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Source: Florida Entomologist, 97(1) : 262-265

Published By: Florida Entomological Society

URL: <https://doi.org/10.1653/024.097.0135>

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A NEW SPECIES OF THE GENUS *SYNERSAGA* GOZMÁNY (LEPIDOPTERA, LECITHOCERIDAE) FROM CHINA

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ABSTRACT

A new species of the genus *Synersaga* Gozmány, *Synersaga atriptera* Xu & Wang **sp. nov.** (Lepidoptera: Lecithoceridae) is described from China. Adults, wing venation and male genitalia are illustrated. The new species is similar to *S. nigriptera*, but is distinguished by the wing venation and the male genitalia. The ground color of wings of *S. atriptera* **sp. nov.** is darker than that of the wings of *S. nigriptera*, especially the hind wings; the forewing of *S. atriptera* **sp. nov.** has a broad and blackish transverse outer line, which it is not present in *S. nigriptera*; and the fringe of *S. nigriptera* has a paler basal line, which it is not obvious in *S. atriptera* **sp. nov.** Juxta of *S. atriptera* **sp. nov.** has a pair of claviform lateral lobes, which are separated at the base. Juxta of *S. nigriptera* also has a pair of claviform lateral lobes, but they are connected at the base by a heavily sclerotized band. Type specimens were deposited in the Insect Collection of the Department of Entomology, South China Agricultural University, Guangzhou, China.

Key Words: *Synersaga atriptera*, new species, China, genitalia, wing venation, Oriental Region

RESUMEN

Se describe una nueva especie del género *Synersaga* Gozmány (Lepidoptera: Lecithoceridae), *Synersaga atriptera* Xu & Wang **sp. nov.** de China. Se ilustran los adultos, la venación de las alas y la genitalia masculina. La nueva especie es similar a *S. nigriptera*, pero se distingue por la venación de las alas y la genitalia masculina. El color de fondo de las alas de *S. atriptera* **sp. nov.** es más oscuro que el de las alas de *S. nigriptera*, especialmente las alas posteriores; las alas anteriores de *S. atriptera* **sp. nov.** tiene una línea externa transversal amplio y negruzco, que no está presente en *S. nigriptera*, y el flequillo de *S. nigriptera* tiene una línea basal más pálida, lo que no es obvio en *S. atriptera* **sp. nov.** La juxta de *S. atriptera* **sp. nov.** presenta un par de lóbulos laterales claviformes, que están separados en la base. La juxta de *S. nigriptera* también tiene un par de lóbulos laterales claviformes, pero están conectados a la base por una banda fuertemente esclerotizada. Los especímenes tipos fueron depositados en la Colección de Insectos del Departamento de Entomología de la Universidad de Agricultura del Sur de China, Guangzhou, China.

Palabras Clave: *Synersaga nigriptera*, *Synersaga atriptera* nueva especie, China, genitalia, venación de alas, Región Oriental

The genus *Synersaga*, established by Gozmány in 1978 on the basis of the type species, *S. pseudocathara* (Diakonoff 1952), is a small genus belonging to the subfamily Lecithocerinae. The genus *Synersaga* comprises 8 species, all of which are restricted to the Oriental Region. *Synersaga pseudocathara* was described from Myanmar (Diakonoff 1952). In addition to the type species, Gozmány (1978) described 2 species from China and Taiwan. Park et al. (2007) described 2 species from Vietnam. *S. phuruaensis* was described from Thailand (Park 2009), and additional spe-

cies from Cambodia were described by Park & Bae (2012). A world catalogue of *Synersaga* was summarized by Park & Bae (2012).

Synersaga is generally characterized by the following features: forewing yellow brown or dark brown, slightly broader distally; venation with R_3 free or connate with R_{4+5} , M_3 and CuA_2 short-stalked or connate; male genitalia with a listric uncus, juxta with 2 strong lateral lobes caudally, aedeagus as long as valva. Abdominal tergites with spinous zones (Gozmány 1978; Wu 1997). Although the known *Synersaga* species are very

similar to each other, they can be differentiated by the shape of the uncus and the caudal processes of the juxta in the male genitalia. The genus *Synersaga* is allied to *Lecithocera* Herrich-Schäffer and *Homaloxestis* Meyrick, but is differentiated from these genera by spiniform setae on its abdominal tergites (Park & Bae 2012).

During surveys for the Lepidopterous fauna of South China, we found a new species of *Synersaga*, which is described below.

MATERIALS AND METHODS

The specimens were collected in Nanling National Nature Reserve, Guangdong Province. Photos of adult and wing venation were taken by a Nikon Coolpix S8000 digital camera. Photos of male genitalia were taken with an AxioCam system. The process for dissection of the genitalia followed Robinson (1976). The cleaning of wing venation followed Wang et al. (2010). Types were deposited in the Insect Collection of the Department of Entomology, South China Agricultural University, Guangzhou, China. All the photos were processed with Adobe Photoshop 6.0.

RESULTS

SYNERSAGA ATRIPTERA XU & WANG **SP. NOV.** (FIGS. 1-5)

Diagnosis

The new species is similar to *S. nigriptera*, but it could be distinguished by the wing venation and the male genitalia. The ground color of wings of *S. atriptera* **sp. nov.** is darker than that of *S. nigriptera*, especially that of the hind wings; the

forewing of *S. atriptera* **sp. nov.** has a broad and blackish transverse outer line, which is not present in *S. nigriptera*; and the fringe of *S. nigriptera* has a paler basal line which is not obvious in *S. atriptera* **sp. nov.** Juxta of *S. atriptera* **sp. nov.** is shaped like an inverted trapeze; it has a pair of claviform lateral lobes, which are separated at the base. Juxta of *S. nigriptera* also has a pair of claviform lateral lobes, but they are connected at the base by a heavily sclerotized band.

Description

Adult (Fig. 1). Wingspan 29-31 mm. Head (Figs. 2 and 3) brown. Antenna dark brown dorsally, orange white ventrally, length nearly equal to forewing. Labial palpus (Figs. 2 and 3) upcurved, extended well above vertex, second segment of labial palpus orange, third segment brown and acuminate, as long as 2nd segment. Forewing dark brown, with black discal spot at the discal cell, one indistinct black spot below it and a reniform discocellular spot at end of cell; transverse outer line broad and blackish; termen covered with dark brown scales; posterior margin slightly concave; venation (Fig. 4) with R_2 nearer to R_3 than R_1 at base, R_4 and R_5 stalked beyond $2/5$, R_6 to termen, M_1 and M_2 nearly parallel, M_2 nearer to M_3 than M_1 at base, CuA_{1+2} and CuA_2 short-stalked, $2A$ to tornus. Hindwing dark brown, apex slightly protruded, termen and posterior edge covered with long dark brown scales; venation with R_4 and M_1 stalked near $1/4$ level of M_2 ; M_3 and CuA_1 short-stalked. Abdomen black with alternating orange stripes. Hind tibia with pale yellow scales and long spines.

Male genitalia (Fig. 5) Uncus listric. Gnathos rather slender, apex recurved like sharp hook.



Figs. 1-4. Adult. 1. Adult of *Synersaga atriptera* **sp. nov.** (♂); 2. Lateral view of head of *S. atriptera* **sp. nov.**; 3. Dorsal view of head of *S. atriptera* **sp. nov.**; 4. Venation of *S. atriptera* **sp. nov.**

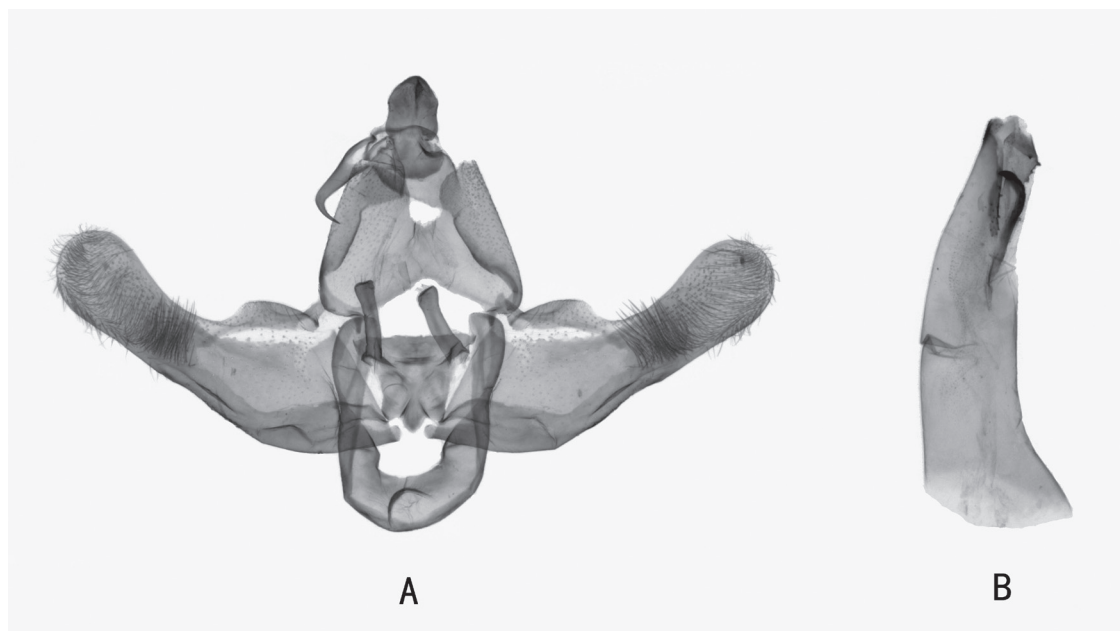


Fig. 5. Genitalia of *Synersaga atriptera* **sp. nov.** A. Genitalia. B. Aedeagus.

Tegumen broad, strongly concave in middle. Valva broad basally, with distal half spatulate, narrower than basal half; costa gently concave; sacculus gently arched outward in base half. Juxta shaped like an inverted trapeze, with a pair of heavy claviform lobes, lobes separated basally. This character could be used to easily differentiated the new species from *S. nigripta*. Lobes of juxta in *S. nigripta* connected by heavily sclerotized band basally. Vinculum U-shaped, thick. Aedeagus as long as valva, slightly bent, with fine denticles on ventral margin preapically; cornutus slender, about half length of aedeagus, strongly bent at apex.

Female:

Unknown.

Type Material

HOLOTYPE: ♂, Nanling National Nature Reserve, Guangdong Province, China, 3-V-2013, Coll. Hai-ming Xu. **PARATYPES:** 2♂, same locality as the holotype, 17-V-2009, Coll. Hou-shuai Wang.

Distribution:

Known only from the Guangdong Province in China.

Etymology

This species is derived from Latin, atri- (=deep black), and Latin pteron (= wing), referring to the deep black ground color of the hindwing.

Remarks

Synersaga atriptera **sp. nov.** is different from other species of *Synersaga*. Most species were collected by light trapping (Park et al. 2007), but during the daytime we observed adults of *S. atriptera* **sp. nov.** flying, and we observed one pair mating. Unfortunately we failed to capture the mating female.

ACKNOWLEDGMENTS

We thank Professor K. T. Park for help with literature references. We extend our thanks to administrator Mr Gong Y. N. of Nanling National Nature Reserve.

REFERENCES CITED

- DIKONOFF, A. 1951. Entomological results from the Swedish expedition 1934 to Burma and British India. Lepid. Microlepidoptera 1. Arkiv for Zoologi (2)3(6): 59-94.
- GOZMANY, L. 1978. Lecithoceridae In H. G. Amsel, F. Gregor and H. Reisser [eds.], Microlepidoptera Palaearctica. Vol. 5. Georg Fromme & Co., Vienna, Austria. 306 pp.
- PARK, K. T. 2009. Two new species of the genus *Tisis* Walker and *Synersaga* Gozmany (Lepidoptera, Lecithoceridae) from Thailand. Trop. Lepid. Res. 19: 1-3.

- PARK, K. T., AND BAE, Y. S. 2012. A new *Synersaga* species from Cambodia (Lepidoptera, Lecithoceridae), with a world catalogue of the genus. *Zookeys* 187: 1-7.
- PARK, K. T., KIM, M. Y., KIM, S. R., CHAE, M. Y., BYUN, B. K., AND NGUYEN, C. 2007. Lecithocerinae (Lepidoptera, Lecithoceridae) of Vietnam. Genera *Homaloxestis* Meyrick and *Synersaga* Gozmány. *J. Asia-Pacific Entomol.* 10(3): 201-209.
- ROBINSON, G. S. 1976. The preparation of slides of Lepidoptera genitalia with special reference to the Microlepidoptera. *Entomol. Gaz.* 27: 127-132.
- WANG, H. S., XIONG, W., AND WANG, M. 2010. The new species of the genus *Torodora* Meyrick (Lepidoptera: Lecithoceridae) from China. *Entomol. News* 121(4): 357-361.
- WU, C. S. 1997. *Lepidoptera Lecithoceridae*. *Fauna Sinica, Insecta*, Vol. 7. Science Press, Beijing. 306 pp.