

## Short notes and reviews

# ***Poecilia kykesis* nom. nov., a new name for *Mollienesia petenensis* Günther, 1866, and redescription, revalidation and the designation of a lectotype for *Poecilia petenensis* Günther, 1866 (Teleostei: Poeciliidae)**

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### Abstract

*Poecilia petenensis* Günther, 1866 (= *Mollienesia gracilis* Regan, 1913) is redescribed and is revalidated from synonymy of *P. sphenops* Valenciennes, 1846 and a lectotype is designated. *Mollienesia petenensis* Günther, 1866 is renamed as *P. kykesis* to avoid homonymy with *Poecilia petenensis*.

### Introduction

Günther (1866) used the number of dorsal fin rays as a means of distinction between *Poecilia* Bloch and Schneider, 1801 and *Mollienesia* LeSueur, 1821. This is illustrated when he described both *Poecilia petenensis* Günther, 1866, a relatively large, slender short-finned molly (Fig. 2) and *Mollienesia petenensis* Günther, 1866, an equally large, but high profile sailfin molly (Fig. 1).

Regan (1913) established the use of the gonopodium as a morphological criterion for generic separations. His major distinction between *Poecilia* and *Mollienesia* was based on the shape of the gonopodial tip: smooth in *Poecilia*; with extrusions in *Mollienesia* (cf. Hubbs 1926; Miller 1975). Regan, therefore, allocated both species of Günther (1866) to *Mollienesia*, renaming the slender *P. petenensis* as *M. gracilis*.

Rosen and Bailey (1963) did not apply any specific criterion for their genera. They also considered the slender and the sailfin molly from Pétèn as congeneric but placed them in *Poecilia*. Furthermore, Rosen and Bailey synonymized 35 taxa, including *M. gracilis*, into the single species *P.*

*sphenops*. This rendered both original names of Günther as synonyms, so Rosen and Bailey (1963) chose the name *P. petenensis* (although preoccupied by the slender species) for *M. petenensis* in order to "retain at least one of the names given by the original author." Their action, however, was nomenclaturally erroneous. Together with the resurrection of the slender Pétèn molly from synonymy of *P. sphenops*, this error is corrected in the present paper. Quite unnecessarily, Brett and Turner (1986) renamed *M. gracilis* Regan, 1913 (= *P. petenensis* Günther, 1866) as "*P. gracilis*", i. e., between quotation marks. Re-allocating *M. gracilis* to *Poecilia* will render the slender form the name *P. petenensis*. Instead, the sailfin Pétèn molly is renamed herein to avoid homonymy with the slender Pétèn molly.

### Material examined

*Poecilia kykesis*. Mexico, Guatemala. ZMA 121.638 (9), highway 186, Escarcega-Villahermosa, coll. K. de Jong, I-V-1996; ZMA 121.639 (8), Villahermosa-Frontera, coll. K. de Jong, 2-V-1996; ZMA 121.857 (10 ex. ex UMMZ 143570), Guatemala, Rio San Pedro de Martir, Desempeno just below El Paso de Cabillo, Rio Usumacinta system, coll. C. L. Hubbs, 12-III-1935; GCRL 6733 (10), Lake Pétèn, Guatemala, no further data.

*Poecilia petenensis*: Lake Pétèn, Guatemala. BMNH 1864.1.26.377 (lectotype by present designation, former syntype of *P. petenensis* Günther, 1866), Lake Pétèn, coll. Salvin, no date. BMNH 1864.1.26.378-379 (4 Paralectotypes of *P. petenensis*), same data as BMNH 1864.1.26.377; GCRL 6856 (35), Lake Pétèn, no further data.

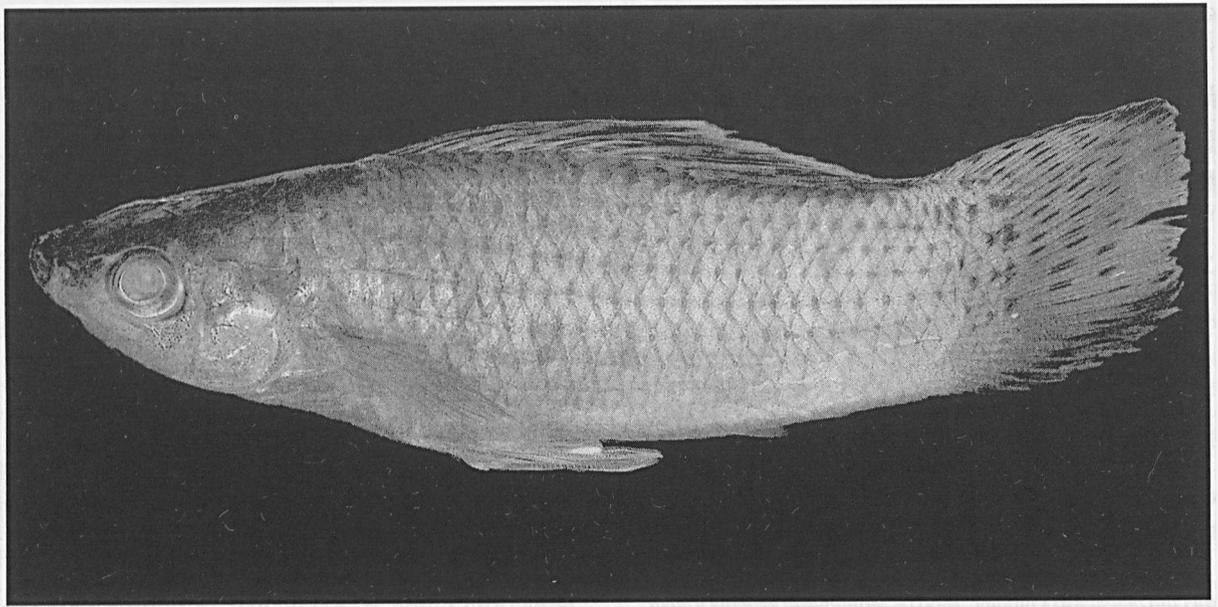


Fig. 1a. Habitus of *Poecilia kykesis* nom. nov. Male (ZMA 121.855).

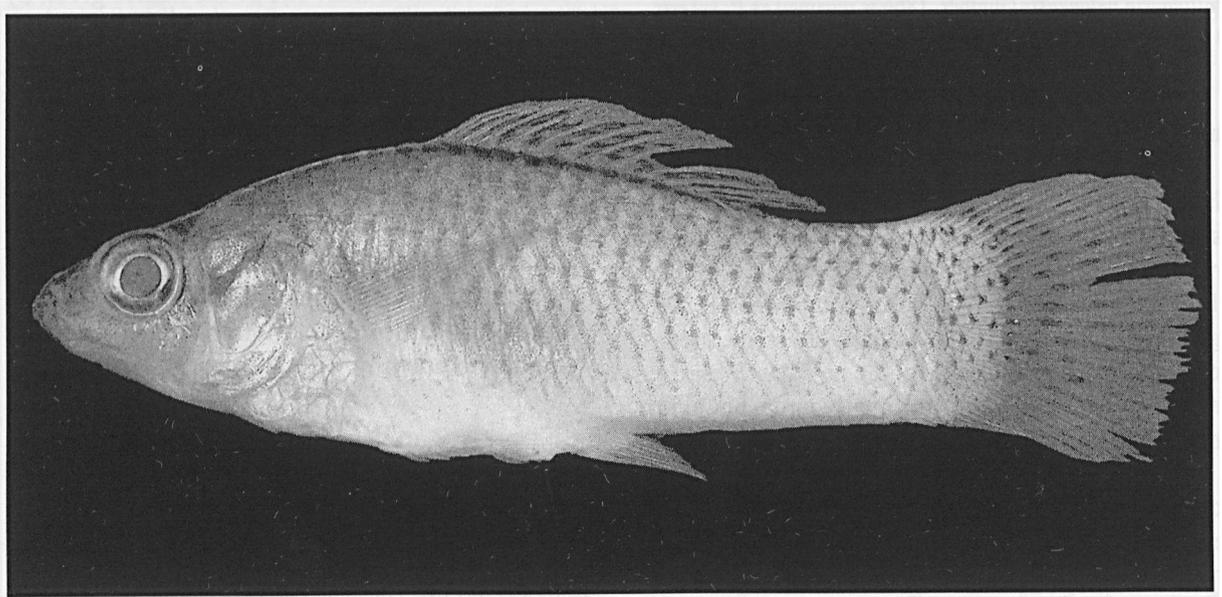


Fig. 1b. Habitus of *Poecilia kykesis* nom. nov. Female (ZMA 121.856).

### Systematic section

*Poecilia kykesis* nom nov.

*Mollienesia petenensis* Günther, 1866: 348 (Type locality: Guatemala, Lake Pétèn); *Poecilia petenen-*

*sis* (Günther, 1866); Rosen and Bailey, 1963: 55 (pre-occupied by *Poecilia petenensis* Günther, 1866)

Diagnosis. A = 9; D = 12-16; C = 18-22; LLS = 28-29; CPS = 20. *Poecilia kykesis* (Fig. 1) has no specific body pigmentation, except for black mar-

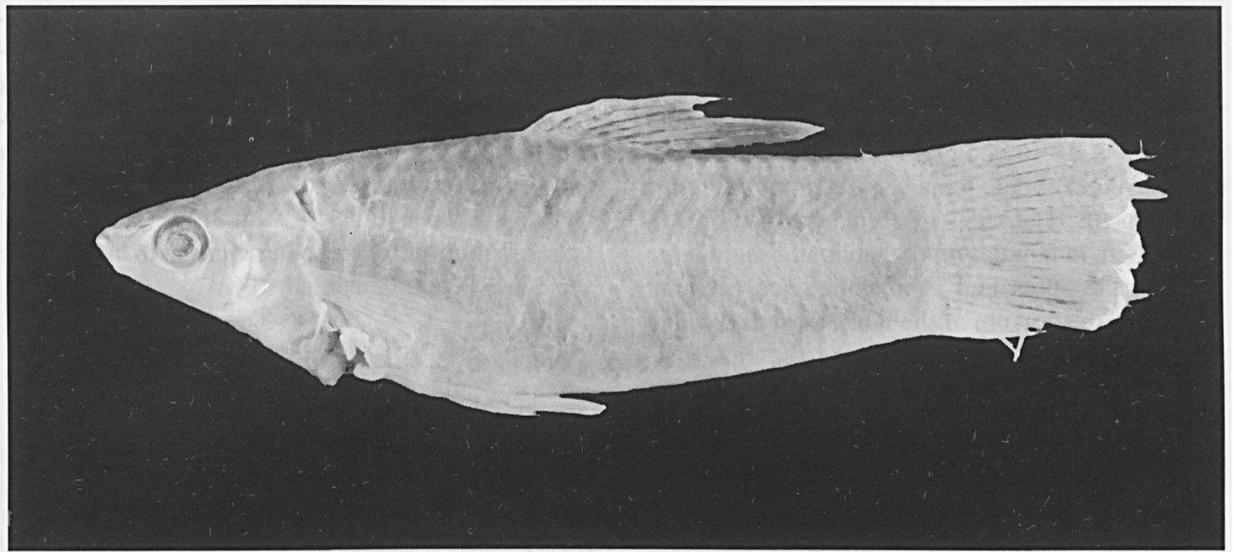


Fig. 2. Habitus of *Poecilia petenensis*. Male (Lectotype, BMNH 1864.1.26.377)

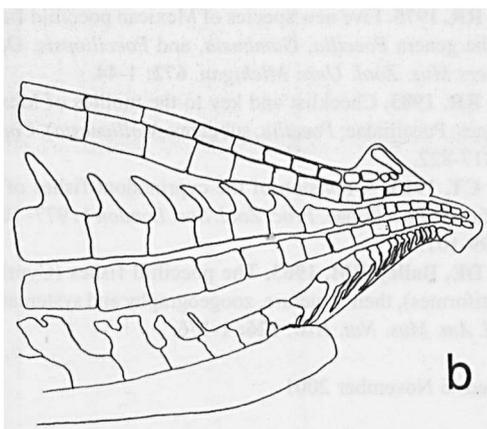
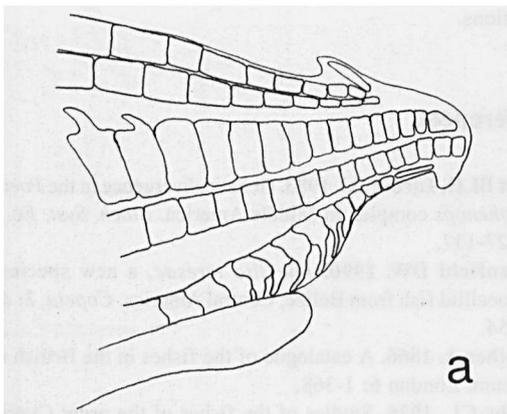


Fig. 3. Tips of the gonopodia (a) *Poecilia kykesis*, (b) *Poecilia petenensis*.

gined scales. In males, these black margins can form spots, extending the rows of spots found on the caudal fin. In addition, the dorsal fin in males is spotted. The caudal fin exhibits a slightly produced lower margin in adult males.

The gonopodium (Fig. 3a) is similar to that in *P. petenensis* (Fig. 3b) but with more unserrated segments distally on ray 4p (modally 12 versus modally 10-11 in *P. petenensis*). The gonopodium has more or less cuboidal segments in rays 4a and 4p, which is rare, if not unique in the subgenus.

Distribution. *Poecilia kykesis* occurs from the tributary of Río Usumacinta and nearby lakes, Pétèn, Guatemala to the Yucatan Peninsula, Mexico.

Etymology. “Kykesis” is Greek for “a mixing”, reflecting the confusing mixture of homonyms, caused by the double recognition *Poecilia petenensis* and *Mollienesis petenensis* as congeneric species.

*Poecilia petenensis* Günther, 1866

*Poecilia petenensis* Günther, 1866: 342-343 (Type locality: Guatemala, Lake Pétèn)

*Mollienesis gracilis* Regan, 1913: 1012 (replacement name for *Poecilia petenensis* Günther, 1866); *Mollienesis sphenops gracilis*; Hubbs, 1935; *Poecilia “gracilis”*; Brett & Turner, 1983: 128.

*Poecilia sphenops* (non Valenciennes, 1846, in part); Rosen & Bailey, 1963: 52.

Diagnosis. A = 8-9; D = 10-11 (modally 10); CPS = 16; CS = 18 (modally); LLS = 27-30. Largest specimens examined: female: 119.0 mm SL., male: 93.0 mm SL. The sides of *P. petenensis* (Fig. 2) are spotted, in females more than in males. In large females the spots and a cross-hatched pigment pattern on the dorsum of the body form a diamond pattern. In smaller specimens, the diamond pattern is weaker. The fins have little pigment; no spots or blotches are present. The inner jaw teeth are unicuspid.

The gonopodium (Fig. 3b) is sharp, with both a membranous hook at ray 3 and a spinal hook at ray 5p. The distal 4 to 7 segments on ray 3 are unserrated, as well as all segments on ray 4a. At ray 4p, the terminal 9-12 segments are unserrated, followed by 10-12 dorsally serrated segments. Ray 5a of the gonopodium has 12 unserrated terminal segments, followed by 5 or 6 ventrally serrated segments. Gonopodial ray 5p is unserrated.

Comparisons. Although Günther (1866) stated that "males are higher and shorter than females", the males in this species are also relatively large. In his description, he mentioned that the dorsal fin begins above the 11th or 12th scale of the lateral line. When this character was checked, it was found above the 10th or 11th scale.

*Poecilia petenensis* has more dorsal fin rays than most other species of the *P. sphenops* complex (sensu Miller, 1983), modally 10 or 11 (average 10) versus modally 9 or 10 (average 9.5) in other species. It is large and has a relatively slender body. Greenfield (1990) found that the body of *P. petenensis* (= his *P. "gracilis"*, cf. Brett and Turner [1983]) is very similar to *P. teresae* Greenfield, 1990, but *P. teresae* had "a shorter head, a more slender and shorter caudal peduncle and a more slender body". His data also showed that both species differed from *P. mexicana* (Greenfield, 1990: 451, table 1). Another large and elongated species is *P. catemaconis* Miller, 1975, which has a tricuspid inner jaw dentition.

The gonopodium of *P. petenensis* differs in having a larger number of unserrated segments terminally on ray 4p (in *P. mexicana* modally 8-9). This number approaches the number of unserrated segments found in the *P. latipinna* group: in *P. kykesis* (a sympatric species of broad-finned molly, Fig. 1) this number is 12-14 (Fig. 3b).

Distribution. This species appears to be endemic to Lake Pétèn, Guatemala.

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