Los Angeles County Museum

CONTRIBUTIONS IN SCIENCE

NUMBER 54 MAY 11, 1962

A NEW BAT OF THE GENUS *GLOSSOPHAGA* FROM MEXICO

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ABSTRACT: A new species of glossophagine bat of the genus *Glossophaga* is described from the southwestern coastal region of Mexico. Forty-four specimens have been taken from Nayarit to Chiapas. The range of this species as known is completely within the range of the closely related *G. soricina*. All specimens were captured with "mist" nets.

During the course of field work in Mexico in 1960 and 1961, a heretofore undescribed species of glossophagine bat was collected. This form was first noticed because of the even upper incisors, a character used readily to distinguish live specimens of *Choeroniscus godmani* from *Glossophaga soricina* in the state of Nayarit, Mexico. Examination of cleaned skulls showed that only one of the specimens so separated was *Choeroniscus godmani*, the others being a new form of *Glossophaga*. To date 44 specimens have been collected as follows: Chiapas, 38; Colima, 4; Nayarit, 2. The new species may be known as:

Glossophaga commissarisi, new species[2]

TYPE: Los Angeles County Museum 14130, adult male, skin with skull, collected by A. L. Gardner (original No. 3251) from 10 kms. S. E. Tonalá, Chiapas, Mexico, August 1, 1961. Measurements of type: Total length, 63 mm.; tail, 9 mm.; hind foot, 10 mm.; ear from notch, 14 mm.; tragus, 6 mm.; forearm, 33.3 mm.; tibia, 12.3 mm.; greatest length of skull (not including incisors), 20.2 mm.; condylo-basal length, 18.3 mm.; palatal length, 10.2 mm.; post-palatal length, 6.5 mm.; depth of brain case, 8.5 mm.; breadth of brain case, 8.9 mm.; zygomatic breadth, 9.8 mm.; least interorbital constriction, 4.5 mm.; width at M_3, 5.5 mm.; maxillary tooth row (from canine above cingulum to posterior-most margin of M_3), 6.6 mm.; mandibular tooth row (from canine below cingulum to posterior-most part of m_3), 6.9 mm.

RANGE: Specimens have been collected from southern Chiapas to

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[2]Named in honor of Larry R. Commissaris, a friend and fellow student in zoology who died in January, 1961.

Nayarit, along the west coast of Mexico. Chiapas: 38 kms. N. Huixtla, (1); 20 kms. S. E. Pijijiapan, (1); 21 kms. S. E. Tonalá, (3); 12½ kms. S. E. Tonalá, (8); 15 mi. E. S. E. Tonalá, (3); 9 mi. S. E., 8 mi. N. E. Tonalá, (1); 10 kms. S. E. Tonalá, (19); 2 kms. N. E. Cacahuatal, (2). Colima: 1 km. S. Pueblo Nuevo, (1); 2½ kms. N. W. Pueblo Nuevo, (1); Cerro Chino, (1); Pueblo Juárez, (1). Nayarit: 8 mi. E. San Blas, (2).

DIAGNOSIS: Size small for genus; externally like *Glossophaga soricina* although averaging darker in color (majority of specimens are darker than darkest *soricina* but a few specimens are as light as the lighter *soricina* examined); nose leaf averaging 8 mm. in length in 9 fresh specimens measured. Skull shortest for genus due to a shortened rostrum; the outer upper incisors about equal to inner in bulk; upper premolars unlike in crown outline in occlusal view; upper permolars long, the main cusp approximately in line with middle of tooth (side view); upper and lower molars compact; lower incisors reduced and separated as two pairs, one on each side of a narrow median space; posterior-most projection of the last lower premolar always pointing lingually of anterior-most cusplet of the first lower molar; margins of the posterior part of palatines and the ptergoids smooth; presphenoid depressed immediately anterior to posterior projection.

COMPARISON: It was first assumed that this bat was a mainland form of the genus *Monophyllus*, but comparisons showed that all species of the genus *Monophyllus* have more reduced incisors and molariform teeth. Also, general cranial characteristics differ, and in the new form the tail is enclosed in the uropatagium as in the genus *Glossophaga*. Comparisons were made with specimens of *Glossophaga soricina*, *Glossophaga elongata* and *Glossophaga longirostris*. The characteristics of the teeth were found to be intermediate between the *longirostris* group and the *soricina* group. The incisors are like those of the *longirostris* group in relative size and shape, and the premolars like those of the *soricina* group in tooth outline (groups as defined by Miller, 1913: 415).

Because of similar size and range, this bat has been compared with *Glossophaga soricina* as follows: Color as previously mentioned; external and cranial measurements usually smaller although many overlap (see Fig. 1); nose leaf slightly longer (8 mm. as compared to 6.5 to 7 mm. in *soricina*); striking differences noted in the relative shape and size of the incisors (upper incisors in *soricina* drawn forward, the outer obviously less than inner in bulk and the lower incisors almost filling gap between canines); *commissarisi* with a shorter rostrum than *soricina*, but with almost the same size brain case; the profile (side view) of the premaxilla with a steeper slope than in *soricina*; presphenoid depressed as compared to a high presphenoidal ridge in the other species of *Glossophaga*; long main cusp of upper premolars with point very close to center of tooth when viewed from the side (shorter main cusp in *soricina* with point distinctly forward of the center of tooth); positioning of posterior-most

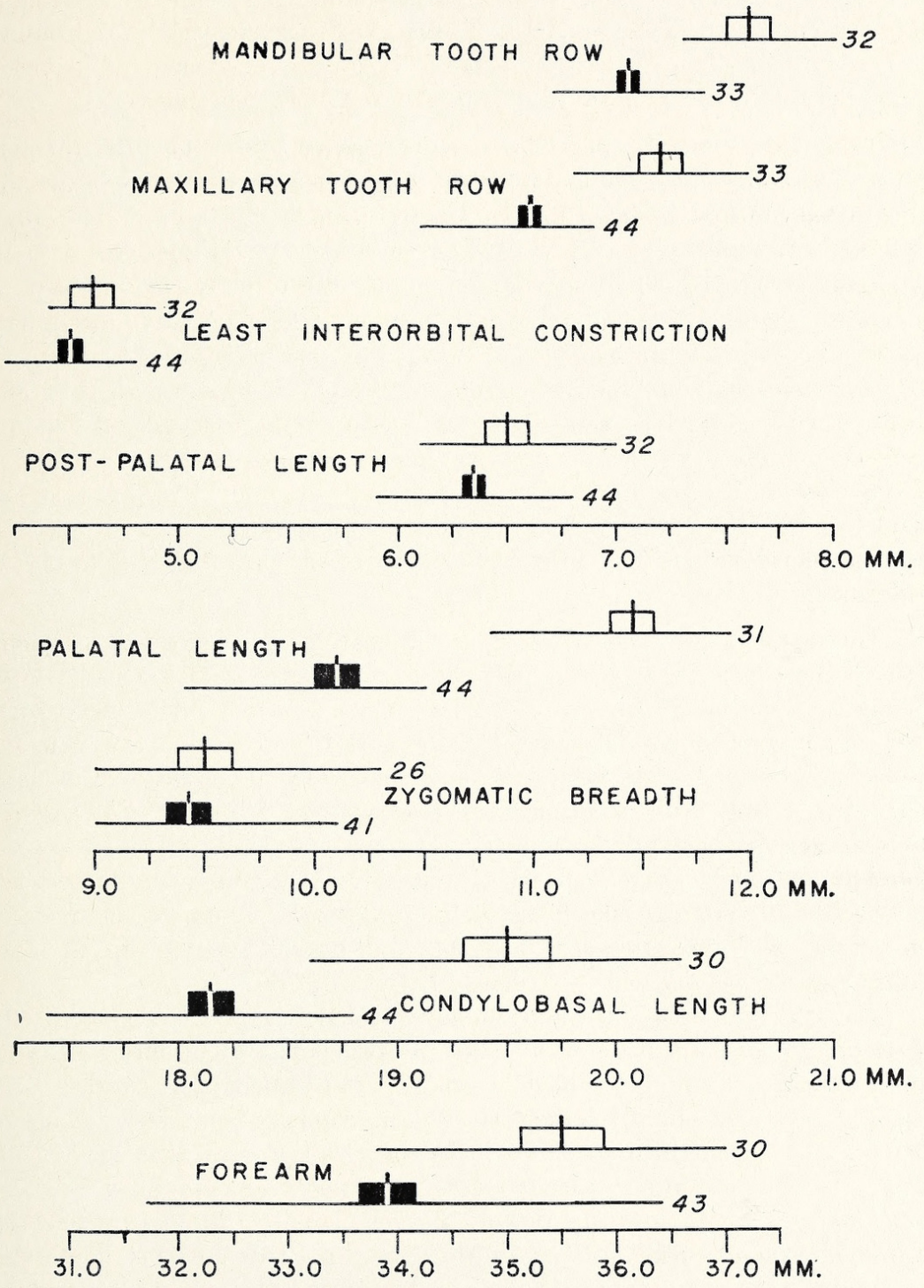

Fig. 1. A graphic comparison of selected measurements. Horizontal line indicates range; vertical line the mean; box on each side of the mean twice the standard error of the mean. Sample size indicated at the end of each range. Open box represents *G. soricina*, solid box *G. commissarisi*.

point of last lower premolar toward lingual side of the lower molar (labial or in line with lower first molar in *soricina*). A graphic comparison of selected measurements is presented in Fig. 1.

REMARKS: While collecting in Chiapas, two forms other than *soricina* and *commissarisi* were taken. One form represented by two juveniles (15 mi. E. S. E. Tonalá), most closely resembles *G. longirostris*, known from northern South America and southern Lesser Antilles, (Miller, 1913: 414). The other form, represented by 10 skins and skulls from the following localities: 15 mi. E. S. E. Tonalá, (3); 9 mi. S. E., 8 mi. N. E. Tonalá, (7), apparently differs from *soricina* only in shape and size of upper incisors. Further studies are being made on these specimens.

In all instances, *Glossophaga commissarisi* was taken in mist nets stretched across arroyos containing pools of water, across roads or paths constituting flyways, or in banana groves. Banana groves yielded 70 per cent of all *G. commissarisi* captured. *G. commissarisi* has feeding habits

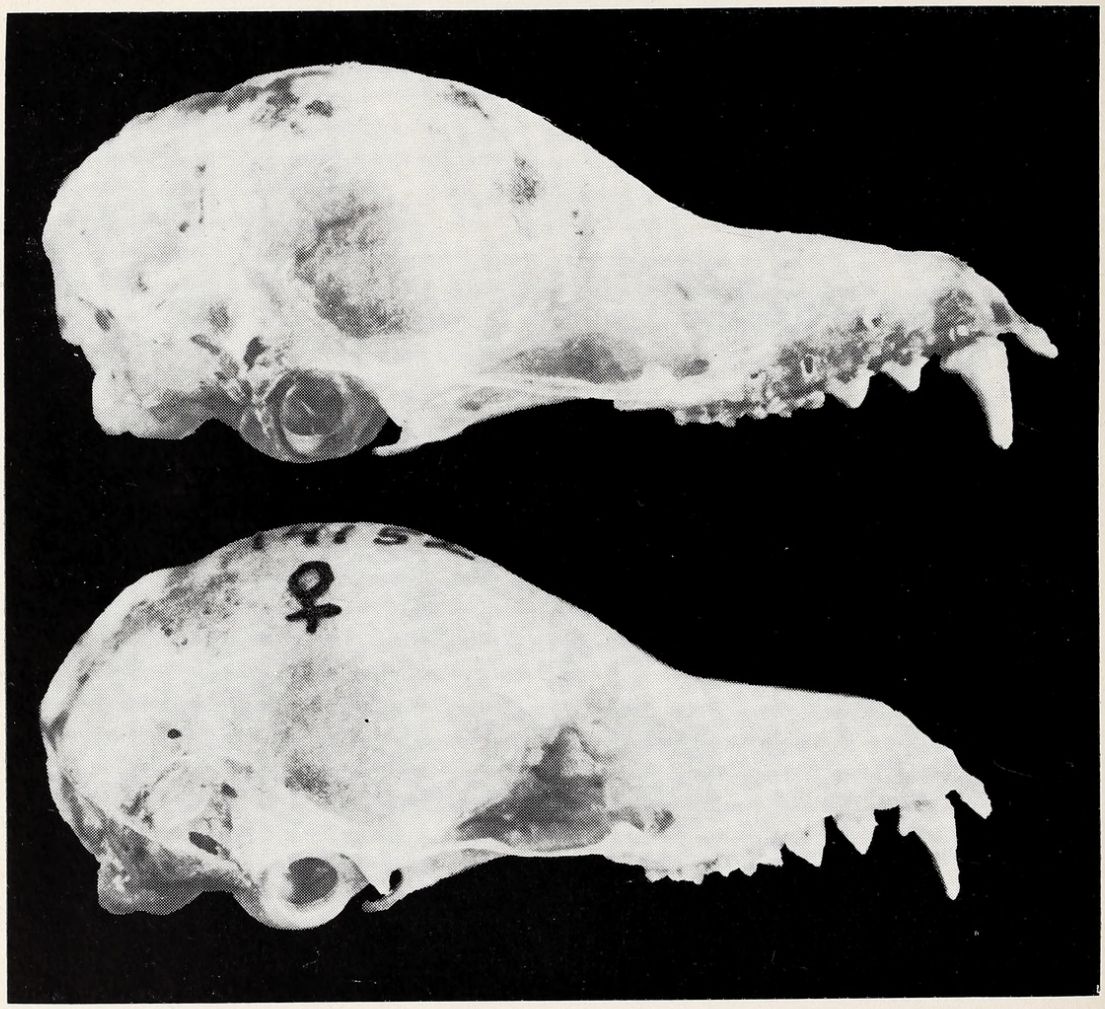

Fig. 2. Lateral view of the skulls. Upper: *G. soricina* adult male, UA 5995 from La Aduana, Sonora. Lower: *G. commissarisi*, adult female, paratype, LACM 14152 from 12½ kms. S. E. Tonalá, Chiapas, Mexico, × 4½.

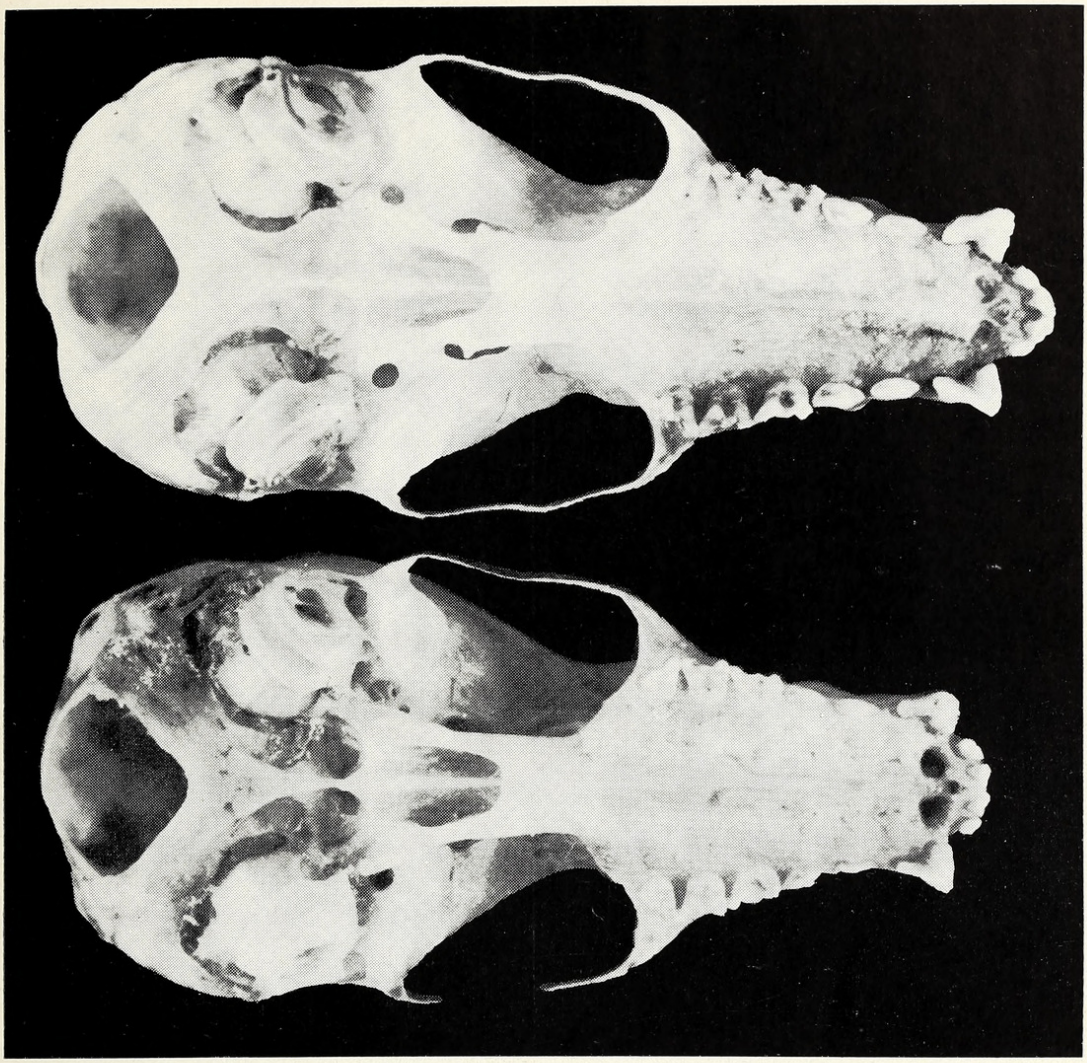

Fig. 3. Ventral view of the skulls. Upper: *G. soricina*, adult male, UA 5995 from La Aduana, Sonora. Lower: *G. commissarisi*, adult female, paratype, LACM 14152 from 12½ kms. S. E. Tonalá, Chiapas, Mexico, × 5.

very similar to those of *G. soricina*. Both forms taken in banana groves had pollen grains on the tops of their heads, evidently received while feeding in the large banana flowers. *G. commissarisi* appears to be common in the tropical lowlands near Tonalá, Chiapas. It is interesting to note that *commissarisi* was never found in a day roost. All road culverts, caves and hollow trees checked usually yielded many *soricina* but never *commissarisi*. This indicates at least partial ecological separation between these two sibling species. The habitat types from which these bats were collected vary from savanna to tropical deciduous forests in Nayarit; arid thorn forests and tropical deciduous forests in Colima; to savanna, tropical evergreen forests, tropical rain forests and pine-oak forests in Chiapas.

SPECIMENS EXAMINED: *Monophyllus portoricensis* (AMNH, 17) from Puerto Rico: Cueva de Trujillo Alto (15); Cueva de Fari (2).

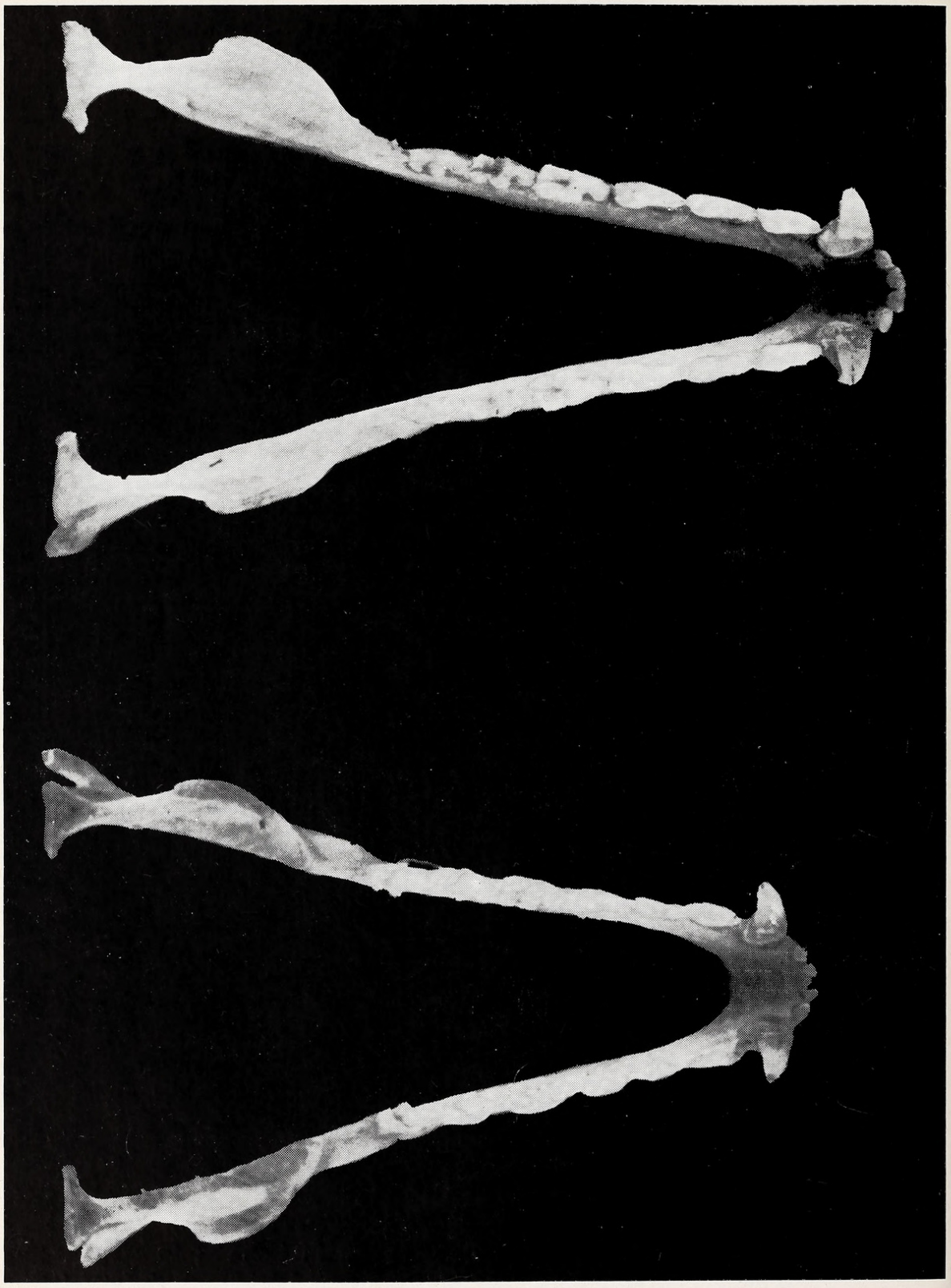

Fig. 4. Top view of the lower jaws. Left: *G. soricina*, adult male, UA 5995 from La Aduana, Sonora. Right: *G. commissarisi*, adult female, paratype, LACM 14152 from 12½ kms. S. E. Tonalá, Chiapas, Mexico, × 8½.

Monophyllus cubanus (AMNH, 3) from Cuba: Baracoa (2); Aguacate (1). *Monophyllus redmani* (AMNH, 3) from Jamaica: Oxford Cave (2); Windsor (1). *Monophyllus luciae* (AMNH, 1) from Anguilla, West Indies. *Glossophaga elongata* (AMNH, 4) from: Curaçao, West Indies (3); Aruba, N. West Indies (1). *Glossophaga longirostris* (AMNH, 4) from Colombia. *Glossophaga soricina*, 35. Panama: Canal Zone (UA, 4). Mexico: Chiapas (LACM, 7) (UA, 2); Oaxaca (UA, 2); Districto Federal (UA, 1); Colima (UA, 2); Nayarit (UA, 1); Sonora (UA, 16). *Glossophaga commissarisi*, 44. Mexico: Chiapas (LACM, 37) (UA, 1); Colima (UA, 4); Nayarit (UA, 2). *Glossophaga* spp., 12 (two forms) from Chiapas, Mexico (LACM).

ACKNOWLEDGMENTS

I am indebted to the American Museum of Natural History (AMNH) for the loan of comparative material of *Monophyllus* and *Glossophaga*, and to E. L. Cockrum under whose guidance this description was prepared and written. I wish to thank Jaime Maya of the University of Arizona (UA) for the photography and Kenneth E. Stager and Charles A. McLaughlin of the Los Angeles County Museum (LACM) for aid received. Also I express appreciation to Sr. C. Ing. Luis Macias A. of the Direccion General de Forestal y Caza, Mexico, D. F., under whose auspices my federal collecting permit was obtained.

Financial support was received in part from a research grant awarded to E. L. Cockrum by the National Science Foundation (G-5209, Biology of the Bats of the Southwest) and in part by the Western Foundation of Vertebrate Zoology.

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