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RESEARCH NOTES/CASE REPORTS

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Lymphocystis from West Indian Marine Fishes

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Lymphocystis is a viral disease of fishes producing macroscopic nodules that are often conspicuous on the skin and fins. It is known from 96 species of 32 families of fishes (Nigrelli and Rugieri, 1965, *Zoologica* 50: 83-96; Lawler et al., 1977, *J. Wildl. Dis.* 13: 307-312). Lymphocystis has been reported from tropical Atlantic fish species in aquarium magazine articles but collecting locations were not given. These reports do not necessarily indicate collection locations in the Caribbean because: 1) many of these fish species occur also outside of the Caribbean and 2) infections could have been obtained after capture from contaminated aquarium fishes or aquaria. Thus the following cases represent the first documented reports of lymphocystis in the Caribbean.

During extensive underwater observations of external parasitic isopods of fishes in Puerto Rico, the U.S. Virgin Islands, the Bahamas, Mona Island, the Dominican Republic, Jamaica, Colombia, Panama, Barbados, Trinidad, Tobago, Curaçao, Bonaire, and Bermuda, four new host species for lymphocystis disease were observed and collected (Table 1). These cases represent the first reports of this disease among members of family Apogonidae.

Collections were made with multiprong microbarb spears, or quinaldine fish relaxant and nets, while employing SCUBA equipment. All cases were histologically confirmed.

During more than 2,700 man-hours of underwater observations in the Caribbean for external parasites of fishes, the only fishes with externally expressed lymphocystis lesions that have been noted (all but one collected) were the 11 cases reported in this study. Lymphocystis apparently occurs very rarely among Caribbean coral reef fishes.

Specimens of the bicolor damselfish, *Pomacentrus partitus* Poey, and the black hamlet, *Hypoplectrus nigricans* (Poey), ordinarily occur singly on the reef. All lymphocystis infections in these hosts involved only one fish per collection (Table 1). Specimens of the spotfin butterflyfish, *Chaetodon ocellatus* Bloch, frequently occur in pairs. Both members of the pair of *C. ocellatus* observed in the present study appeared to possess lymphocystis lesions, although only one of the pair was collected and examined. Individuals of the sawcheek cardinalfish, *Apogon quadrisquamatus* Longley, normally occur in small cryptic groups in the reef during the day. Two of six specimens of *A. quadrisquamatus* occurring in a small hole in the reef flat in the present study possessed lymphocystis lesions.

All infected hosts were adults. Lesions were confined primarily to the dorsal fin of the bicolor damselfish, but occurred also on the caudal fin of one individual and only on the dorsal body surface of another; pectoral fin of the black hamlet; body of the spotfin butterflyfish; and anal and pelvic fins of the sawcheek cardinalfish. In-

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TABLE 1. Occurrence of lymphocystis on Caribbean marine fishes.

Host	Locality (date)
<i>Pomacentrus partitus</i> Poey	Crashboat, Aguadilla (30 Jan. 1976), Sardinera, Mona Island (23 April 1976), shelf edge off La Parguera (6 Jan. 1977), Carbi-nero, Mona Island (25 May 1977), Laurel Reef, La Parguera (15 Sept. 1977), Puerto Rico; Dolphin Point, Saona Island (18 May 1979), Dominican Republic
<i>Hypoplectrus nigricans</i> (Poey)	Mario Reef, La Parguera, Puerto Rico (2 Sept. 1977)
<i>Chaetodon ocellatus</i> Bloch	Bank Reef off St. James, Barbados (3 June 1981)
<i>Apogon quadrisquamatus</i> Longley	Laurel Reef, La Parguera, Puerto Rico (7 Jan. 1982)

fectured individuals appeared to behave normally and were no more easily collected than uninfected individuals of the same species.

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Severe Disseminated Aspergillosis in a Captive Abyssinian Tawny Eagle (*Aquila rapax raptor*)

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Aspergillosis is a mycotic disease of avian species which has been recognized as an acute or chronic infection since the early 1800's (O'Meara and Witter, 1971, *In Infectious and Parasitic Diseases of Wild Birds*, Davis et al. (eds.), Iowa State Univ. Press, Ames, Iowa, pp. 153-162). It has been reported commonly in both wild and domestic birds (Ainsworth and Rewell, 1949, *J. Comp. Pathol.* 59: 213-214),

recently captured wild birds (Friend and Trainer, 1969, *Bull. Wildl. Dis. Assoc.* 5: 261-275) and free-living birds of the anseriform, larid, gallinaceous and passeriform groups (McDiarmid, 1955, *J. Comp. Pathol.* 65: 246-249; O'Meara and Witter, 1971, op. cit.; Rosen, 1964, *Avian Dis.* 8: 1-6).

There is little information about the occurrence of aspergillosis in free-living raptors, but the disease has been reported in the bald eagle (*Haliaeetus leucoceph-*

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