

Contribution to the Dermestidae of Taiwan (Coleoptera)

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Abstract: The following species are recorded from Taiwan for the first time: *Anthrenus (Anthrenus) oceanicus* FAUVEL, 1903, *Ctesias (Tiresiomorpha) klapperichi* (PIC, 1954), *Orphinus (Curtophinus) bicolor* PIC, 1954, and *Thaumaglossa tonkinea* PIC, 1916. A new synonymy is proposed: *Evorinea iota* (ARROW, 1915) (= *Trinodes niger* MATSUMURA et YOKOYAMA, 1928 syn. nov.). A list of dermestid species so far recorded from Taiwan is provided.

Key words: Coleoptera, Dermestidae, taxonomy, fauna, new synonymy, Taiwan.

Introduction

The family Dermestidae is one of the commonly known beetle families and it currently contains about 1300 species or subspecies worldwide; from Taiwan 23 (25) species (EPPO 2007, Háva 2007, 2009, Hua Li-Zhong 2002, Liu & Zhang 1986, Matsumura & Yokoyama 1928, Mroczkowski 1968) are known so far, another four species are recorded newly and other recently collected material is mentioned, one species is synonymized.

Methods

The following abbreviations refer to the collections where the examined material is deposited:

AHEC - Private collection of Andreas Herrmann, Stade, Germany;

JHAC - Private Entomological Laboratory & Collection, Jiří Háva, Prague-west, Czech Republic;

TARI - Applied Zoology Division, Taiwan Agricultural Research Institute, Wufeng, Taiwan.

We follow systematics of Dermestidae proposed by Háva (2004) and Lawrence & Slipinski (2005). The distribution of Dermestidae is after Háva (2007, 2009).

Results

Subfamily Dermestinae

Tribe Dermestini

Dermestes (Dermestinus) carnivorus
FABRICIUS, 1775

Material examined: „Taiwan, Heshu, Nantou Country, 2-17.vi.2008, J. Borowski lgt.“, 1 ex., J. Háva det., (JHAC); „Taiwan, Taipei, National Taiwan University, 22.vi.1999, C.-F. Lee leg.“, 5 exx., A. Herrmann det. (AHEC, TARI); „Taiwan, Taipei, Academia Sinica, 6.i.2006, M.-M. Hsueh leg.“, 2 exx., A. Herrmann det. (AHEC).

Dermestes (Dermestinus) maculatus DEGEER, 1774

Material examined: „Taiwan, Heshu, Nantou Country, 2-17.vi.2008, J. Borowski lgt.“, 1 ex., J. Háva det. (JHAC).

Subfamily Trinodinae

Tribe Trinodini

Evorinea indica (ARROW, 1915)

Material examined: „Taiwan, Heshu, Nantou Country, 2-17.vi.2008, J. Borowski lgt.“, 1 female, J. Háva det. (JHAC); „Taiwan, Fushan Bot. Gard., Taipei Country, 21-28.iv.2008, J. Borowski lgt.“, 1 female, J. Háva det. (JHAC).

Evorinea iota (ARROW, 1915)

Trinodes niger MATSUMURA et YOKOYAMA, 1928: 53 **syn. nov.**

Material examined: „Taiwan, Heshu, Nantou Country, 2-17.vi.2008, J. Borowski lgt.“, 1 female, J. Háva det. (JHAC); „Taiwan, Shanping Area, Kaoschung Country, 23-25.vi.2008, J. Borowski lgt.“, 2 males, J. Háva det. (JHAC).

Remarks. The species *Trinodes niger* was described by Matsumura & Yokoyama (1928) according to a single female specimen from Formosa (= Taiwan, Taihoku). All morphological characters described by Matsumura are identical with the characters of *Evorinea iota* (ARROW, 1915) redescribed by Beal (1961); so *Trinodes niger* MATSUMURA et YOKOYAMA, 1928 is a junior synonym of *Evorinea iota* (ARROW, 1915).

Subfamily Attageninae

Tribe Attagenini

Attagenus (*Aethriostoma*) *undulatus* (MOTSCHULSKY, 1858)

Material examined: „Taiwan, Lienhuachih, Nantou, 9.i.2008, C.-F. Lee leg.“, 1 ex., A. Herrmann det. (TARI).

Attagenus (*Attagenus*) *fasciatus* (THUNBERG, 1795)

Material examined: „Taiwan, Bashian Shan, Amusement Park, Taichung Country, 4.v.2008, J. Borowski lgt.“, 2 exx., J. Háva det. (JHAC); „Taiwan, Taipei, Taipei Station, 23.iv.2007, C.-F. Lee leg.“, 1 ex., A. Herrmann det. (AHEC); „Taiwan, Tali, Taichung, 25.vii.2008, Y.-H. Chiu leg.“, 1 ex., A. Herrmann det. (TARI).

Subfamily Megatominae

Tribe Anthrenini

Anthrenus (*Anthrenodes*) *maculifer* REITTER, 1881

Material examined: „Taiwan, Madou, Tainan, 29.x.2006, C.-S. Hsieh leg.“, 6 exx., A. Herrmann det. (AHEC, TARI).

Anthrenus (*Anthrenus*) *oceanicus* FAUVEL, 1903

Material examined: “Taiwan, Kaoshiang, 23.ii.2008, K. -C. Hau leg.”, 4 exx., A. Herrmann det. (TARI, AHEC); “Taiwan, Tainan, Madou, 29.x.2006, C. -M. Hsieh leg.”, 2 exx., A. Herrmann det. (AHEC). New species for Taiwan.

Tribe Megatomini

Ctesias (*Tiresiomorpha*) *klapperichi* (PIC, 1954)

Material examined: „Taiwan, Taipei env., Taipei Country, 7-8.v.2008, J. Borowski lgt.“, 1 female, J. Háva det. (JHAC). New species for Taiwan.

Orphinus (*Curtorphinus*) *bicolor* PIC, 1954

Material examined: „Taiwan, Taipei env., Taipei Country, 7-8.v.2008, J. Borowski lgt.“, 1 male, 2 females, J. Háva det. (JHAC). New species for Taiwan.

Thaumaglossa hilleri REITTER, 1881

Material examined: „Taiwan, Taipei env., Taipei Country, 7-8.v.2008, J. Borowski lgt.“, 8 exx., J. Háva det. (JHAC); „Taiwan, Shihbafen, Taipei, 27.iv.2007, S.-F. Yu leg.“, 1 ex., A. Herrmann det. (AHEC); „Taiwan, Kosempo, Formosa, 10.v.1908, Sauter leg.“, 1 ex., A. Herrmann det. (AHEC); „Taiwan, Tungyuan, Pingtung, 20.ii.2007, M.-H. Tsao leg.“, 1 ex., A. Herrmann det. (TARI); „Taiwan, Tungyuan, Pingtung, 20.ii.2007, M.-H. Tsao leg.“, 1 ex., A. Herrmann det. (TARI); „Taiwan, Hengchun, Pingtung, 25.iii.2006, C.-F. Lee leg.“, 1 ex., A. Herrmann det. (TARI).

Thaumaglossa laeta ARROW, 1915

Material examined: „Taiwan, Taipei env., Taipei Country, 7-8.v.2008, J. Borowski lgt.“, 1 ex., J. Háva det. (JHAC); „Taiwan, Guanshi S. of Taipei, Taipei Country, 9.iv.2008, J. Borowski lgt.“, 3 exx. (JHAC); „Taiwan, Siangshan, Taipei, 28.vii.2004, H.-T. Cheng leg.“, 1 ex., A. Herrmann det. (AHEC); „Taiwan, Taipei, Sishou Hills, 6.vi.2006, H.-T. Cheng leg.“, 1 ex., A. Herrmann det. (TARI).

Thaumaglossa rufocapillata REDTENBACHER, 1867

Material examined: „Taiwan, Taipei env., Taipei Country, 7-8.v.2008, J. Borowski lgt.“, 1 ex., J. Háva det. (JHAC); „Taiwan, Guanshi S. of Taipei, Taipei Country, 9.iv.2008, J. Borowski lgt.“, 1 ex., J. Háva det. (JHAC); „Taiwan, Panchiao, Taipei, 20.iii.2007, I.-S. Lin leg.“, 4 exx., A. Herrmann det. (AHEC, TARI); „Taiwan, Lienhuachih, Nantou, 9.i.2008, C.-F. Lee leg.“, 1 ex., A. Herrmann det. (AHEC); „Taiwan, Chungjengshan, Taipei, 6.xi.2006, S.-

F. Yu leg.“, 1 ex., A. Herrmann det. (AHEC); „Taiwan, Shouka, Pingtung, 19.ii.2007, M.-H. Tsao leg.“, 1 ex., A. Herrmann det. (AHEC).

Thaumaglossa tonkinea PIC, 1916

Material examined: „Taiwan, Chinmen, Chungshanlin, 17-19.V.2008, leg. C. -S. Tung“, 1 female, J. Háva det. (TARI). New species for Taiwan.

Remarks. So far only females of the *T. tonkinea*-group are known, also this record regards to a female specimen. The identification within the group is given by the differences in the pubescence of the elytra and the sclerites of the bursa copulatrix (see Háva 2008).

List of all known Dermestidae recorded from Taiwan

* - new records for Taiwan.

Subfamily Dermestinae

Tribe Dermestini

Dermestes (*Dermestinus*) *carnivorus* FABRICIUS, 1775

Syn.: *Dermestes carniforus* (emend. by GOEZE, 1777), *Dermestes versicolor* LAPORTE, 1840, *Dermestes mucoreus* LECONTE, 1854, *Dermestes sobrinus* LECONTE, 1854, *Dermestes muscoreus* REITTER, 1881, *Dermestes impressicollis* REITTER, 1881, *Dermestes carnivorus* var. *doemlingi* MEIER, 1899

Distribution. Cosmopolitan species.

Evorinea indica (ARROW, 1915)

Syn.: *Apsectus indicus* ARROW, 1915, *Evorinea hisamatsui* OHBAYASHI, 1977

Distribution. China: Guangdong, India, Japan, Taiwan.

Dermestes unicolor LEPESME, 1950

Distribution. Cosmopolitan species.

Dermestes (*Dermestinus*) *maculatus* DEGEER, 1774

Syn.: *Dermestes marginatus* THUNBERG, 1781, *Dermestes vulpinus* FABRICIUS, 1781, *Dermestes australis* DEJEAN, 1821 (nn), *Dermestes senex* GERMAR, 1824, *Dermestes lateralis* STURM, 1826 (nn), *Dermestes senegalensis* CHRISTOFORI et JAN, 1832 (nn),

Dermestes lupinus CHRISTOFORI et JAN, 1832 (nn), *Dermestes elongatus* HOPE in PETTIGREW, 1834, *Dermestes roei* HOPE in PETTIGREW, 1834, *Dermestes lupinus* MANNERHEIM, 1843, *Dermestes semistriatus* BOHEMAN, 1851 (pars), *Dermestes cinereus* REDTENBACHER, 1867, *Dermestes vulpinus* var. *rattulus* MULSANT et REY, 1867, *Dermestes vulpinus* var. *sudanicus* GREDLER, , 1878, *Dermestes truncatus* CASEY, 1916, *Dermestes maculatus* var. *kurseongensis* LEPESME, 1939, *Dermestes maculatus* var. *cyprius* PIC, 1951, *Dermestes maculatus pakistanicus* HAVELKA, 1951, *Dermestes maculatus* ab. *nigropubescens* KALÍK, 1955
Distribution. Cosmopolitan species.

Dermestes (*Dermestinus*) *shaanxiensis* Z.CAO, 1987

Distribution. China: Shaanxi prov., Taiwan.

Dermestes (*Dermestes*) *ater* DEGEER, 1774

Syn.: *Dermestes cadaverinus* FABRICIUS, 1775, *Dermestes piceus* THUNBERG, 1781, *Dermestes felinus* FABRICIUS, 1787, *Dermestes domesticus* GERMAR, 1824, *Dermestes cinereus* MOTSCHULSKY, 1848, *Dermestes hispidulus* MONTROUZIER, 1860, *Dermestes chinensis* MOTSCHULSKY, 1866, *Dermestes subcostatus* MURRAY, 1867, *Dermestes noxius* MULSANT et REY, 1867, *Dermestes domesticus* var. *subsulcatus* BALLION, 1878, *Dermestes favarcqui* GODARD, 1883, *Dermestes rufoapicalis* PIC, 1951
Distribution. Cosmopolitan species.

Dermestes (*Dermestes*) *nidum* ARROW, 1915

Syn.: *Dermestes elongatus* LECONTE, 1854

Distribution. Canada, USA, N Korea, Russia: Siberia, Taiwan.

Dermestes (*Dermestes*) *peruvianus* LAPORTE, 1840

Syn.: *Dermestes peruanus* ERICHSON, 1847, *Dermestes angustus* CASEY, 1900, *Dermestes angustatus* SCHAEFFER, 1931

Distribution. Canary Is., Egypt, South Africa, Argentina, Bolivia, Chile, Mexico, Peru, USA, Taiwan.

Subfamily Trinodinae

Tribe Trinodini

Evorinea iota (ARROW, 1915)

Syn.: *Apsectus iota* ARROW, 1915, *Trinodes minor* PIC, 1922, *Trinodes niger* MATSUMURA et YOKOYAMA, 1928 **syn. nov.**

Distribution. Reunion, Japan, Philippines, Sumatra, Taiwan, Thailand, Vietnam, Caroline Is., Irian Jaya, Mariana Is., Palau, Ponape, Tanimbar Is., Tonga, Truk.

Subfamily Attageninae

Tribe Attagenini

Attagenus (*Aethriostoma*) *undulatus* (MOTSCHULSKY, 1858)

Syn.: *Aethriostoma undulata* MOTSCHULSKY, 1858, *Attagenus rufipes* WALKER, 1859, *Pseudotelopes testaceipes* PIC, 1916, *Pseudotelopes simoni* PIC, 1916

Distribution. Comoros, Madagascar, Mauritius, Seychelles, Buru I., Cambodia, S China, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam, Hawaiian Is., Papua New Guinea, S. Mariana Is.

Attagenus (*Attagenus*) *fasciatus* (THUNBERG, 1795)

Syn.: *Anthrenus fasciatus* THUNBERG, 1795, *Anthrenus gloriosae* FABRICIUS, 1798, *Attagenus annulatus* DEJEAN, 1821, *Attagenus annulifer* LAPORTE, 1840, *Attagenus cinnamomeus* ROTH, 1851, *Attagenus unifasciatus* FAIRMAIRE in FAIRMAIRE et COQUEREL, 1860, *Trogoderma subfasciatum* CHEVROLAT, 1863, *Attagenus plebeius* SHARP in BLACKBURN et SHARP, 1885, *Attagenus gossypiatius* Fauvel, 1903

Distribution. Cosmopolitan species.

Attagenus (*Attagenus*) *unicolor unicolor* (BRAHM, 1791)

Syn.: *Dermestes piceus* OLIVIER, 1790, *Dermestes unicolor* BRAHM, 1790, *Megatoma brevicornis* HERBST, 1792, *Dermestes megatoma* FABRICIUS, 1798, *Nitidula cylindricornis* SCHRANK, 1798, *Dermestes cilindricornis* MELSHEIMER, 1806, *Dermestes floricola* MELSHEIMER, 1806, *Dermestes obscurus* MELSHEIMER, 1806, *Dermestes schaefferi* C. SAHLBERG, 1819, *Attagenus cilindricornis* SAY, 1825, *Dermestes*

macellarius DUFTSCHMID, 1825, *Attagenus urbicola* GISTEL, 1857, *Attagenus stygialis* MULSANT et REY, 1868, *Attagenus fulvipes* MULSANT et REY, 1868, *Attagenus cylindricornis* CASEY, 1900

Distribution. Cosmopolitan species.

Attagenus (*Attagenus*) *unicolor japonicus* REITTER, 1877

Syn.: *Attagenus japonicus* REITTER, 1877, *Attagenus nankineus* PIC, 1916, *Attagenus canadensis* CASEY, 1916, *Attagenus amurensis* PIC, 1942, *Attagenus amurensis* PIC, 1943

Distribution. Netherland (intr.); Romania (intr.); Switzerland (intr.); Canada; USA; China, Taiwan; Japan; N Korea; Mongolia; Russia; Siberia.

Subfamily Megatominae

Tribe Anthrenini

Anthrenus (*Anthrenodes*) *maculifer* REITTER, 1881

Syn.: *Anthrenus globiger* ARROW, 1915, *Anthrenus multimaculatus* PIC, 1918

Distribution. China, India, Indonesia: Mentawai Isl., Sumatra, Japan, Laos, Malaysia: Sabah, Sarawak, Myanmar, Nepal, Taiwan, Thailand, Vietnam.

* *Anthrenus* (*Anthrenus*) *oceanicus* FAUVEL, 1903

Syn.: *Anthrenus fasciatus* HERBST, 1797, *Anthrenus pimpinellae* var. *basifasciatus* PIC, 1935

Distribution. Czech Republic (intr.), England (intr.), Egypt, Congo, Mauritius, Hawaiian Is., China: Guangdong, India, Indonesia: Java, Madura, Malaysia, Pakistan, Sri Lanka, Taiwan, Australia, New Caledonia.

Anthrenus (*Florilinus*) *museorum* (LINNAEUS, 1761)

Syn.: *Anthrenus verbasci* FABRICIUS, 1775, *Byrrhus muscorum* FUESSLIN, 1775, *Anthrenus muscorum* FABRICIUS, 1787, *Anthrenus vagus* GMELIN, 1790, *Anthrenus pellio* THUNBERG, 1815, *Anthrenus varius* STEPHENS, 1830

Distribution. Cosmopolitan species.

Anthrenus (Nathrenus) verbasci (LINNAEUS, 1767)

Syn.: *Bostrichus varius* FABRICIUS, 1775, *Anthrenus florilegus* FOURCROY, 1785, *Anthrenus adspersus* HERBST, 1797, *Anthrenus tricolor* HERBST, 1797, *Anthrenus pictus* GERMAR, 1813, *Anthrenus tomentosus* THUNBERG, 1815, *Anthrenus destructor* MELSHEIMER, 1844, *Anthrenus nitidulus* KÜSTER, 1847, *Anthrenus verbasci* var. *confusus* REITTER, 1887, *Anthrenus verbasci* var. *nebulosus* REITTER, 1887, *Anthrenus funebris* REITTER, 1889, *Anthrenus verbasci* var. *vorax* CASEY, 1900, *Anthrenus verbasci* var. *pistor* CASEY, 1900, *Anthrenus verbasci* var. *substriatus* CASEY, 1900, *Anthrenus verbasci* var. *caseyi* HINTON, 1945

Distribution. Cosmopolitan species.

Tribe Megatomini

* *Ctesias (Tiresiomorpha) klapperichi* (PIC, 1954)

Distribution. China: Fukien, Hubei, Taiwan.

* *Orphinus (Curtophinus) bicolor* PIC, 1954

Distribution. China: Fujian, Taiwan.

Orphinus (Orphinus) aethiops ARROW, 1915

Syn.: *Orphinus formosanus* PIC, 1918

Distribution. Angola, Cameroon, Nigeria, Mauritius, Sumatra, Taiwan.

Orphinus (Orphinus) fasciatus (MATSUMURA et YOKOYAMA, 1928)

Syn.: *Orphilus fasciatus* MATSUMURA et YOKOYAMA, 1928

Distribution. Japan, Philippines: Luzon, Taiwan, Papua New Guinea.

Thaumaglossa chuioi OHBAYASHI, 1982

Distribution. Japan: Kanagawa, Maluku: Ambon, Taiwan.

Thaumaglossa hilleri REITTER, 1881

Distribution. China, India: Uttar Pradesh, Nepal, Japan, Philippines, Taiwan.

Thaumaglossa laeta ARROW, 1915

Syn.: *Orphilus bimaculatus* MATSUMURA et YOKOYAMA, 1928

Distribution. China, Indonesia: Flores, Japan, Laos, Philippines, Taiwan, Thailand, Vietnam.

Thaumaglossa rufocapillata REDTENBACHER, 1867

Syn.: *Anthrenus ovalis* FLEUTIAUX, 1887, *Aethriostoma atricolor* PIC, 1915, *Orphiloides ovivorus* MATSUMURA et YOKOYAMA, 1928, *Thaumaglossa pygidialis* var. *sinensis* PIC, 1951, *Thaumaglossa pygidialis* var. *sumatrana* PIC, 1951, *Thaumaglossa africana* KALÍK, 1955
Distribution. Germany (intr.), Netherland (intr.), Cameroon, Congo, Kenya, Madagascar, Nigeria, Tanzania, Zimbabwe, China, India, Indonesia, Japan, Korea, Laos, Malaysia, Nepal, Taiwan, Thailand, Vietnam.

* *Thaumaglossa tonkinea* PIC, 1916

Distribution. Malaysia, Indonesia: Borneo, Java, Laos, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam.

Trogoderma granarium EVERTS, 1898

Syn.: *Trogoderma quinquefasciata* LEESBERG, 1906 (hn), *Trogoderma khapra* ARROW, 1917, *Trogoderma koningsbergeri* PIC, 1933, *Trogoderma afrum* PRIESNER, 1951

Distribution. Cosmopolitan species.

Remarks. Hua (2002) mentioned in the "List of Chinese Insects" also the following two species from Taiwan: *Dermestes coarctatus* HAROLD, 1877 and *Dermestes tessellatocollis tessellatocollis* MOTSCHULSKY, 1860. This two species are not included in the above list, because before this the identification of the regarding specimens should be checked.

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