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A Note on *Psoloessa texana* and *Achurum sumichrasti* (Orthoptera: Acrididae: Acridinae) from Louisiana

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ABSTRACT

During a 2024 survey in Kisatchie National Forest, Louisiana, *Psoloessa texana* and *Achurum sumichrasti* were collected, representing new state records. No prior records of *P. texana* exist for Louisiana, and while *A. sumichrasti* has been observed and reported online, no specimens were previously documented. These findings extend *the* known range of *P. texana* by ~320 km and suggest a broader distribution for *A. sumichrasti*. Their presence in xeric savannas may reflect Pleistocene-era disjunctions. With these additions, Louisiana's documented grasshopper fauna increases to 41 species.

Keywords: Grasshoppers, southeastern United States, longleaf savanna

INTRODUCTION

In the Spring of 2024, during an insect collecting expedition through Louisiana and eastern Texas to sample species of the *Melanoplus texanus* group, I collected two individuals of *Psoloessa texana* Scudder, 1875 (Fig. 1A-C) at one site, and five specimens of *Achurum sumichrasti* (Saussure, 1861) (Fig.1D-E) from two sandy upland savanna sites (Fig. 1F) within the Kisatchie National Forest in central Louisiana. Hill and Dakin (2011) reported 39 grasshopper species from Louisiana based on specimen records and literature—fewer than any other southeastern U.S. state, largely due to under-sampling. Their list contained no records, of either *P. texana* or *A. sumichrasti* suggesting the current collection represents new state records for Louisiana.

In the years following the publication of the list published by Hill and Dakin (2011), online databases such as GBIF (Global Biodiversity Information Facility: https://www.gbif.org) and SCAN (Symbiota2 Collections of Arthropods Network: https://scan-all-bugs.org) along with observational platforms such as iNaturalist (https://www.inaturalist.org) and BugGuide (https://bugguide.net) have increased the amount of distributional data available to researchers. These databases were searched for records of *P. texana and A. sumichrasti* to see if other records were available.

METHODS AND MATERIALS

Specimens were collected by flushing them from vegetation and captured with a standard 31.75 cm sweep net, then placed into vials containing potassium cyanide. They were later pinned and deposited in the Mississippi

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Entomological Museum. Photographs were taken with an iPhone 12 Pro. The collection manager of the Louisianna State Arthropod Museum was contacted to see if they housed specimens from Louisianna of either species. Additional records of relevant specimens and observations were retrieved from the Symbiota Collection of Arthropods Network (SCAN 2025a) and iNaturalist (2025a).

RESULTS

No specimen or observational records of *P. texana* from Louisianna were found on iNaturalist (2025c), SCAN (2025c), or other online platforms from Louisiana. However, numerous *A. sumichrasti* observations were available on both iNaturalist and SCAN (2025b), but no physical specimens were reported on SCAN (2025b) or in the Louisianna State Arthropod Museum. Together, these collections represent the first documented specimens of each species from Louisiana and an eastward extension of their known distribution.

Psoloessa texana

Specimens examined—USA, Louisiana, Rapides Parish, Kisatchie National Forest, 31.2335, -92.6114, 30 May 2024, J.G. Hill. Habitat: sandy longleaf savanna. (1 male, 1 female, MEM)

Achurum sumichrasti

Specimens examined—USA, Louisiana, Rapides Parish, Kisatchie National Forest, 31.2465 -92.6790, 29 May 2024, J.G. Hill (2 male, 1 female, MEM). Same data, except 31.2335, -92.6114, 30 May 2024, J.G. Hill. Habitat: sandy longleaf savanna. (3 male, MEM)

iNaturalist observation numbers—13552793, 141633040, 189358647, 204084735, 219242376, 219242907, 219465949, 221828476, 221828840, 32801629, 36607648, 81046352

DISCUSSION

Psoloessa texana was previously known to inhabit open, bare ground, and sparsely vegetated areas from Nebraska to California, extending southward to the Gulf of Tehuantepec, Mexico (Otte, 1981). The collection reported here represents a new state record for Louisiana and extends its known range approximately 320 km eastward (Fig. 2). It remains uncertain whether this is a disjunct population from the more western populations or part of a more continuous distribution. The presence of *P. texana* in Louisiana somewhat mirrors that of *Odontomachus clarus* Roger, 1861, which is known from central and west Texas, with a disjunct population found in the sandy longleaf habitats of Kisatchie National Forest (MacGown, 2014).

These xeric grassland species may be Pleistocene relicts—remnants of a cooler, more arid southeastern climate during glacial periods when smaller rivers facilitated dispersal across grassland habitats. During the warmer, wetter interglacial periods of the Pleistocene and Holocene, rivers swelled and formed extensive floodplains. These floodplains served as inhospitable barriers to xeric grassland species, leading to the isolation of populations on either side of the rivers (Hill 2015; Huang 2021). Such cycles of connectivity and isolation could explain the disjunct distribution observed today.

Achurum sumichrasti, as described by Otte (1981), predominantly occurs in southern Texas, New Mexico, and much of Mexico, often associated with grass stalks. However, recent data from online databases such as SCAN and iNaturalist, along with the specimens reported here, now show the species occurring from Louisiana west to New Mexico and south to Panama (Fig. 3). The combined data suggest a continuous distribution between Texas and Louisiana populations. Additionally, A. sumichrasti, may also be found in more mesic habitats, such as pitcher plant bogs, indicating it could spread more easily through wetter environments.

The larger size and more conspicuous behavior of *A. sumichrasti* make it more likely to be detected by the public. It primarily relies on camouflage, blending with grass stems, and appears more hesitant to fly when approached. Though when disturbed, it flies short distances before clasping onto another grass stem. Due to its larger size, it is easily detected when in flight. Conversely, *P. texana* is smaller and much flightier, often flying longer distances and landing on bare ground where it is well camouflaged or diving into grass clumps to hide, Consequently, the apparent disjunct population may be partly an artifact of observational bias—as more conspicuous species are more likely to be detected, giving a skewed impression of their distribution.

Other acridid species collected alongside *P. texana* and *A. sumichrasti* at 31.2335, -92.6114 included *Arphia sulphurea* (Fabricius, 1781), *Melanoplus dakini* Hilliard, 2001, *Melanoplus impudicus* Scudder, 1897, and *Pardalophora phoenicoptera* (Burmeister, 1838). With the addition of these species, a total of 41 grasshopper species are now documented from Louisiana—still fewer than any other southeastern U.S. state. These new records highlight the need for more comprehensive grasshopper surveys in Louisiana.

ACKNOWLEDGEMENTS

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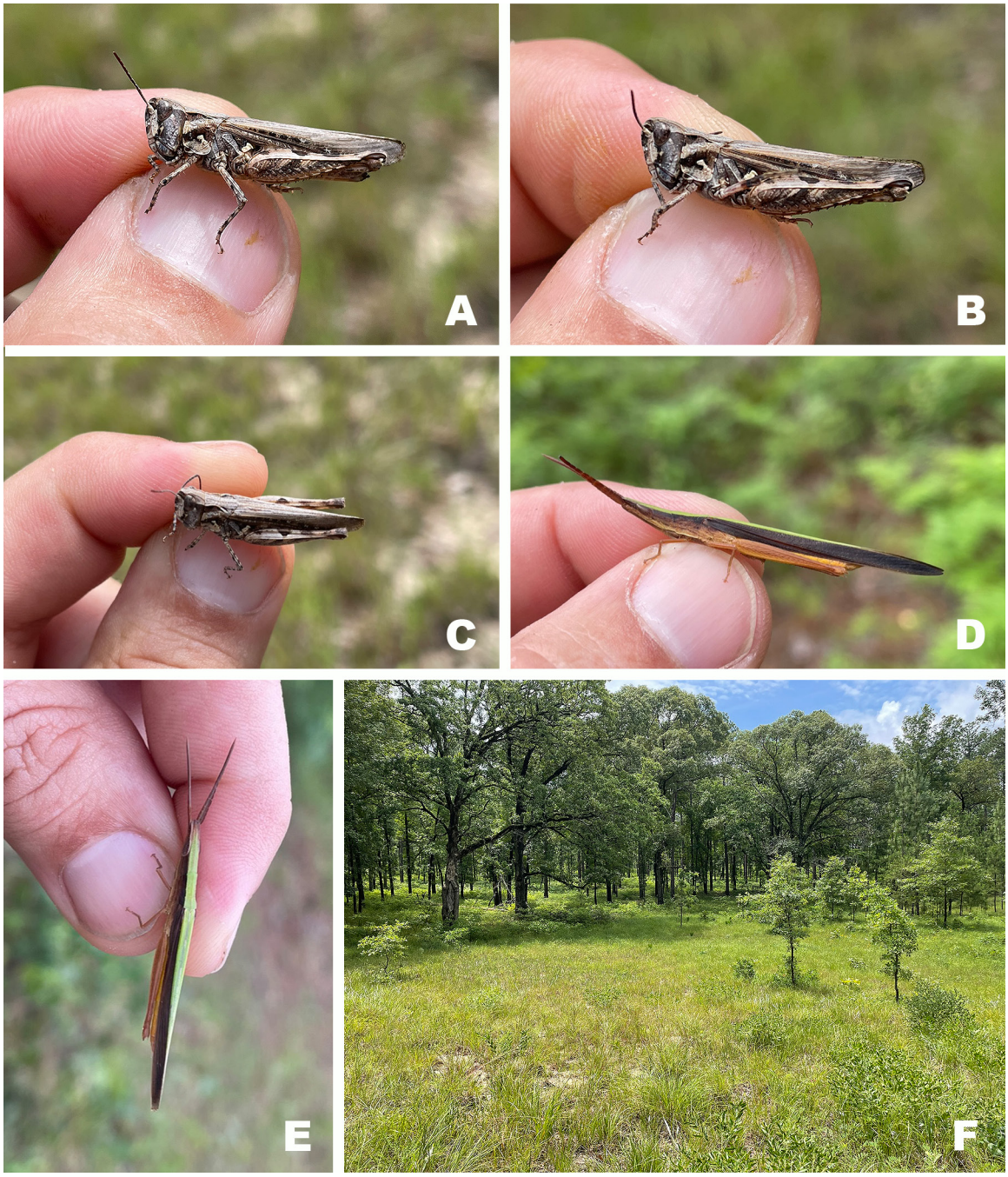

Figure 1. Field photos of **A.** lateral view of *Psoloessa texana,* **B.** lateral view of *Psoloessa texana* **C.** dorsal view of *Psoloessa texana*, **D.** lateral view of *Achurum sumichrasti* **E**. dorsal view of *Achurum sumichrasti* **F.** habitat photo of collection locality *Psoloessa texana* and *Achurum sumichrasti*

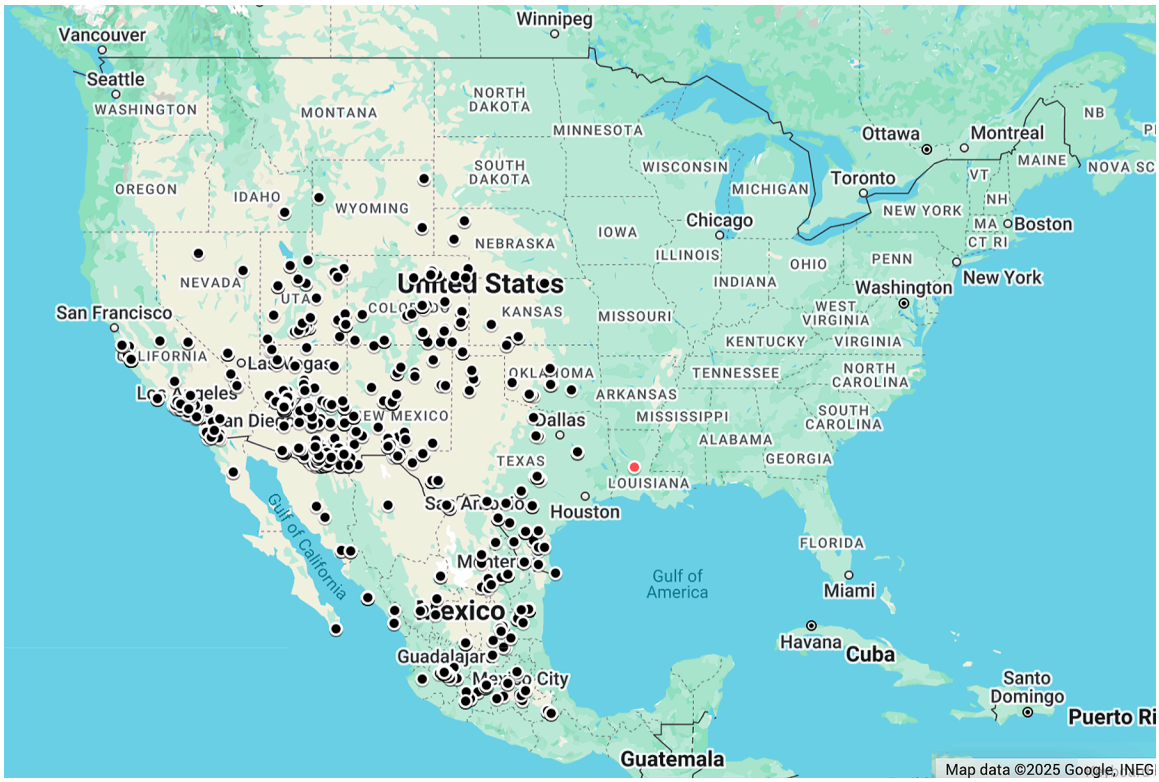

Figure 2. Distribution of *Psoloessa texana*. Black dots represent previous records. The red dot represents the new record reported here.

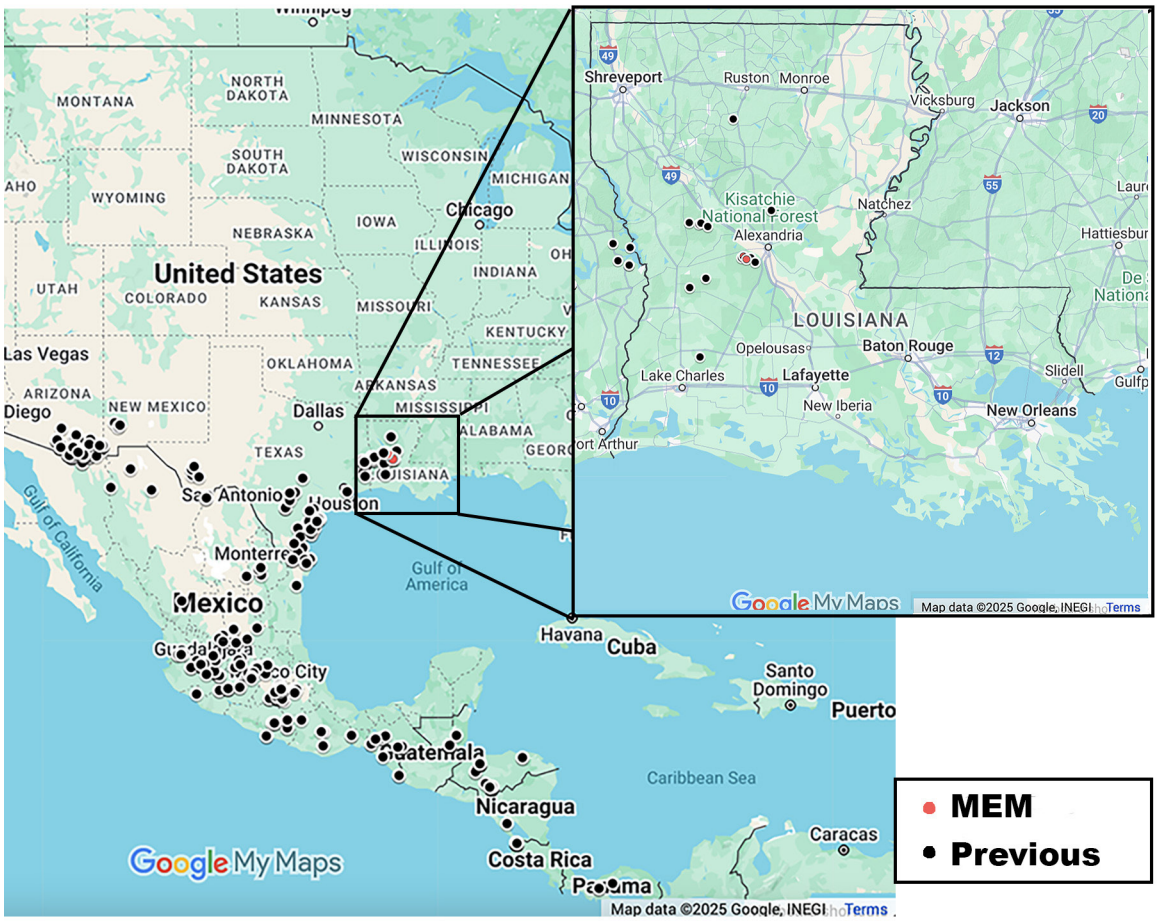

Figure 3. Distribution of *Achurum sumichrasti*. Black dots represent previous records. The red dot represents the new record reported here.