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A NEW FOREST SKINK FROM PONAPE

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ABSTRACT. *Emoia ponapea*, new species, is described from Ponape in the Caroline Islands where it inhabits deep forest. It is distinguished from all other *Emoia* by the presence of 13 premaxillary teeth and a palate intermediate between the alpha and beta conditions.

INTRODUCTION

A survey of the scincid genus *Emoia*, undertaken after a collecting trip to Ponape in the Caroline Islands and other localities in Micronesia, showed that three specimens taken on Ponape represent a distinct species of *Emoia*. In fact, as discussed below, this form possesses some characters which make its generic allocation somewhat problematic. However, an analysis of the boundaries of the genus *Emoia* is beyond the scope of this paper, and so the new taxon is here described as:

Emoia ponapea, new species
(Figs. 1-5)

Holotype: MCZ 121041, forest 1/4 mile above Agricultural Station, Kolonia, Ponape Island, Eastern Caroline Islands. Collected by A. R. Kiemer, 28 July 68.

Paratypes: Eastern Caroline Islands, Ponape Island: MCZ 121042-43, same data as for holotype (The skull of 121042 has been removed and prepared. This individual was a sexually mature

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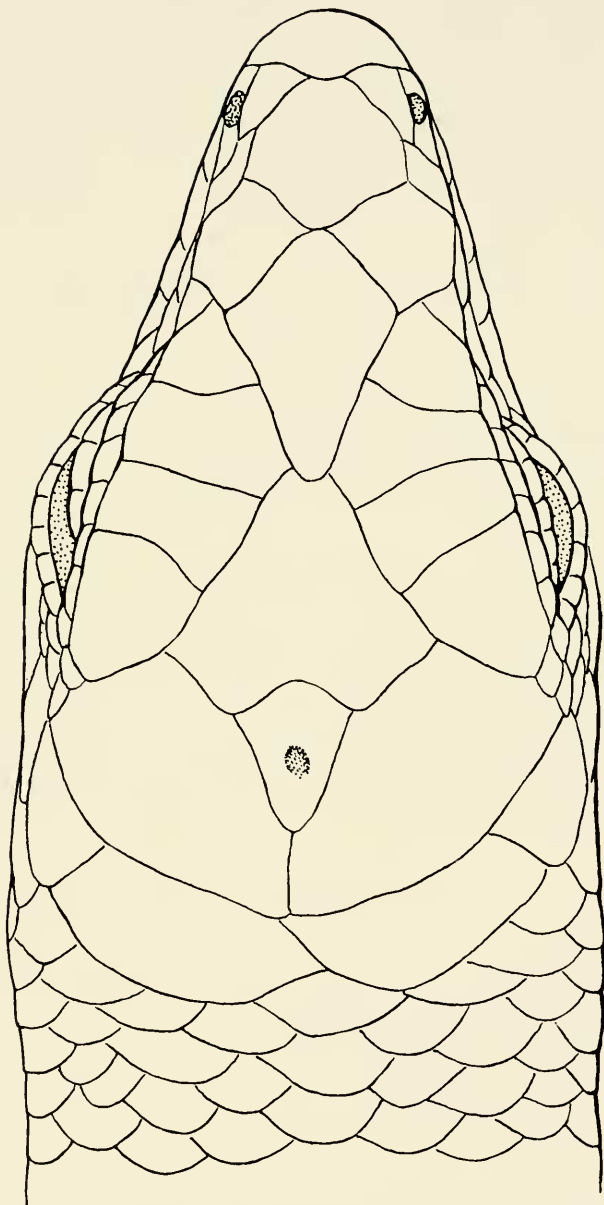


Figure 1. Head sculation of the holotype (MCZ 121041) of *Emoia ponapea*. Dorsal view.

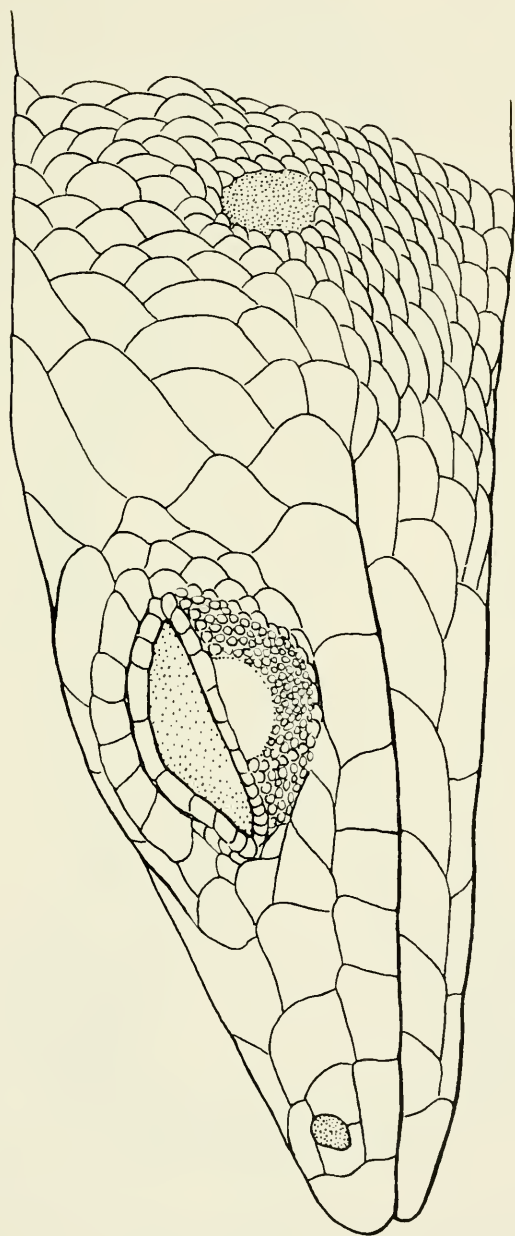


Figure 2. Head sculation of the holotype (MCZ 121041) of *Emoia ponapea*.
Lateral view.

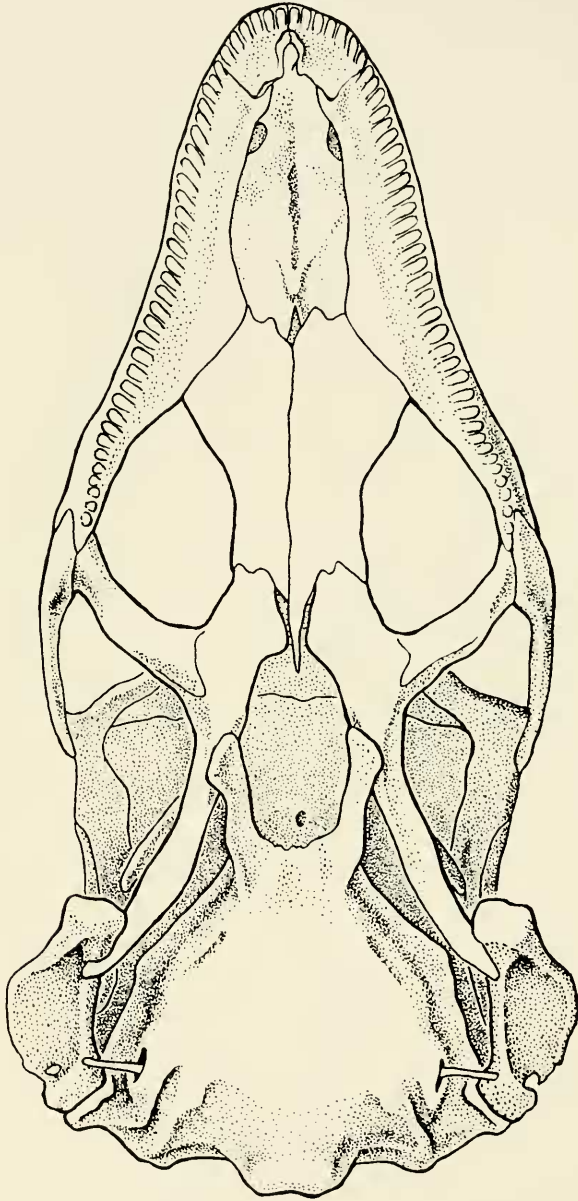


Figure 3. Skull of paratype (MCZ 121042) of *Emoia ponapea*. Ventral view.

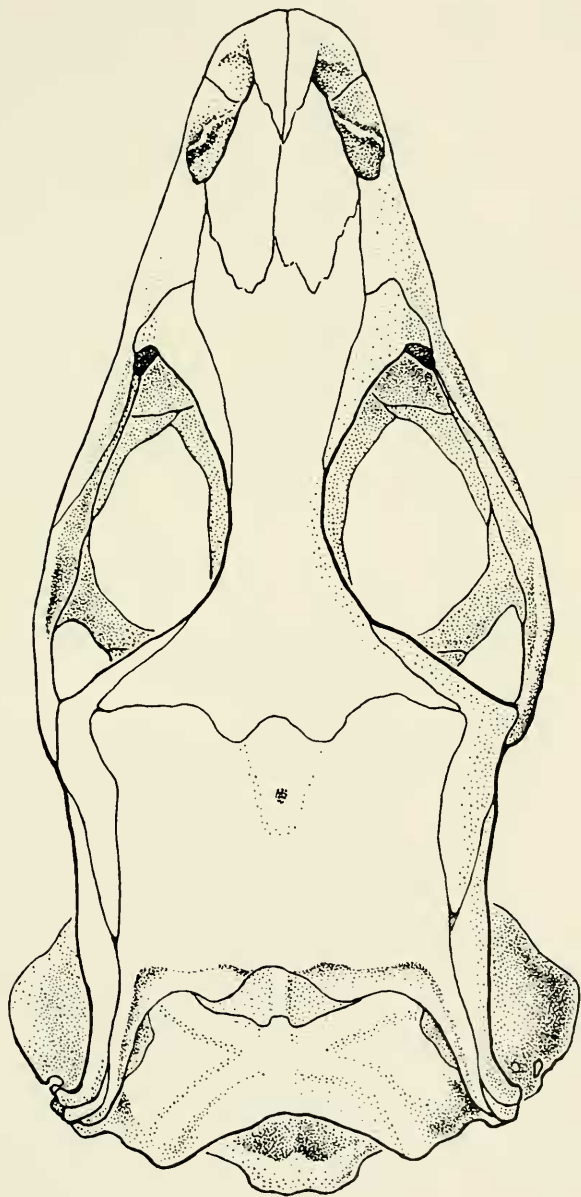


Figure 4. Skull of paratype (MCZ 121042) of *Emoia ponapea*. Dorsal view.

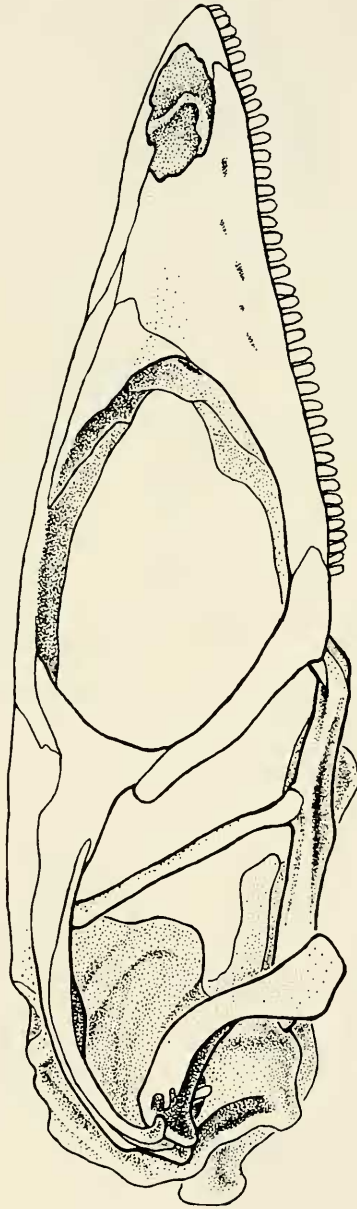


Figure 5. Skull of paratype (MCZ 121042) of *Emoia ponapea*. Lateral view.

female.); USNM 138985-86, Nanpil River; USNM 138991, Dolonier; USNM 139002-05, N end of ridge parallel to Tavensorola River; USNM 139006-07, Dolen Eirike; CAS 152222 (formerly USNM 138987), Nanpil River. All USNM and CAS specimens collected between 13 September 55 and 5 December 55 by J. T. Marshall, Jr. See acknowledgments for abbreviations.

Diagnosis: A member of the genus *Emoia*, as it is currently and broadly construed (Greer, 1974), differing from all other members of the genus by the possession of 13 premaxillary teeth. It is distinguishable externally by the combination of the following characters: interparietal present; subdigital lamellae of the 4th toe 38-46; midbody scale rows 30-32; middorsal scale rows 48-54 counting from the nuchals to the anterior insertion of the hind limb and 52-60 counting to the point directly above the vent; body form small (snout-vent length less than 50 mm) and distinctly slender; head narrow and relatively pointed; coloration without metallic blues or greens.

DESCRIPTION OF HOLOTYPE

The range of paratypical variation is given in parentheses after the description of the holotype character.

General Appearance: Body small with a snout-vent length of 46 mm (21 mm to 49 mm for the paratypes), form distinctly slender and gracile. Tail long, over 1.5 times the snout-vent length. Limbs well developed, overlapping easily when adpressed to the body; hindlimb length 23 mm, forelimb length 13 mm. Five digits on each foot.

Head and Head Scalation (Figs. 1-2): Head narrow and somewhat depressed. Rostral twice as long as deep; supranasals separated, much wider anteriorly than posteriorly; prefrontals moderately to narrowly separated by frontonasal and frontal; supraoculars 4; frontoparietals fused; interparietal single, distinct, and large; one pair of parietals in contact behind interparietals; two pairs of temporals corresponding to the primary and secondary temporals of Taylor (1935) with only the secondary temporals placed toward the top of the head; supraciliaries 9-9; loreals two; single pair of nuchals; 6th supralabial subocular; nasal divided below nostril; eyelid window undivided; postmental contacts first two infralabials on each side.

Ear: Tympanum sunk below level of epidermis. A single larger anterior lobule with two smaller ones below (a single smaller one on one side of one of the paratypes). Vertical (longest) diameter of ear opening 1.1 mm.

Body Scallation: Scales smooth. Midbody scale rows 30 (30-32). Middorsal scale rows 48 (48-54) counting from the first scale posterior to the nuchals to the anterior insertion of the hind leg and 53 (52-60) counting posterior to a point directly above the vent. Subdigital lamellae on the 4th toe of the hind foot rounded with 42 on both sides (38-46). Preanals not enlarged.

Coloration: Dorsum with a central tan stripe with irregular edges extending from the snout to the end of the tail. A small number of black spots on the stripe on the head (some of the paratypes show black spotting on the stripe on the back as well). A poorly defined laterodorsal stripe on either side of this beginning behind the eye and extending one third of the way down the tail. These stripes are formed by two irregular rows of black dashes on the tan color. Sides reddish brown becoming spotted over cream color toward the venter. Limbs reticulated brownish red over cream above. Chin, throat, venter, and undersides of limbs and tail all immaculate cream.

DESCRIPTION OF SKULL

Skull MCZ 121042, paratype (Figs. 3-5): General appearance very delicate and somewhat narrow (as compared, say, to a similarly sized *E. cyanura*). Premaxillary teeth 13. Secondary palate moderately well developed. Palatines meet extensively along the midline and send pointed projections posteriorly between the anterior portions of the pterygoids. One of the projections is folded slightly under the other. Pterygoids intermediate in condition between the alpha and beta configurations of Greer and Parker (1968) and Greer (1974), with the anterior portion showing distinct expansion toward the midline without achieving a strongly recurved process.

Lower Jaw: The Meckelian canal is as the second of the two conditions described by Greer (1974) for the *Leiolopisma* group of lygosomine genera: canal closed with no suture evident.

DISTRIBUTION AND ECOLOGICAL OBSERVATIONS

At present this species is known only from the island of Ponape in the Caroline Islands. Ponape is also known as Ascension Island in some of the older literature.

All three MCZ specimens were collected in the late morning on the floor of a mature forest in an area where sun flecks occurred. No other emoias were seen in this deep forest habitat. *E. cyanura*, *E. caeruleocauda*, and *E. boettgeri* were found only in more open areas towards the coast. Ecological notes by J. T. Marshall, Jr. accompanying the other specimens indicate that they were also collected on the floor of the forest. This species bears a similar ecological relationship to its congeners as *E. parkeri* does to the other emoias in the Fiji Islands (Brown *et al.*, 1980).

Two of the USNM specimens are hatchlings. Marshall notes that the eggs were collected on 27 October 55 in a rotted palm stump in the rain forest and that they hatched on 6 November 55. A clutch size of two is typical for most species in this genus (Greer, 1968).

DISCUSSION

The current state of confusion in the genus *Emoia* prevents any accurate assessment of the relationships of *Emoia ponapea*. A thorough revision of the genus would be necessary to understand the relationships of any but the most closely related of its species. Lacking this, a comparison with the smaller emoias found in Micronesia may be useful. *E. cyanura* and *E. caeruleocauda*, both also found on Ponape, have true beta palates. This character is considered derived in the genus (Greer, 1974), as is the very high subdigital lamellae count of *cyanura* itself. Thus, since *E. ponapea* has a palate intermediate between the alpha and beta conditions, it is unlikely that it is derived from any of the members of the *cyanura* group directly. Within Micronesia a possible candidate for a related species could be *E. nivarti*. However, there are notable differences from this species as well. *E. nivarti* has the interparietal fused with the frontoparietal and is a much stouter animal. None of these species seems closely related to *E. ponapea*; a search for its relatives will have to extend outside of Micronesia.

The most unusual character of *E. ponapea* is the possession of 13 premaxillary teeth. All other members of the genus *Emoia* have 11, as do all of the genera regarded as related to *Emoia* (the members of Group II of Greer, 1974). The only other leiopismid genus with 13 premaxillaries is *Carlia*, which is clearly unrelated on other grounds (Greer, 1974). For the genus *Emoia* this character state must be derived. This character and the intermediate condition of the palate argue that *E. ponapea* is rather different from the rest of the genus. Just how different it really is will have to be determined by future work.

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