

Catalog of the Genus *Glenea* Newman, 1842 (Coleoptera: Cerambycidae: Lamiinae: Saperdini) with Key to the Sub-genera in the Philippines

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A comprehensive and updated catalog of the genus *Glenea* Newman, 1842 is presented with the key to the sub-genera for Philippine species. The genus counts 87 species (77 species and 10 subspecies), ranged in seven subgenera. *Glenea caraga invittaticollis* Breuning, 1966 rest. status = *Glenea caraga subvittaticollis* Breuning, 1968 n. syn. (un. repl. nom).

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INTRODUCTION

Jordana (1855) made an earlier check-list of the Philippine Cerambycidae listing 151 species, while Baer (1866) listed 168 species, of which 26 *Sphenura* (= *Glenea*) are included. Exactly 30 years after Baer, Willy Schultze (1916) released the Catalogue of Philippine Coleoptera in the Philippine Journal of Science, citing 261 species of Cerambycidae and 30 species of *Glenea* Edward Newman, 1842. This accounts for approximately 110 species added in the Philippines in 60 years. The first known key of *Glenea* fauna was made by Aurivillius in 1926 presenting three subgenera (Aurivillius 1926a) and later, Hüdepohl (1996) provided the updated key to the Philippine species listing 87 species and several subspecies. For over 160 years since Jordana's times, Vives and Cabigas (2015)

released a provisional list of Philippine Cerambycidae with an increase of 1000 species. Moreover, Vives (2009, 2015) noted that this list only comprised 70% of known species in the country.

Considering the species diversity in the Philippines (Catibog-Sinha and Heaney 2006; Heaney and Regalado 1998), several species of beetles are being described and added new to science every year – including in the family Cerambycidae, particularly subfamily Lamiinae (Barsevskis 2016). Saperdini is a tribe in the subfamily Lamiinae in which in the Philippines consists of the following genera: *Glenea* Newman, 1842; *Parazosne* Aurivillius, 1926; *Heteroglenea* Gahan, 1897; *Serixia* Pascoe, 1856; *Menesia* Mulsant, 1856; *Nupserha* Chevrolat, 1858; *Oberea* Mulsant, 1839; *Schoenionta* J. Thomson, 1868; *Metallonupserha* Breuning, 1980; *Mimochlorisanis* Breuning, 1966; and *Zosne* Pascoe, 1866.

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Glenea is considered as one of the largest genera of Cerambycidae (Lin *et al.* 2009), which includes 36 subgenera and more than 850 species worldwide (Tavakilian and Chevillotte 2018). The global fauna of *Glenea* can be divided into four biogeographical regions: Afrotropical, Oriental, Philippine-Papuan region, and Lesser Sunda (Wang 1992). The vast diversity of the genus is found in the Oriental region with 23 sub-genera and 384 species (Wang 1992), while the Philippine-Papuan region is relatively unaccounted for. Chr. Aurivillius conducted a revision of the genus *Glenea* in the Philippines based mostly on the materials collected by C.F. Baker in Los Baños, Laguna deposited at the Natural History Museum (Riksmuseum) in Stockholm listing 54 species, with the near majority being endemic in the Philippines (Aurivillius 1926a). Despite being a large group in the Lamiinae and the high species diversity in the Philippines, the discovery of new species in this genus is still very slow. This can be attributed to the limited collection and the absence of experts or workers focusing on this taxon in the Philippines. The establishment of the Coleoptera Research Center at the University of Mindanao (UMCRC) paves the way in giving special emphasis on coleopteran taxonomic research and conservation in the Philippines, including this taxon.

MATERIALS AND METHODS

The Philippine list was obtained from various databases, *i.e.* Cerambycoidea.com managed by one of the authors (FV) (<https://www.cerambycoidea.com>), Lamiines of World (www.lamiinae.org), Coleoptera ([www.https://www.zin.ru](http://www.zin.ru)), the Photographic Catalogue of the Cerambycidae of the World ([www.http://bezbycids.com](http://bezbycids.com)), TITAN: Titan Database on Cerambycidae or Longhorn Beetles (Tavakilian and Chevillotte 2021) (version 30 May 2021; available at <http://titan.gbif.fr/index.html>), and Global Biodiversity Information Facility (www.gbif.org). The assignment of biogeographical location is based on the Philippine Pleistocene Aggregate Island Complex (Heaney and Regalado 1998). Additional materials were added from various field expeditions of the UMCRC research team. For the specimens collected from UMCRC, each material was collected through hand netting and handpicking and killed in vials with ethyl acetate. Morphological characters were observed under Luxeo 4D and Nikon SMZ745T stereomicroscopes. Photo documentation was conducted using Canon EOS 6D camera with Stackshot macro rail package montage. Photographs were processed and edited using Helicon Focus version 5.3 and licensed Adobe Photoshop CS6. All materials collected through CRC are with legal permission in accordance to Republic Act No. 9147 through the following Department of Environment and Natural

Resources gratuitous permits: XI-2018-1I and XI-2019-2I. Additional materials deposited in various museums and private collections were also examined (see Appendix A).

Note: new distribution records as FVC*, UMCRC**, and TL (type locality).

CATALOG

SUBGENUS *ACUTOGLENEA* BREUNING 1958

Glenea (Acutoglenea) albovittata Breuning 1958. Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(3): 846. HOLOTYPE: NHMB. Distribution: Philippines (Luzon: Baguio Benguet; Ifugao; Nueva Vizcaya Belance; Kayapa).

Glenea (Acutoglenea) theodosia palawensis Aurivillius 1903. Arkiv för zoologi 1: 325. HOLOTYPE: NHRS. *Glenea theodosia palawensis* Breuning, 1956 (misspelling). Distribution: Philippines (Palawan: Northern Palawan).

Glenea (Acutoglenea) versuta Newman, 1832. Entomologist 1: 302; Arkiv för zoologi 15: 39–40. SYNTYPES: BMNH. Scientific synonyms: *Glenea maura* Pascoe, 1867; The Transactions of the Entomological Society of London 3, 3, 4: 337–464. *Glenea (Acutoglenea) versuta ab. bipunctata* Aurivillius, 1923; Arkiv för zoologi 15(25): 1–43 (Philippines: Luzon). *Glenea (Acutoglenea) versuta ab. fasciolata* Aurivillius, 1923; Arkiv för zoologi 15(25): 1–43 (Philippines: Mindanao). *Glenea basalis* Aurivillius, 1923; Arkiv för zoologi 15(25): 1–43 (Philippines: Luzon). *Glenea (Acutoglenea) versuta m. basaloides* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(3): 804–907 (Philippines: Luzon). *Glenea (Acutoglenea) versuta m. rubrofemorata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(3): 804–907 (Philippines: Mindanao, Basilan). *Glenea (Acutoglenea) versuta m. siargoensis* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(3): 804–907 (Philippines: Mindanao, Siargao). *Glenea (Acutoglenea) versuta m. submaura* Breuning, 1960; Bulletin de l'Institut Royal des Sciences Naturelles de Belgique 36(7): 1–30 (Philippines: Mindanao). *Glenea (Acutoglenea) versuta var. parasiargoensis* Breuning, 1981; Nouvelle Revue d'Entomologie 11(1): 73–75 (Philippines). Distribution: Philippines (Luzon: Manila-TL; Sorsogon, Aroroy, Pollilo; Mindoro; Visayas: Bohol, Leyte, Negros Oriental, Samar; Mindanao: Langawisan Davao de Oro**, Agusan del Sur, Bukidnon, Lake Holon South Cotabato**).

SUBGENUS BRUNNEOGLENEA BREUNING 1958
***Glenea (Brunneoglenea) brunnipennis* Breuning 1958.**

Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(3): 852. HOLOTYPE: NHRS. Scientific synonym: *Daphisia brunnea* Aurivillius, 1926 (nec Thomson, 1879); The Philippine Journal of Science 30(1): 89–115. Distribution: Philippines (Visayas: Samar).

SUBGENUS GLENEA NEWMAN 1842

***Glenea (Glenea) albolineata mindanaonis* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 109. SYNTYPES: NHRS. Scientific synonyms: *Glenea albolineata* var. *mindanaonis* Aurivillius, 1926; *Glenea albolineata lumawigi* Breuning, 1980. Distribution: Philippines (Visayas: Samar; Mindanao: Bukidnon, Kabanglasan, Surigao, Agusan, Butuan, Langawisan Davao de Oro**).

***Glenea (Glenea) albolineosa* Breuning, 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 234–235. HOLOTYPE: MNHN. PARATYPE: Frey Collection, Baker British Museum, UK. Scientific synonyms: *Glenea (Glenea) albolineosa m. dorsoreducta* Breuning, 1958. Distribution: Philippines (Luzon: Aurora Province, Baobo).

***Glenea (Glenea) aphrodite* Thomson, 1865.** Mémoires de la Société Royale des Sciences de Liège 19: 561. HOLOTYPE: MNHN. Distribution: Philippines (Luzon: Laguna, Mt. Banahoa; Didin Isabela; Nueva Vizcaya, Belance; TL- Mindanao: Surigao del Sur).

***Glenea (Glenea) apicepurpurata* Hüdepohl, 1990.** Entomofauna 11(18): 301–303. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines [Luzon: Mt. Province (TL); Cagayan, Santa Ana; Quirino, Nagtipunan; Sierra Madre].

***Glenea (Glenea) artemis* Aurivillius, 1923.** Arkiv för zoologi 15: 37. SYNTYPES: NHRS. Scientific notes: Infrasubspecific or “morph” species *G. artemis m. humerosointerrupta* Breuning 1956; Arkiv för zoologi 15(25): 37; The Philippine Journal of Science 30: 92. Philippines (Luzon: Mt. Banahao, Mt. Makiling). Distribution: Philippines (Luzon: Northern Luzon, Belance; Visayas: Leyte; Mindanao: Siargao, Bucas Grande).

***Glenea (Glenea) astarte* Thomson, 1865.** Mémoires de la Société Royale des Sciences de Liège (1865) 19: 541–578. HOLOTYPE: MNHN. Scientific synonyms: infrasubspecific or ‘morph’ species *Glenea astarte m. anonoides* Breuning, 1956; Longicornia 3: 698. *Glenea samitana* Pic, 1943; *G. astarte m. anonoides* Breuning 1956 Entomologischen Arbeiten aus dem Museum G.

Frey, Tutzing bei München 7(1): 9–85. Philippines (Luzon: Laguna). *G. astarte samitana* Pic 1943; L’Echange LIX(493): 22. Philippines (Luzon; Visayas: Negros; Mindanao: Basilan). Distribution: Philippines (Luzon: Palawan, Quina River, Mount Capoas, Iwahig; Visayas: Negros; Mindanao: Basilan).

***Glenea (Glenea) balabacensis* Breuning, 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 9–85. HOLOTYPE: NHMB. Distribution: Philippines (Palawan: Balabac Island).

***Glenea (Glenea) balingiti* Hüdepohl, 1996.** Entomofauna Zeitschrift für Entomologie 17(1): 1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München. Distribution: Philippines (Visayas: Negros Island).

***Glenea (Glenea) bangueyensis* Aurivillius, 1920.** Arkiv för zoologi 13(9): 35. HOLOTYPE: NHRS. Scientific synonym: *Glenea bangueyensis* var. *nigripes* Aurivillius, 1926; The Philippine Journal of Science 30(1): 89–115. Distribution: Southeast Asia: Philippines (Visayas: Negros Island); Borneo (Bangui Island).

***Glenea (Glenea) basiflavofemorata* Breuning, 1956.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 873–874. HOLOTYPE: NHMB. Scientific synonym: *Glenea basiflavofemorata m. sutureattenuata* Breuning, 1974. Distribution: Philippines (Luzon: Mt. Makiling).

***Glenea (Glenea) basilana* Pic, 1943.** Echange LIX(493): 12. HOLOTYPE – MNHN. Distribution: Philippines (Mindanao: Basilan).

***Glenea (Glenea) benguetana* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 93–99. SYNTYPES: Baker Museum, UK; NHRS Riksmuseum, Stockholm, Sweden; LECTOTYPE – NMNH National Museum of Natural History (Smithsonian), US. Distribution: Philippines (TL: Luzon: Benguet, Baguio).

***Glenea (Glenea) bivittata* Aurivillius, 1903.** Arkiv för zoologi (1904) 1: 326. HOLOTYPE: NHRS. Scientific note: this species was recently documented in Palawan by Vives (2021) Lambillionia CXXI(2): 115–121. Distribution: Philippines (Luzon: Palawan: Northern Palawan).

***Glenea (Glenea) caraga caraga* Heller, 1921.** The Philippine Journal of Science 19: 541. HOLOTYPE: Bureau of Science, Manila, Philippines. Distribution: Philippines (Visayas: Samar; Mindanao: Davao Province).

Glenea (Glenea) caraga invittaticollis. Breuning 1966 Bulletin de l’Institut Royal des Sciences Naturelles de Belgique 42(21): 18. rest. Status. HOLOTYPE:

IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium. Scientific synonym: *Glenea (Glenea) caraga subvittaticolis* Breuning, 1968; Bulletin de la Société Entomologique de Mulhouse, p. 57–58. Distribution: Philippines (Luzon: Nueva Vizcaya; Isabella, Sierra Madre, Quirino*). Note: Breuning (1968) substituted *G. caraga invittaticollis* with *G. caraga subvittaticollis*, since this name was preoccupied by *G. papuensis* m. *invittaticollis* Breuning, 1958. Nonetheless, the morph *invittaticollis* is unavailable according to the ICZN, Art. 45.6.2.; hence, *subvittaticolis* is an unnecessary replacement name and *invittaticollis* is restored.

***Glenea (Glenea) caraga samarana* Breuning 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 82. HOLOTYPE: Baker British Museum, UK. Distribution: Philippines (Visayas: Negros Island).

***Glenea (Glenea) cinerea* Thomson, 1865.** Syst Ceramb (1864): 565. HOLOTYPE: MNHN. Scientific synonym: *Glenea (Glenea) cinerea* m. *lateplagiata* Breuning, 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7: 671–893. Distribution: Philippines (Luzon: Manila, Mindoro).

***Glenea (Glenea) colenda* Thomson, 1879.** Revue de Zoologie 3(7): 18. HOLOTYPE: MNHN. Distribution: Philippines (Luzon: Mindanao Island: Surigao del Sur).

***Glenea (Glenea) colobothoides* Thomson, 1865.** Syst Ceramb (1865): 565. HOLOTYPE: MNHN. Distribution: Philippines (Luzon; Mindanao: Siargao, Basilan).

***Glenea (Glenea) concinna* Newman, 1842.** Entomologist 1: 301. HOLOTYPE: BMNH British Museum Natural History, London, UK. Scientific synonym: *Glenea severa* Thomson, 1865 Mémoires de la Société Royale des Sciences de Liège 19: 565. Distribution: Philippines (Luzon; Mindanao).

***Glenea (Glenea) curvilinea* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 96–110. SYNTYPES: NHRS Naturhistoriska Riksmuseet, Stockholm, Sweden. Scientific synonym: *Glenea pistrix* Heller, 1934; The Philippine Journal of Science 54: 285. Type deposition: HOLOTYPE: Senckenberg Naturhistorische Sammlungen, Dresden, Germany (SNSD). Distribution: Philippines (Mindanao: Agusan, Butuan).

***Glenea (Glenea) cylindrepomoides* Thomson, 1865.** Syst Ceramb (1864): 564. HOLOTYPE: MNHN. Distribution: Philippines (Luzon: Manila; Nueva Vizcaya, Belance; Visayas: Negros; Mindanao: Bukidnon).

***Glenea (Glenea) decemguttata* Aurivillius, 1920.** Arkiv för zoologi 13(9): 33. HOLOTYPE: IRSNB; SYNTYPES: Bruxellense Museum. Scientific synonym: *Glenea*

suavis m. *decemguttata* Aurivillius, 1920 Coleoptera Longicornia. Neue Oder Wenig Bekannte 13(9): 1–43. Distribution: Philippines (no definite location).

***Glenea (Glenea) dido* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 101. HOLOTYPE: NHRS. Distribution: Philippines (Mindanao: Banga Port).

***Glenea (Glenea) discomaculata* Breuning, 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 17. HOLOTYPE: NHMB. Scientific synonym: *G. discomaculata* m. *discomaculicollis* Breuning 1957, *G. discomaculata* m. *trimaculicollis* Breuning 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 242–243. Distribution: Philippines (Mindanao: Surigao).

***Glenea (Glenea) elegantissima* Breuning, 1956.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 892–893. HOLOTYPE: BMNH. Distribution: Philippines (Mindanao: Butuan; Lanao del Sur, Wao).

***Glenea (Glenea) exulta* Newman, 1842.** The Entomologist 1: 302. HOLOTYPE: BMNH; SYNTYPE: same label as holotype. Scientific synonyms: *Glenea exulta* var. *claripennis* Hüdepohl, 1996 (unavailable name) Entomofauna Zeitschrift für Entomologie 17(1): 1–24. Philippines (Luzon: Sorsogon). *Glenea coryphaea* Thomson, 1865; Syst Ceramb (1865): 563. Philippines (Luzon: Laguna, Mt. Banahao, Mt. Maquiling; Mindanao). Other variations: *G. exulta* m. *atrimembris* Breuning 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 826–827. Philippines (Mindanao: Zamboanga). *Glenea magica* Thomson 1865; Syst Ceramb (1865): 563. Philippines (Luzon: Manila; Mindanao). *Glenea gracilis* Aurivillius 1923; Arkiv för zoologi 15: 37. Philippines (Luzon: Mindoro; Visayas: Leyte; Mindanao: Siargao, Bucas Grande). *Glenea exulta* m. *latefasciaticollis* Breuning 1956 Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 827. Philippines (Mindanao: Basilan). *G. lineella* Thomson 1865; Syst Ceramb (1865): 563. Philippines (Luzon: Sorsogon; Mindanao). *Glenea exulta* m. *medioconfluens* Breuning 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 51. Philippines (Luzon). Distribution: Southeast Asia [PHILIPPINES (Luzon: Manila Laguna, Mt. Banahao, Mt. Makiling, Mindoro; Mindanao: Basilan; Siargao; Visayas: Leyte, Samar), INDONESIA (Moluccas, Bacan, Halmahera, Morotai)].

***Glenea (Glenea) fissicauda* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 102–103. SYNTYPES: NMHS, Smithsonian, US. Other variations: *Glenea fissicauda* var. *lobata* Aurivillius, 1926; The Philippine Journal of Science 30(1): 103. Philippines

(Visayas: Samar, Negros; Mindanao) syntypes deposited at Baker Museum, UK; Riksmuseum, Stockholm, Sweden; *Glenea (Glenea) fissicauda biguttulata* Aurivillius 1926; The Philippine Journal of Science 30(1): 103. Philippines (Mindanao: Basilan); *G. fissicauda* m. *mediopunctipennis* Breuning 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München, 9(1): 248–249. Philippines (Visayas: Negros); *Glenea breuningi* Pic, 1943; L'Echange 59(493): 9–12. Distribution: Philippines (Luzon: Nueva Vizcaya, Kasibu; Visayas: Negros Island; Mindanao, Bukidnon, Panamokan).

***Glenea (Glenea) flavicollis* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 95, 104. HOLOTYPE: NMNH, Smithsonian, US; SYNTYPES: Baker Museum, UK; Riksmuseum, Stockholm, Sweden. Distribution: Philippines (Visayas: Sibuyan).

***Glenea (Glenea) flavotincta* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 109–110. SYNTYPES: NMNH, Smithsonian, US. Scientific synonym: *Glenea virgula* Schwarzer, 1930; Senckenberg 7: 110. Distribution: Philippines (Visayas: Samar; Mindanao).

***Glenea (Glenea) giannii* Hüdepohl, 1996.** Entomofauna Zeitschrift für Entomologie 17(1): 1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Palawan: Mt. Tuba, Brooks Point).

***Glenea (Glenea) glauca* Newman, 1842.** The Entomology (1842) 1: 302. HOLOTYPE – BMNH. Other variation: *Glenea glauca* var. *viridis* Aurivillius, 1926; The Philippine Journal of Science 30(1): 89–115. Distribution: Philippines (Luzon: Manila; Bicol, Libon Albay; Visayas: Samar; Mindanao: Bukidnon, Cabanglasan; Surigao del Sur).

***Glenea (Glenea) griseolineata* Breuning, 1956.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 852–853. HOLOTYPE: BMNH. Distribution: Philippines (Mindanao: Iligan; Visayas: Leyte)

***Glenea (Glenea) helleri* Aurivillius, 1923.** Coleopterorum Catalogus 74: 506. HOLOTYPE: Bureau of Science, Manila, Philippines. Scientific synonym: *Glenea scalaris* Heller, 1921 nec Thomson, 1865; The Philippine Journal of Science 19: 541. *Glenea (Glenea) helleri* m. *flavescens* Breuning, 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7: 671–893. Distribution: Philippines (Luzon: Laguna, Mt. Makiling, Nueva Vizcaya, Belance; Quirino, Sierra Madre).

***Glenea (Glenea) humeralis* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 104. HOLOTYPE:

NMNH, Smithsonian, US; SYNTYPES: Baker Museum, UK; Riksmuseum, Stockholm, Sweden. Distribution: Philippines (Luzon: Polillo Island).

***Glenea (Glenea) iligana* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 89–115. HOLOTYPE: NMNH. Smithsonian, US. Distribution: Philippines (Mindanao: Lanao; Iligan; Bukidnon; Mt. Apo).

***Glenea (Glenea) intermixta bidiscopunctata* Breuning 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 239. HOLOTYPE: NHMB. Distribution: Philippines (Palawan).

***Glenea (Glenea) intermixta intermixta* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 107–108. SYNTYPES: Baker Museum, UK; NHRS; Scientific synonyms: *Glenea (Glenea) intermixta* m. *indiscalis* Breuning, 1953; Bulletin de l'Institut Royal des Sciences Naturelles de Belgique 29(8): 29 (Philippines: Basilan); *Glenea (Glenea) intermixta* m. *basalilineata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 239 (Philippines: Basilan); *Glenea (Glenea) intermixta* m. *inhumeralis* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 240 (Philippines: Basilan). Distribution: Philippines (Luzon: Northern Luzon, Nueva Vizcaya; Mindanao: Zamboanga, Dapitan, Iligan, Basilan).

***Glenea (Glenea) johani* Hüdepohl, 1996.** Entomofauna Zeitschrift für Entomologie 17(1): 1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Luzon: Palawan; Visayas: Panay Island, Antique).

***Glenea (Glenea) lepida* Newman, 1842.** Entomologist 1(1842): 301. HOLOTYPE: BMNH. Distribution: Philippines (Luzon: Manila (TL), Quirino*, Mindoro; Mindanao: Bukidnon, Intabas; Basilan), Indonesia (Sangi en Talaud, Salibabae).

***Glenea (Glenea) lusoria* Pascoe, 1867.** Transactions of the Entomological Society of London 3(3): 405. HOLOTYPE: BMNH. Scientific synonym: *Glenea bimaculata* Aurivillius, 1920 Arkiv för zoologi 13: 34. Distribution: Philippines (no definite location).

***Glenea (Glenea) lycoris* Thomson, 1865.** Syst Ceram (1865): 563. HOLOTYPE: MNHN. Distribution: Philippines (Mindanao).

***Glenea (Glenea) minerva* Aurivillius, 1922.** Tijdschrift voor Entomologie 65: 171. SYNTYPES: Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands. Distribution: Philippines (Luzon: Palawan).

***Glenea (Glenea) negrosiana* Hüdelpohl, 1996.** Entomofauna Zeitschrift für Entomologie 17(1): 1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Negros Oriental).

***Glenea (Glenea) newmannii* Thomson, 1879.** Revue et Magasin de Zoologie 3(7): 14. HOLOTYPE: MNHM. Scientific synonyms: *Glenea newmani commixta* Aurivillius 1923; Arkiv för zoologi 15: 37–40 (Philippines: Aroroy). *Glenea commixta ab. fasciola* Aurivillius, 1923; Arkiv för zoologi 15(2)5: 1–43 (Philippines: Mindanao). *Glenea (Glenea) newmani m. bisuturemaculata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 243–245 (Philippines: Luzon: Mt. Makiling). *Glenea (Glenea) newmani m. fasciolatooides* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 243–245 (Philippines: Mindanao: Surigao). *Glenea (Glenea) newmani m. nigritipennis* Breuning, 1958 Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 243–245 (Philippines: Luzon: Mt. Makiling). Distribution: Southeast Asia: Philippines (Luzon: Masbate, Sorsogon, Aroroy; Visayas: Samar), Indonesia (Moluccas: Seram Island).

***Glenea (Glenea) niveopectus indistinctevittata* Breuning 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 247. HOLOTYPE: BMNH. Scientific synonyms: *Glenea (Glenea) niveopectus m. albovittulata* Breuning, 1950; Arkiv för zoologi 2(1): 272 (Philippines: Mindanao); *Glenea (Glenea) niveopectus m. viridivittata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 247 (Philippines: Mindanao: Surigao); *Glenea (Glenea) niveopectus m. humeropunctata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 247 (Philippines: Mindanao: Iligan); *Glenea (Glenea) niveopectus m. discotransversevittata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 247 (Philippines: Davao). Distribution: Philippines (Mindanao: Davao, Surigao, Iligan).

***Glenea (Glenea) niveopectus niveopectus* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 108–109. HOLOTYPE: NMNH; SYNTYPES: Baker Museum, UK. Scientific synonyms: *Glenea (Glenea) niveopectus* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 247 misspelling. Distribution: Philippines (Basilan).

***Glenea (Glenea) ochreovittata* Breuning 1950.** The Sarawak Museum Journal 5(2): 384. HOLOTYPE: University of Malaysia, Sarawak, Malaysia. Scientific synonym: *Glenea (Glenea) ochreobivittata m. inhumerala*

Breuning, 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 783. Distribution: Southeast Asia: Philippines (Luzon: Mt. Makiling); Indonesia.

***Glenea (Glenea) pagana* Aurivillius, 1926.** The Philippine Journal of Science 30(1): 98–99. HOLOTYPE: NMNH. Distribution: Philippines (Luzon: Benguet, Baguio- TL).

***Glenea (Glenea) parartensis* Breuning, 1966.** Reichenbachia 6(14): 125. HOLOTYPE: SNSD, Germany. Distribution: Philippines (Western Negros Island).

***Glenea (Glenea) parasauteri* Breuning, 1980.** Mitteilungen aus dem Zoologischen Museum in Berlin 56(2): 179. HOLOTYPE: MNHN. Distribution: Philippines (Mindanao Island).

***Glenea (Glenea) parexculata* Breuning, 1980.** Mitteilungen aus dem Zoologischen Museum in Berlin 56(2): 179. HOLOTYPE: MNHN. Distribution: Philippines (Mindanao Island).

***Glenea (Glenea) philippinensis* Breuning, 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7: 230–231. HOLOTYPE: BMNH. Scientific synonym: *Glenea (Glenea) philippinensis m. bilatevitticollis* Breuning, 1961; Mitteilungen aus dem Zoologischen Museum in Berlin 37: 297–328 (Philippines: Luzon, Mt. Banahao). Distribution: Philippines (Mindanao: Surigao).

***Glenea (Glenea) pseudocolobotheoides* Breuning, 1950.** Annali del Museo Civico di Storia Naturale di Genova 64: 189. HOLOTYPE: Museo Civico di Storia Naturale, Genova, Italy. Distribution: Philippines (Luzon; Mindanao: Basilan).

***Glenea (Glenea) pseudoregularis* Breuning, 1958.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7: 232. HOLOTYPE: BMNH. Distribution: Philippines (Luzon; Mindanao: Surigao).

***Glenea (Glenea) pseudosuavis* Breuning, 1956.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 829–830. HOLOTYPE: NHMB. Scientific synonym: *Glenea (Glenea) pseudosuavis m. rufiscapus* Breuning, 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 830. Distribution: Philippines (Luzon: Mt. Makiling).

***Glenea (Glenea) quadriochreomaculata* Breuning, 1966.** Reichenbachia 6(14): 126–127. HOLOTYPE: SNSD, Germany. Distribution: Philippines (Negros Island: Western Negros; Mt. Kanlaon).

***Glenea (Glenea) quezonica* Hüdelpohl, 1996.** Entomofauna Zeitschrift für Entomologie 17(1):

1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Luzon: Quezon Province, Atimonan-Type Locality).

Glenea (Glenea) quinquevittata quinquevittata Aurivillius, 1926. The Philippine Journal of Science 30(1): 89–115. SYNTYPES: Baker Museum, UK; NHRS, Sweden. Distribution: Southeast Asia: Philippines (Mindanao: Butuan), Borneo.

Glenea (Glenea) referens Aurivillius, 1926. The Philippine Journal of Science 30(1): 95–106. SYNTYPES: Baker Museum, UK; NMNH, US. Distribution: Philippines (Mindanao: Lanao, Kolabugan-Type Locality; Luzon: Northern Luzon, Quirino Province, Sierra Madre).

Glenea (Glenea) regularis Newman, 1842. The Entomologist 1(1842): 302. HOLOTYPE – BMNH. Scientific synonym: *Glenea regularis* m. *aebicans* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1). *Glenea regularis* m. *lateriaebida* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1). Distribution: Philippines (Luzon: Camarines Sur, Mt. Isarog, Manila, Laguna, Mt. Makiling).

Glenea (Glenea) rufuloantennata Breuning, 1966. Reichenbachia 6(14): 127. HOLOTYPE: SNSD, Germany. Distribution: Philippines (Luzon: Kalinga, Balbalan-Type Locality; Nueva Vizcaya, Dupax del Sur).

Glenea (Glenea) samarensis Aurivillius, 1926. The Philippine Journal of Science 30(1): 106. HOLOTYPE: NMNH, US; SYNTYPES: Baker Museum, UK. Distribution: Philippines (Visayas: Samar).

Glenea (Glenea) sordida Aurivillius, 1923. Arkiv för zoologi 15(1923): 36. SYNTYPES: NHRS. Distribution: Philippines (Luzon: Benguet, Baguio, Nueva Vizcaya, Imugan).

Glenea (Glenea) splendidula Hüdepohl, 1996. Entomofauna Zeitschrift für Entomologie 17(1): 1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Luzon: Mountain Province-TL; Nueva Vizcaya, Dupax del Sur; Visayas: Leyte; Mindanao).

Glenea (Glenea) suavis Newman, 1842. The Entomologist 1: 302. HOLOTYPE: BMNH. Scientific synonyms: *Glenea (Glenea) suavis* m. *multisignata* Breuning 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 50. Philippines (Luzon: Nueva Vizcaya; Negros Island, Bucos). *Glenea (Glenea) suavis* m. *subvitticollis* Breuning 1956; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei

München 7(1): 50. Philippines. *Glenea (Glenea) suavis* m. *basireducta* Breuning 1959 Mitteilungen aus dem Zoologischen Museum in Berlin 35(1): 171. Philippine (Mindanao: Surigao). Distribution: Philippines (Luzon: Ifugao; Nueva Vizcaya, Kayapa; Manila; Visayas: Samar; Mindanao: Siargao).

Glenea (Glenea) subelegantissima Breuning, 1982. Annales de la Société Entomologique de France 18(1): 26. HOLOTYPE: MNHN. Distribution: Philippines (Luzon-TL).

Glenea (Glenea) submajor Breuning, 1960. Entomofauna 17(1): 20. HOLOTYPE: MNHN. Distribution: Philippines (Luzon: Cagayan; Sta. Ana).

Glenea (Glenea) transversefasciata Hüdepohl, 1996. Entomofauna Zeitschrift für Entomologie 17(1): 1–24. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Negros).

Glenea (Glenea) transversevittipennis Breuning, 1956. Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 19–20. HOLOTYPE: NHMB. Distribution: Philippines (no definite location).

Glenea (Glenea) triangulifera Aurivillius, 1926. The Philippine Journal of Science 30(1): 95, 105. SYNTYPES: BMNH. Distribution: Philippines (no definite location).

Glenea (Glenea) trimaculipennis Breuning, 1959. Mitteilungen aus dem Zoologischen Museum in Berlin 35(1): 171. HOLOTYPE: Museum für Naturkunde – Leibniz Institute for Evolution and Biodiversity Science, Berlin, Germany. Distribution: Philippines (Luzon: Mt. Isarog-TL).

Glenea (Glenea) tritoleuca Aurivillius, 1923. Arkiv för zoologi 15: 38–40; The Philippine Journal of Science 30: 95. SYNTYPES: NHRS. Scientific synonym: m. *ochreatea* Breuning, 1958; m. *tripartita* Aurivillius, 1923. This includes species variation, *Glenea (Glenea) tritoleuca uniluteofasciata* Pic 1943; Echange LIX(492): 8; *Glenea tritoleuca* v. *tripartita* Aurivillius, 1923; Arkiv för zoologie 15(25): 39. With the following morphs: m. *angustevittata* Breuning, 1958; m. *atrata* Breuning, 1958; m. *mediolutesfasciata* Breuning, 1958; m. *unipartita* Breuning, 1958; m. *discoantemaculata* Breuning, 1958; m. *uniluteofasciata* Pic 1943. Distribution: Philippines (Mindanao: Mt. Macara, Basilan).

Glenea (Glenea) univittata Aurivillius, 1923. Arkiv för zoologi 15: 38–40. SYNTYPES: NHRS. Scientific synonym: *Glenea univittata* ab. *vinculata* Aurivillius, 1926; The Philippine Journal of Science 30(1): 89–115. Philippines (Luzon: Sorsogon). Distribution: Philippines (Luzon: Aroroy-TL; Laguna, Los Baños, Masbate,

Sorsogon, Sibuyan, Negros).

***Glenea (Glenea) ustulata* Breuning, 1956.** Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 7(1): 195. HOLOTYPE: NHMB. Distribution: Philippines (Mindanao).

***Glenea (Glenea) varifascia* Thomson, 1865.** Syst Ceramb (1864): 562. HOLOTYPE: MNHN. Synonym: *Glenea varifascia* m. *reducediscofasciata* Breuning, 1958; Entomologischen Arbeiten aus dem Museum G. Frey, Tutzing bei München 9(1): 229–350. Distribution: Philippines (Mindanao).

***Glenea (Glenea) vestalis* Heller, 1934.** The Philippine Journal of Science 54(2): 284, Fig. 2. HOLOTYPE: SNSD, Germany. Notes: this species was previously regarded as a junior synonym of *G. pulchella* Pascoe, 1858 but following recent studies on its morphological and genital characters, it has been reinstated as a valid species (Hiremath and Lin 2021). At present, *G. pulchella* is not distributed in the Philippines and its known distribution was recorded only both in Malaysia and Singapore (Hiremath and Lin 2021). Distribution: Philippines (Luzon: Masbate; Mindanao: Quirino, Sierra Madre).

SUBGENUS *MACROGLENEA* AURIVILLIUS 1920

***Glenea (Macroglenea) beatrix* Thomson 1879.** Revue Zoologique 3(7): 90. HOLOTYPE: MNHN. Philippine endemic (Luzon: Palawan, Mindoro; Panay*, Mindanao: Mt. Hamiguitan Range Wildlife Sanctuary**, Davao City**, Cabalanan**, Lake Holon**).

SUBGENUS *PUNCTOGLENEA* BREUNING 1956

***Glenea (Punctoglenea) sexpunctata* Aurivillius 1926.** The Philippine Journal of Science 30(1): 90. SYNTYPES: NHRS. Philippines (Mindoro Island; Visayas: Leyte; Mindanao: Davao City**).

***Glenea (Punctoglenea) francisi* Hüdepohl 1990.** Entomofauna 11(18): 304–306. HOLOTYPE: Zoologische Staatssammlung des Bayerischen Staates, München, Germany. Distribution: Philippines (Luzon: Nueva Vizcaya, Kasibo, Mt. Province (Type Locality); Isabela, Sierra Madre; Nueva Vizcaya, Dupax Del Sur).

SUBGENUS *STIROGLENEA* AURIVILLIUS, 1920

***Glenea (Stirolenea) cantor* (Fabricius, 1787).** Mant Ins 1: 142. SYNTYPES: Zoologisk Museum, Copenhagen, Denmark. Scientific synonyms: *Lamia cantor* Fabricius, 1787 Hafniae, Proft 1: xx+348; *Glenea luzonica* Aurivillius, 1926; The Philippine Journal of Science 30(1): 89–115; *Glenea (Stirolenea) cantor* m. *rufofemoralis* Breuning, 1958; Entomologischen Arbeiten aus dem

Museum G. Frey, Tutzing bei München 9(1): 229–350. Distribution: Asia: China-TL; Philippines: Luzon, Quirino, Nagtipunan; Vietnam; India; Laos: Saravan Province, Mt. Saravan; Thailand: Corat.

SUBGENUS *VITTIGLENEA* BREUNING 1956

***Glenea (Vittiglenea) kraatzi* Thomson 1865.** Systema Cerambycidae (1865): 562. SYNTYPES: MNHN. Scientific synonyms: *Glenea (Macroglenea) kraatzi* var. *abbreviata* Aurivillius, 1926; The Philippine Journal of Science 30(1): 89–115 (Panay Island); *Glenea (Vittiglenea) kraatzi* m. *discoprolongatevittata* Breuning, 1966 Mitteilungen aus dem Zoologischen Museum in Berlin 42(2): 229–258 (Luzon: Innugan). Distribution: Philippines (Luzon: Cagayan; Quirino, Sierra Madre; Negros*, Mindanao); Indonesia (Batchian, Molucca Islands).

***Glenea (Vittiglenea) lateflavovittata* Breuning 1980.** Mitteilungen aus dem Zoologischen Museum in Berlin 56(2): 180. HOLOTYPE: MNHN. Distribution: Philippines (Mindanao).

DISCUSSION

The conceived idea of island biogeography in the Philippines was that different islands had different continental, oceanic, and volcanic origins and that many of them underwent constant changes due to tectonic movements (Hall 2002). The island boundaries were supposed to have formed during the Pleistocene, wherein sea-level fluctuations lead to modify them (Voris 2000). Hence, the Philippines are divided into six biogeographic regions: Greater Palawan, Sulu, Greater Luzon, Mindoro, Western Visayan (Negros-Panay), and Greater Mindanao (GM; comprising Mindanao and Eastern Visayan subregions) (Heaney 1986). This contributed to the formation of a very rich and highly endemic biota (Heaney *et al.* 1998; van Welzen *et al.* 2005), making the archipelago arguably the most geologically and biogeographically complex area of the Malesian region.

Concerning the genus *Glenea*, Hüdepohl (1996) listed eight subgenera: *Glenea* (*s. str.*), *Acutoglenea*, *Brunneoglenea*, *Macroglenea*, *Punctoglenea*, *Vittiglenea*, *Acrioniglenea*, and *Parazosne*. Two subgenera, *Acrioniglenea* and *Parazosne*, were erected as separate genera (Vives 2009, 2013, 2014); hence, they are no longer included in this catalog. The former subgenus *Acrioniglenea* was validly erected as a separate genus based on its longitudinally ridge pronotum (Vives 2014).

Moreover, a new subgenus (*Stirolenea*) is included; hence, Philippine *Glenea* consists of seven subgenera: *Glenea* (*s. str.*), *Acutoglenea*, *Brunneoglenea*, *Macroglenea*,

Punctoglenea, *Stiroglenea*, and *Vittiglenea*. A key to the subgenera in the Philippines is provided (see Appendix B).

From a total of 87 species (77 species and 10 subspecies), 79 (91%) are endemic in the Philippines, 52 (59%) are restricted to a specific biogeographic island, and 8 (9%) are distributed in the Oriental region. Based on specific biogeographic island endemism, Greater Luzon has the highest number with 20 endemic species (or 22%), followed by Greater Mindanao with 16 (18%), Negros-Panay with six (8%), Greater Palawan with six (8%), Samar with three (3%), and Romblon Islands with one (1%). *Glenea flavicollis* Aurivillius, 1926 is the only species recorded in Romblon Islands.

Comparing to the total list of species (including both endemic and non-endemic species) per biogeographic regions, Greater Mindanao and Greater Luzon has the highest records with 48%, Western Visayas (Negros-Panay) with 16%, Samar with 11%, Greater Palawan with 10%, Mindoro with 7%, Central Visayas with 6%, Romblon Islands with only one species, and five species without definite location, labeled only as “Philippines.” Other islands in the country still have virtually no record of *Glenea* fauna including but not limited to Camiguin Island, Siquijor Island, Batanes and Babuyan Islands, and the entire Greater Sulu biogeographic region. The Philippine record is considerably lower compared to the Oriental region with 23 subgenera and 386+ species (Wang 1992), but its very high endemism (90%) is of very much interest for further studies.

To complete the Philippine-Papuan (Wang 1992) biogeographic region for the global *Glenea* fauna, data from other areas (sub-regions) included in the Papuan region is deemed necessary, considering that the center of distribution of this genus seems to be within this biogeographic region (Hawkeswood 2009; Breuning 1956). Moreover, several species are also accounted for in Tropical Africa; hence, the probable origin of the species might be in Gondwana. Moreover, data from Hawkeswood (2009) estimated about 50 species in the Papuan sub-region; thus adding to the Philippine list would account for approximately 137+ species, a very conservative estimate for Philippine-Papuan biogeographic region. Nonetheless, this is a rough estimate and more collection efforts may increase this list, including new additions to science.

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STATEMENT ON CONFLICT OF INTEREST

The authors declare that there is no conflicting interest incurred during the preparation of the manuscript.

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APPENDICES

Appendix A. Museums and private collections in alphabetical order.

BMNH – British Museum Natural History, London, UK

BPBM – Bernice P. Bishop Museum, Honolulu, HI, USA

CAS – California Academy of Sciences, San Francisco, CA, USA

DUBC – Daugavpils University Beetles Collections

FVC – Francesco Vitali Collection, Luxembourg, Grand Duchy of Luxembourg

IRSNB – Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium

LGB – Larry G. Bezark Collection, Sacramento, CA, USA

MNHNL – Musée National d’Histoire Naturelle, Luxembourg, Grand Duchy of Luxembourg

MNHNP – Muséum National d’Histoire Naturelle, Paris, France

NHMB – Naturhistorisches Museum, Basel, Switzerland

NHRS – Naturhistoriska Riksmuseet, Stockholm, Sweden

NMNH – United States National Museum, Washington, DC, USA

SNSD – Senckenberg Naturhistorische Sammlungen, Dresden, Germany

UMCRC – University of Mindanao Coleoptera Research Center

Appendix B. Key to the sub-genera of *Glenea* in the Philippines.

1. Scape longitudinally ridged 2
- Scape without ridge 3
2. Pronotum densely punctured..... ***Brunneoglenea***
- Pronotum scarcely punctured ***Stirolenea***
3. Interantennal space narrow; pronotum almost conical ***Punctoglenea***
- Interantennal space large 4
4. Scape long, evidently longer than antennomere 4 ***Acutoglenea***
- Scape as long as or shorter than antennomere 4 5
5. Prothorax cylindrical..... ***Glenea s. str.***
- Prothorax conical 6
6. Elytral conical; middle-sized black species with longitudinal yellow bands ***Vittiglenea***
- Elytral almost cylindrical; large metallic species with spotted white pattern 7
7. Pronotum smooth; subhumeral ridge developed, blue species ***Macroglenea***

Appendix C. Some of the *Glenea* fauna at the UMCRC.

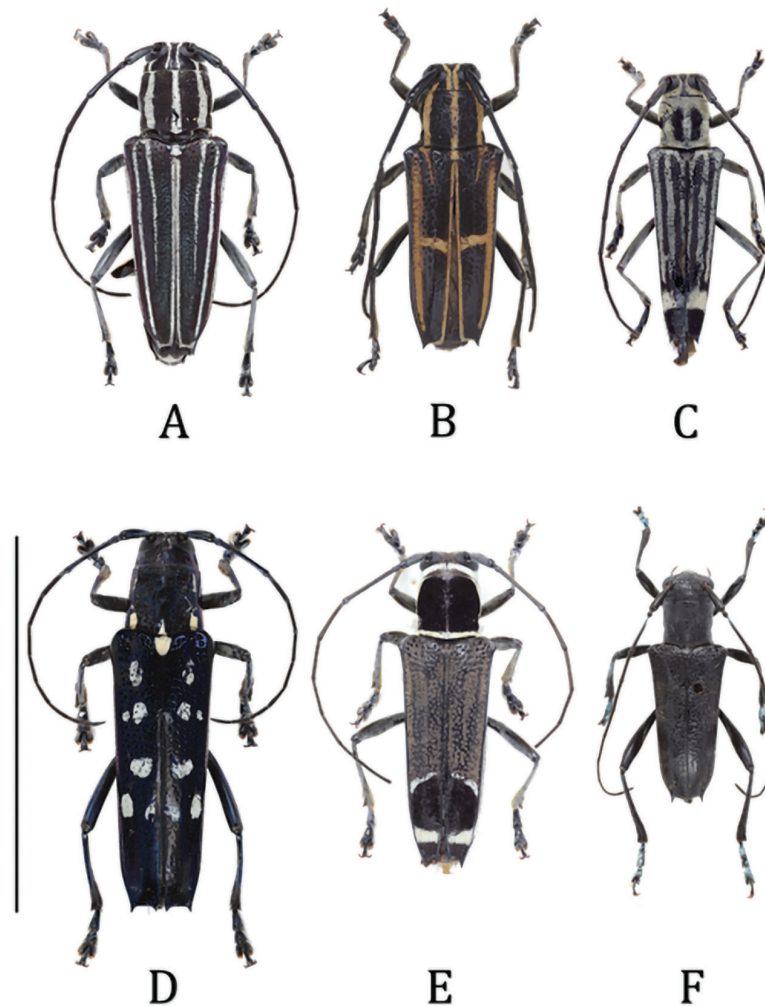


Figure I. A) *Glenea (Glenea) albolineata mindanaonis* Aurivillius, 1926; B) *Glenea (Acutoglenea) versuta* Newman, 1832; C) *Glenea (Glenea) colobothoides* Thomson, 1865; D) *Glenea (Macroglenea) beatrix* Thomson 1879; E) *Glenea (Glenea) elegantissima* Breuning, 1956; F) *Glenea versuta* cf. *maura* Pascoe, 1867. Scale bar: 23 mm.