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First records for fifteen species of Lepidoptera for Honduras

John van Dort

Centro Zamorano de Biodiversidad (CZB)
Escuela Agrícola Panamericana, Zamorano
P.O. Box 93, Tegucigalpa, Honduras

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First records for fifteen species of Lepidoptera for Honduras

John van Dort

john.vandort@gmail.com

Centro Zamorano de Biodiversidad (CZB)
Escuela Agrícola Panamericana, Zamorano
P.O. Box 93, Tegucigalpa, Honduras

Abstract. During February 2012–February 2014, fifteen new lepidopterans new to Honduras were found on Cerro de Hula and Montaña de Izopo, near Tegucigalpa, Francisco Morazán. Eleven of these have known ranges north and south of Honduras, and thus were expected to occur. Four species are known only from countries north of Honduras; these new records imply range extensions. Many of these first country records involve species characteristic of oak woodlands, highlighting the need for research in this widespread and vulnerable habitat in Honduras.

Key words: Range extension, butterflies, Central America

Primer registro de quince especies de Lepidoptera nuevas para Honduras

Resumen. De febrero de 2012 a febrero de 2014, quince lepidópteros nuevos para Honduras fueron encontrados en el Cerro de Hula y Montaña de Izopo, cerca de Tegucigalpa, Francisco Morazán. Once de estas especies tienen rangos conocidos en países al norte y sur de Honduras por lo que se esperaba que se encontraran en el país. Cuatro especies son conocidas solo de países al norte de Honduras, estos nuevos registros implican extensión de la distribución conocida hacia el sur. Muchos de estos primeros registros son de especies características de los bosques de robles, destacando la falta de investigación en este hábitat extenso y vulnerable en Honduras.

Palabras clave: Extensión de rango, mariposas, Centroamérica.

Introduction

The Lepidoptera of Honduras remain the least known of all of Central America (Miller et al. 2012), and among Honduran butterfly communities, those of the pine-oak forests are relatively little known. Miller et al. (2012), a synthesis of fieldwork carried out in Pico Bonito National Park, Atlántida and a literature review on Honduran and Central American Lepidoptera, form the touchstone of the current communication. A photo documentation of fourteen diurnal butterflies and a photo record of a noctuid moth from central Honduras, all new records for the country are here presented.

Both older (Monroe et al. 1967, Monroe & Miller 1967) and more recent work on Honduran Lepidoptera (Miller et al. 2012) have focused on collection localities in the Nombre de Dios mountain range in the north of Honduras, specifically Pico Bonito National Park, with sporadic collecting at localities in other parts of the country. Practically all work thus far has been carried out in protected areas, with a focus on key habitats such as rain forest, cloud forest, or middle elevation humid forest. In Honduras, butterfly communities in agricultural areas or other disturbed habitats, as well as pine-oak forest, have received little attention, and thus remain relatively unknown. While the current study did not sample butterfly species in a systematic manner, and no voucher specimens were collected, photos were taken of all records presented here. These observations were made during an environmental impact study at a wind energy facility 10 km south of Tegucigalpa, Francisco Morazán.

Methods

All species were observed between 2012 and 2014 in the Cerro de Hula/Montaña de Izopo area, approximately 10 km south of Tegucigalpa (Figure 1). This area comprises highly disturbed habitat with predominantly grazing areas for cattle, disturbed forest fragments of mostly pine-oak, and remnant patches of cloud forest. The elevation gradient ranges between 1200 and 1800 m. Due to its close proximity to

Tegucigalpa, the area is densely populated. Thus, most forest patches in the area suffer from small-scale logging, while forest fires are common at the end of the dry season, roughly between February and April. Specimens were photographed using a Canon PowerShot SX-50 digital camera. Identifications were made using Glassberg (2007) and Warren et al. (2013).

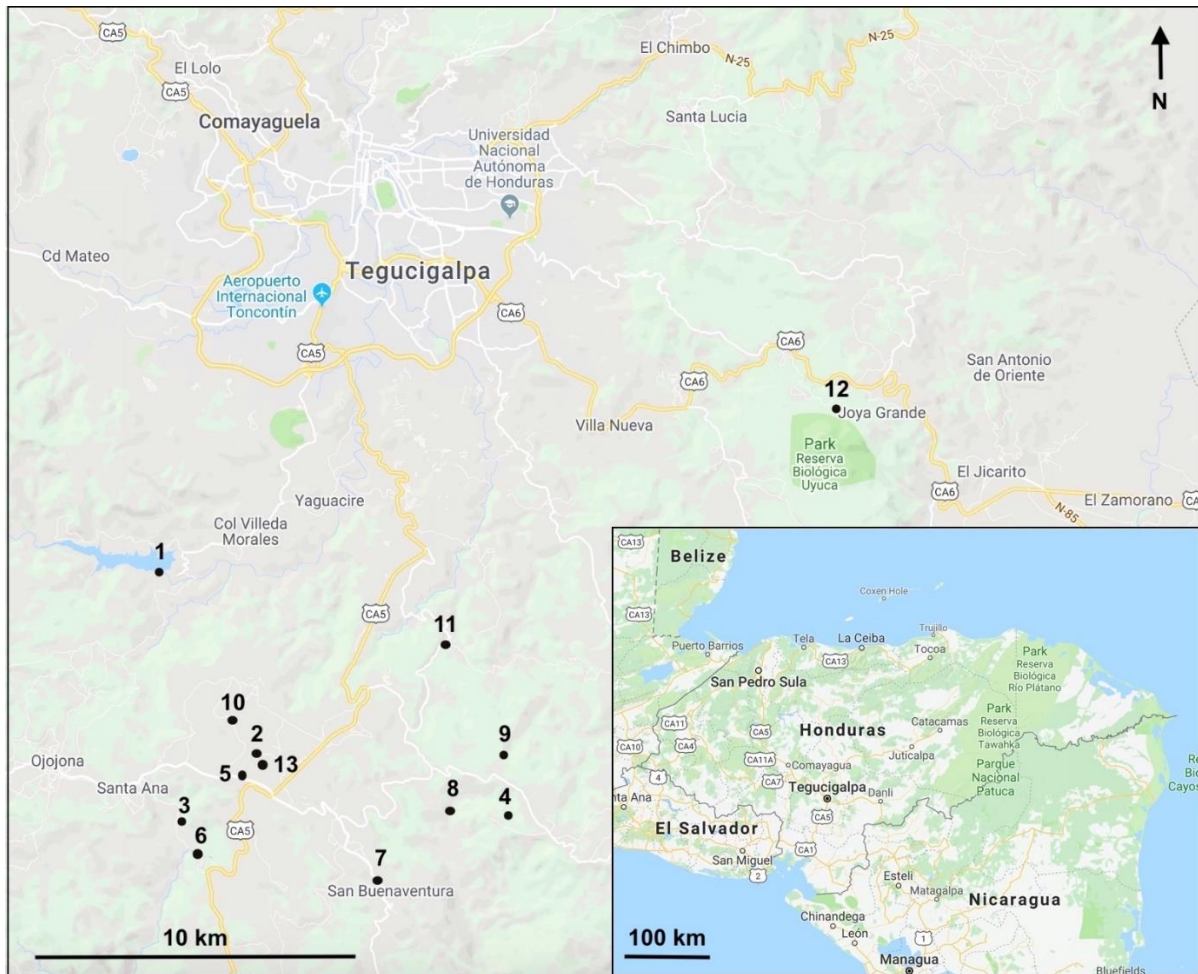


Figure 1. Record localities: 1) Embalse La Concepción; 2) Cerro de Hula; 3) Sicatacare; 4) Montaña de Izopo; 5) Santa Ana; 6) Sicatacare; 7) San Buenaventura; 8) Las Anonas; 9) Montaña de Izopo; 10) Cerro de Hula; 11) El Tizatillo; 12) Reserva Biológica Cerro Uyuca. Map data © Google.

Results

Fourteen diurnal species (Riodinidae, Lycaenidae, Nymphalidae and Hesperidae) and one noctuid moth (Noctuidae), are recorded for Honduras for the first time (Figs 2 and 3): *Leptotes marina* (Reakirt), *Megistro rubricata* (Edwards), *Adelpha eulalia* (Doubleday), *Autochton cincta* (Plötz), *Strymon cestri* (Reakirt), *Calycopis clarina* (Hewitson), *Echinargus isola* (Reakirt), *Urbanus evona* (Evans), *Halotus rica* (Bell), *Agathymus indecisa* (Butler & Druce), *Thespies macareus* (Herrich-Schäffer), *Phocides urania* (Westwood), *Arawacus leucogyna* (Felder & Felder), *Cynea megalops* (Godman), and *Eudocima serpentifera* (Walker).

One hundred and sixteen species representing eight families were observed in the study area near Tegucigalpa during 2012–2014. Systematic inventory work will no doubt record many more species in this area, including perhaps additional new species for Honduras.

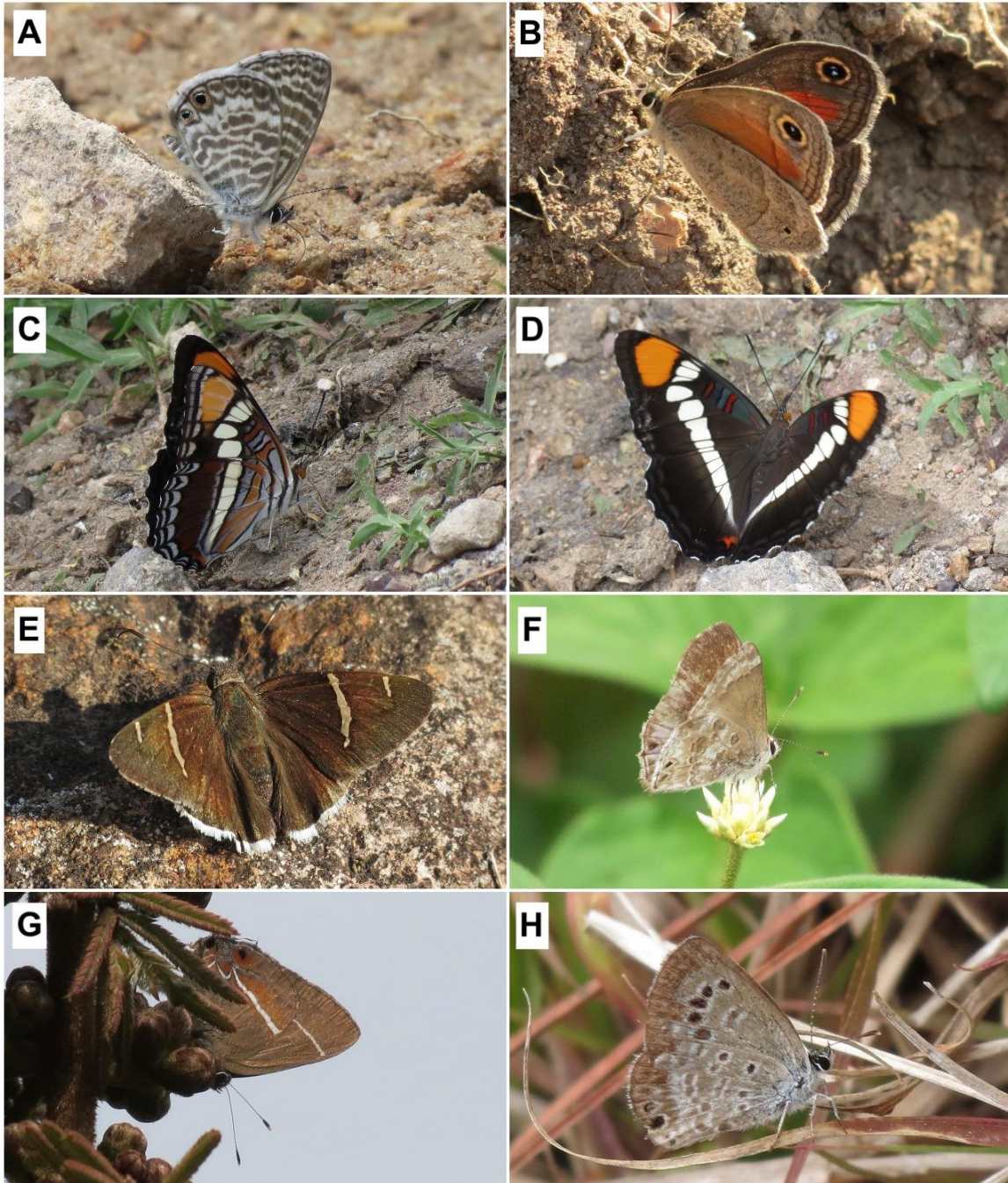


Figure 2. New lepidopterans for Honduras; see text for localities. A) *Leptotes marina* (Reakirt); B) *Megistro rubricata* (Edwards); C) *Adelpha eulalia* (Doubleday) underside; D) *Adelpha eulalia* upperside; E) *Autochton cincta* (Plötz); F) *Strymon cestri* (Reakirt); G) *Calycopis clarina* (Hewitson); H) *Echinargus isola* (Reakirt).

Range extensions

Four species representing three families (Lycaenidae, Nymphalidae and Hesperidae) represent range extensions. Three of the four species (*Megistro rubricata*, *Adelpha eulalia*, and *Autochton cincta*) are associated with pine-oak habitats, and their discovery highlights a Wallacean shortfall in Honduras, where most collecting has focused on tropical rain forest type habitats.

Leptotes marina (Reakirt, 1868) (Figure 2A). Family Lycaenidae, subfamily Polyommatainae. Known range from Southern California east through SW USA, Mexico and Baja California to Guatemala (Gall & Andriele 1994). Its presence in Honduras may be recent or it may simply have been overlooked in the past, but Brown (1990) noted its adaptability to human-altered environments, which suggests that perhaps deforestation may benefit this species. Found on 5 May 2012, at the Embalse La Concepción dam, 5 km SW of Tegucigalpa, Francisco Morazán, elevation 1160 m (13.9887, -87.2671; locality 1).

Megisto rubricata (Edwards, 1871) (Figure 2B). Family Nymphalidae, subfamily Satyrinae. This grass-feeding species is known to occur in pine-oak woodland from SW USA through Mexico to Guatemala, although it has also been collected 40 km away from the nearest oak woodlands in Veracruz (Raguso & Llorente-Bousquets 1990). It appears to be locally quite common for several months during the rainy season in the principal study area south of Tegucigalpa. Found on 11 April 2012 on Cerro de Hula, Santa Ana, Francisco Morazán, elevation 1567 m (13.9384, -87.2394; locality 2).

Adelpha eulalia (Doubleday, 1848) (Figures 2C and 2D). Family Nymphalidae, subfamily Limenitinae. This pine-oak resident was previously known from USA, Mexico and Guatemala, but was predicted to occur in western Honduras (Willmott 2003). Found on 13 June 2012, Sicatcare, Francisco Morazán, elevation 1175 m (13.9198, -87.2607; locality 3). This species appears to be locally common during the end of the rainy season (Sep–Nov).

Autochton cincta (Plötz, 1882) (Figure 2E). Family Hesperidae, subfamily Pyrginae. Known range from Texas, USA south to Guatemala and El Salvador (Warren *et al.* 2013). This species appears to be quite common during parts of the year in pine-oak forest (locally for example on Montaña de Izopo), and its occurrence in Honduras implies an extension of the known range. Found on 17 April 2012, Montaña de Izopo, Francisco Morazán, elevation 1624 m (13.9215, -87.1679; locality 4).

Expected to occur

The following eleven species representing four families were expected to occur as they have been found previously in countries north and south of Honduras.

Strymon cestri (Reakirt, 1867) (Figure 2F). Family Lycaenidae, subfamily Theclinae. Occurs from southwestern USA to Brazil (Warren *et al.* 2013). This species appears to be locally abundant for a short period at the start of the rainy season. Found 8 May 2012, Santa Ana, Francisco Morazán, elevation 1532 m (13.9327, -87.2435; locality 5).

Calycopis clarina (Hewitson, 1874) (Figure 2G). Family Lycaenidae, subfamily Theclinae. Range USA to Costa Rica (Warren *et al.* 2013). Found 13 June 2012, Sicatcare, Francisco Morazán, elevation 1166 m (13.9108, -87.2562; locality 6).

Echinargus isola (Reakirt, 1867) (Figure 2H). Family Lycaenidae, subfamily Polyommatainae. Range from USA to Costa Rica (Warren *et al.* 2013). Found 12 February 2012, San Buenaventura, Francisco Morazán, elevation 1317 m (13.9036, -87.2050; locality 7).

Urbanus evona (Evans, 1952) (Figure 3A). Family Hesperidae, subfamily Pyrginae. Known range E & W Mexico to Colombia (Warren *et al.* 2013). Found on 18 April 2012, Las Anonas, Francisco Morazán, elevation 1346 m (13.9230, -87.1843; locality 8).

Halotus rica (Bell, 1942) (Figure 3B). Family Hesperidae, subfamily Hesperinae. Known range from Mexico to Costa Rica (Warren *et al.* 2013). Found on 11 June 2014, Santa Ana, Francisco Morazán, elevation 1530 m (13.9328, -87.2435; locality 5).

Agathymus indecisa (Butler & Druce, 1872) (Figure 3C). Hesperidae, subfamily Hesperinae. Known range from Chiapas (Mexico) to Costa Rica (Warren *et al.* 2013). Found on 7 June 2014, Montaña de Izopo, Francisco Morazán, elevation 1587 m (13.9383, -87.1691; locality 9).

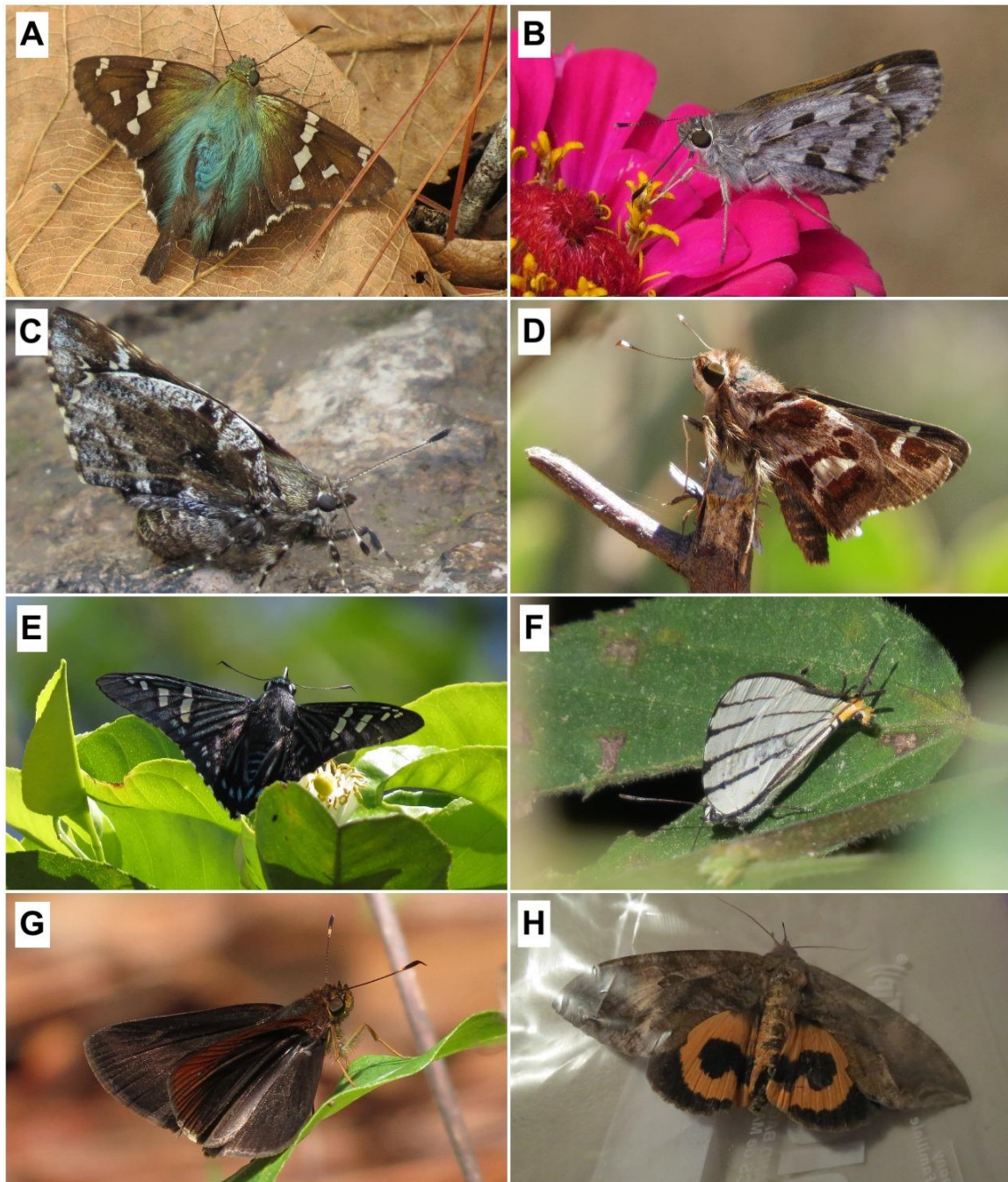


Figure 3. New lepidopterans for Honduras; see text for localities. A) *Urbanus evona* (Evans); B) *Halotus rica* (Bell); C) *Agathymus indecisa* (Butler & Druce); D) *Thespieus macareus* (Herrich-Schäffer); E) *Phocides urania* (Westwood); F) *Arawacus leucogyna* (Felder & Felder); G) *Cynea megalops* (Godman); H) *Eudocima serpentifera* (Walker).

Thespieus macareus (Herrich-Schäffer, 1869) (Figure 3D). HesperIIDae, subfamily HesperIIDae. Known from Mexico to Venezuela (Warren *et al.* 2013). Found on 31 March 2014, Cerro de Hula, Francisco Morazán, elevation 1704 m (13.9479, -87.2460; locality 10).

Phocides urania (Westwood, 1852) (Figure 3E). HesperIIDae, subfamily Pyrginae. Known range Mexico to Costa Rica (Warren *et al.* 2013). Found on 19 March 2014, Cerro de Hula, Francisco Morazán, elevation 1704 m (13.9479, -87.2460; locality 10).

Arawacus leucogyne (C. Felder & R. Felder, 1865) (Figure 3F). Lycaenidae, subfamily Theclinae. Known range Belize to Peru (Warren *et al.* 2013). Found on 4 February 2014 at El Tizatillo, Francisco Morazán, elevation 1341 m (13.9686, -87.1858; locality 11).

Cynea megalops (Godman, 1900) (Figure 3G). Hesperidae, subfamily Hesperinae. Known range Mexico to Ecuador (Warren *et al.* 2013). Found on 22 April 2012 at Reserva Biológica Cerro Uyuca, Francisco Morazán, elevation 1658 m (14.0335, -87.0748; locality 12).

Eudocima serpentifera (Walker, 1858) (Figure 3H). Noctuidae, subfamily Calpinae. Range is poorly known but includes Brazil, Costa Rica, United States, Mexico, Panama and the Dominican Republic (Chame Vazquez & Jiménez 2009), and thus was expected to occur in Honduras. This species was sometimes found dead on crane platforms in the Cerro de Hula wind energy facility during the rainy seasons in 2012–2014 and 2016, often in the company of *Ascalapha odorata* (L) and various unidentified smaller species. Found on 15 January 2016 at Cerro de Hula, Francisco Morazán, elevation 1704 m (13.9479, -87.2460; locality 10).

Discussion

As noted by Miller *et al.* (2012), the Lepidoptera of Honduras are the least studied in Central America, which is underscored by the fact that non-systematic inventory work in highly disturbed habitats resulted in several new country records, including of several species that appear to be locally common. With the additions described here, the list of known Papilionoidea reaches 558 species (8 new), 318 Hesperioidea (7 new) and 1,442 moths (1 new). It is likely that many pine-oak and Pacific dry forest species remain to be found, as these habitats appear to have been under-sampled in studies thus far.

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