

**Research article**Submitted: January 13<sup>th</sup>, 2020 - Accepted: February 10<sup>th</sup>, 2020 - Published: April 15<sup>th</sup>, 2020**A third endemic *Artena* from the Philippines  
(Lepidoptera: Erebidae)**Alberto ZILLI<sup>1,\*</sup>, Rob de VOS<sup>2</sup><sup>1</sup> Natural History Museum, Life Sciences DC2-2N - Cromwell Road, SW7 5BD London, UK - a.zilli@nhm.ac.uk<sup>2</sup> Naturalis Biodiversity Center, dept. Entomology - Darwinweg 2, NL-2333 CR Leiden, The Netherlands - rob.devos@naturalis.nl

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**Abstract**

*Artena uncinata* sp. n. from the Philippines (Luzon) is described. This species is a third member of the *A. lacteicincta*-*A. eccentrica* group and can readily be separated from its closest allies by the reduced secondary sexual characters of the male and differences in the male genitalia.

**Key words:** taxonomy, moths, Oriental Region.

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**Introduction**

Following descriptions of *Artena eccentrica* Yoshimoto, 1999 (Mindanao) and *A. reggiantii* Zilli & Lourens, 2008 (Luzon, Leyte, Mindanao), the Philippine fauna was fairly recently shown to host two interesting endemics of large-sized erebid moths of the genus *Artena* Walker, 1858. The former is a species related to *A. lacteicincta* (Hampson, 1912) (Yoshimoto, 1999), the latter a third member of the *A. rubida* (Walker, [1863])-*A. velutina* (L.B. Prout, 1919)-group (Zilli & Hogenes, 2004; Zilli & Lourens, 2008), whose male genitalia had been illustrated by Yoshimoto (1999) under "*A. rubida*". It is therefore with some surprise that the Philippine archipelago is revealing another new species within this genus, samples of which have been traced in the holdings of Naturalis Biodiversity Center (Leiden) (formerly Rijksmuseum voor Natuurlijke Historie). This species, herein described, is closely related to both *A. lacteicincta* (Figs 1-4, 7-8) and *A. eccentrica* (Fig. 5).

**Taxonomic part*****Artena uncinata* sp. n.**

(Figs 6, 11-12)

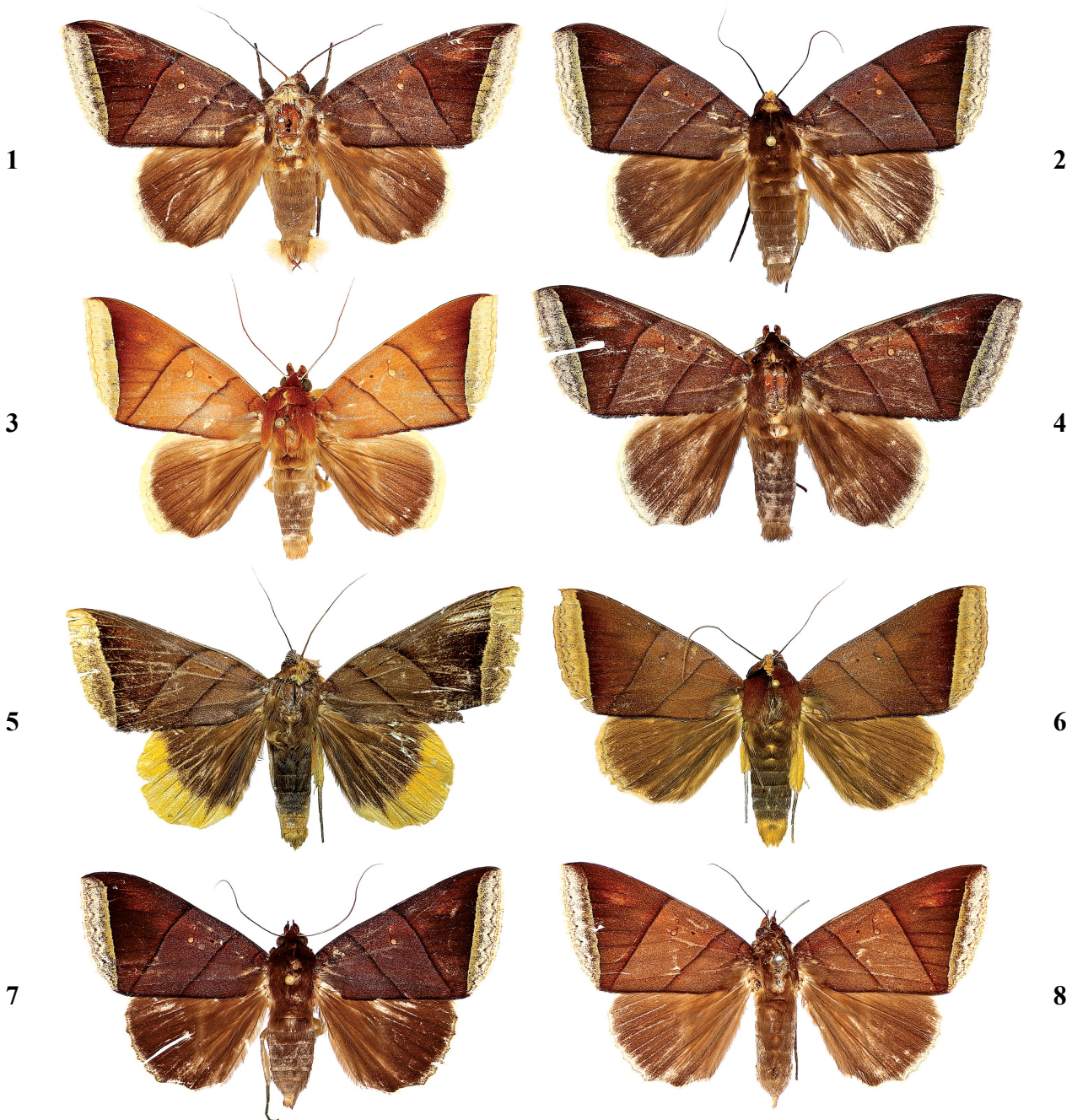
**Description**

Male (Fig. 6)

*Forewing length:* 30-32 mm.*Head:* Large, frons and vertex compactly clothed, reddish brown, vertex darker, with scales arranged into triangular,

white-lined hood; eye large, globular; antenna shortly fasciculate; labial palpus stout, upcurved, reddish brown externally, yellow internally, first joint short, second banana-shaped, slightly incrassate distally, third very small, dome-shaped; haustellum well-developed.

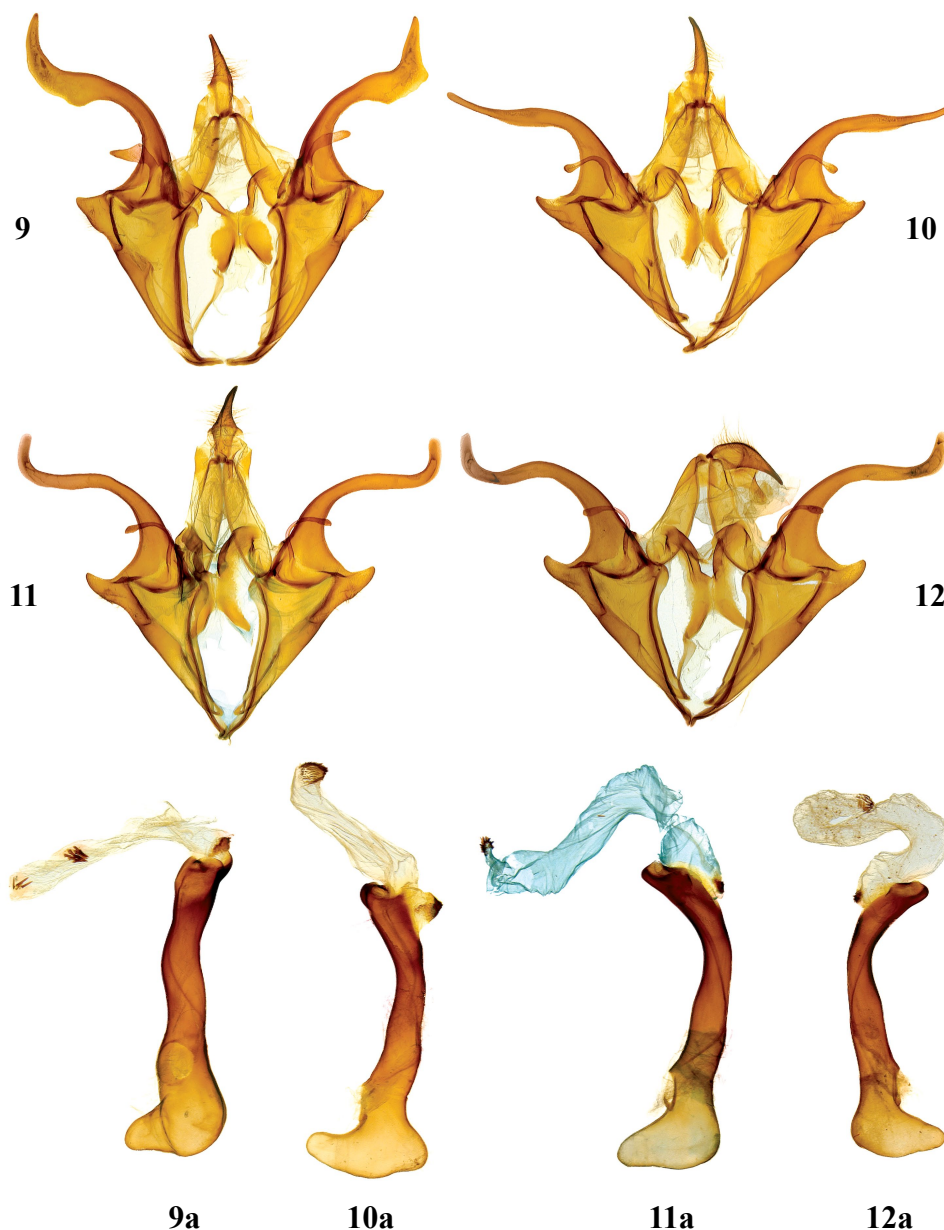
*Thorax:* Patagium hood voluminous, deep reddish brown, covering long yellow and flat dirty white scales underneath; tegulae long and wide, concolorous with patagia, meso- and metanotum brown irrorated slate grey. Forewing broad, subtriangular, with costa feebly humped at one fourth from base and slightly oblique outer margin; transverse lines and anal margin dark reddish brown, sub-basal faint, consisting of irregular trait from costa to cubitus, ante- and postmedial lines distinctly oblique, almost straight or slightly sinuous, most separate at costa, less at anal margin, the first running from hump of costa to half-way length of anal margin, the second from middle of costa to just before tornus; orbicular stigma a dark brown dot, reniform a small cream-coloured drop-like mark lined dark brown; basal and median fields dull brown with some grey irroration, especially along costa and at wing base, distal field increasingly warmer dark reddish brown towards nearly straight edge with sharply contrasting pale cream-coloured antemarginal field, this showing some grey suffusion and faint grey adterminal chevrons; termen feebly undulated, terminal line faintly suffused grey, fringe pale cream-coloured, with some grey suffusion at base; underside extensively dark grey except for vivid yellow suffusion at base and yellow fringe. Hindwing ovate, broad, extensively suffused dark brownish grey, paler cream-coloured just before termen; termen feebly undulated, pre-



**Figs 1-8** – Adults of *Artena* spp.: **1**, *A. lacteicincta*, ♂, India, Silhet; **2**, *idem*, ♂, Thailand, Doi Phu Kha; **3**, *idem*, ♂ (pale form), Thailand, Khao Yai; **4**, *idem*, ♂, Borneo [Sarawak], Gunong Mulu; **5**, ♂, *A. eccentrica*, ♀, Mindanao, Tandag; **6**, *A. uncinata* sp. n., ♂ syntypus, Luzon, Mt Anaguao; **7**, *A. lacteicincta*, ♀, Thailand, Pua/Ban Bo Kleua road; **8**, *idem*, India, Khasia Hills. All specimens approximately same scale-sized.

ceded by faint adterminal lunules, terminal line feeble, grey, fringe pale yellow except along anal margin, where it is concolorous with disc; underside unicolorous yellow. Legs slender, with femora and tibiae thickly clothed with an admixture of grey and orange-yellow scales on fore- and midleg, bright yellow only on hindleg, tarsi grey. Underside thickly clothed with pale orange-yellow scaling. *Abdomen*: blackish grey dorsally, yellow at tip. Underside bright orange-yellow.

*Male genitalia* (Figs 11-12): Apparatus massive, tegumen long, narrowly reverse V-shaped, vinculum stout, V-shaped, longer than tegumen, with arms of uniform width and without produced saccus, valvae basically symmetrical, consisting of broad sub-trapezoid part whose distal edge is produced ventrally into short wedge-like, smoothly upcurved projection in continuation of saccus and remarkably elongated superior costal process, this of approximately uniform width and sinuous S-shaped, distal-



**Figs 9-12** – Male genitalia of *Artena*: **9**, *A. lacteicincta*, Sumatra; **10**, *A. eccentrica*, Mindanao, Tandag; **11**, *A. uncinata* sp. n., syntypus, Luzon, Mt Anaguao; **12**, *idem*, syntypus, Luzon, Dalton Pass. All specimens approximately same scale-sized; notation “a” refers to corresponding aedeagi.

ly clubbed, long slender and arcuate ampulla arises from above central part of valva. Uncus short, broad-based, regularly tapered into sharp apex; tuba analis short and broad, membranous. Juxta broad, X-shaped, with inferior arms as wide as superior ones. Aedeagus broadly bulbed foot-like at base and smoothly arcuate distally, vesica wide tubular, with small subbasal serrated sclerotised plate, terminated by bundle of needle-like cornuti.

*Variability*: The five syntypes do not show appreciable differences.

Female: unknown.

**Material examined**. Syntypi (5♂♂): [**Philippines**]: 4♂♂, The Philippines, Luzon Isl., Aurora Prov., Dinalungan, Mt. Anaguao, Alebit River Camp, 9-13.iii.1997, light trap, 700 m, leg. R.A. Müller et al.; 1♂, *idem*, Nueva Viscaya Prov., Dalton Pass, 900 m, 3-8.vi.1985, light trap, Roland A. Müller leg.; all in Naturalis Biodiversity Center (Leiden).

**Distribution**. So far known only from Luzon in the Philippines.

**Etymology**. The species derives its name from Latin *unci-*

*natus* (= hooked), to stress the outstanding long recurved costal processes of valvae resembling hooks.

**Diagnostic remarks.** The new species is a third member of the *lacteicincta-eccentrica*-group of *Artena*. It can easily be recognised from its closest allies by the strong reduction of male secondary sexual characters. Males of both *A. lacteicincta* and *A. eccentrica* show in fact a great difference in the relative development of fore- and hindwings, the former being greatly expanded, elongated and apically salient, the latter long obovate and markedly smaller than forewing (Figs 1-5). As a matter of fact, the male of *A. uncinata* (Fig. 6) nearly approaches in shape the wings outline of female *A. lacteicincta* (Figs 7-8) (that of *A. eccentrica* being unknown). Other differences occur in the less oblongue, more regularly ovate hindwing of *A. uncinata* and the submarginal edge between distal brown and adterminal cream-coloured fields of forewing not incurved towards apex. With respect to *A. lacteicincta*, *A. uncinata* can also be distinguished by the paler filling of reniform stigma and yellow tip of abdomen, while from *A. eccentrica* by the non-parallel postmedial lines of forewing which are more separate apart at costa and by the broadly smoky-coloured hind wing, without thence the conspicuous bright yellow wide distal band seen in the Mindanao endemic (Fig. 5). In the male genitalia, the costal process of *A. uncinata* (Figs 11-12) is thinner and evenly sinuous with respect to that of *A. lacteicincta* (cf. Holloway, 2005 and Fig. 9), without any preapical expansion or abrupt corner, while that of *A. eccentrica* (cf. Yoshimoto, 1999 and Fig. 10) is as thick as in *A. uncinata* but not sigmoid, being arched only at base; the ampulla of *A. uncinata* is more similar to that of *A. eccentrica*, possibly even longer and more slender albeit less apically clubbed, while that of *A. lacteicincta* is shorter, stouter, and quite asymmetrical between the two valvae; the inferior process terminating the ventral edge of valva in the new species is distinctly longer, upcurved and more slender than the broad-based triangular one of *A. lacteicincta*, being thence similar to that of *A. eccentrica*; notable also that the inferior and superi-

or arms of the X-shaped juxta are of approximately same width in the Philippine endemics (Figs 10-12) while the inferior ones are much broader in *A. lacteicincta* (Fig. 9). In the new species the aedeagus is more sharply bent in the distal half with respect to its closest allies, the vesica longer, without the medial bundle of cornuti seen in *A. lacteicincta*, and with cornuti of the distal bundle weaker and more numerous than in *A. lacteicincta* but stronger and less numerous than in *A. eccentrica* (Figs 9a-12a).

## Discussion

*Artena lacteicincta* is a fairly rare species distributed from Assam across Indochina to Sundaland, to the South-East up to Sumatra, Belitung and Borneo, where it shows some variation in the configuration of the superior processes of valvae and ampullae. With *A. uncinata* and *A. eccentrica*, it happens to have two, possibly even rarer vicariants in the Philippines, to the north (Luzon) and south (Mindanao) of this archipelago, respectively, which show how diversity in the area is promoted by both its peripheral position within the Oriental Region and geographical complexity.

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