

PSOCOPTERA RECORDS FROM EASTER ISLAND

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ABSTRACT—Three species of psocids representing three families are recorded from Easter Island. These are the first psocid records from this island.

The material reported herein was received from Dr. Ian E. Efford of the Institute of Animal Resource Ecology, University of British Columbia, in 1965. As far as I am able to determine, these are the only psocid specimens that have ever been taken on Easter Island. The specimens were deposited in the U.S. National Museum.

The Psocoptera are well represented on those Pacific islands where collecting has been done. In Hawaii, where intensive collecting was carried out in recent years, about 200 species are known, of which about 170 are endemic and the remainder recent immigrants (Thornton, 1965). Banks (1942) recorded thirteen species from Guam. Mumford (1942) recorded seven genera from the Marquesas Islands. Karny (1932) recorded ten species from Samoa. It would seem likely that more species will be found on Easter Island with additional collecting.

Little is known about how psocids cross major water barriers. It seems likely that they may be distributed by wind, since there are a number of records of capture of psocids in the upper atmosphere (Glick, 1939, 1957; Thornton, 1964). It is well established that many species are carried in human commerce, which may be the mode of arrival on Easter Island of the species listed below. Recently (Mockford, 1967) some of the smaller psocids have been found on the plumage of live-trapped birds, including some species apparently in migration, suggesting that certain species of psocids may be carried with regularity over long distances by this means.

FAMILY LIPOSCELIDAE***Liposcelis* sp.**

One nymph collected in cabin in camp at Hanga-Roa, 23 January, 1965. This specimen may have been brought in by the expedition.

FAMILY CAECILIIDAE***Caecilius casarum* Badonnel**

C. casarum Badonnel, 1931:234.

C. palmarum Mockford and Gurney, 1956:361.

One female on lemon tree in village of Hanga-Roa, 1 February, 1965.

This species, generally an inhabitant of palm foliage, was first described from Mozambique (Badonnel, 1931) where the type was beaten from a grass-thatched roof. Mockford and Gurney (1956) recorded it from Texas under the name *C. palmarum*. Mockford (1966) showed the synonymy of the latter name, and recorded the species from Florida, Mexico, northeastern South America, New Guinea (single record) and Hawaii (single record). He also presented data which suggest its spread in human commerce.

FAMILY PERIPSOCIDAE

Ectopsocus fullawayi Enderlein

Twelve adults with following data: 2 in camp at Hanga-Roa, January, 1965; 2 on squash plant ("mautini") at Hanga-Roa; 1 in camp at Hanga-Roa, 21 January, 1965; 2 in corn field of Carlos Rapu, Hanga-Roa, 26 January, 1965; 1 on Islet of Motu-nui, 19 January, 1965; 1 no date, Hanga-Roa, on leaf; 4 no data.

One nymph of *Ectopsocus*, hence likely to be this species, bears the following data: Collected in insect box in camp, 21 January, 1965.

This species was originally described from Hawaii (Enderlein, 1913), where it is common. It has been taken on several occasions by U.S. Department of Agriculture quarantine inspectors on Hawaii in plant materials leaving the Islands (personal observations from U.S.D.A. material). It has been found on Guam, Samoa (Zimmerman, 1948), and on the Marquesas Islands (Mumford, 1942). Thornton and Wong (1968) recorded it also from Fiji, Tubuai, Rapa, and the Tuamotu Archipelago.

Comparison of wing markings and male terminal abdominal structures of the Easter Island material (all specimens are males) with Hawaiian material revealed no differences.

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**WING-DIMORPHISM IN PTEROSTICHUS PATRUELI DEJEAN
AND PTEROSTICHUS FEMORALIS KIRBY**

(COLEOPTERA: CARABIDAE)

Pterostichus patruelis Dejean. The hind-wings of this species are usually vestigial but a few fully-winged specimens have been seen from New Hampshire (Darlington, 1936, Ann. Ent. Soc. Amer. 29:136-179, and 1943, Ecol. Monogr. 13:37-61) and Ontario (Lindroth, 1966, Opusc. Ent., Suppl. 29:409-648). I investigated specimens of this species from Québec (195), Ontario (5), Alberta (4) and New Hampshire (3) and I found 9 fully-winged specimens from the following places: QUEBEC: Charlevoix-Est Co., Port-au-Saumon, 27-VI-1964 (1 female) and Saint-Fidèle, 26-VI-1964 (1 female); Montcalm Co., Saint-Emile, 24-VIII-1964 (1 female); Saguenay Co., Port-Menier, 13-VII-1971 (1 female); Témiscamingue Co., Rollet, 24-V-1968 (1 female); Vaudreuil Co., Choisy, 10-XI-1969 (1 female) and Rigaud, 15-IV-1965 (1 female), 28-IV-1967 (1 male). ONTARIO: Ottawa, 2-VII-1966 (1 female). In Québec, the fully-winged forms of *Pterostichus patruelis* Dejean are rare and not geographically restricted; in addition, they occur in the same populations as short-winged forms, and in both sexes; they are probably able to fly.

Pterostichus femoralis Kirby. The hind-wings of this species are dimorphic, usually vestigial, but 1 fully-winged specimen was seen from Ontario by Lindroth (1966, Opusc. Ent., Suppl. 29:409-648). I examined specimens of that species from Québec (42) and Ontario (1) but no fully-winged specimens were seen.

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