

NOTE

Clarification of the Status of the Fishes *Plectropomus areolatus*
(Serranidae) and *Lethrinus semicinctus* (Lethrinidae) in the
Mariana Islands

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Abstract—Recent investigations have revealed that reports of the grouper *Plectropomus areolatus* and the emperor *Lethrinus semicinctus* from the Marianas are based on misidentifications of other species.

Plectropomus areolatus

The serranid genus *Plectropomus* consists of seven species, four of which occur in Micronesia (Myers 1989). The genus forms an important component of subsistence and commercial fisheries in many tropical Indo-Pacific localities and the larger species have been implicated in outbreaks of ciguatera poisoning. However, until the recent revision of the genus by Randall & Hoese (1986), considerable confusion has surrounded the identity of the species. This resulted in two species under five names being reported from Guam. Subsequent investigation has revealed that the records of one of these species were based on misidentifications of the other. Therefore only one species, *Plectropomus laevis*, has been reliably reported from Guam. There are no published records of the genus from the Commonwealth of the Mariana Islands, but observations by fisheries biologists indicate that the species occurs throughout the archipelago. The species is uncommon but aggregates at favored spawning sites where they are extremely vulnerable to exploitation.

Kami et al. (1968) recorded *Plectropomus leopardus* and *P. truncatus* from Guam based on two specimens of the former (564 and 645 mm SL) and one of the latter (250 mm SL). These were ultimately deposited in the University of Guam Marine Laboratory fish collection. Myers & Shepard (1980) recorded *P. melanoleucus* from Guam based on a 122 mm SL specimen found among uncatalogued material in the same collection. Randall & Hoese (1986) placed *P. truncatus* in the synonymy of *P. areolatus*. Myers (1988, 1989 Pl. 35A) recorded *P. areolatus* from Guam based on Kami's record of *P. truncatus* and a photograph, respectively. Subsequent examination of the photograph proved it to be of an unusually small blue-spotted phase individual of *P. laevis*. Randall & Hoese (1986) demonstrated that the large, blue-spotted red-to-brown grouper generally reported as *P. leopardus*, as well as the yellow-finned, cream-colored grouper with black saddles, *P. melanoleucus*, are in fact color phases of the same species, *P.*

laevis. Although *Plectropomus leopardus* is a valid species, it is relatively small, the largest examined by Randall & Hoese being only 540 mm SL. The 250 mm specimen reported by Kami as *P. truncatus* is clearly *P. laevis*. It possesses 18 pectoral rays, has an emarginate caudal fin, and traces of small dark spots separated by wider interspaces. *Plectropomus areolatus* is characterized by 15–16 pectoral rays, a truncate caudal fin, and dark-rimmed blue spots larger in diameter than the interspaces. All other *Plectropomus* examined by me at the University of Guam Marine Laboratory fish collection are also *P. laevis*. The larger specimens may no longer exist due to deterioration of the collection. Furthermore, during the past 16 years of examining fisherman's catches and diving I have observed only *P. laevis* in the Marianas.

Although there is no evidence of *P. areolatus* occurring in the Marianas, it is a widespread species that could be expected here. It occurs in the Marshalls, the Federated States of Micronesia, and Palau. While generally uncommon, in some areas such as Palau's Ulong Channel, it occurs in large numbers when aggregating to spawn. It is quite possible that individuals do occasionally recruit to the Marianas. A similar situation exists with several other species known from the Marianas only on the basis of rare sightings, photographs, or specimens of solitary individuals (Myers & Donaldson, MS).

Two other species of *Plectropomus* are known from Micronesia. *Plectropomus leopardus* occurs in Palau where it inhabits primarily the lower reaches of lagoon and channel slopes. *Plectropomus oligacanthus* is a rare species known from Pohnpei, Truk, and Palau on the basis of photographs and observations. It is unlikely that either one of these occurs in the Marianas.

Lethrinus semicinctus

Kami et al. (1968) reported two specimens of *Lethrinus reticulatus*, 186 mm and 209 mm TL, from Guam. Myers (1988) listed these specimens as *L. semicinctus*, based on Sato (1978) without having examined Kami's material. Prior to this time, occasional lethrinids believed to best conform to *L. semicinctus* were observed among fishermen's catches, but were not retained or keyed out. However, none had a distinct dark blotch posteriorly on the sides. Subsequent attempts to obtain fresh material and photographs of all local *Lethrinus* failed to yield any *L. semicinctus* although some specimens of *L. obsoletus* and *L. harak* lacked distinct markings on the sides. A recent search of the University of Guam Marine Laboratory fish collection turned up one of Kami's two specimens. This 186 mm TL specimen is *L. harak*. It has traces of a large dark blotch on the middle of each side and dense scales on the inner pectoral axil. *Lethrinus semicinctus* lacks a dark blotch and densely packed scales in these respective positions. Although Kami's other specimen could not be located, I believe that it was also misidentified. Myers (1989, pl. 56E) published an underwater photograph of a subadult *Lethrinus* with a dark lateral stripe believed to be *semicinctus*. On the advice of G. Wilson, who is studying the early life histories of *Lethrinus* of the Great Barrier Reef, I now regard this fish to be *L. olivaceus*.

The only other Micronesian locality where *Lethrinus semicinctus* is has been reported is Bikini Atoll, Marshall islands (Schultz 1953 as *L. reticulatus*). Randall (1987), based on Schultz's description, tentatively regarded Schultz's material (USNM 140279, 8: 100–182 mm SL) to be referable to *L. amboinensis*. However, Carpenter & Allen (1989) included the Marshall Islands in the distribution of *L. semicinctus*. Schultz's specimens were also recently examined by me, and are in fact, *L. semicinctus*.

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