

Two Species of the genus *Hypena* Schrank, 1802 (Lepidoptera, Noctuidae) New to China

Bin Zhang, Chun-Xiang Hu and Hui-Lin Han*

College of Forestry, Northeast Forestry University, Harbin, China 150040

중국산 *Hypena* Schrank, 1802속의 미기록 2종 보고

장 빈 · 호춘상 · 한휘림*

중국 동북림업대학교 림업대학

ABSTRACT: Two species of the genus *Hypena* Schrank, 1802, *H. nigrobasis* (Herz, 1904) and *H. conspersalis* Staudinger, 1888, are reported for the first time from China. Adults and genitalic characteristics of the two species are briefly redescribed, with illustrations and their distribution.

Key words: Hypeninae, *Hypena*, new record, NE. China

초 록: *Hypena* 속 2종 *H. nigrobasis* (Herz, 1904)와 *H. conspersalis* Staudinger, 1888, 중국에서는 처음으로 보고된다. 성충의 외부형태특징에 대해 간략하게 재기재하고 이들의 암수생식기의 도해도 및 분포정보를 제시한다.

검색어: Hypeninae, *Hypena*, 미기록, 중국 동북지역

At the present time more than 513 species of the genus *Hypena* Schrank, 1802 belong to 12 subgenus in the world (Lödl, 1993a-c, 1994a-f, 1995a-f, 1996a-d, 1997, 1998a-e, 1999, 2000; Lödl and Gaal, 1996a-b; Poole, 1989). In the NE Asian region, 19 species were recorded from Russia (Kononenko, 2003, 2005, 2010); 23 species from Korea (Kononenko *et al.*, 1998; Kononenko and Han, 2007); 58 species from Japan (Sugi, 1982; Kishida, 2010a-b). In China, 72 species had been known to date (Chen, 1999; Hua, 2005; Poole, 1989; Xuan and Han, 2010), and among them, only 7 species are from NE China (Chen, 1999; Sui and Han, 2010).

In this study, *H. nigrobasis* (Herz, 1904) and *H. conspersalis* Staudinger, 1888, are reported for the first time from China. External morphology including adults and genitalia of both sex

are examined and illustrated. The specimens of the two species recorded herein are deposited in the Northeast Forestry University (NEFU).

Taxonomic accounts

Genus *Hypena* Schrank, 1802

Hypena Schrank, 1802. Type species: *Phalaena proboscidalis* Linnaeus, 1758.

Erichila Billberg, 1820. Type species: *Phalaena proboscidalis* Linnaeus, 1758.

Herpyzon Hübner, 1822. Type species: *Phalaena proboscidalis* Linnaeus, 1758.

Bomolocha Hübner, [1825]1816. Type species: *Phalaena crassalis* Fabricius, 1787.

Ophiuche Hübner, [1825]. Type species: *Phalaena lividalis* Hübner, 1796.

*Corresponding author: hanhuilin@yahoo.com.cn

Received September 14 2011; Revised October 25 2011;

Accepted November 18 2011

Dichromia Guenée, 1852. Type species: *Phalaena orosia* Cramer, 1780.

Badausa Walker, 1864. Type species: *Badausa hypenoides* Walker, 1864.

Pelialia Walker, 1865. Type species: *Pelialia tenebrosa* Walker, 1865.

Phanaspa Walker, [1866]1865. Type species: *Phanaspa dilatalis* Walker, [1866]1865.

Euhypena Grote, 1873. Type species: *Hypena toreuta* Grote, 1872.

Meghypena Grote, 1873. Type species: *Meghypena velifera* Grote, 1873.

Macrhypena Grote, 1873. Type species: *Hypena deceptalis* Walker, [1859]1858.

Mathura Moore, 1882. Type species: *Mathura albisigna* Moore, 1882.

Apanda Moore, 1882. Type species: *Apanda denticulate* Moore, 1882.

Hypoepa Leech, 1889. Type species: *Hypoepa bambusalis* Leech, 1889.

Nesamiptis Meyrick, 1899. Type species: *Nesamiptis plagiota* Meyrick, 1899.

Anepischetos Smith, 1900. Type species: *Anepischetos bipartite* Smith, 1900.

Placerobela Turner, 1903. Type species: *Placerobela brachyphylla* Turner, 1903.

Subgenus *Bomolocha* Hübner, [1825]1816

Bomolocha Hübner, [1825]1826. Type species: *Phalaena crassalis* Fabricius, 1787.

Badausa Walker, [1863]1864. Type species: *Badausa hypenoides* Walker, [1863] 1864.

Euhypena Grote, 1873. Type species: *Hypena toreuta* Grote, 1872.

Macrhypena Grote, 1873. Type species: *Hypena deceptalis* Walker, [1859]1858.

Meghypena Grote, 1873. Type species: *Meghypena velifera* Grote, 1873.

Male genitalia. Uncus strong, hook shaped. Clavus generally big and distinct; costa slightly sclerotized, and curved or straight. Vesica with a bundle of cornuti.

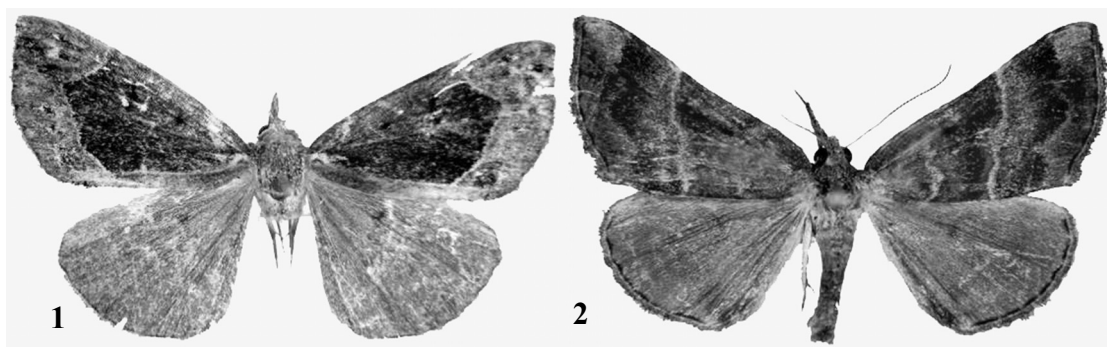
Female genitalia. Papillae analis slightly thick; ductus bursae broad and shrunken; corpus bursae smooth.

***Hypena (Bomolocha) nigrobasalis* (Herz, 1904)** (Figs. 1, 3, 5)

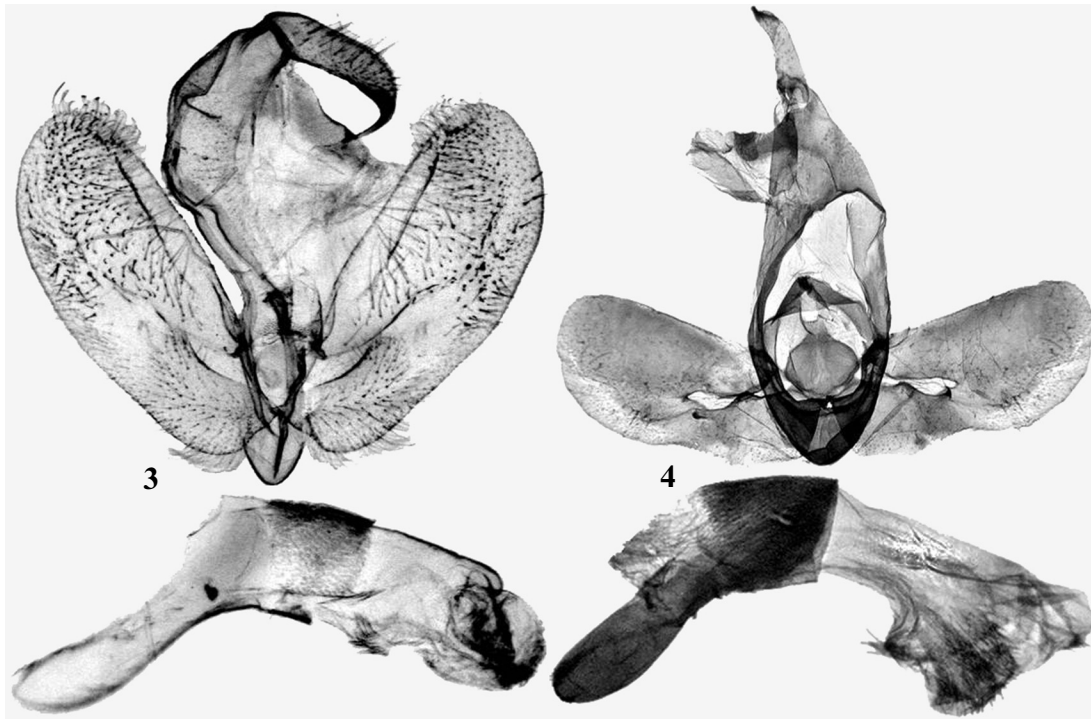
Bomolocha nigrobasalis Herz, 1904, Ann. Mus. Zool. Acad. imp. Sci. St.-Petersb. 9: 329, pl. 1: 13 (TL: Korea, 38.5°N, 128°E [Pungtung villiage] [ZI, St. Petersburg]). Sugi, 1982, 1: 912, 2: 223, figs. 36-43; Poole, 1989: 528; Kononenko et al., 1998: 47.

Diagnosis. Very similar to *H.(B.) bicoloralis* Graeser, 1888, but can be distinguished by the following characters: subterminal line form by black spots, *bicoloralis* very indistinct; apex area with thin black band, the latter with distinct black band; reniform spot present, the latter very blurred.

Adult (Fig. 1). Wingspan 26–28 mm. Head, thorax and abdomen grayish brown. Forewing with a hoar line from middle of basal part, curved to postmedial line, and with costal margin form a big dark brown mark; basal band, antemedial and median lines indistinct; terminal, subterminal line areas and inner margin area less grayish brown; postmedial line hoar, with horn on M₂;



Figs.1-2. Adult of *Hypena*: 1, *H. nigrobasalis* (Herz, 1904); *H. conspersalis* Staudinger, 1888.



Figs. 3-4. Male genitalia of *Hypena*: 3, *H. nigrobasalis* (Herz, 1904); 4, *H. conspersalis* Staudinger, 1888.

subterminal line with a row of black spots on vein; orbicular and reniform spots black and small. Hindwing grayish brown, discal spot black and small.

Male genitalia (Fig. 3). Uncus hook and long; costal and saccular margins generally parallel; clavi weakly intumescence; costal process smooth, broaden; saccus narrow V shaped; aedeagus short and bend, vesica with cornuti band.

Female genitalia (Fig. 5). Apophysis posterioris shorter than anterioris part. Ostium bursae cup shaped; ductus bursae wrinkle and weakly shrink. Corpus bursae eggplant shaped, smooth, posterior part gradually narrow; with a flat subdiviculum at medial part.

Material examined. 2♂, Chongshan, Helong, Jilin Prov., 14 VII 2001(HL Han); 2♂, 3♀, Weidong, Fusong, Jilin Prov., 16 VII 2001(HL Han); 1♂, 1♀, Erdao Power Station, Antu, Jilin Prov., 18 VII 2001(HL Han); 3♀, Jiashan, Helong, Jilin Prov., 20 VII 2001(HL Han).

Distribution. China (Jilin), Korea, Russia, Japan.

Subgenus *Hypena* Schrank, 1802

Hypena Schrank, 1802. Type species: *Phalaena proboscidalis* Linnaeus, 1758: 533[Europe].

Erichila Billberg, 1820. Type species: *Phalaena proboscidalis* Linnaeus, 1758.

Herpyzon Hübner, 1822. Type species: *Phalaena proboscidalis* Linnaeus, 1758.

Ophiuche Hübner, [1825]. Type species: *Phalaena lividalis* Hübner, 1796.

Dichromia Guenée, 1852. Type species: *Phalaena orosia* Cramer, 1780.

Pelialia Walker, 1865. Type species: *Pelialia tenebrosa* Walker, 1865.

Mathura Moore, 1882. Type species: *Mathura albisigna* Moore, 1882.

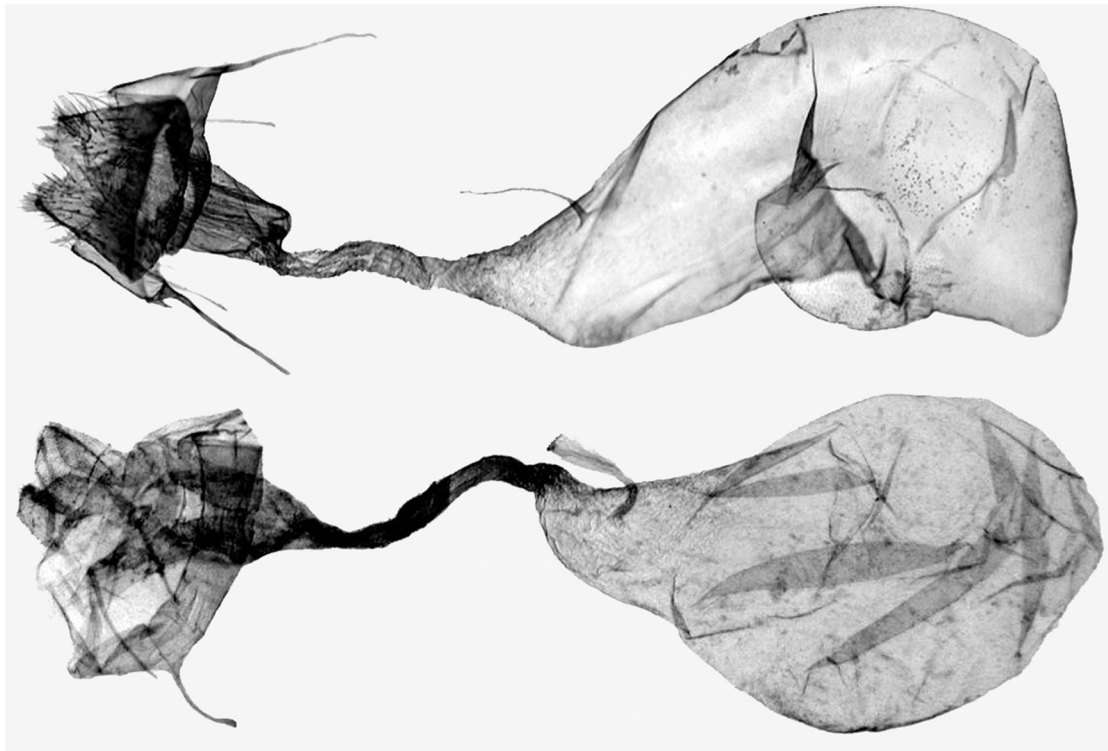
Apanda Moore, 1882. Type species: *Apanda denticulate* Moore, 1882.

Nesamiptis Meyrick, 1899. Type species: *Nesamiptis plagiota* Meyrick, 1899.

Anepischetos Smith, 1900. Type species: *Anepischetos bipartite* Smith, 1900.

Placerobela Turner, 1903. Type species: *Placerobela brachyphylla* Turner, 1903.

Male genitalia. Uncus long and crooked, gradually slender



Figs. 5-6. Female genitalia of *Hypena*: 5, *H. nigrobasalis* (Herz, 1904); 6, *H. conspersalis* Staudinger, 1888.

terminally. Clavus distinct; costa camberlike; sclerotized part of sacculus present; cucullus more or less round shaped. Juxta rather anomalous ligulate shaped. Vesica with cornuti, thorny or grainy.

Female genitalia. Papillae anales broad and thick. Ductus bursae slender, with wrinkles. Corpus bursae smooth, plicate or grainy; ductus seminalis at posterior part of corpus bursae.

***Hypena (Hypena) conspersalis* Staudinger, 1888** (Figs. 2, 4, 6) *Hypena conspersalis* Staudinger, 1888, Stettin. ent. Ztg 49: 282 (TL: RFE, Amur reg., Radde [Raddefkal, Primorye terr., Ussuri, Vladivostok [Wladiwostok], Razdolnaya river [Suifun], Bikin, [MNHU, Berlin]). Poole, 1989: 522; Kononenko *et al.*, 1998: 50. *Hypena passerinalis* Graeser, 1888 [1889], Berl. ent. Z. 32, II: 383 [TL: RFE, Khabarovsk [Chabarofka] [ZI, St. Petersburg]). *Bomolocha chosenula* Bryk, 1948, Ark. Zool. 41 (A)1: 153 (TL: North Korea, near Kyeongseong (Hamgyeong bugdo)[Shuotsu] [NRM, Stockholm]).

Hypena conspersalis koreana Bryk, 1948 (ssp.), Ark. Zool. 41 (A)1: 154 (TL: North Korea, near Kyeongseong, Hamgyeong bugdo [Shuotsu][NRM, Stockholm]).

Diagnosis. Very similar to *H. (H.) proboscidalis* (Linnaeus, 1758), but can be distinguished by the following characters: forewing narrow and reddish brown, *proboscidalis* rather broader and ochre yellow; postmedial line hoar, the latter with dark ochre; subterminal line thin hoar, incurved at M_3 , the latter form by black dots.

Adult (Fig. 2). Wingspan 24~26mm. Head and abdomen brown, thorax dark brown. Forewing reddish brown, rather narrow; sharp at apex; outer margin angled-in and slightly straight; antemedial line hoar, sinuous; median line indistinct, with dark reddish brown; postmedial line hoar and oblique, curved at posterior part; subterminal line thin hoar, incurved at M_3 ; terminal line black; subterminal and postmedial line areas dark reddish brown; reniform spot narrow and indistinct. Hindwing thin reddish brown; discal spot blurry, and small spot; terminal line black.

Male genitalia (Fig. 4). Uncus short and broad, slightly crook at terminal part. Cucullus broad and thick; clavus long and big; ventral margin of sacculus with sunken at middle part. Juxta broad lozenge. Aedeagus bend; coecum long, vesica with small cornuti band and 3 strong and large cornuti.

Female genitalia (Fig. 6). Papillae analis small. Apophysis posterioris longer than anterioris. Ostium bursae long and narrow V shaped. Ductus bursae slender, as long as 2/3 time length of corpus bursae. Corpus bursae smooth, cucurbit shaped, signa absent.

Material examined. 1♂, Mt. Mati, Longjing, Jilin Prov., 12 VII 2001(HL Han); 2♂, 1♀, Chongshan, Helong, Jilin Prov., 14 VII 2001(HL Han); 2♀, Erdao Power Station, Antu, Jilin Prov., 18 VII 2001(HL Han).

Distribution. China (Jilin), Korea, Russia (Far East).

Acknowledgements

The present study was supported by the National Nature Science Foundation of China, No 30700641, the Fundamental Research Funds for the Central Universities, No. DL09CA05, special grade of the financial support from China Postdoctoral Science Foundation(No. 200902361), SRF for ROCS, SEM.

Literature Cited

- Chen, Y.X. 1999. Lepidoptera: Noctuidae. [*Fauna Sinica*] Insect Vol. 16. Beijing, Science press. 1664 pp.
- Hua, L.Z. 2005. List of Chinese Insects(III). Guangzhou, Sun Yat-sen University Press. 595 pp.
- Kishida, Y. 2010a. Descriptions of new species and new subspecies of Japanese Macrolepidoptera (1). *Tinea* 21(2): 57-69.
- Kishida, Y. 2010b. Descriptions of new species and new subspecies of Japanese Macrolepidoptera (2), with descriptions of 2 new genera. *Tinea* 21(3): 129-135.
- Kononenko, V.S. 2003. Key to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. Pt. 4. Vladivostok, Dal'nauka. 688 pp.
- Kononenko, V.S. 2005. An annotated check list of the Noctuidae (S. L.) (Lepidoptera, Noctuoidea: Nolidae, Erebidae, Micronoctuidae, Noctuidae) of the Asian part of Russia and the Ural region. *Noctuidae Sibiricae*. Vol. 1. Entomological Press, Sorø. 243 pp.
- Kononenko, V.S. 2010. Noctuidae Sibiricae. Vol. 2. Micronoctuidae, Noctuidae: Rivulinae-Agaristinae. Entomological Press, Serø. 475 pp.
- Kononenko, V.S., S.B. Ahn, and L. Ronkay. 1998. Illustrated Catalogue of Noctuidae in Korea (Lepidoptera). Junghaeng-Sa, Seoul. 458 pp.
- Kononenko, V.S. and H.L. Han. 2007. Atlas Genitalia of Noctuidae in Korea (Lepidoptera). Junghaeng-Sa, Seoul. 464 pp.
- Lödl, M. 1993a. Die Flügelzeichnung der Gattungsgruppe *Hypena* SCHRANK 1802 (Lepidoptera: Noctuidae). *Entomol. Z.* 103(4): 54-62.
- Lödl, M. 1993b. Notes on the synonymy of the genera *Hypena* SCHRANK, 1802, *Dichromia* GUENÉE, 1854 and *Harita* MOORE, 1882 (Lepidoptera: Noctuidae: Hypeninae). *Z. Arbeitsgem. Österr. Entomol.* 45(1/2): 11-14.
- Lödl, M. 1993c. *Hypena martiniae* sp.n., eine neue Hypeninen-Art aus dem äquatorialen Afrika (Lepidoptera: Noctuidae). *Entomol. Z.* 103(24): 453-459.
- Lödl, M. 1994a. *Hypena evamariae* sp.n., eine neue ostafrikanische Hypeninen-Art aus der Verwandtschaft von *Hypena polycyma* HAMPSON, 1902 (Lepidoptera: Noctuidae). *Entomol. Z.* 104(6): 105-112.
- Lödl, M. 1994b. *Hypena extremipalpis* sp.n., eine neue Hypeninen-Art aus Zaire (Lepidoptera: Noctuidae). *Entom. Nachrbl.* 1(1)(NF): 10-16.
- Lödl, M. 1994c. *Hypena veronikae* n.sp., eine neue, madagassische Hypeninen-Art aus der Verwandtschaft von *Hypena bonaberi* STRAND, 1915. *Entomol. Z.* 104 (11): 204-211.
- Lödl, M. 1994d. *Hypena sabimis* n.sp. aus Madagaskar, eine neue Hypenine aus der Verwandtschaft von *Hypena prionodes* FLETCHER, 1961 (Lepidoptera: Noctuidae). *Entomol. Z.* 104 (14): 277-282.
- Lödl, M. 1994e. Revision der Gattung *Hypena* Schrank, 1802 s.l. der äthiopischen und madagassischen Region, Teil 1 (Lepidoptera: Noctuidae: Hypeninae).- *Annl. Naturhist. Mus. Wien*, 96 B: 373-590.
- Lödl, M. 1994f. *Hypena monikae* n.sp. aus Fernando Póo, eine neue Hypenine aus der Verwandtschaft von *Hypena leucosticta* BETHUNE-BAKER, 1909 (Lepidoptera: Noctuidae). *Entomol. Z.* 104(22): 429-448.
- Lödl, M. 1995a. *Hypena mariachristinae* n.sp., eine neue ostafrikanische Hypeninen-Art aus der Verwandtschaft von *Hypena evamariae* Lödl 1994 (Lepidoptera: Noctuidae). *Entomol. Z.* 105(1/2): 17-24.
- Lödl, M. 1995b. A new *Hypena* deltooid moth from Zaire (Lepidoptera: Noctuidae: Hypeninae). *Tropical Lepidoptera*, 6(1): 53-54.
- Lödl, M. 1995c. *Hypena ovalimacula* n.sp., eine neue westafrikanische Hypeninen-Art aus der Verwandtschaft von *Hypena phricocyma* FLETCHER 1961 (Lepidoptera: Noctuidae). *Entomol. Z.* 105(12): 245-249.
- Lödl, M. 1995d. *Hypena padelekorum*, eine neue äthiopische Hypeninen-Art aus der Verwandtschaft von *Hypena polycyma* HAMPSON 1902 (Lepidoptera: Noctuidae). *Entomologische Zeitschrift*, 105(15): 308-314.
- Lödl, M. 1995e. *Hypena cherylae* sp.n., a new deltooid moth from South Africa (Lepidoptera: Noctuidae: Hypeninae). *Tropical Lepidoptera*, 6(2): 144-145.
- Lödl, M. 1995f. *Hypena (Jussalypena) abyssinialis* GUENÉE, 1854 in

- West-Afrika (Lepidoptera, Noctuidae, Hypeninae). Atalanta, 26(1/2): 297-298.
- Lödl, M. 1996a. Wiederbeschreibung von [*Hypena*] *fuscomaculalis* SAALMÜLLER 1880 nebst Bemerkungen zur systematischen Stellung dieses Taxons (Lepidoptera: Noctuidae: Herminiinae). Senckenbergiana biologica, 75 (1/2): 193-202.
- Lödl, M. 1996b. *Hypena* (*Trichypena*) *leopardina* sp.n., eine neue Hypeninae von der Insel Bioco nebst Bemerkungen zu den nächst verwandten Arten der *Hypena fuscalis* SAALMÜLLER, 1891 Gruppe (Lepidoptera, Noctuidae). Beiträge zur Entomologie, 46: 103-108.
- Lödl, M. 1996c. *Hypena binae* sp.n., eine neue Hypeninae aus Ostafrika aus der Verwandtschaft von *Hypena polycyma* HAMPSON, 1902 (Lepidoptera: Noctuidae: Hypeninae). Beiträge zur Entomologie, 46: 95-102.
- Lödl, M. 1996d. *Hypena lisae* n.sp., eine neue äquatorialafrikanische Hypeninae aus der Untergattung *Trichypena* Joannis, 1915 (Lepidoptera: Noctuidae). Entomologische Zeitschrift, 106(11): 461-468.
- Lödl, M. 1997. *Hypena acrocompsa* Turner, 1932, nunmehr gesichertes Synonym zu *Hypena* (*Jussalypena*) *laceratalis* Walker, [1859] 1858 (Lepidoptera: Noctuidae: Hypeninae). Atalanta, 28(1/2): 157-159.
- Lödl, M. 1998a. *Hypena* (*Trichypena*) *reichli* sp.n., eine neue afrikanische Hypeninen-Art aus der Verwandtschaft von *Hypena poliopera* Bethune-Baker, 1909 (Lepidoptera: Noctuidae). Stapfia, 55 (Reichl-Festband): 289-293.
- Lödl, M. 1998b. Some notes on the identity of the rare *Hypena* (*Jussalypena*) *paliscia* (Bethune-Baker, 1911) (Lepidoptera: Noctuidae: Hypeninae). Bulletin zur Erforschung der Lepidopteren, 1: 63-65.
- Lödl, M. 1998c. Zur Identität von *Hypena* (*Trichypena*) *malagasy* (Viette, 1968) [*Sarmatia*] comb.n. (Lepidoptera: Noctuidae: Hypeninae). Bulletin zur Erforschung der Lepidopteren, 1: 67-71.
- Lödl, M. 1998d. [*Hypena?*] *perna* Felder & Rogenhofer, 1873 a new junior synonym of *Hypena* (*Conscitalypena*) *conscitalis* Walker, [1866] 1865 (Lepidoptera: Noctuidae: Hypeninae). Bulletin zur Erforschung der Lepidopteren, 1: 73-74.
- Lödl, M. 1998e. Checklist of the species of the genus *Hypena* Schrank, 1802 of the Ethiopian region and Madagascar (Lepidoptera: Noctuidae: Hypeninae). Bulletin zur Erforschung der Lepidopteren, 1: 75-92.
- Lödl, M. 1999. *Hypena fuscomaculalis* Saalmüller 1880, *Hypena fuscalis* Saalmüller 1891 syn.nov., [*Hypena*] *fuscalis* Saalmüller 1880 und [*Hypena*] *fuscomaculalis* Saalmüller 1891 syn.nov. - ein nomenklatorisches Verwirrspiel (Lepidoptera: Noctuidae: Herminiinae). Senckenbergiana biologica, 1999: 72-79.
- Lödl, M. 2000. Redescriptions of some TURNER-types of Australian *Hypena* SCHRANK, 1802 species (Lepidoptera: Noctuidae: Hypeninae). Bulletin zur Erforschung der Lepidopteren, 3: 47-55
- Lödl, M. and S. Gaal. 1996a. Description of *Hypena variofuscocolorata* n.sp., a new Hypeninae species from East Africa with some notes on the subgenus *Jussalypena* Lödl, 1994 (Lepidoptera, Noctuidae). Lambillionea, 1996: 88-94.
- Lödl, M. and S. Gaal. 1996b. *Hypena vanschuytbroeckii* sp.n., eine neue Hypeninen-Art aus Zaire aus der Verwandtschaft von *Hypena prionodes* FLETCHER, 1961 (Lepidoptera: Noctuidae). Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen, 48 (1-2): 9-12.
- Poole, R.W. 1989. Noctuidae. Lepidopterorum Catalogues (New Series). Fascicle 118, E.J. Brill, Leiden. Part 1: v-xii 1-500; part 2: 501-1013; part 3: 1014-1314.
- Sugi, S. 1982. Noctuidae (except Herminiinae). In Inoue H., S. Sugi, H. Kuroko, S. Moriuti, and A. Kawabe (ed.). Moths of Japan. Kodansha, Tokyo. 1: 669-913, 2: 334-405, pls. 164-223.
- Sui, H. and H.L. Han. 2010. Two New Record Species of the Genus *Hypena* (Lepidoptera, Noctuidae, Hypeninae) from Northeast China. J. Northeast For. Univ., 38(5): 138-139.
- Xuan, Y.H. and H.L. Han. 2010. Two New Record Species of the Genus *Hypena* (Lepidoptera, Noctuidae) from China's Mainland. J. Northeast For. Univ., 38(11): 130-132.