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An annotated list of fish parasites (Copepoda, Monogenea, Digenea, Cestoda and Nematoda) collected from Emperors and Emperor Bream (Lethrinidae) in New Caledonia further highlights parasite biodiversity estimates on coral reef fish

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Abstract

Parasites were collected from 17 species of emperors and emperor bream (Lethrinidae) in the waters off New Caledonia, South Pacific. Host-parasite and parasite-hosts lists are provided, with a total of 188 host-parasite combinations (11 per fish species), including 81 identifications at the species level. A total of 52 parasites were identified at the species level, and 40 new host records were found. Results are presented for larval isopods, copepods (16 species), monogeneans (24), digeneans (27), cestodes (11) and nematodes (10). When results were restricted to the four best-sampled fish species for which more than 30 specimens were examined, the number of host-parasite combinations was 22.25 per fish species, and the number of parasite taxa identified at the species level was 9.5 per fish species. From these data, the total number of metazoan parasite species predicted from all lethrinid species of New Caledonia, based on a classification of fish sizes using length in three categories, is 340, i.e. 13 per fish species. A biogeographical comparison with Heron Island on the Great Barrier Reef (Queensland, Australia) was possible only for a single fish species, *Lethrinus miniatus*: in a total of 65 host-parasite combinations, only five taxa identified at the species level (three monogeneans and two digeneans) were shared at both localities. Parasite biodiversity in lethrinids was of similar magnitude to that in groupers (Serranidae Epinephelinae) in the same area, and this study confirms a previous prediction of 10 parasite species per coral reef fish species. Although this study required significant sampling and identification, we estimate that only 13% of the parasites of lethrinids are known in New Caledonia.

Key words: fish, new host records, new geographical records, inventory, biogeography, South Pacific

Résumé

Les parasites ont été récoltés chez 17 espèces de bossus et bec de canes (Lethrinidae) en Nouvelle-Calédonie, Pacifique Sud. Des listes hôtes-parasites et parasites-hôtes sont fournies, avec un total de 188 combinaisons hôtes-parasites (11 par espèce de poisson), y compris 81 identifications au niveau spécifique. Un total de 52 parasites a été identifié au niveau spécifique, et 40 nouvelles mentions d'hôtes ont été trouvées. Les résultats concernent les isopodes larvaires, les copépodes (16 espèces), monogènes (24), digènes (27), cestodes (11) et nématodes (10). Quand les résultats sont restreints aux quatre espèces de poissons les mieux échantillonnées, pour lesquelles plus de 30 spécimens ont été examinés, le nombre de combinaisons hôtes-parasites est de 22,25 par espèce de poisson, et le nombre de taxons de

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