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NOTE

First records of African clearwing moths (Lepidoptera: Sesiidae) nectaring on the invasive Shrubby False Buttonweed — *Spermacoce verticillata* L. (Rubiaceae) in Guinea and Liberia, West Africa

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INTRODUCTION

Shrubby False Buttonweed – *Spermacoce verticillata* L. is an annual or perennial plant native to subtropical and tropical areas in Central and South America, and has been introducted possibly as an ornamental plant to Asia, Australia, Africa and the Pacific Islands. In West Africa, it has been recorded from Mali, Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Burkina Faso, Togo, Benin, Nigeria and Cameroon (https://www.cabi.org/isc/datasheet/9479).

In Guinea and Liberia it is well established in primary and secondary grasslands and savannah habitats, also grassy forest edges mainly in hilly country of the Nimba Mountains and in the Fouta Djallon, where it can be amongst the commonest flowering plants during the rainy season between May and October.

Figure 1 – Stands of Shrubby False Buttonweed — *Spermacoce verticillata* along forest glade at the foothills of Nimba Mountains, Liberia.

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Many members of Sesiidae are avid nectar-feeders (Lastuvka & Lastuvka, 2001), and sometimes several species are attracted to a single flowering bush or to plant stands (Sáfián, pers. obs.).

OBSERVATIONS

On an entomological expedition organized by the African Natural History Reserch Trust, UK, Lydia Mulvaney, William Miles and Szabolcs Sáfián observed numerous individuals of *Lophoceps quinquepuncta* Hampson, 1919 (http://www.afromoths.net/species/show/8312) – both sexes of a small clearwing moth – on grassy clearings in riverine forest at Chute de Ditinn, Fouta Djallon, Guinea between 19–24 September 2019. They were nectaring on tiny white flowers of a low plant with globular flowerhead, later identified as *S. verticillata*. They were observed only during the late afternoon hours, between 17h00 and 18h00 local time. Over the few days of observation, probably several hundred were seen.

Figure 2 – *Lophoceps quinquepuncta* female nectaring on *Spermacoce verticillata* at Chute de Ditinn, Guinea.

In May 2020 the author recognized that *S. verticillata* is also present in the secondary savannah grasslands and grassy forest edges in the Liberian Nimba Mountains. He checked the presence of Sesiids on the flowers without success. However, on the 8th July 2020 in the afternoon after 15h00 a *L. quinquepuncta* specimen was spotted on the flowers along a forest glade, and further specimens

were found during the systematic check of the flowerheads. During about an hour's search, more than 15 specimens were seen, plus a small, unidentified *Episannina* (Sesiidae, Sesiinae) specimen, all nectaring on the same plant species. On the 10th July he returned to look for further specimens between 12h30 and 13h30 but no nectaring Sesiids were observed during this time. On the same day, the first specimen of *L. quinquepuncta* appeared at 14h45 and by 15h30 another five specimens were observed nectaring. A rather larger, metallic blue and black *Episannina* specimen was also observed and captured for identification.

Figure 3 – *Lophoceps quinquepuncta* was very abundant in the riverine forest of Chute de Ditinn, often a couple of specimens were present on the same plant.

At both localities, nectaring of *L. quinquepuncta* was observed only in the afternoon hours between 14h45 and 18h00. In the morning hours the specimens stay inside dense, closed canopy forest, where they are often seen basking on sunlit leaves close to the ground as observed by the author in various locations in Liberia, Sierra Leone and Guinea. It is possible that the limited food-source availability in the forest interior drives them to seek nectar in flowers in clearings or growing along the forest glade. The specimens were always found on the plants in denser vegetation and despite availability, they completely avoided flowers in the more open grassland.

During the search, a wide range of other insect were also observed visiting the flowers, including several butterfly species: *Ypthima doleta* Kirby, 1880, *Junonia oenone* (Linnaeus, 1758), *Axiocerses harpax* (Fabricius, 1775), *Anthene amarah* (Guérin-Méneville, 1849), *Azanus isis* (Drury, 1773), *A. moriqua* (Wallengren, 1857), and *Zizeeria knysna* (Trimen, 1862); also other moths in the family Erebidae and various micro moths. The flowers were most frequently visited by a wide range of wasps (Hymenoptera) and flies (Diptera), and small-sized flower chafer beetles (Scarabaeidae, Cetoniinae) were also among the common visitors. The high abundance of potential pollinating insects nectaring on *S. verticillata* also raises further questions: would pollinator populations benefit from the additional nectar-source provided by the plant, and would the presence of abundant stands actually distract pollinators from native plants, reducing their reproductive success?

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