

**HELMINTHIC FAUNA INFECTIONS IN SMALL
RUMINANTS (SHEEP AND GOAT) IN TERENGGANU,
PENINSULAR MALAYSIA**

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**Thesis Submitted in Fulfilment of the Requirement for the
Degree of Master of Science (Animal Science) in the School
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A study was conducted with the aim to determine the current prevalence of helminthic fauna infections in small ruminants in Terengganu. A total of 267 faecal samples from sheep and goats were collected and subjected to Modified McMaster method, larval culture, third stage larva identification and sedimentation method. Serum samples were diagnosed for detection of IgG antibody for *Fasciola* infection using sELISA method. Results indicated that the worm egg count (WEC) ranged between 0 – 26,800 e.p.g., and the distribution of the WEC was different between farms ($\chi^2(15)=165.72$, $p<0.05$). *Haemonchus contortus* was the dominant species observed (75%), followed by *Trichostrongylus* sp. (24%) and *Oesophagostomum* sp. (1%) ($\chi^2(2, N=100)=86.06$, $p<0.05$). There were 4% of the goats positive with *Paramphistomum* eggs while *Fasciola* egg was not observed in any of the faecal samples. However, it was found that 89% of the serum samples were positive with IgG antibody for *Fasciola* infection. The prevalence of coccidian and *Moniezia* infections were 53% and 2% respectively. Nematode infections were found to be more severe in small ruminants compared to trematode

infections. The results obtained from this study will update the current prevalence of helminthic fauna infections in small ruminants in Terengganu. This information will help the farmers and the Department of Veterinary Services to strategize treatment and management plans to improve the animals' health.

Abstrak tesis yang dikemukakan kepada Senat Universiti Malaysia Terengganu sebagai memenuhi keperluan untuk Ijazah Sarjana Sains (Sains Haiwan)

**FAUNA HELMINT DALAM RUMINAN KECIL (BIRI-BIRI DAN KAMBING)
DI TERENGGANU, MALAYSIA**

MURSYIDAH KHAIRI ANWARALI KHAN

September 2016

Penyelia Utama : Khadijah Saad, Ph.D.

Pusat Pengajian : Pusat Pengajian Sains dan Teknologi Makanan

Satu kajian telah dijalankan dengan tujuan mengkaji kelaziman semasa jangkitan fauna helmint dalam ruminan kecil di Terengganu. Sebanyak 267 sampel tinja daripada biri-biri dan kambing telah diambil dan kaedah kiraan telur cacing (WEC) (teknik McMaster yang diubahsuai), pengkulturan tinja, pengenalpastian larva peringkat ketiga (larva infektif) dan kaedah mendapan telah dijalankan. Sampel serum telah digunakan untuk pengesanan antibodi IgG untuk jangkitan *Fasciola* menggunakan kaedah sELISA. Keputusan menunjukkan bahawa kiraan telur cacing (WEC) adalah antara 0 – 26,800 e.p.g. dan ketaburan WEC adalah berbeza antara ladang ($\chi^2(15)=165.72$, $p<0.05$). *Haemonchus contortus* mempunyai kelaziman tertinggi (75%), diikuti dengan *Trichostrongylus* sp. (24%) dan *Oesophagostomum* sp. (1%) ($\chi^2(2, N=100)=86.06$, $p<0.05$). Sebanyak 4% daripada kambing positif dengan telur *Paramphistomum* manakala telur *Fasciola* tidak dilihat dalam mana-mana sampel tinja. Walau bagaimanapun, 89% sampel serum memberi keputusan positif dengan antibodi IgG terhadap jangkitan *Fasciola*. Kelaziman bagi jangkitan coccidia dan *Moniezia* adalah 53% dan 2%.

Jangkitan nematoda adalah lebih serius dalam ruminan kecil berbanding dengan jangkitan trematoda. Keputusan yang diperolehi daripada kajian ini akan memberi maklumat semasa terhadap kelaziman jangkitan fauna helmint dalam ruminan kecil di Terengganu. Maklumat yang diperolehi daripada kajian ini akan membantu penternak dan Jabatan Perkhidmatan Haiwan untuk merancang rawatan dan pengurusan untuk meningkatkan kesihatan haiwan.