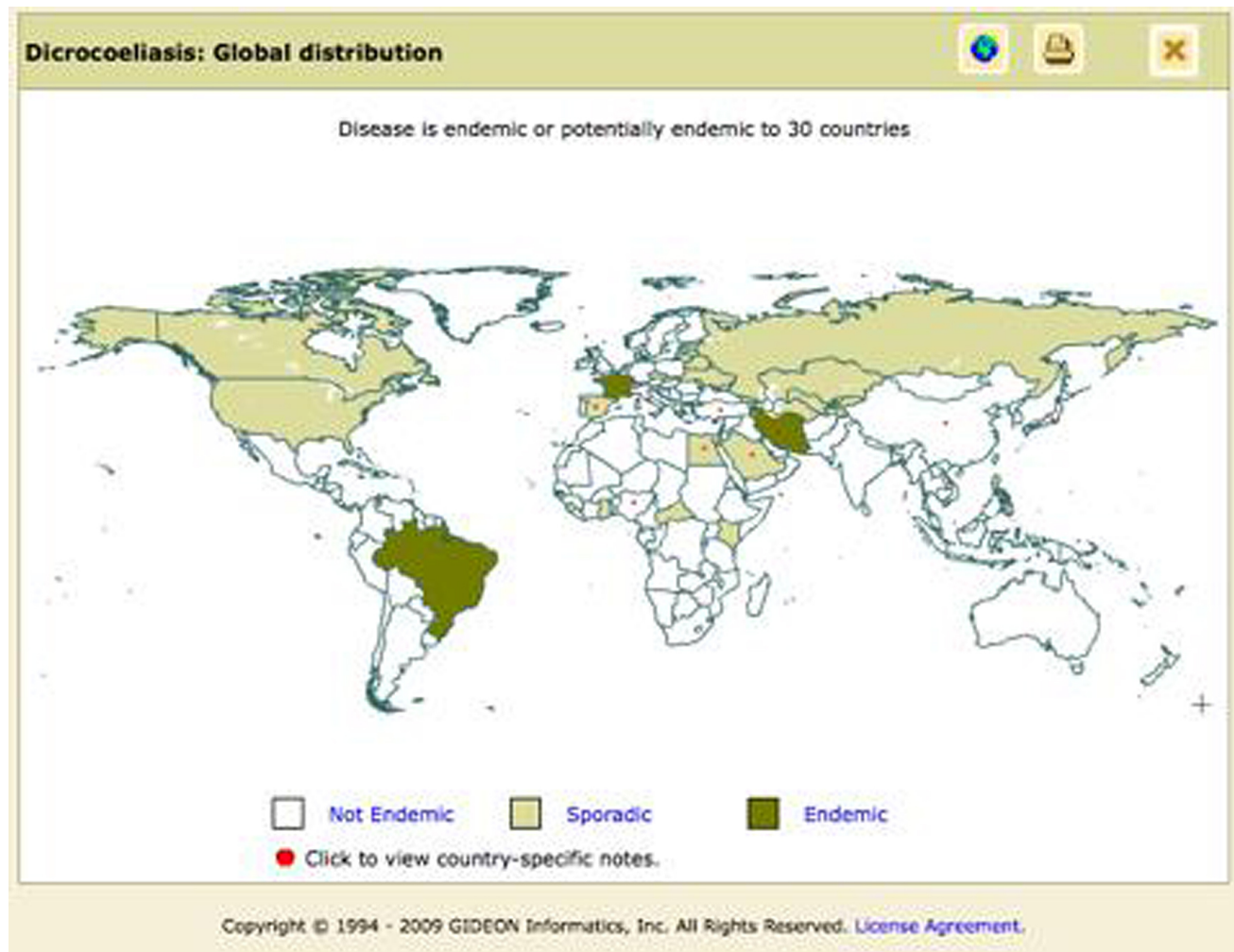
3. Chronic Phase (years) – extreme infections

Symptoms: 2) Jaundice

- **Pathologies:** 2) Worms eating hepatocytes (too numerous for the bile ducts)
- death of hepatocytes leads to liver dysfunction
- back pressure of blood to spleen
- bilirubin leaks into circulation

Epidemiology, Diagnosis and Treatment

Geographic Distribution: More than 30 countries including many in Europe, Asia and in both North America (USA, Canada) and countries of South America



Epidemiology, Diagnosis and Treatment

Requirements for Infection:

Site Ecology: Agricultural fields of grass

Hosts: Snails (multiple species), Ants (multiple species), and a herbivorous/omnivorous mammal

Seasonality:

1. Snails are mostly infected in the spring
2. Ants (2nd intermediate hosts) must be around in spring
3. Herbivores (sheep) have highest egg content (in feces) in winter – suggests herbivores become infected in late spring/early summer (time to parasite maturity is unknown)
4. Parasite eggs can overwinter for up to 20 months (fresh feces not necessary) – adaptive to allow snails time to recover from winter

Diagnosis and Treatment

- Diagnosis by eggs in stool
- Followed by ELISA (no need to worry about specific antibodies for this species)
- Treatment by medication only
 - Triclabendazole