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COSSOIDEA (LEPIDOPTERA) OF SIBERUT ISLAND (WEST SUMATRA PROVINCE, INDONESIA)

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Summary. The annotated list of the superfamily Cossoidea from the island of Siberut, belonging to the Mentawai Archipelago to the south-west of Sumatra, is given for the first time. Thirteenth species belonging to 12 genera of two families, Cossidae and Metarbelidae, are revealed. All the species are reported for the island of Siberut for the first time.

Key words: carpenter moths, Cossidae, Metarbelidae, Cossinae, Zeuzerinae, fauna, new records, South-Eastern Asia.

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Резюме. В статье впервые приводится аннотированный список представителей надсемейства Cossoidea острова Сиберут, относящегося к архипелагу Ментавай к юго-западу от о. Суматра. Выявлено 13 видов, относящихся к 12 родам двух семейств: Cossidae и Metarbelidae. Все виды приводятся для о. Сиберут впервые.

INTRODUCTION

Siberut with the area of 4,030 km^2, length of 110 km and maximum width of 43 km, is the largest and northernmost island in Mentawai Archipelago, which lies 125 – 145 km from the coast of Sumatra Island in the Indian Ocean. Administratively, Siberut Island belongs to the West Sumatra province of Indonesia. The relief of Siberut Island is mostly lowland, the mountains are not high with a maximum altitude of 384 m. In general, ecosystems can be divided into two main types, tropical lowland rain forests, and mangrove forests. Siberut climate is characterized by a hot (daily minimum and maximum temperatures range from 22°C to 31°C) and humid (humidity levels range from 80 to 95 %) equatorial climate with high rainfall (4217 mm/year), without an extended dry season. In mid-Pleistocene or 500,000 years ago,

Siberut Island was separated from the Sunda Shelf, which determined a high level of endemism in many groups of plants and animals. About 47% of Siberut Island area was established as Siberut National Park with area of 190,500 hectares (Suhandi *et al*., 2002; Hadi *et al*., 2009).

Result of satellite interpretation map in 2002 showed that the remaining primary tropical forest is 62.67% of the island or about 241,721 ha, mainly located in the center and western part of the island (in the National Park area) (Suhandi *et al*., 2002). In the remaining parts of the island, forest disturbance and fragmentation caused by legal and illegal logging as well as land conversion for local agriculture is visibly increasing (Hadi *et al*., 2009).

Lepidoptera of Siberut is studied very fragmentary. There are several scattered references and descriptions of species from various subfamilies (Roepke, 1951; Nässig, 2002; Hanafusa, 2005; Naumann, 2008; Dubatolov & Kishida, 2010; Gorbunov, 2015; Volynkin & Černý, 2019), as well as an extensive work on the ecology of the Papilionoidea of Siberut (Luk *et al*., 2011).

MATERIAL AND METHODS

The study of the Cossoidea fauna was carried out from March 30 to April 5, 2019 in Indonesia (West Sumatra Province, Mentawai Islands, Siberut Island, North Siberut district, Malancan desa) in follow five localities in the vicinity of the village of Srilanggai (Fig. 1):

(**1**) – 2,3 km E Srilanggai dusun [village], 01°06'28.9" S, 098°55'23.2" E, 30 m, 31.III 2019, leg. E.S. Koshkin (Fig. 2).

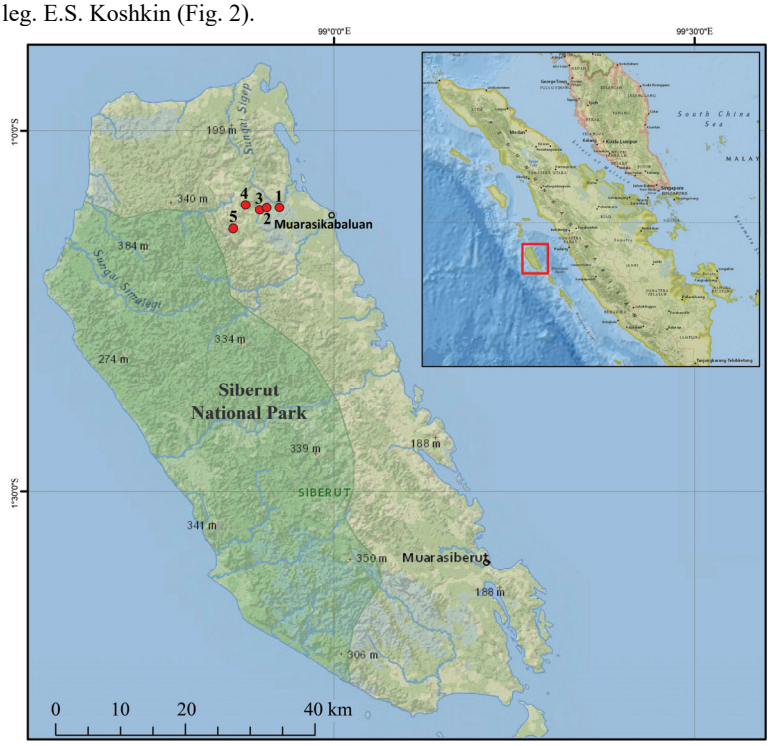


Fig. 1. Map of collecting localities from Siberut Island.

(**2**) – 0,6 km E Srilanggai dusun [village], 01°06'29.9" S, 098°54'27.3" E, 32 m, 30.III 2019, 3.IV 2019, leg. E.S. Koshkin, V.G. Bezborodov & A.E. Kostyunin.

(**3**) – Srilanggai dusun [village], 01°06'37.8" S, 098°53'49.2" E, 18 m, 5.IV 2019, leg. E.S. Koshkin.

(**4**) – 2,5 km NW Srilanggai dusun [village], 01°06'15.6" S, 098°52'32.4" E, 67 m, 4.IV 2019, E.S. Koshkin & A.E. Kostyunin (Fig. 3).

(**5**) – 5 km SW Srilanggai dusun [village], 01°08'9.84" S, 98°51'39.83"E, 50 m, 1–2.IV 2019, leg. E.S. Koshkin & A.E. Kostyunin.

Localities numbers 1, 2, 4, and 5 are lowland mixed Dipterocarpaceae forests, locality number 3 inside the village. Moth's specimens were collected at night mainly from 6.30 pm to 3.00 am with using three light traps with 250 watt mercury-tungsten lamp, 250 watt mercury-vapour lamp and LepiLed UV lamp. All the collected material is deposited in the collection of the first author (Russia, Barnaul).

Images of imago were taken by the digital camera of Apple iPhone 7, illuminated in Lightbox. The images were processed using CorelDraw software.

LIST OF SPECIES

Family Cossidae

Subfamily Cossinae

Roepkiella subfusca **(Snellen, 1895)**
Fig. 4

MATERIAL EXAMINED. 7 males (**2**); 3 males (**4**); 5 males (**5**).

DISTRIBUTION. Java, Sumatra, Vietnam (Yakovlev, 2014).

Subfamily Zeuzerinae

Hermophyllon anceps **(Snellen, 1901)**
Fig. 5

MATERIAL EXAMINED. 3 males (**2**); 3 males (**4**).

DISTRIBUTION. Malaysia, Sumatra, Java, Nias, Borneo, the Philippines (Houlbert, 1916; Gaede, 1933; Barlow, 1982; Holloway, 1986; Schoorl, 1990).

Panau adusta **(Roepke, 1957)**
Fig. 6

MATERIAL EXAMINED. 1 male (**2**); 1 male (**4**).

DISTRIBUTION. Malay Peninsula, Sumatra, Java, Borneo, Vietnam (Barlow, 1982; Holloway, 1986; Yakovlev & Witt, 2009).

Zeurrora indica **(Herrich-Schäffer, [1854])**
Fig. 7

MATERIAL EXAMINED. 2 males (**2**); 1 male (**5**).

DISTRIBUTION. Northern India, Southern China (Yunnan, Hainan), Bangladesh, Indochina, Malaya, Indonesia (Ćandèze, 1926; de Joannis, 1929; Gaede, 1933; Roepke, 1955, 1957; Arora, 1976; Barlow, 1982; Holloway, 1986; Yakovlev, 2004; Yakovlev & Witt, 2009).

Fig 2. Habitats from Siberut Island, North Siberut district, Malancan desa, 2,3 km E Srilanggai (photo by A. Kostyunin).

Fig 2. Habitats from Siberut Island, North Siberut district, Malancan desa, 2,5 km NW Srilanggai (photo by A. Kostyunin).

***Orientozeuzera rhabdota* (Jordan, 1932)**
Fig. 8

MATERIAL EXAMINED. 2 males (**2**); 1 male (**4**).

DISTRIBUTION. Indonesia (Borneo, Sumatra, Java), Philippines (Palawan), Thailand, Vietnam, Myanmar (Yakovlev, 2004; Yakovlev & Witt, 2009).

***Polyphagozerra coffeae* (Nietner, 1861)**
Fig. 9

MATERIAL EXAMINED. 1 male (**1**); 1 male (**5**).

DISTRIBUTION. S Japan (Okinawa), China (Guandong, Guangxi, Yunnan, Guizhou, Jiangxi, Fujian, Zheijiang, Jiangsu, Hubei, Hunan, Sichuan, Henan, Shandong, Shaanxi, Xizang, Hunan, Fukien, Kiangsu, Hainan), Myanmar, Thailand, Vietnam, Laos, Taiwan, India, Sri Lanka, Borneo, Java, San Tome & Principe Isl. (de Joannis, 1929; Gaede, 1933; Roepke, 1957; Arora, 1976; Holloway, 1986; Hua *et al*., 1990; Ueda, 1992; Yakovlev, 2004, 2011; Yakovlev & Witt, 2009).

***Neurozerra roricyanea* (Walker, 1862)**
Fig. 10

MATERIAL EXAMINED. 2 males (**1**); 1 male (**2**); 1 male (**5**).

DISTRIBUTION. From Malaya to New Guinea (Roepke, 1955, 1957; Barlow, 1982).

***Bergaris malayica* (Roepke, 1957)**
Fig. 11

MATERIAL EXAMINED. 5 males (**1**); 17 males (**2**); 1 male (**3**); 2 males (**4**).

DISTRIBUTION. Malaya, Borneo, Sumatra (Barlow, 1982; Holloway, 1986)

***Skeletophyllon euphyes* (West, 1932)**
Fig. 12

MATERIAL EXAMINED. 2 males (**5**).

DISTRIBUTION. Malaysia, Thailand, Sumatra, Borneo, the Philippines, Sulawesi (Gaede, 1933; Barlow, 1982; Holloway, 1986; Yakovlev, 2004, 2011).

***Xyleutes strix* (Linnaeus, 1758)**
Fig. 13

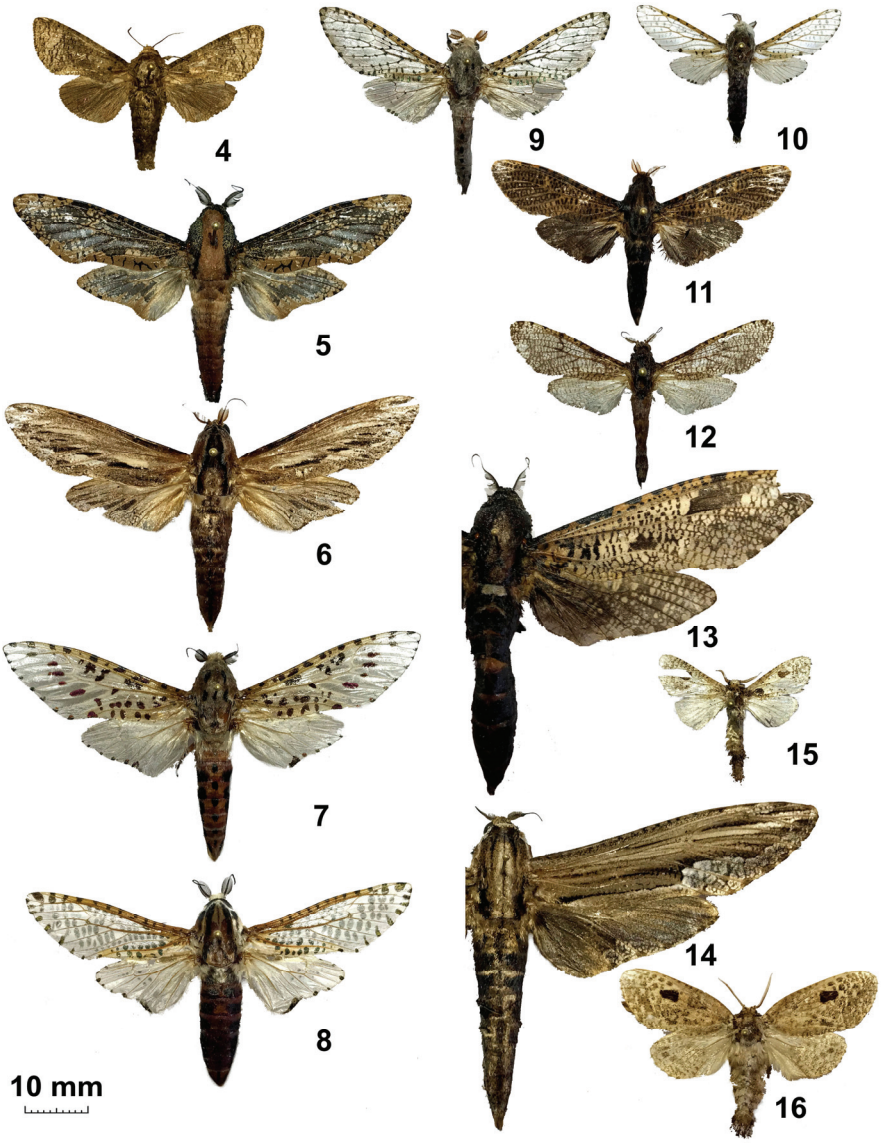
MATERIAL EXAMINED. 1 male (**2**).

DISTRIBUTION: N India, Bhutan, China (Yunnan, Guangxi, Xizang, Qinghai), Taiwan, Malaysia, the Philippines, the Indonesian Archipelago to New Guinea and New Britain Islands (Houlbert, 1916; Ćandèze, 1926; de Joannis, 1929; Gaede, 1933; Roepke, 1955, 1957; Arora, 1976; Barlow, 1982; Hua *et al*., 1990; Ueda, 1992; Yakovlev, 2004, 2011; Yakovlev & Witt, 2009).

***Duomitus ceramicus* (Walker, 1865)**
Fig. 14

MATERIAL EXAMINED. 2 males (**2**).

DISTRIBUTION. From China (Yunnan) and N India to Malaysia, Borneo, Sumatra, Ceram and New Guinea (Houlbert, 1916; Candèze, 1926; de Joannis, 1929; Gaede, 1933; Roepke, 1955, 1957; Arora, 1976; Barlow, 1982; Holloway, 1986; Hua *et al*., 1990; Yakovlev, 2004, 2011; Yakovlev & Witt, 2009).



Figs. 4–16. Adult males of Cossoidea from Siberut Island (coll. R. Yakovlev, Barnaul, Russia): 4 – *Roepkiella subfusca* (Snellen, 1895); 5 – *Hermophyllon anceps* (Snellen, 1901); 6 – *Panau adusta* (Roepke, 1957); 7 – *Zeurrora indica* (Herrich-Schäffer, [1854]); 8 − *Orientozeuzera rhabdota* (Jordan, 1932); 9 − *Polyphagozerra coffeae* (Nietner, 1861); 10 − *Neurozerra roricyanea* (Walker, 1862); 11 − *Bergaris malayica* (Roepke, 1957); 12 − *Skeletophyllon euphyes* (West, 1932); 13 − *Xyleutes strix* (Linnaeus, 1758); 14 − *Duomitus ceramicus* (Walker, 1865); 15 − *Squamura disciplaga* (Swinhoe, 1901); 16 − *Squamura maculata* Heylaerts, 1890.

Family Metarbelidae

***Squamura disciplaga* (Swinhoe, 1901)**
Fig. 15

MATERIAL EXAMINED. 1 male (**1**).
DISTRIBUTION. Borneo, Malaysia, Sumatra, Philippines (Holloway, 1986).

***Squamura maculata* Heylaerts, 1890**
Fig. 16

MATERIAL EXAMINED. 4 males (**2**); 2 males (**4**); 4 males (**5**).
DISTRIBUTION. Sumatra, Borneo, Java (Holloway, 1986).

DISCUSSION

Thus, the Cossoidea fauna of Siberut is expectedly poor than the fauna of the larger Sunda Islands, and it includes 13 species of 12 genera. All the species are widely distributed in South-East Asia, no endemics are revealed. For comparison, 33 species Cossidae (without Metarbelidae) are indicated in Borneo (11 of them are endemic), 27 in Sumatra (4 endemic), 23 in Java (4 endemic), in Sulawesi, the fauna differs sharply and amounts to 25 species (15 endemic) (Yakovlev, 2015).

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