



A NEW SPECIES OF *ATRACHEA* WARREN, 1911 FROM CHINA (LEPIDOPTERA, NOCTUIDAE, XYLENINAE)

Oleg PEKARSKY

H-1068 Budapest, Felsőerdősor u. 16-18, Hungary; e-mail: opbp@t-online.hu

PEKARSKY, O. 2023. A new species of *Atrachea* Warren, 1911 from China (Lepidoptera, Noctuidae, Xyleninae). *Entomofauna carpathica*, **35**(1): 1-7.

Abstract: A new species of *Atrachea*, *A. lueyanga* **sp. n.** from China, Shaanxi province is described. The diagnostic comparison is made with *Atrachea nitens* (Butler, 1878) and *A. jankowskii* (Oberthür, 1879).

Key words: Lepidoptera, Noctuidae, Xyleninae, *Atrachea*, new species, China

INTRODUCTION

Atrachea is an East Palaearctic genus of the Xyleninae subfamily, tribe Apameini with thirteen species (KONONENKO 2001). There are 7 species known for continental China: *A. jankowskii*, *A. prasinatra* (Draudt, 1950), *A. leucochlora* (Boursin, 1970), *A. munda* (Leech, 1900), *A. draudti* Kononenko, 2001, *A. chlorofasciata* Kononenko, 2001, and *A. japonica* (Leech, 1889) (CHEN 1999, KONONENKO 2001, HAN, LI & RONKAY 2007), also there are two species listed for Taiwan, *A. viridinigra* (Hreblay & Ronkay, 1997) and *A. ochrotica* (Hampson, 1910) (HREBLAY & RONKAY 1997). Study of the Chinese *Atrachea* material from the Provinces Shaanxi, Sichuan, Jiangxi, Guangxi and Gansu revealed the hidden undescribed sister species of *A. nitens*, which are inseparable externally but are clearly different in both the male and female genitalia structures. Additional investigation of the *A. nitens*-like moths required in order to confirm the presence of the true *A. nitens* in China.

Abbreviations: GRB = Gábor Ronkay (Budapest, Hungary), RL = slide made by László Ronkay (Budapest, Hungary); OP = Oleg Pekarsky (Budapest, Hungary).

SYSTEMATIC PART

Atrachea lueyanga sp. n.

(Figs 1, 2)

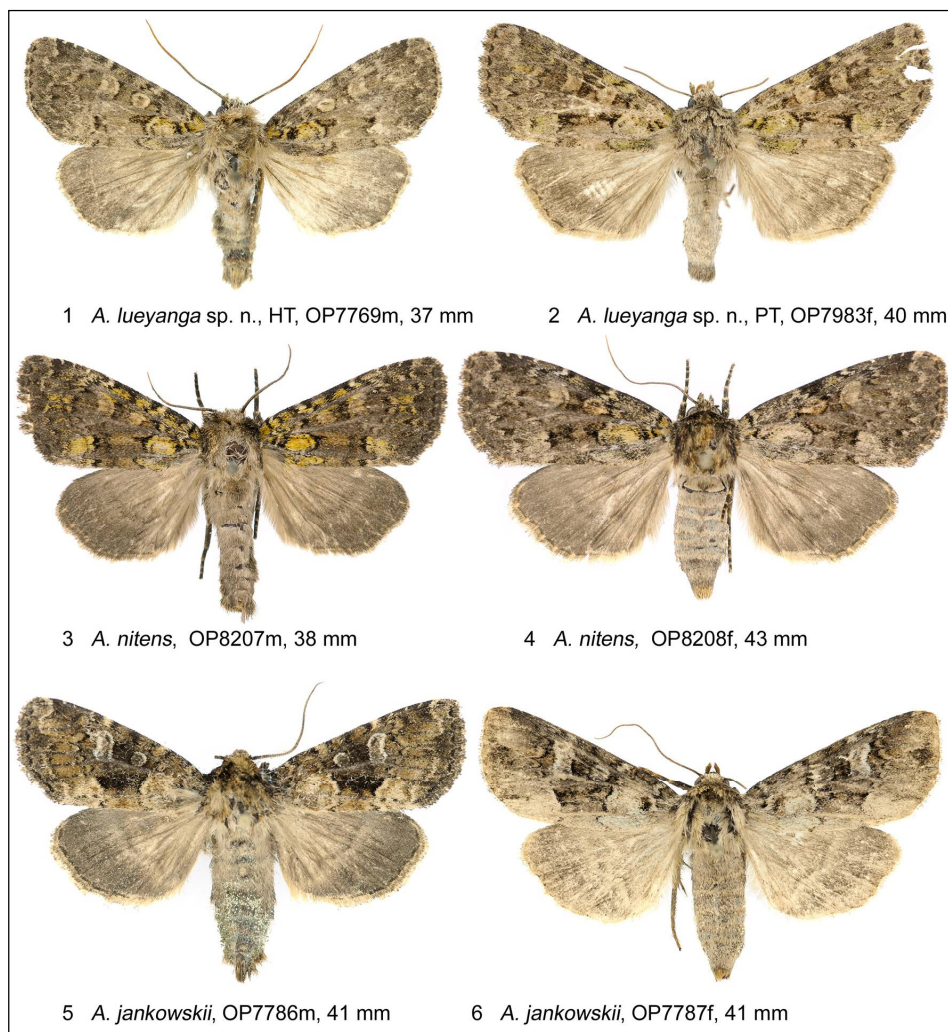
Holotype. Male (Fig. 1), China, Shaanxi, Lueyang, 26.VI.–6.VII.2009, leg. E. Kučera; slide No. OP7769m (coll. O. Pekarsky).

Paratypes. **China:** 1 female, Guangxi, Yuecheng Ling, 26°06'N 110°54'E, 1800 m, 1–16.V.2008, leg. V. Siniaev, slide No. OP7744f; 1 female, Sichuan, Lao Lin Kou, 1900 m, 103°26'E, 28°21'N, 26.VI.–12.VII.2008, leg. V. Siniaev, Slide RL9951f (coll. O. Pekarsky); 1 female, Shaanxi, South Taibaishan, Tsinling Mts, Houzhenzi, 1600 m, 33°53'N, 107°49'E, 15.VIII.–15.X.1999, leg. local collector, Slide OP7983f (coll. G. Ronkay); 1 male, Shaanxi, Lueang env., 15 km NW, 18–21.VII.2001, leg. E. Kučera; 1 male, 1 female, Shaanxi, Tsinling Mts, Fopin Mt., 35°45'N, 107°38'E, 1900 m, 1–30.VI.2004, leg. V. Siniaev; 1 male, 1 female, Shaanxi, Tsinling Mts, Fopin Mt., 33°35'N, 108°01'E, 1800 m, 1–30.VI.2004, leg. V. Siniaev; 1 female, Shaanxi, South Taibaishan, Tsinling Mts, Houzhenzi, 1900 m, 33°53'N, 107°49'E, VI–X.1999, leg. local collector; 1 male, Shaanxi, Tsinling Mts, Taibaishan range, 3000 m, Houzhenzi vill., 33°53'N, 107°49'E, 22.VIII.–25.X.1999, leg. local collector; 1 m, Shaanxi, Tsinling Mts, Fopin Mt., 33°35'N, 108°01'E, 1800 m, 1–31.VIII.2005, leg. V. Siniaev; 1 male, 1 female, Sichuan, Qingcheng Shan, 1500–1800 m, 31°12'N, 102°47'E, 1–30.VI.2006, leg. V. Siniaev & Team; 1 male, Jiangxi, Wuyi Shan, Xipaihe village, 1500 m, 27°54'N, 117°20'E, 1–30.VI.2003, leg. V. Siniaev & local collector; 1 male, Gansu, 2350 m, Min Shan, 50 km W of Wudu, 33°30'N, 104°35'E, 27.VII.–15.VIII.2000, leg. Plutenko & Siniaev; 1 female, Sichuan, Volong reserv., Siguliang Shan, 31°09'N, 103°20'E, 1–30.VI.2006, leg. V. Siniaev & Team (coll. P. Gyulai).

Etymology. The name of the species refers to the locality where the Holotype was collected.

Diagnosis. The new species is similar externally to *A. nitens* (Figs 3, 4) of which it can be separated only by the genitalia structures. The male genitalia of *A. lueyanga* (Fig. 7) differ from those of *A. nitens* (Fig. 8) by the shorter uncus, somewhat shorter valva with more acute apex, shorter aedeagus with larger, strongly sclerotized tooth-like ventral carinal plate, and shorter and wider main tube of vesica (in *A. nitens*, the uncus is longer, the valval apex is more rounded, the outer margin of the corona is less acute, the subbasal plate is smaller, the main tube of vesica is narrower and considerably longer; in *A. jankowskii*, the clasping apparatus is larger, the uncus is thinner and longer, the subbasal plate is absent, the valva is wider and longer than in the two related species, and the main tube of vesica is larger, longer and wider, curved ventro-dorsally).

The female genitalia of the new species (Figs 10, 11) differ from those of *A. nitens* (Fig. 12) and *A. jankowskii* (Fig. 13) by the strongly developed asymmetrical sclerotization on the antrum (on the left side of the antrum in case of ventral view) and the remarkably shorter ductus bursae. The female genitalia of *A. jankowskii* differ from those of the other two congeners by the much longer ductus bursae and the absence of the lateral sclerotization on antrum.



Figures 1–6. *Atrachea* spp, adults. **1,** *A. lueyanga* sp. n., male, Holotype, China, Shaanxi (OP); **2,** *A. lueyanga* sp. n., female, Paratype, China, Shaanxi (GRB); **3,** *A. nitens*, male, Japan, Yamanashi (OP); **4,** *A. nitens*, Japan, Nagano (OP); **5,** *A. jankowskii*, male, Russian Federation, Far East (OP); **6,** *A. jankowskii*, female, Russian Federation, Far East (OP).

Note: The female genitalia of *A. nitens* were described and illustrated by drawing for the first time by Kononenko (1986). The description contains the following characteristics: “...дуктус склеротизованный, короткий, в 4–5 раз короче бурсы”. The translation of this text is as follows: “...ductus [bursae] sclerotized, short, in 4–5 times shorter than [corpus] bursae”. The same description and drawing were made in the *Atrachea* revisional work (KONONENKO 2001). This description does not correspond to *A. nitens* as the female genitalia of *A. nitens* occurring in Japan are characterized by the long ductus bursae which is only 2 times shorter than the corpus bursae. In the Atlas genitalia of the Noctuidae in Korea (KONONENKO & HAN 2007), the genitalia illustrated under the name *A.*

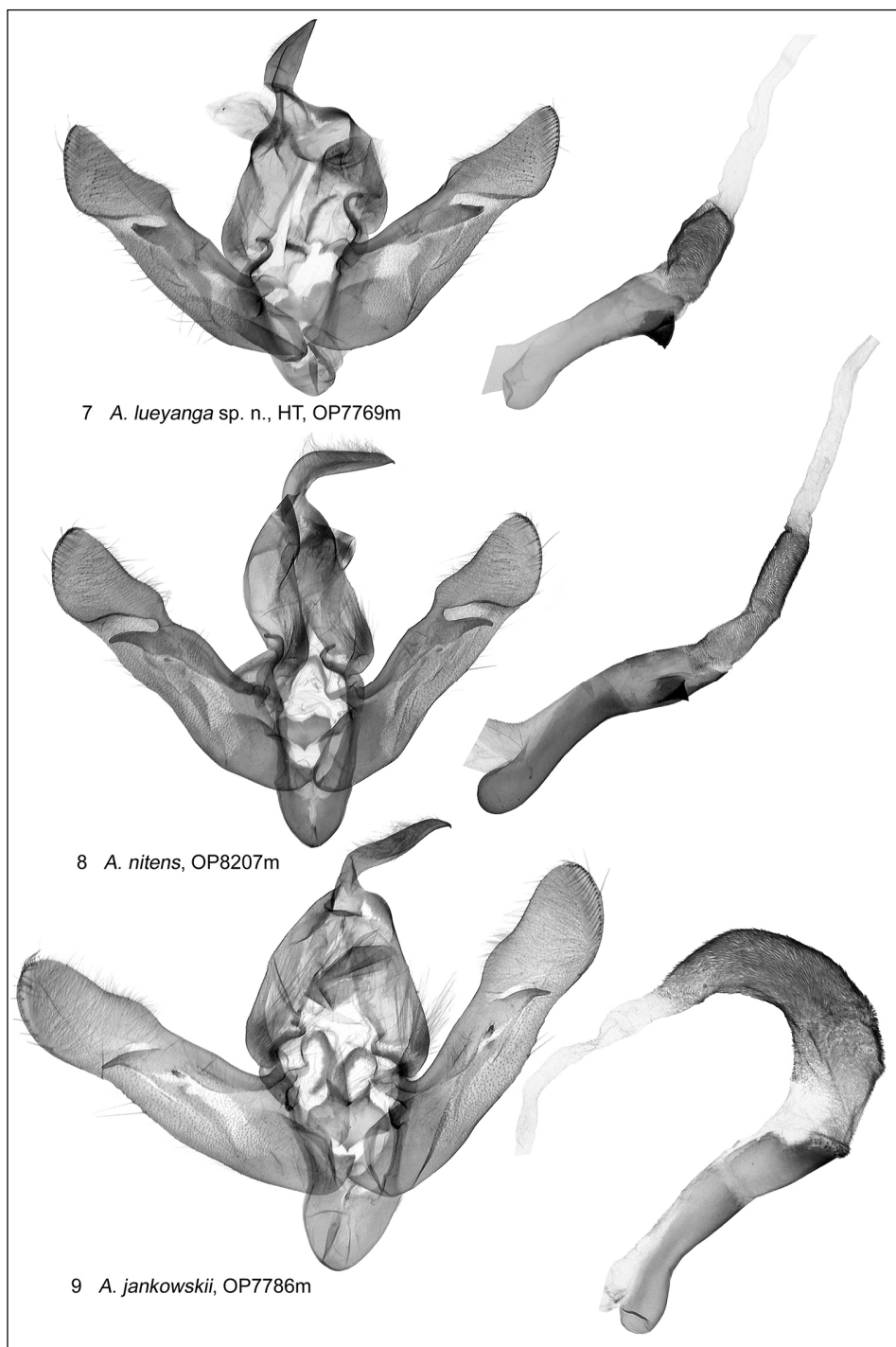
nitens refer to an *Atrachea* sp. “N Korea.VK.ZIN” with characteristically short ductus bursae. Later, BABICS, KONONENKO & SALDAITIS (2012) illustrated the female genitalia of the unnamed *Atrachea* species with short ductus bursae as *A. nitens* with the caption “Russia Far East, South Kuriles”. Finally, Kononenko in the third volume of the Noctuoidea Sibiricae (2016) illustrated again this *Atrachea* species with short ductus bursae in the female genitalia as *A. nitens* but with caption “N Korea.VK.4255.ZISP”. The female genitalia in the above mentioned publications do not belong to *A. nitens* but most probably to *A. lueyanga* sp. n. from China. The misidentified specimens are not included into the Paratype series.

Description (Figs 1, 2). Wingspan 37–44 mm. Forewing moderately elongated with apex and outer margin rounded. Head, frons, thorax, tegulae and abdomen greyish-brown; collar greyish-brown with greenish and dark brown scales in the middle and black/dark brown outer line; antenna biserrate in males, filiform in females. Forewing ground colour pale greyish-brown, with green suffusion; basal and subbasal fields intensively green irrorated, wing pattern well marked with well-developed crosslines; subbasal line dentate; antemedial line straight, oblique; postmedial line curved, serrate; subterminal line dentate; terminal line a row of black streaks; reniform and orbicular stigmata pale; claviform dark brown; cilia as ground colour. Hindwing slightly paler than forewing, almost unicolorous, with broad darker marginal area and diffused transverse line, discal spot large, lunulate, hardly traceable.

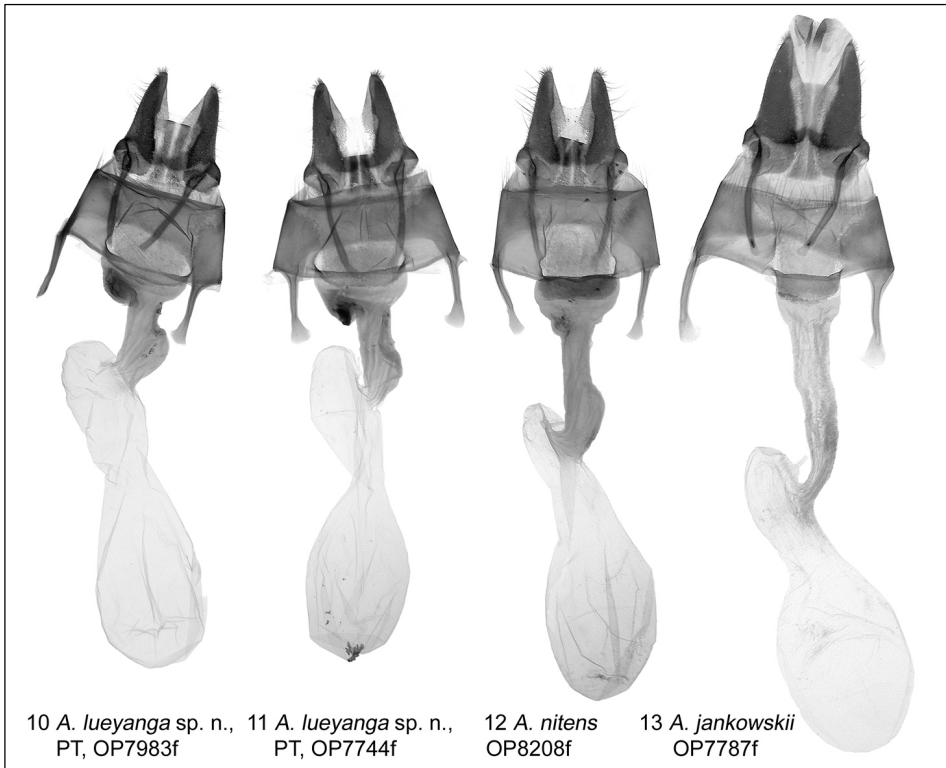
Male genitalia (Fig. 7). Uncus strong, rather short, basally curved, apically pointed; tegumen broad, penicular lobes developed; vinculum strong, U-shaped; juxta shield-like, concave dorsally. Valva elongated, cucullus large, ca one third of valval length; costal margin sclerotized, with small preapical hump; clasper thick, short, triangular with finely splitted tip. Aedeagus tubular, short, moderately curved at middle, ventral carinal tooth large, pyramidal, with pointed tip; vesica membranous, main part thickly tubular, densely scobinated, distal section long, membranous.

Female genitalia (Figs 10, 11). Ovipositor broad, strong, covered with thin, short, hair-like setae; anterior apophyses short, thick, with spatulate ends, posterior apophyses thinner and longer than anterior ones, their tips spatulate. Antrum wide, cup-like with large, asymmetrical sclerotisation on the left side; ductus bursae short, wrinkled, membranous, with small swelling anteriorly; corpus bursae elongated, saccular, membranous.

Distribution. The new species known to occur in Gansu, Shaanxi, Guangxi, Jiangxi and Sichuan provinces of China, it could be present also in Korea and the Russian Far East.



Figures 7–9. *Atrachea* spp, male genitalia. **7,** *A. lueyanga* **sp. n.**, Holotype, China, Shaanxi (OP); **8,** *A. nitens*, Japan, Yamanashi (OP); **9,** *A. jankowskii*, Far East (OP).



Figures 10–13. *Atrachea* spp, female genitalia. **10**, *A. lueyanga* sp. n., Paratype, China, Shaanxi (OP); **11**, *A. lueyanga* sp. n., Paratype, China, Guangxi (OP); **12**, *A. nitens*, Japan, Nagano (OP); **13**, *A. jankowskii*, Far East (OP).

ACKNOWLEDGEMENTS

I would like to express my gratitude to László Ronkay (HNHM, Budapest) for critical comments to the manuscript, Gábor Ronkay (Budapest, Hungary) for help in finding *Atrachea* material for study.

REFERENCES

- BABICS, J., KONONENKO, V.S. & SALDAITIS, A. 2012. New genus and three new species of the subfamily Xyleninae (Lepidoptera, Noctuidae). *Zootaxa* 3509: 55–68.
- CHEN, Y.X. 1999. Lepidoptera, Noctuidae. In: ZHU, H.F. et al. (Ed.) *Fauna Sinica*, Insects, Vol. 16. Science Press, Beijing, 1596 pp.
- HAN, H.L., LI, C.D., RONKAY, L. 2007. Report on two species of noctuid moths (Lepidoptera, Noctuidae s.l.) new to China and one new record species in Continental fauna. *Journal of Forestry Research* 18(2): 144–146.

- HREBLAY, M. & RONKAY, L. 1997. New Noctuidae (Lepidoptera) species from Taiwan and the adjacent areas. *Acta Zoologica Academiae Scientiarum Hungaricae* 43(1): 21–83.
- KONONENKO, V.S. 1986. *The noctuids of the genus Atrachea Warren (Lepidoptera, Noctuidae) of the fauna of the Far East of the USSR*. Sistematika i ecologia nasekomyh Da'Inego Vostoka. Vladivostok: 36–43. (in Russian).
- KONONENKO, V.S. 2001. Revisional notes on the Palaearctic species of the genus *Atrachea* Warren (Lepidoptera, Noctuidae, Amphipyryinae), with description of two new species from China. *Insecta Koreana* 18(1): 51–68.
- KONONENKO, V.S. & HAN, H.L. 2007. Atlas genitalia of the Noctuidae in Korea (Lepidoptera). *Insects of Korea*. Series 11: 464 pp. Korean National Arboretum & Center for Insects Systematics, Seoul.
- KONONENKO, V.S. 2016. Noctuidae: Cucullinae – Noctuinae, part (Lepidoptera). – Noctuoidea Sibirica. Part 3. *Proceedings of the Museum Witt Munchen* 5: 1–497 [3], München – Vilnius.