

## Research Note

### THREE COMMON HELMINTH PARASITES OF CATTLE IN PUERTO RICO<sup>1,2</sup>

After the coprodiagnostic examination of 2,824 dairy cows in milk production, only the presence of *Fasciola hepatica* was reported<sup>3</sup>. Further detailed examination of the 1978 data demonstrated that in addition to *F. hepatica*, *Cotylophoron cotylophorum* and *Haemonchus contortus* were also present. The rate of infection for each parasite was as follows: *F. hepatica*, 64.7%; *C. cotylophorum*, 13.8%; and *H. contortus*, 21.1% (table 1).

*F. hepatica*, the common liver fluke, and *C. cotylophorum*, the rumen-residing parasite, are frequently found concurrently in cattle in Puerto Rico. A differential diagnosis of the larval stages of these parasites was reported by De León et al. in 1975<sup>4</sup>. The blood-feeding nematode, *H. contortus*, is also found in cattle on the island. It was found in all but 3 of the 40 towns included in the study.

*C. cotylophorum* was found in just over

TABLE 1.—*The prevalence of Fasciola hepatica, Cotylophoron cotylophorum and Haemonchus contortus in dairy cattle in Puerto Rico*

Towns	Samples	<i>Fasciola hepatica</i>	<i>Cotylophoron cotylophorum</i>	<i>Haemonchus contortus</i>
Adjuntas	33	26.00	1.00	5.00
Aguadilla	28	25.00	0.00	5.00
Arecibo	236	105.00	56.00	25.00
Barranquitas	62	49.00	2.00	14.00
Cabo Rojo	70	18.00	9.00	26.00
Caguas	183	142.00	36.00	26.00
Camuy	108	92.00	33.00	24.00
Carolina	42	25.00	17.00	1.00
Cayey	35	30.00	0.00	2.00
Ceiba	19	9.00	5.00	11.00
Cidra	51	12.00	2.00	10.00
Corozal	121	99.00	42.00	32.00
Dorado	76	56.00	31.00	13.00
Florida	98	82.00	15.00	13.00
Guayama	47	30.00	13.00	15.00
Gurabo	114	60.00	27.00	26.00
Hatillo	93	1.00	2.00	23.00
Isabela	24	18.00	0.00	8.00
Jayuya	53	52.00	24.00	15.00

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<sup>3</sup>Frame, A. D., P. Bendezú, C. I. Rivera-Ortiz, R. Valentín, and J. Díaz-Rivera, 1980. *Fasciola hepatica* in Dairy Cattle in Puerto Rico in 1978, *J. Parasitol.* 66 (4): 698-99.

<sup>4</sup>De León, D., J. Chiriboga, D. Parra, and M. Llavona, 1975. Differential Diagnosis of Infection by *Fasciola hepatica* and *Cotylophoron cotylophorum* in Cattle and Snail Hosts, *J. Agric. Univ. P. R.* 59 (2): 129-31.

TABLE 1.—Continued

Towns	Samples	<i>Fasciola hepatica</i>	<i>Cotylophoron cotylophorum</i>	<i>Haemonchus contortus</i>
Juana Díaz	34	23.00	0.00	7.00
Lajas	108	64.00	19.00	6.00
Lares	11	2.00	0.00	3.00
Las Piedras	95	87.00	4.00	1.00
Luqillo	65	42.00	8.00	15.00
Manatí	145	111.00	22.00	26.00
Morovis	56	47.00	8.00	16.00
Naguabo	31	26.00	0.00	0.00
Orocovis	76	39.00	8.00	18.00
Peñuelas	15	15.00	0.00	6.00
Quebradillas	34	2.00	0.00	4.00
Sabana Grande	16	0.00	0.00	12.00
Salinas	59	89.00	7.00	14.00
San Sebastián	197	140.00	84.00	26.00
San German	13	10.00	1.00	2.00
Toa Alta	101	76.00	35.00	0.00
Trujillo Alto	46	18.00	6.00	0.00
Utua	61	49.00	4.00	11.00
Vega Baja	126	87.00	53.00	24.00
Yabucoa	38	20.00	0.00	11.00
Yauco	4	0.00	0.00	1.00
Totals	2824	1828.00	519.00	500.00
Percent		64.73%	18.79%	21.059

one fourth of the samples positive with *F. hepatica*. The two parasites have similar life cycles; both use the same mollusks as intermediate hosts. Bendezú (personal communication) has observed that snails infected with one of the parasites reject the other. The ecological balance between the pathogenic *F. hepatica* and the less pathogenic *C. cotylophorum* might be maintained through a competitive existence.

The rumen fluke from cattle of Puerto Rico which was previously reported as *C.*

*cotylophorum* is actually *C. microbothrium* as identified by Dr. Otto Sey. Tanárképző Főiskola, Allattani tanszék, H-7644 Pécs, Ifjuság u.6., Hungary<sup>6</sup>.

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<sup>6</sup>De León, D., 1986. Personal communication. Agricultural Experiment Station, UPR, Mayagüez Campus, Río Piedras, P. R.