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SHORTER CONTRIBUTIONS

DELETION OF *Hyla femoralis*, *Eretmochelys imbricata*, AND *Plestiodon inexpectatus* FROM THE HERPETOFAUNA OF MARYLAND

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ABSTRACT

The evidence is reviewed for claims that the pine woods treefrog, *Hyla femoralis*, the hawksbill sea turtle, *Eretmochelys imbricata*, and the southeastern five-lined skink, *Plestiodon inexpectatus* are or may be indigenous to Maryland. After a review of the literature and museum data, all three species are removed from the state's herpetofauna.

Keywords: Hawksbill sea turtle, pine woods treefrog, southeastern five-lined skink.

Hyla femoralis. Reclassified as *Dryophytes femoralis* (Duellman et al., 2016), the pine woods treefrog was first reported from Maryland by Fowler and Orton (1947), based on four specimens (UMMZ 91960) allegedly taken along Battle Creek, Calvert County, 7 May 1937. This remains the only report from the state. Although Mansueti (1955) wrote: "It is currently the herpetological enigma of the state," strong doubt about the validity of this record was expressed as early as 1953 by Cooper. In 1967 Harris et al. asked: "Is the *Hyla femoralis* record for Calvert County valid?" However, just two years later, Harris (1969) formally deleted it. Fowler (1969) presented additional evidence both supporting and refuting the record, but leaves the reader with the clear impression that the locality is sound. Some evidence was cited by Hardy and Mansueti (1962) that would have been useful to Fowler, but he overlooked their article. Cooper (1970) refuted Fowler's (1969) supportive evidence and since then *H. femoralis* has not been considered to be native to Maryland (Hardy, 1972; Musick, 1972; Conant, 1975; Harris, 1975; Conant and Collins, 1991, 1998; Powell et al., 2016). The Committee on Rare and Endangered Amphibians and Reptiles of Maryland (1973), Brosnan (1984), Taylor (1984) and Maryland Natural Heritage

Program (1991, 1994) did not mention the species. It is therefore odd to find several recent authors lending credence to this record. Hoffman (1988) plotted the locality (with a question mark) and noted that it needed confirmation, and Mitchell (2005) and Dodd (2013) called it questionable. Davis (2018) wrote: “James Fowler (1969) and John Cooper and Thomas Hunt [sic] (1970) wondered about the potential occurrence of the Pine Woods Treefrog (*Hyla femoralis*) in southern Maryland ...” As noted above, Fowler (1969) showed some ambivalence about the record; however, there was no “wondering” by Cooper (1970) who clearly rejected the site. Eighty-four years after these specimens were collected, and with no evidence having accumulated in the interim that this frog occurs in Maryland, I believe it is long overdue to finally delete this species from the state’s herpetofauna.

Eretmochelys imbricata. Miller (1984) noted that two authors in four publications had followed a misstatement by Hardy (1972) stating that the hawksbill occurs in the Chesapeake Bay. This was based on an uncatalogued specimen in the Natural History Society of Maryland without locality data. However, since 1984 numerous authors have overlooked my correction and suggested that this species inhabits or might inhabit Maryland (Musick, 1988; Keinath & Musick, 1991; Keinath et al., 1991; Mitchell, 1994; Evans et al., 1997). Groves (1984) also erroneously relied on Hardy (1972), but this was published too late for inclusion in Miller (1984). In addition, Taylor (1984) listed *Eretmochelys* as Endangered in Maryland, as did Maryland Natural Heritage Program (1991, 1994). Brosnan’s (1984) assessment was ambiguous. More recently, the Maryland Biodiversity Project (2021) and the Maryland Department of Natural Resources (2021) have stated that the hawksbill occurs in Maryland. The former source asserted: “This sea turtle has on rare occasions been sighted in coastal bay habitats in Worcester County [Maryland]” and “The Atlantic Hawksbill Turtle is a very rare visitor to Maryland during the summer months.” These claims (W. J. Hubick, personal communication, 2020) were based on the latter source which stated: “An extremely rare visitor to our shores ... Distribution in Maryland: Coastal Bays of Worcester County.” S. A. Smith (personal communication, 2021) has informed me that there is no basis for this statement.

Cunningham & Nazdrowicz (2018) presented a confused picture of the status of *Eretmochelys* in Maryland. In Tables 1, 4 and 5 they indicated that this species is a definite member of the herpetofauna. However, on page 49 they stated: “While this species was reported by Herbert Harris (1975), there are no known documented records of occurrence in Maryland waters. Harris (1975) described a single preserved specimen in the NHSM collection that was labeled as ‘occasionally occurring in the Chesapeake Bay and the Maryland Atlantic Coast.’ ... However, without verified locality data, it is impossible to state with confidence whether the Hawksbill Sea Turtle ever occurred in Maryland waters.” In addition to contradicting themselves from what they previously claimed three times, Cunningham & Nazdrowicz have distorted what Harris wrote—he specifically stated that there were “no specific Maryland records.” The confusion continued with Davidson (2018) who wrote: “Of the five sea turtle species known to occur within Maryland’s bays or in the adjacent Atlantic Ocean ... during the MARA [Maryland Amphibian and Reptile Atlas] project ... there were no reports of Hawksbill Sea turtles (*Eretmochelys imbricata*) in Maryland waters.” The hawksbill was among the five sea turtle species alluded to by Davidson (2018), and once again Miller (1984) was not cited, although it was listed in MARA’s references. Given the frequent mention of *Eretmochelys* in Cunningham & Nazdrowicz, it is odd there is no species account. Although the hawksbill has been documented in the Virginia portion of the Chesapeake Bay (Keinath et al., 1991), it still has not been established that this species occurs in Maryland.

Plestiodon inexpectatus. Confusion has surrounded a skink allegedly collected at Cove Point, Calvert County, Maryland. The specimen (USNM 141375, 10 May 1948) was catalogued as *Plestiodon* (formerly *Eumeces*) *laticeps*, but according to Harris (1975), Davis (1968) reidentified it as *P. inexpectatus*, and Harris apparently also confirmed the reidentification. [Due to COVID-19 another confirmation of the specimen's identity is not currently possible (S. W. Gotte, personal communication, 2021).] This was the first record for the state and Harris tentatively admitted this species to the Maryland herpetofauna. However, he was incorrect in stating that it was once catalogued as *P. fasciatus*. The specimen has always been carried as *P. laticeps* in the National Museum's records (S. W. Gotte, personal communication, 2021). Harris also stated: "The Cove Point area has been extensively searched and no additional material found. Howden [H. F. Howden, the eminent scarab beetle authority] has collected *E. inexpectatus* farther south and kept live material. If perchance *E. fasciatus* from Cove Point was kept together with live *E. inexpectatus* an error could possibly have been made on the death of the specimens." Harris's conjecture is possible, but failed to account for certain facts. First, there is no evidence that Howden collected *P. fasciatus* at Cove Point. Second, it is not clear how Harris could have known that Howden kept specimens in captivity. Third, even if Howden kept live material, it is highly unlikely that specimens collected in 1942 (see below) were still alive with one collected in 1948. Harris was also unaware that USNM 141375, along with 111 other specimens collected or cocollected by Howden, was deposited in the University of Maryland collection before it came to the National Museum. Cataloguing or identification errors could have occurred at this point as well. As noted but not specified by Harris, Howden did collect *E. inexpectatus* south of Maryland. NHSM 1217-1218 were taken at Savannah, Chatham County, Georgia, 1 August 1942 and 15 August 1942 respectively (1218 has been discarded). However, these specimens were originally identified by Howden as *P. laticeps*, then reidentified and catalogued as *P. fasciatus* by R. J. Mansueti, and later reidentified again as *P. inexpectatus* by J. E. Cooper. In 1982 I addressed a letter to Howden, but he was not able to clarify the situation. He did, however, state: "In May of 1948 I was in Maryland and did spend a considerable amount of time collecting at Cove Point." No herpetological specimens exist to bear this out other than the specimen in question.

At my suggestion (personal communication, 1983), Steiner (1986) deleted Maryland from the range of *Plestiodon inexpectatus*; however, the same recommendation (personal communication, 1985) was overlooked or ignored by Conant & Collins (1991, 1998), who stated that the species occurs in southern Maryland and mapped a portion of this area. Brosnan (1984), Taylor (1984) and Maryland Natural Heritage Program (1991, 1994) did not mention the species. A. W. Norden was the most recent biologist to survey the herpetofauna of Cove Point, making 19 trips in 1999–2000 for the Cove Point National Heritage Trust. His survey was published twice, in 2001 and again in 2005. He did not find *P. inexpectatus* and rejected the locality based on Harris's (1975) reservations, his (Norden's) experience and the historical record. Norden found *P. fasciatus* to be "common" and *P. laticeps* to be "relatively common" at Cove Point. However, his work is often in error, including his account of *P. laticeps*. Norden stated that a report from Cove Point in McCauley (1945) was unique to that work. It was in fact a reiteration of an undocumented report in Mansueti (1942). Norden then showed questionable judgment in his acceptance of another report from Cove Point by Cooper (1947) that is fanciful hearsay. Most significant, Norden stated: "The USNM has a preserved specimen [of *P. laticeps*] collected at Cove Point in 1948." Here, as shown in his Appendix, Norden listed USNM 141375, which Harris (1975), a reference cited by Norden, had demonstrated to be *P. inexpectatus*. Norden also listed the collector as "Not known" when he had previously noted Harris's comments which named the collector.

Stranko et al. (2010) were the most recent authors to comment on *Plestiodon inexpectatus* in Maryland. With reservations, they considered the species to be indigenous to the state, but in a work rife with errors made the strange statement: “A single southeastern five-lined skink specimen was found in a sample from Cove Point that included several common five-lined skinks.” There is no basis for this and, as noted above, there is no evidence that Howden collected *P. fasciatus* at Cove Point, much less a series. The most recent work that should have commented on *Plestiodon inexpectatus* in Maryland was edited by Cunningham & Nazdrowicz (2018), but in yet another deficient publication (Miller, 2019) there is no mention of it. Given the misidentification of USNM 141375, the potential for errors regarding the locality data associated with it, and an absence of corroborating material, it seems advisable to delete this species from the Maryland herpetofauna.

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