LIVING WORLD

Journal of The Trinidad and Tobago Field Naturalists' Club

2022

THE TRINIDAD AND TOBAGO FIELD NATURALISTS' CLUB

The Trinidad and Tobago Field Naturalists' Club was founded on 10 July, 1891. Its name was incorporated by an Act of Parliament (Act 17 of 1991). The objects of the Club are to bring together persons interested in the study of natural history, the diffusion of knowledge thereof and the conservation of nature.
Monthly meetings are held at St. Mary's College on the second Thursday of every month except December.
Membership is open to all persons of at least fifteen years of age who subscribe to the objects of the Club.

Mission Statement
To foster education and knowledge of natural history and to encourage and promote activities that lead to the appreciation, preservation and conservation of our natural heritage.

Enquiries

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Editorial

The year 2022 was marked by the lifting of restrictions imposed at the start of the Covid-19 pandemic, bringing a resurgence of outdoor activities and observations. While this year's issue remains fairly slim, we have already begun to see an increase in submissions towards the end of 2022, which should be reflected in a more substantial 2023 issue. As always, we would like to thank our editorial team and all those who have served as reviewers for the journal for this year.

The 2022 issue of Living World Journal comprises an Editorial, two Research Papers, two Nature Notes and the regular Report of the Trinidad and Tobago Bird Status and Distribution Committee. With the exception of the Report, this issue is dominated by arthropods, with Nature Notes on spiders and wasps, an article on butterflies and moths, and an insect checklist for Tobago. The latter documents nearly 2,000 species of insects known from Tobago from various sources but the authors remind us that this may represent as little as 2% of the actual insect species richness for the island. This is emphasised by the paper recording 54 new records of Lepidoptera from Tobago.

From the report of the Trinidad and Tobago Bird Status and Distribution Committee, we learn that 80 records of rare birds were submitted to the committee during 2021, representing 55 species and that the Buff-necked Ibis was added to the official list of birds of Trinidad and Tobago.

As starkly pointed out by Starr amd Hardy in this issue, there remains an enormous gap in biodiversity and natural history data from the tropics, partly due to historical disparities in research effort. Filling this gap is an important step towards more effective conservation of local and regional biodiversity. We believe that LW has an ever-important role to play in publishing peer-reviewed outputs that formally document new distribution records (e.g. Cock *et al*., Kenefick (both in this issue)) as well as novel behaviours and ecologies (e.g. George and Deo, Sewlal *et al*. (both in this issue)). We hope the papers in this issue will encourage and inspire others to consider writing up their natural history observations for publication so that we can continue to fill this knowledge gap for the region, especially for invertebrates where the gap is likely to be largest.

We are determined to continue efforts to improve our editorial workflow in 2023. These improvements will be implemented immediately as we are pleased to have already received a number of submissions for the 2023 issue, which we hope to publish in the first half of the year as 'early views'.

As always, anyone who would like advice or guidance on publishing in Living World is encouraged to email us at livingworldtt@gmail.com.

Amy Deacon, Graham White

Cover Photographs

Our cover photographs show the caterpillar and adult of *Dalcera abrasa* Herrich-Schäffer, [1854], family Dalceridae. The photographs were taken by Graham White at Blanchisseuse, Trinidad on 20 November 2021 and 20 June 2022 respectively. The caterpillar (front cover) was feeding on the leaves of the introduced seaside almond *Terminalia catappa* and the adult (back cover) was attracted to light at night.

This the first time this species and genus has been identified from Trinidad based on the adult. However, it is not the first record, as there have been earlier photos of the caterpillar from Brasso Seco and Gran Tacarib by Rainer Deo, but with no food plant associated. The adult was identified by Scott Miller, a Dalceridae specialist at the Smithsonian Institution, and it was only once this adult identification was made that Matthew Cock was able to match the caterpillar photos.

Checklist of the Known Insects of Tobago, West Indies

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ABSTRACT

Tobago is a small continental island near the southern end of the West Indian island chain. It shares substantial biotic affinity with the larger nearby island of Trinidad, although it has received considerably less scientific attention. The known insect species of Tobago are listed based on published and unpublished sources. These amount to slightly fewer than 2000 species, which is undoubtedly just a fraction of the true total. Attention is drawn to taxa that appear to be fairly well known and to some others that are certainly present but from which no species have yet been recorded.

Keywords; biodiversity, Caribbean, species richness, Trinidad & Tobago

INTRODUCTION

Tobago, with a land area of about 300 km², is the smaller of the two main islands making up the national territory of Trinidad & Tobago. The two, along with associated smaller islands, are continental islands with a biota largely harmonic with that of the nearby South American mainland (Baksh-Comeau *et al.* 2016, Peck *et al.* 2002, Starr 2009, Vázquez-Miranda *et al.* 2007). Figures from well-studied taxa suggest that Tobago harbours roughly 1% of the world's diversity in land and freshwater organisms, including land arthropods (CKS, unpublished compilation). However, for most orders of land arthropods, the fauna of Tobago is much less thoroughly surveyed than that of Trinidad. Trinidad has 16 times the land area of Tobago and so is expected by the species-area relationship to have about 2.3 times as many species (Spiller and Schoener 2009). Data from the several well-studied groups of plants and animals mostly corroborate this prediction (Baksh-Comeau *et al.* 2016, Barcant 1970, Boos 2001, Comeau *et al.* 2003, Gomes and Reid 2015, Murphy *et al.* 2018, Nelson 1996, Nieser and Alkins-Koo 1991, Phillip and Ramnarine 2001, Scheffrahn *et al.* 2003, Townsend *et al.* 2013, Schultes 1960). However, even taking into account this difference in size, Tobago has received much less attention from biodiversity scientists.

Based on extrapolation from established facts, Trinidad and Tobago as a whole is estimated to have about 230,400 species of insects (Starr 2014). This leads to a conjectured total of about 100,000 species for Tobago alone. Listed below are 550 species. Adding to these the 51 known species of termites (Scheffrahn *et al.* 2003), 672 of beetles (Peck *et al.* 2002) and 623 of moths and butterflies (Cock *et al*. in press), we reach a total for Tobago of 1896 known species. This is less than 2% of the projected true figure. Either there is a major flaw in the projection or the Tobago fauna is even more grossly under-explored than we imagined.

The lack of attention to some taxa is illustrated by the phrase "None recorded" after 11 of the smaller orders. In most of these it seems unlikely that the island harbours no species at all. For example, how credible is it that there are no webspinners (Embiidina) or fleas (Siphonaptera) in Tobago? In a few cases we can predict the presence of an unrecorded taxon because of the presence of parasites or other symbionts. As an example, six species of native fig trees (Moraceae: *Ficus*) are known from Tobago (Baksh-Comeau *et al.* 2016), so that we can be sure there at least that many species of fig wasps (Hymenoptera: Agaonidae).

We have not identified any species of special conservation interest. This may be more a result of a paucity of studies directed toward particular species than a reflection of the real situation.

With the goals of compiling what is known and especially of identifying unknowns in this topic, we present a checklist of insects that we believe are reliably reported from Tobago. This project was initiated by the second author. Dave Hardy had a special interest in Tobago and its biota that he pursued over several decades, with a great many field trips to the island (Starr & Sewlal 2009). Leadership in the project later passed to the first author. The list was compiled from a broad variety of sources. In the few cases where checklists for Tobago have been published recently in readily accessible form, these are cited without repeating their contents.

We are indebted a number of specialists for their generous advice and other assistance: Nancy Adams (Odonata), Robert W. Brooks (Hymenoptera), J. M. F. Camargo (Hymenoptera), Matthew W. J. Cock (Lepidoptera), Mark B. DuBois (Hymenoptera), Terry Griswold (Hymenoptera), E. Geoffrey Hancock (Diptera), Wayne Mathis (Diptera), Arnold S. Menke (Hymenoptera), Thomas Muir (Blattaria), Allen L. Norrbom (Diptera), Nancy Rybicki (Orthoptera), David R. Smith (Hymenoptera) and Gary J. Steck (Diptera), and to Michael P. Oatham for a bibliographic assist. Our search included examination of the Museum of Zoology at the University of the West Indies (UWIZM), but not of any overseas collections.

The delimitation and sequence of orders follows that recommended by the Royal Entomological Society (2022). All living orders known or expected to be found in our region are included, even the few for which no species is definitely known from Tobago. Some orders are divided into suborders. For some orders, we indicate where we follow other schemes. Authors of species names are indicated but not the year or citations to original descriptions

We include some common names, without attempting a rigorous compilation of such names. Many flying insects have "fly" in their common names. By convention, the name is rendered as two words where these are members of the order Diptera (true flies), and as a single word when they are not true flies. For example, crane flies, horse flies and soldier flies belong in the Diptera, while caddisflies, dragonflies and butterflies do not.

The use of "*Genus* sp." indicates an unidentified species in that genus, while "*Genus* spp." indicates two or more unidentified species. The abbreviations "nr.", "poss." and "prob." indicate uncertain species near, possibly or probably the species named.

Advice for collectors

Specialists wishing to collect land arthropods in Trinidad & Tobago for taxonomic or faunistic study are advised to make advance contact with one or both of the following authorities, depending on the island:

Tobago - Assistant Conservator of Forests, Tobago House of Assembly, Scarborough; attention Mr Darren Henry. Email dfs-administrator@gov.tt or wendell.bernard@gov.tt

Trinidad - Wildlife Section, Forestry Division, St Joseph; attention Mr David Mahabir (email *david.mahabir@gov.tt*) or Mr Christopher Nakhid (email *christopher.nakhid@gov.tt*).

This contact information is accurate as of the time of writing (April 2022). In your initial communication it is advised to say a) approximately when you plan to be in the country, b) the taxa of main interest, c) roughly how many specimens you hope to collect, and d) the main intended repositories of the material. It will still be necessary to appear in person for the collecting permit, but this advance notice will allow the authority to give assurance that this will be forthcoming.

Procedures for obtaining collecting and export permits in Trinidad & Tobago are relatively straightforward and unbureaucratic. Specialists can do their part to ensure that this continues to be the case by strictly observing all indicated protocols, making due acknowledgement in any publications drawing on the material collected, and sending copies of all such publications to the relevant authorities. Once specimens are identified, it will be appropriate to deposit a modest set of duplicates in the UWIZM. The Zoology Museum has no primary types and the current operating policy is to not receive them. However, where the type series of any new species is sufficiently long, it will be appropriate to deposit a small number of paratypes. Much of this is not legal requirement, just good practice.

Known Insects of Tobago, West Indies

Order COLLEMBOLA Springtails
(syn. Microcoryphia)
Unidentified spp.

Order ARCHAEOGNATHA Bristletails
None recorded.

Order ZYGENTOMA Silverfish and firebrats
None recorded.

Order EPHEMERIDA Mayflies
(syn. Ephemeroptera)
None recorded.

Order ODONATA Dragonflies and damselflies
Mainly from Michalski 2015.

SubOrder ZYGOPTERA Damselflies

CALOPTERYGIDAE
Hetaerina occisa Hagen

COENAGRIONIDAE
Argia difficilis Selys
Argia oculata Hagen
Argia orichalcea Hagen
Argia pulla Hagen
Argia translata Hagen
Ischura ramburii (Selys)

SubOrder ANISOPTERA Dragonflies

AESCHNIDAE
Gynacantha nervosa Rambur

LIBELLULIDAE
Brachymesia furcata (Hagen)
Brachymesia herbida (Gundlach) -Tawny pennant
Dythemis sterilis Hagen
Erythemis plebeja (Burmeister)

Erythrodiplax berenice (Drury)
Erythrodiplax connata (Burmeister)
Erythrodiplax fusca (Rambur)
Erythrodiplax ochracea (Burmeister)
Erythrodiplax umbrata (Linnaeus)
Erythemis attala (Selys)
Erythemis vesiculosa Fabricius
Micrathyria didyma (Selys)
Micrathyria ocellata Martin
Micrathyria aequalis Hagen
Orthemis ferruginea (Fabricius)
Pantala flavescens Fabricius
Tramea calverti Muttkowski

Order DERMAPTERA Earwigs

CARCINOPHORIDAE
Euborellia caraibea Hebard

FORFICULIDAE
Kleter rehni (Burr)

LABIDURIDAE
Luborella sp.

LABIIDAE
Spongiphora croceipennis Serville

Order DICTYOPTERA Cockroaches, termites and mantises

Until recently this group was treated as three Orders: Blattaria (or Blattodea), Isoptera and Mantodea. The classification of this Order is still in flux, so that we have not divided it into SubOrders. See Scheffrahn *et al.* 2003 for a list of termites (families Kalotermitidae, Rhinotermitidae and Termitidae), comprising 51 species with later records included. The mantises (families Acanthopidae, Mantidae and Thespidae) are from Anderson (2021).

ACANTHOPIDAE
Acanthops parafalcata Lombardo & Ippolito

BLABERIDAE
Blaberus sp.
Epilampra sp.

BLATTIDAE
Eurycotis decipiens (Kirby)
Periplaneta americana (Linnaeus) -American cockroach

ECTOBIIDAE
Cariblatta tobagensis Hebard

MANTIDAE
Stagmatoptera cerdai Rodrigues
Stagmatoptera septentrionalis Saussure & Zehntner

THESPIDAE
Bantiella trinitatis Giglio-Tos

Order PHASMIDA Stick insects
(syn. Phasmatodea)
(From Langlois & Bellanger 2012).
Bostra tobagoensis Langlois & Bellanger
Brizoides amabilis Redtenbacher
Caribiopherocra trinitatis (Werner)
Creoxylas spinosus (Fabricius)
Metriophasma pallidum (Chopard)
Ocnophiloidea regularis (Brunner)
Paraphanocles keratosqueleton Olivier)

Order EMBIIDINA Webspinners
(syn. Embioptera)
None recorded.

Order ORTHOPTERA Grasshoppers and crickets

ACRIDIDAE Short-horned grasshoppers
Abracis flavolineata DeGeer -Yellow-lined grasshopper
Orphulella punctata (DeGeer)
Schistcerca gregaria (Forskål) -Desert locust (sporadic)

GRYLLOTALPIDAE Mole crickets
Scrapteriscus vicinus (Scudder) -Tawny mole cricket

ROMALEIDAE
Tropidacris cristata (Linn.)

TETTIGONIIDAE Long-horned grasshoppers, or bush-crickets
Conocephalus nr. *versicolor* Redtenbacher
Neoconocephalus sp.
Steirodon sp.

TRIDACTYLIDAE Pygmy mole crickets
Tridactylus minutus Scudder

Order PLECOPTERA Stoneflies
None recorded.

Order ZORAPTERA Angel insects
None recorded.

Order HEMIPTERA
SubOrder AUCHENORRHNCHA

CERCOPIDAE Froghoppers, or spittlebugs
Aeneolamia postica Walker
Aeneolamia varia (Fabr.)

CICADELLIDAE Leafhoppers
Unidentified spp.

CICADIDAE Cicadas
Quesada gigas (Olivier)

MEMBRACIDAE Treehoppers
Unidentified spp.

SubOrder STERNORRYHNCHA

APHIDIDAE Aphids
Sipha flava (Forbes) -Yellow sugarcane aphid

ASTEROLECANIIDAE Pit scales
Asterolecanium bambusae (Boisduval)
Asterolecanium pseudomiliaris Green
Asterolecanium pustulans (Cockerell) -Akee fringed scale

COCCIDAE Soft-scaled coccids
Akermes secretus Morrison
Aspiodiotus destructor Sign -Coconut nipple scale
Planococcus citri Risso

ERIOCOCCIDAE
Trionymus sacchari (Cockerell) -Pink mealybug

ORTHEZIIDAE
Icerya montserratensis Riley & Howard -Snowy cushion scale
Icerya simillis Morrison

PSEUDOCOCCIDAE Mealybugs
Dysmicoccus brevipes (Cockerell) -Pineapple mealybug
Ferrisia virgata (Cockerell)
Nipaecoccus nipae (Maskell)
Phenacoccus herreni Cox & Williams -Cassava mealybug
Phenacoccus madeirensis Green
Phenacoccus nr. *surinamensis* Green
Pseudococcus elisae Borchsenius

PUTOIDAE Giant mealybugs
Puto barberi (Cockerell)

SubOrder HETEROPTERA
Aquatic families (Gerridae, Mesaveliidae, Ochteridae and Veliidae) mainly from Nieser & Alkins-Koo (1991).

COREIDAE Leaf-footed bugs
Jadera aeola Dallas

GERRIDAE Water striders
Brachymetra albinervis (Amyot & Serville)
Brachymetra unca Shaw
Limnogonus franciscanus (Stål)
Trepobates taylori (Kirkaldy)

LYGAEIDAE Seed bugs
Oncopeltus cingulifer Stål
Oncopeltus varicolor Fabricius
Ortholomus sp.
Ozophora agilis Slater
Ozophora burmeisteri Guérin-Méneville
Pseudopachybrachius vinctus (Say)

MESOVELIIDAE Water treaders
Mesovelia amoena Uhler
Mesovelia mulsanti White

MIRIDAE Plant bugs, or leaf bugs
Engytatus varianus (Distant)

NABIDAE Damsel bugs
Arachnocoris sp.

OCHTERIDAE
Buenoa platycnemis (Fieber)
Ochterus perbosci (Guérin-Méneville)

PENTATOMIDAE Stink bugs
Edessa nr. *meditabunda* Fabricius
Thyanta testacea (Dallas)
Thyanta vadosa Rider

PYRRHOCORIDAE Cotton stainers
Dysdercus howardi Ballou
Dysdercus mimus (Say)

REDUVIIDAE Assassin bugs
Unidentified spp.

RHYPAROCHROMIDAE
Botocudo fasciatus Brambila

SCHIZOPTERIDAE Jumping ground bugs
Hoplonannus craneae Emsley
Hoplonannus paenebrunneus Emsley

TINGIDAE Lace bugs
Teleonema scrupulosa (Stål) -Lantana lace bug

VELIIDAE Riffle bugs
Microvelia hinei Drake
Microvelia longipes Uhler
Microvelia mimula White
Microvelia pseudomarginata Nieser & Alkins-Koo
Microvelia pulchella Westwood
Microvelia nr. *tumida* Drake & Roze
Paravelia brachialis (Stål)
Rhagovelia insularis Champion
Rhagovelia tenuipes Champion
Trochopus plumbeus (Uhler)

Order PHTHIRAPTERA Lice
Formerly treated as two Orders, the Anoplura (sucking lice) and Mallophaga (chewing lice).

TRICHODECTIDAE
Bovicola ovis (Linnaeus)

Order PSOCIDA Booklice and barklice
(syn. Psocoptera)
Unidentified sp.

Order THYSANOPTERA Thrips

THRIPIDAE Saw-bearing thrips
Corynothrips stenopterus Williams -Cassava thrips
Selenothrips rubrocinctus (Giard)

Order COLEOPTERA Beetles
See Peck *et al*. 2002 for a list of 672 species from 69 families.

Order DIPTERA Flies
Classification according to Pape *et al.* (2011).

SubOrder NEMATOCERA

CECIDOMYIIDAE Gall midges
Iatrophobia brasiliensis (Ruebsaamen)

CERATOPOGONIDAE Biting midges
Atrichopogon caribbeanus Ewen
Culicoides amazonius McFie
Culicoides furens (Poey)
Culicoides heliconiae Fox & Hoffman
Culicoides phlebotomus (Williston)
Forcipomyia caribbeana Saunders
*Leptoconops bequaert*i (Kieffer)

CULICIDAE Mosquitoes
Aedes aegypti (Linnaeus)
Aedes berlini Schick
Aedes fulvithorax (Lutz)
Aedes scapularis (Rondani)
Aedes nr. *serratus* Theobald
Aedes taeniorhynchus (Wiedemann)
Anopheles apicimacula Dyar & Knab
Anopheles aquasalis Curry
Anopheles neomaculipalpus Curry
Corethrella appendiculata Grabham
Corethrellan nr. *downsi* Lane
Culex conservator Dyar & Knab
Culex conspirator Dyar & Knab
Culex corniger Theobald
Culex coronator Dyar & Knab
Culex decorator Dyar & Knab
Culex idottus Dyar
Culex nr. *inflictus* Theobald
Culex inimitabilis Dyar & Knab
Culex lucifugus Komp
Culex mollis Dyar & Knab
Culex nigripalpus Theobald
Culex pedroi Sirivanakarn & Belkin
Culex nr. *pleuristriatus* Theobald
Culex quinquefasciatus Say
Deinocerites magnus (Theobald)
Haemagogus celeste Dyar & Núñez-Tovar
Haemagogus equinus Theobald
Haemagogus janthinomys Dyar
Johnbelkinia ulopus (Dyar & Knab)
Limatus asulleptus (Theobald)
Limatus durhamii Theobald
Lutzomiops sp.
Mansonia titillans (Walker)
Phoniomyia trinidadensis (Theobald)
Psorophora cingulata (Fabricius)
Psorophora ferox (Humboldt)
Toxorhynchites noctezuma (Dyar & Knab)
Toxorhynchites superbus (Dyar & Knab)
Trichoprosopon digitatum (Rondani)
Uranotaenia lowii Theobald
Wyeomyia arthrostigma (Lutz)
Wyeomyia nr. *bourrouli* Lane & Cerqueira
Wyeomyia nr. *felicia* Dyar & Núñez-Tovar
Wyeomyia grayii Theobald
Wyeomyia longirostris Theobald
Wyeomyia melanocephala Dyar & Knab
Wyeomyia pertinans Williston
Wyeomyia nr. *pseudopecten* Dyar & Knab
Wyeomyia nr. *ulocoma* (Theobald)
Wyeomyia ypsipola Dyar

PSYCHODIDAE Moth flies and sand flies
Atrichobrunettia insularis Wagner

Clogmia albipunctatus (Williston)
Maruina tobagensis Wagner
Setomima stylappendiculata Wagner

SIMULIIDAE Black flies
Simulium placidum Knab
Simulium mexicanum Bellardi

TIPULIDAE Crane flies
Unidentified sp.

SubOrder BRACHYCERA: ORTHORRHAPHA

ASILIDAE Robber flies
Ommatius infractus Scarbrough

STRATIOMYIDAE Soldier flies
Euyneura elegans Williston
Heteracanthia sp.
Micorchrysa bicolor Wiedemann
Sargus fasciatus Fabricius

TABANIDAE Horse flies
Stenotananus tobagensis Fairchild
Tabanus amplifrons Krober
Tabanus leucaspis Wiedemann
Tabanus trilineatus Latreille

SubOrder BRACHYCERA: ASCHIZA

SYRPHIDAE Flower flies, or hover flies
Salpingogaster nigra Schiner
Toxomerus confusus (Schiner)

SubOrder BRACHYCERA: SCHIZIPHORA

AGROMYZIDAE Leaf-miner flies
Ophiomyia lantanae (Froggatt)

CANACIDAE Beach flies
Paracanace aicen Mathis & Wirth
*Nocticanace tex*ensis (Wheeler)

CHLOROPIDAE Frit flies, or grass flies
Liohippelates currani (Aldrich)
Liohippelates peruanus (Becker)

EPHYDRIDAE Shore flies
Allotrichoma abdominale (Williston)
Allotrichoma slossonae Cresson
Athyroglossa glaphyropus Loew
Athyroglossa atra (Williston)
Athyroglossa nitida (Williston)
Athyroglossa similis (Cresson)
Atissa luteipes Cresson
Brachydeutera neotropica Wirth
Ceropsilosa coquilletti Cresson
Ceropsilosa nasuta Cresson
Clasiopella uncinata Hendel
Cressonomyia aciculata (Loew)
Dagus rostratus (Cresson)
Diphuia zatwarnickii Mathis
Discocerina balsamae (Cresson)
Discocerina flavipes Cresson
Discocerina nana Williston
Discocerina nitida Cresson
Discocerina (Discocerina) 2 spp.
Discocerina (Lamproclosiopa) sp.
Gastrops niger Williston
Hyadina bulbosa Clausen
Hydrellia tibialis Cresson
Hydrochasma faciale (Williston)
Hyrdochasma 3 spp.
Leptopsilopa lineanota Cresson
Leptopsilopa nigricoxa (Williston) Cresson
Leptopsilopa nigrimana (Williston)
Notiphila bellula Williston
Notiphila erythrocera Loew
Notiphila decorata Williston
Paraglenanthe bahamensis Wirth
Paralimna decipiens Loew
Paralimna multipunctata Williston
Paralimna obscura Williston
Paralimna (Paralimna) 3 spp.
Paratissa pollinosa (Williston)
Physenops sp.
Placopsidella cynocephala Kertesz
Polytrichophora conciliata Cresson
Polytrichophora reginae Mathis
Polytrichophora desmata (Williston)
Psilopa pulchripes Loew
Ptilomyia parva (Williston)
Ochthera loreta Cresson
Typopsilopa nigra (Williston)
Zeros calverti (Cresson)
Zeros fenestralis (Cresson)
Zeros flavipes (Williston)
Zeros obscurus (Cresson)

LONCHAEIDAE Lance flies
Lonchaea chalybea Wiedemann

MICROPEZIDAE Stilt-legged flies
Unidentified spp.

MILICHIIDAE
Desmometopa obscurifrons Sabrosky
Desmometopa tarsalis Lowe
Desmometopa woldai Sabrosky

MUSCIDAE
Ophyra aenescens (Wiedemann)

SARCOPHAGIDAE Flesh flies
Paraphrissopoda chrysostoma (Wiedemann)
Paraphrissopoda lithogaster (Curran & Walley)
Paraphrissopoda uncinata (Hall)
Sarcodexia sternodontes Townsend

STREBLIDAE Bat flies
Megistopoda aranea (Coquillett)

TEPHRITIDAE Fruit flies
Anastrepha fraterculus (Wiedemann)
Anastrepha mombinpraeoptans Sein
Anastrepha striata Schiner

ULIDIDAE Picture-wing flies
Euxesta spp.

Order SIPHONAPTERA Fleas
None recorded.

Order HYMENOPTERA Wasps, bees, and ants
Family classification according to Goulet & Huber (1993). The informal division of the Apocrita into Parasitica and Aculeata is used here, even as it is now generally agreed that the former is paraphyletic. The known aculeates of the island of Trinidad, which are expected to include almost all species found in Tobago, are listed by Starr & Hook (2003).

SubOrder SYMPHYTA Sawflies and horntails

ARGIDAE
Ptilia peletieri (Gray)

PERGIDAE
Perreyiella tobagoensis Smith

TENTHREDINIDAE Common sawflies
Waldheimia laeta (Cameron)
Waldheimia pallens (Klug)

SubOrder APOCRITA: PARASITICA

AGAONIDAE Fig wasps
Unidentified species

APHELINIDAE
Encarsiella noyesi Hayet
Paraphelinus sp.

BRACONIDAE
Apanteles etiellae Viereck
Apanteles plutellae Kurdjunov
Bracon cajani (Muesebeck)
Bracon hebetor Say
Bracon thurberiphagae (Muesebeck)
Chelonus formosanus Sonan
Microbracon sp.
Opius sp.
Phanerotoma bennetti Muesebeck

CERAPHRONIDAE
Aphanogmus at least 3 spp.
Ceraphron at least 5 spp.

CHALCIDIDAE
Chalcis ovata Say

DIAPRIIDAE
Acanthopria sp.
Basalys sp.
Caecopria sp.
Coptera sp.
Doliopria at least 3 spp.
Idiotypa sp.
Monelata sp.
Paramesius sp.
Peckidium sp.
Pentapria sp.
Spilomicrus sp.
Trichopria at least 12 spp.

ENCYRTIDAE
Achrysopophagus sp.
Adelencyrtus moderatus (Howard)
Aenasius advena Compere
Apoanagyrus diversicornis (Howard)
Coccidoctonus sp.
Gahaniella sp.
Leptomastix dactylopii Howard
Ooencyrtus submetallicus (Howard)
Protyndarichus nitidus (Howard)
Psyllaephagus rotundiformis (Howard)
Thysanus sp.
Zeteticontus scutellatus (Howard)

EUCHARITIDAE
Unidentified sp.

EULOPHIDAE
Centrodora sp.
Tetrastichus sokolowskii Kurdjunov

EUPELMIDAE
Brasema sp.
Zaischnopsis sp.

ICHNEUMONIDAE
Campoletis chloridae Uchida
Campoletis flavicincta (Ashmead)
Eiphosoma annulatum Cresson

MYMARIDAE Fairyflies
Acmopolynema sp.
Arescon sp.
Camptoptera sp.
Cleruchus sp.
Dicopomorpha sp.
Gonatocerus sp.
Litus sp.
Myrmecomymar sp.
Neostethynium sp.
Omyomymar sp.

PERILAMPIDAE
Unidentified sp.

PLATYGASTRIDAE
Amblyaspis sp.
Baeus sp.
Calotelea at least 3 spp.
Calliscelio at least 4 spp.
Cremastobaeus sp.
Dyscritobaeus sp.
Euxestonotus sp.
Fidiobia sp.
Gryon sp.
Idris at least 12 spp.
Iphitrachelus sp.
Isostasius sp.
Leptacis at least 4 spp.
Metanopedias sp.
Oethecoctonus at least 3 spp.
Opisthacantha at least 5 spp.
Parabaeus sp.
Paridrus at least 2 spp.
Platygaster at least 3 spp.
Proberyconus at least 2 spp.
Psilanteris at least 2 spp.
Synopeas at least 6 spp.
Telenomus remus Nixon
Telenomus at least 9 additional spp.
Tromorus at least 3 spp.
Triteleia sp.

PTEROMALIDAE
Unidentified sp.

SIGNIPHORIDAE
Chartocerus sp.
Signiphora sp.

TORYMIDAE
Unidentified sp.

TRICHOGRAMMATIDAE
Oligosita giraulti Crawford Vermilion parasite
Trichogramma achaeae Nagaraja & Nagarkatti
Trichogrammatoidea armigera Nagaraja
Trichogramma chilotraeae Nagaraja & Nagarkatti

SubOrder APOCRITA: ACULEATA

ANTHOPHORIDAE Carpenter bees and relatives
Ceratina nr. *auriviridis* Smith
Centris derasa Lepeltier
Centris (Ceratinula) 2 additional spp.
Epicharis rustica (Olivier)
Exomalopsis sp.
Xylocopa aeneipennis DeGeer

APIDAE
Apis mellifera Linnaeus -Western honey bee
Melipona favosa Fabricius -Moko chiquite
Plebeia nr. *frontalis* (Friese) -Sugar-fly
Trigona (Frieseomelitta) nigra Cresson
Trigona (Trigonisca) sp.

BETHYLIDAE
Holepyris incertus (Ashmead)
Perisierola sp.
Prosierola lata (Cameron)

CRABRONIDAE
Liris sp.
Trypoxylon (Trypargilum) albitarse Fabricius -Organ-pipe mud-dauber
Trypoxylon (Trypargilum) nr. *alfersi* Richards
Trypoxylon (Trypargilum) salti Richards
Trypoxylon (Trypargilum) lactitarse Saussure
Trypoxylon (Trypargilum) nitidum Smith -Keyhole mud-dauber
Trypoxylon (Trypoxylon) nr. *cornigerum* Cameron

Trypoxylon (Trypoxylon) nr. *grenadense* Richards
Trypoxylon (Trypoxylon) nr. *punctivertex* Richards
Trypoxylon (Trypoxylon) prob. *scrobiliferum* Richards
Trypoxylon (Trypoxylon) nr. *staudingeri* Richards
Trypoxylon (Trypoxylon) 3 spp. in *T. fabricator* group
Trypoxylon (Trypoxylon) 2 spp. in *T. marginatum* group
Trypoxylon (Trypoxylon) sp. in *T. scrobiliferum* group

FORMICIDAE Ants
Acromyrmex octospinosus Reich
Anochetus emarginatus (Fabr.)
Atta cephalotes Linnaeus -Leafcutter ant, or bachac
Azteca sp.
Camponotus atriceps (Smith) -Carpenter ant
Camponotus fastigiatus Mayr -Carpenter ant
Cephalotes atratus (Linnaeus) -Turtle ant
Cyphomyrmex rimosus Spinola
Cyphomyrmex bigibbosus Emery
Dolichoderus sp.
Eciton vagans Olivier -Army ant
Ectatomma ruidum Roger
Ectatomma tuberculatum (Olivier)
Labidus coecus (Latreille)
Lasiophanes sp.
Leptothorax sp.
Monacis valida Kempf
Monomorium ebeninum Forel
Mycetophylax conformis (Mayr)
Myrmicocrypta buenzlii Borgmeier
Odontomachus sp. -Trap-jaw ant, or tactac
Pheidole jelskii Mayr
Pheidole megacephala Fabricius -Big-headed ant
Platythyrea sp.
Prenolepis longicornis Latreille
Pseudomyrmex filiformis (Fabricius)
Solenopsis geminata Fabricius -Fire ant
Trachymyrmex relictus Borgmeier
Trachymyrmex urichi Forel
Wasmannia auropunctata (Roger) -Little fire ant

HALICITIDAE Sweat bees
Augochlorella sp.
Augochloropsis sp.
Lasioglossum poss. *pabulator* (Schrottky)
Lasioglossum opacum Moure
Lasioglossum seabrai Moure
Lasioglossum (Dialictus) 2 additional spp.
Megalopta sp.
Pereirapis caucasica (Radoszkowski)

MEGACHILIDAE Leafcutter bees
Megachile (Neomegachile) sp.

PEMPHREDONIDAE
Microstigmus sp.

POMPILIDAE Spider wasps
Salius opacifrons Fox
Several other unidentified spp.

VESPIDAE Potter wasps and social wasps
Polistes versicolor (Olivier)
Polybia occidentalis (Olivier)
Polybia rejecta (Fabricius)
Brachygastra nr. *bilineolata* Spinola

Order LEPIDOPTERA Moths and butterflies
See Cock (2017a-b; 2021) for lists of 150 species of butterflies in six families and 400 species of moths in 42 families. New records have since increased these figures to 157 species of butterflies and 466 of moths (Cock *et al.*, in press), an indication that the butterflies of Tobago appear reasonably well known at the faunistic level, the moths much less so.

Order MECOPTERA Scorpionflies
None recorded.

Order MEGALOPTERA Alderflies
None recorded.

Order NEUROPTERA Lacewings

MANTISPIDAE Mantidflies
Plega hanenella (Westwood)

Order STREPSIPTERA Stylops or stylopids
None recorded.

Order TRICHOPTERA Caddisflies
From Botosaneaunu (2002) and Flint (1996).

ECNOMIDAE
Austrotinodes adamsae Flint

GLOSSOSOMATIDAE
Protoptila ignera Flint

HELICOPSYCHIDAE
Helicopsyche margaritensis Botosaneanu

HYDROPSYCHIDAE
Leptonema albovirens (Walker)
Smicridea anomala Flint & Denning
Smicridea bivittata (Hagen)
Smicridea tobada Flint & Denning

HYDROPTILIDAE
Cerasmatrichia argylensis Flint, Harris & Botosaneaui
Hydroptila grenadensis Flint
Hydroptila tobaga Botosaneanu
Leucotrichia botosaneanui Flint
Leucotrichia fairchildi Flint
Leucotrichia tritoven Flint
Metrichia geminata Flint
Metrichia platigona (Botosaneau)
Neotrichia armata Botosaneanu
Neotrichia tauricornis Malicky
Neotrichia unamas Botosaneaun
Ochrotrichidia oblongata Bueno & Santiago
Oxyethira azteca (Mosley)
Rhyacopsyche duplicispina Flint
Zumatrichia anomaloptera Flint

LEPTOCERIDAE
Amphoropsyche sp.

PHILOPOTAMIDAE
Chimarra caribea Flint
Chimarra flinti Bueno-Soria
Chimarrhodella tobagoensis Blahnik & Holzenthal
Wormaldia planae Ross & King

POLYCENTROPODIDAE
Cernotina hastilis Flint
Cernotina mandeba Flint
Polyplectropus altmani Yamamoto
Polyplectropus pugiunculatus Botosaneanu

XIPHOCENTRONIDAE
Xiphocentron (Antillotrichia) piscicaudum Flint
Xiphocentron (Antillotrichia) stenotum Flint
Xiphocentron (Antillotrichia) sp.

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New records and identifications of butterflies and moths (Lepidoptera) from Tobago, West Indies

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Abstract

Details of 54 new butterfly and moth records from Tobago are presented, including species of Crambidae (9), Erebidae (18), Euteliidae (1), Geometridae (10), Hedylidae (1), Hesperiidae (1), Lasiocampidae (1), Megalopygidae (1), Noctuidae (3), Nolidae (2), Notodontidae (1), Nymphalidae (1), Papilionidae (1), Pieridae (1), Pyralidae (2), and Uraniidae (1). Five corrections of names previously used are also reported. All records are based solely on photographs, and representative images are included as vouchers. The total number of species known from Tobago is now 466 moths, and 157 butterflies. All newly reported species are also known from Trinidad (although some have not been previously published from Trinidad).

Key words: Trinidad, Crambidae, Erebidae, Euteliidae, Geometridae, Hedylidae, Hesperiidae, Lasiocampidae, Megalopygidae, Noctuidae, Nolidae, Notodontidae, Nymphalidae, Papilionidae, Pieridae, Pyralidae, Uraniidae

INTRODUCTION

The butterflies of Tobago are fairly well known, and an updated checklist of 150 species was recently published (Cock 2017a). In contrast, the moths of Tobago are not well known and a preliminary checklist of 355 species was published only recently (Cock 2017b). This is a small total compared to the more than 742 species extrapolated by Cock (2003), and many more moth species are expected to occur in Tobago, particularly those of smaller size. Cock and Kelly (2020) added 45 new records of moths from Tobago, based mostly on photographs taken by MK at the lights of his house near Englishman's Bay, and Cock (2021b) added a further 11 moths and two butterflies based on images posted on iNaturalist (www.iNaturalist.org) by several naturalists. Here we add a further 49 moths and five butterflies based on the authors' images and photographic records from iNaturalist, and remove one misidentified species. The total number of Lepidoptera species currently known from Tobago is 466 moths, and 157 butterflies. All species newly recorded from Tobago are also known to occur in Trinidad, although not all have been previously published as occurring in Trinidad.

We refer to material examined in the following collections: Matthew J.W. Cock, private research collection, Dolgellau, UK (MJWC), The Natural History Museum, London, UK (NHMUK), National Museums of Scotland (NMS), Oxford University Museum of Natural History (OUMNH), United States National Museum (USNM), and the University of the West Indies Zoological Museum, St. Augustine, Trinidad and Tobago (UWIZM). Identifications were made by comparison with the first author's collection of Trinidad Lepidoptera (MJWC), which have been named primarily in the context of the collections of NHMUK and USNM. In three cases we also refer to species' barcode index numbers (BINs) (Ratnasingham and Hebert 2013) as used in the Barcode of Life database ((Hebert *et al.* 2003), www.boldsystems.org). Species are arranged by family alphabetically, and alphabetically within families; subfamilies (where used) are included in parentheses after each species heading. Comments on the status of each species in Trinidad are based on the first author's unpublished records; these give an indication of how commonly and in which habitats these species may occur in Tobago. The figures show photographs taken in Tobago, except as indicated. © in the figure legend refers to the photographer. As the photographs are without any indication of scale, the forewing length (F: base of forewing – wing tip) is provided in the figure legends based on Trinidad material in MJWC, or the original descriptions.

CRAMBIDAE

Desmia bajulalis Guenée, 1854 (Spilomelinae)

A new record for both Trinidad and Tobago. Trinidad specimens from Curepe (14–21 September 1981) and St Benedicts (10–16 July 1996) were identified by comparison with a paralectotype (NHMUK, French Guiana), NHMUK series and USNM series. There is also a recent photographic record from Port of Spain, Hololo Road by Lena Dempewolf (November 2021, iNaturalist observation 101913653). MG's photo of a female attracted to light above Englishman's Bay (Fig. 1) is the first for Tobago.

Metoeca foedalis (Guenée, 1854) (Spilomelinae)

This small, but distinctive, pantropical species was identified by comparing Trinidad specimens with the NHMUK and

Fig. 1. Female *Desmia bajulalis*, Englishman's Bay, at light, 25 January 2022, M. Gibson (iNaturalist observation 105585502); F 12–16 mm.

USNM series. Although there are no published records from Trinidad, there are Trinidad specimens in USNM and MJWC has records from Brasso Seco, Cumaca Road (0.5 miles), Curepe, Penal and South Oropouche. AED photographed this species attracted to lights near Englishman's Bay on 7 and 9 January 2022 (Fig. 2).

Fig. 2. Male(?) *Metoeca foedalis*, Englishman's Bay, 11.28 -60.68, 9 January 2022, A. Deacon (iNaturalist observation 104684170); F 6 mm.

***Microcrambus elpenor* Błeszyński, 1967 (Crambinae)**

Błeszyński (1967) described this species from Mexico, Trinidad, and Guyana; MJWC identified Trinidad material from Błeszyński (1967) and Landry and Andriollo (2020). A photo by bellbird20 (Fig. 3) appears to be the first record from Tobago.

***Phidotricha baradata* Schaus, 1922 (Epipaschiinae)**

Schaus (1922) described this species from Trinidad, although MJWC has seen no other specimens from the island. However, MK and AED were able to photograph specimens in Tobago (Fig. 4). They were identified by comparison with a photo of the type.

Fig. 3. *Microcrambus elpenor*, Main Ridge, 11.287 -60.594, 15 April 2022, bellbird20 (iNaturalist observation 112971813). F 5.5–6 mm (Błeszyński 1967). ©, with permission.

Fig. 4. Male *Phidotricha baradata*; **above**, Englishman's Bay, 11.28 -60.68, at light, 7 January 2022, A. Deacon (iNaturalist observation 104591052); **below**, Englishman's Bay, at light, 14 March 2020, M. Kelly; F 7.5 mm (Schaus 1922).

***Prenesta sunialis* Snellen, 1875 (Spilomelinae)**
This species was recorded from Trinidad by Kaye and Lamont (1927), and the identity of this species was confirmed by comparison of Trinidad material with the NHMUK series. This is an occasional and widespread species in Trinidad, particularly in forested areas, but Fig. 5 is the first Tobago record.

Fig. 5. Female *Prenesta sunialis*, Englishman's Bay, at light, 7 March 2022, M. Kelly; F 11 mm.

***Psephis myrmidonalis* Guenée, 1854 (Glaphyriinae)**
This species has not previously been reported from Trinidad, although there are records from Brigand Hill, Curepe and South Oropouche. A Trinidad specimen was identified by M. Shaffer (NHMUK, 1980). Photographs by MK (Fig. 6) are the first record from Tobago.

Fig. 6. *Psephis myrmidonalis*, Englishman's Bay, at light, 1 February 2022, M. Kelly; F 5 mm.

***Pyrausta insignitalis* Guenée, 1854 (Pyraustinae)**
Trinidad specimens were identified by comparison with the cotypes (NHMUK, 2♀ French Guiana) and NHMUK series. The cotypes have contrasting shading which seems to be a feature of the female, whereas the male is more uniformly buff yellow. This species is common and widespread in Trinidad, but AED's photo from Englishman's Bay (Fig. 7) is the first record from Tobago.

Fig. 7. Male(?) *Pyrausta insignitalis*, Englishman's Bay, 11.28 -60.68, 10 January 2022, A. Deacon (iNaturalist observation 104742163); F 8 mm.

***Salbia cassidalis* Guenée, 1854 (Spilomelinae)**
This species is known from Trinidad (Kaye and Lamont 1927) and MJWC identified it by comparison with the type (NHMUK, ♂ Brazil) and NHMUK series. MG's photo from above Englishman's Bay (Fig. 8) is the first record from Tobago

Fig. 8. Male *Salbia cassidalis*, Englishman's Bay, 11.288 -60.674, 23 January 2022, M. Gibson photo (iNaturalist observation 105462976); F 8 mm.

***Sufetula diminutalis* (Walker, 1859) (Lathrotelinae)**
Although there are no published records of this species from Trinidad, MJWC is aware of several records (Maracas Valley, El Tucuche, Brigand Hill, Talparo). MJWC identified Trinidad material by comparison with the type (NHMUK, Honduras), NHMUK series and USNM series. Males are smaller, darker and more contrasting than females. MG photographed what appears to be a male of this species above Englishman's Bay (Fig. 9), and AED photographed one near Englishman's Bay (9 January 2022, iNaturalist observation 104684171).

Fig. 9. Male *Sufetula diminutalis*, above Englishman's Bay, 25 November 2021, M. Gibson (iNaturalist observation 102232267); F 6 mm.

EREBIDAE

***Ateneria crinipuncta* Schaus, 1914 (incertae sedis)**
The subfamily placement of this species has yet to be established. MJWC identified Trinidad specimens by comparison with the type (USNM, ♂ French Guiana), USNM series and NHMUK series. Although it has not previously been recorded from Trinidad, MJWC has records from Arima Valley (Asa Wright Nature Centre, Simla), Inniss Field, Parrylands Oilfield, and Sangre Grande. MK photographed several individuals above Englishman's Bay: female 28 December 2021 (Fig. 10), male 30 January 2022 (Fig. 10), male 1 February 2022 and female 27 March 2022.

***Baniana ypita* Schaus, 1901 (Anobiinae)**
Although there are no previous published records from Trinidad, this species is quite common and widespread in forested areas of the island. Trinidad specimens were identified by comparison with the type (USNM, ♀ Venezuela), USNM series and NHMUK series. A photo by AED (Fig. 11) is the first record from Tobago.

Fig. 10. *Ateneria crinipuncta*, above Englishman's Bay, at light; male (**above**), female (**below**), 28 December 2021, M. Kelly; F 11 mm.

Fig. 11. Male *Baniana ypita*, Englishman's Bay, 11.28 -60.68, 12 January 2022, A. Deacon (iNaturalist observation 104846555); F 16 mm.

***Carteris oculatalis* (Möschler, 1890) (Herminiinae)**
This species has been reported from Trinidad (Kaye and Lamont 1927), where it is widespread in lowland areas. MJWC identified it by comparison with the NHMUK series. Rachael Williams-Littzen photographed one between Buccoo and Black Rock (Fig. 12).

Fig. 12. Female(?) *Carteris oculatalis*, Buccoo to Black Rock, 17 June 2020, R. Williams-Littzen (iNaturalist observation 94392658); F 11 mm. ©, under CC-BY-NC license.

***Catephiodes trinidadensis* (Kaye, 1901) (Erebinae)**
This species was described from Trinidad (Kaye 1901) and is a common and widespread species on that island. More recent Trinidad material was identified by comparison with type (NHMUK, ♀ Trinidad). The first Tobago record appears to be a photograph by MK (Fig. 13).

Fig. 13. Female(?) *Catephiodes trinidadensis*, Englishman's Bay, at light, 1 February 2022, M. Kelly; F 13 mm.

***Clapra marginata* (Warren, 1889) (Erebinae)**
MJWC identified this species by comparison of Trinidad material with the type (NHMUK, Amazons) and NHMUK series. It is an occasional and widespread species in forested areas of Trinidad. MK's photograph (Fig. 14) is the first observation that we know of from Tobago.

Fig. 14. Male(?) *Clapra marginata*, Englishman's Bay, at light, 9 January 20221, M. Kelly; F 12 mm.

***Ctypansa inconstans* Walker, 1958 (Erebinae)**
This name has been applied to Trinidad material since Kaye and Lamont (1927). It seems to be a variable species, most material from Trinidad being of a pale form, but at least some being a dark form which matches the type (NHMUK, ♂ Ega, Brazil). MK photographed a male of the pale form at Englishman's Bay (Fig. 15).

Fig. 15. Male *Ctypansa inconstans*, Englishman's Bay, at light, 19 November 2021, M. Kelly; F 18 mm.

***Delphyre* sp. near *espinozai* Cerda, 2020 (Arctiinae, Ctenuchina)**
Until recently, this species has been known from Trinidad as *Delphyre hebes* (Walker) (Kaye and Lamont 1927, Fleming 1959). However, Cerda (2020) established that *D. hebes* is restricted to Central America, and described *D. espinozai* from French Guiana. Dissection of a Trinidad male showed that it is very close to, or conspecific with, *D. espinozai*

as illustrated by Cerda (2020). Several photographs from Englishman's Bay (♀ 13 December 2021, MK; ♀ 6 January 2022, ♀ 8 January 2022, ♂ 9 January 2022, AED) (Fig. 16) show that what appears to be this species also occurs in Tobago. However, AED collected a female voucher for which we now have a DNA barcode, and this indicates that the Tobago specimen is neither *D. hebes* nor *D. espinozai*. It seems to be an undescribed species, but male dissections from Tobago, and DNA barcodes from Trinidad, will be needed to clarify the position.

Fig. 16. Male (**left**) and female (**right**) *Delphyre* sp. nr. *espinozai.* Male, Englishman's Bay, 11.285 -60.696, 9 January 2022, A. Deacon (iNaturalist observation 104684181); F 10 mm. Female, above Englishman's Bay, at light, 13 December 2021, M. Kelly; F 11 mm.

***Lesmone duplicans* (Möschler, 1880) (Erebinae)**

Trinidad material was identified by comparison with the NHMUK series. This is a common and widespread species in disturbed and suburban habitats in Trinidad. The only record from Tobago is a photograph by MK (Fig. 17).

Fig. 17. *Lesmone duplicans*, above Englishman's Bay, at light, 26 December 2021, M. Kelly; F 15 mm.

***Lophodelta goniograpta* Hampson, 1924 (Herminiinae)**

Trinidad material was identified by comparison with NHMUK series. *Lophodelta goniograpta* may prove to be a junior synonym of *Metalectra aglaia* (Schaus, 1912), but no action is proposed at this point. This is an occasional and widespread species in Trinidad, and MK has photographed specimens that came to his house lights at Englishman's Bay, 13 January 2020, 22 November 2021 and 5 March 2022 (Fig. 18).

Fig. 18. Male *Lophodelta goniograpta*, Englishman's Bay, at light, 5 March 2022, M. Kelly; F 11 mm.

***Neophisma aeolida* (Druce, 1890) (Erebinae)**

The identification of this species was by comparison of Trinidad material with the NHMUK series. It was previously placed in *Ophisma*, which is an Old World genus, but is now in the Neotropical genus *Neophisma* (Barbut 2022). It has not previously been reported from Trinidad, but it is an uncommon species with records from the Arima Valley, Morne Bleu and Brasso Seco. First photographed in Tobago by MK (Fig. 19).

Fig. 19. *Ophisma aeolida*, Englishman's Bay, at light, 11 January 2022, M. Kelly; F 20 mm.

***Neophisma tropicalis* (Guenée, 1852) (Erebinae)**
This species has been recorded from Palmiste, Trinidad as *Ophisma tropicalis* (Lamont and Callan 1950), but see comments regarding this genus under the previous species . MJWC has only encountered it at Morne Bleu Textel, Trinidad, and these specimens were identified by comparison with the NHMUK series. AED's photo from Englishman's Bay (Fig. 20) is the first record from Tobago.

Fig. 20. Male(?) *Ophisma tropicalis*, Englishman's Bay, 2 January 2022, A. Deacon (iNaturalist observation 104320951); F 25–30 mm.

***Parachabora abydas* (Herrich-Schäffer, 1869) (Calpinae)**
There are no published records of this species from Trinidad or Tobago. However, MJWC is aware of several records from the Northern Range of Trinidad (Brasso Seco, Maracas Valley, Morne Bleu), and specimens from Morne Bleu were identified by comparison with the NHMUK series. AED's photo from Englishman's Bay (Fig. 21) is the first from Tobago.

Fig. 21. *Parachabora abydas*, Englishman's Bay, 12 January 2022, A. Deacon photo, (iNaturalist observation 104846547); F 14–16 mm.

***Phlyctaina irrigualis* Möschler, 1890 (Herminiinae)**
Kaye and Lamont (1927) recorded this species from Trinidad, where it is common and widespread in suburban and forest habitats. Identified by comparison with NHMUK series, including the male type of *P. griseirena* Hampson, a synonym described from St Vincent and Grenada. It has also been observed on Monos Island (♂, 17 August 2021, A. Deacon, iNaturalist observation 91589411), but Rachael Williams-Littzen's photo from between Bucoo and Black Rock (Fig. 22) is the first Tobago record.

Fig. 22. Male *Phlyctaina irrigualis*, Buccoo to Black Rock, 17 June 2020, R. Williams-Littzen (iNaturalist

***Punctumtergum columbiana* Draudt, 1931 (Arctiinae, Arctiini, Ctenuchina)**
Cock (2017b) recorded *Eucereon maia* Druce from Tobago. Cerda (2020) established the genus *Punctumtergum* for *E. maia* based on male genitalia and DNA barcodes. On the same basis, he also concluded that *P. maia* is restricted to Central America, while the South American population is a different species, for which the name *P. columbiana* (Draudt) is appropriate.

***Pupillaptera vicina* Cerda, 2020 (Arctiinae, Arctiini, Ctenuchina)**
This species was previously recorded from Tobago as *Eucereon latifascia sensu* Hampson *nec* Walker, based on a specimen from Englishman's Bay (J. Ingraham) (Cock 2017b). It was recently described from French Guiana (Cerda 2020), and identified from Trinidad and Tobago by a comparison of the male genitalia.

***Rivula pusilla* Möschler, 1890 (Rivulinae)**
There are no published records of this species from Trinidad or Tobago. However, there is a male from Trinidad in USNM, MJWC has specimens from Curepe, and Mark Hulme photographed it at Brasso Seco (17 July 2021, iNaturalist observation 87642739). The Trinidad material was identified by comparison with the NHMUK and USNM series. AED's photo from Englishman's Bay (Fig. 23) is the first for Tobago.

Fig. 23. *Rivula pusilla*, Englishman's Bay, 10 January 2022, A. Deacon. (iNaturalist observation 104742166); F 8 mm. observation 94392531); F 13 mm. ©, under CC-BY-NC license.

***Rivula* sp. cf. *rufescens* Schaus, 1913 (Rivulinae)**

Although there are no published records of this species from Trinidad or Tobago, it is an uncommon species in Trinidad, widespread in lowland areas (Simla, Curepe, Long Stretch, Morne Bleu). Trinidad material was identified by comparison with the type of *R. rufescens* (USNM, ♂ Costa Rica) and USNM series, which it closely resembles, but the pectens of the male antennae are much broader in Trinidad material. Matt Kelley photographed two different males above Englishman's Bay on 22 and 23 January 2022 (Fig. 24).

Fig. 24. Male *Rivula* cf. *rufescens*, Englishman's Bay, at light, 23 January 2022, M. Kelly, F 7.5 mm

***Salia albivia* (Hampson, 1950) (Herminiinae)**

This species was recorded from Trinidad and described based on Hampson's manuscript in Lamont and Callan (1950); two of Lamont's specimens are in UWIZM. MJWC identified Trinidad specimens by comparison with the type (NHMUK, Guyana). It is an occasional species found in forested areas of Trinidad. MK's photo of an adult observed by day (Fig. 25) is the first record from Tobago.

Fig. 25. Male *Salia albivia*, Englishman's Bay, 4 March 2022, M. Kelly; F 13 mm.

***Schrankia macula* Druce, 1891 (Hypeninae)**

There have been no previous published reports of this species from Trinidad or Tobago. MJWC collected several individuals at Curepe which were later identified by comparison with the USNM series. There are several subsequent photographic records from Trinidad (Carapachaima, Inniss Field, Maracas Valley and South Oropouche) and this seems to be a fairly common and widespread species on the island. AED photographed two different adults at Englishman's Bay (Fig. 26).

Fig. 26. *Schrankia macula,* Englishman's Bay, 7 January 2022 (**left**) and 9 January 2022 (**right**), A. Deacon (iNaturalist observations 104591057, 104684179); F 6 mm.

***Synomera alcis* (Schaus, 1914) (Herminiinae)**
MJWC identified specimens from Trinidad (Simla) as this species by comparison with the type (USNM, ♂ Panama). This is a new record for Trinidad, and MK's photo from Englishman's Bay (Fig. 27) is a new record for Tobago.

Fig. 27. Male(?) *Synomera alcis*, Englishman's Bay, at light, 25 November 2021, M. Kelly; F 7 mm.

***Tetanolita mynesalis* (Walker, 1859) (Herminiinae)**
This species was described from the 'USA' and is widespread in Eastern USA (BIN BOLD:AAA9813). It is a good match to Kris Sookdeo's photo from Charlotteville, which Cock (2017b, p. 38, fig. 27) was unable to identify and listed as 'Unidentified Herminiinae sp. 1' (M. De Silva pers. comm. 2022). Hampson (1898) records this species from St. Vincent and Grenada, and so the name should be valid for the Tobago record as well. At this time there are no records from Trinidad.

EUTELIIDAE

***Eutelia auratrix* (Walker, 1858) (Euteliinae)**
This species was recorded from Trinidad by Kaye and Lamont (1927), and it is a fairly common and widespread species in Trinidad. Trinidad material was identified by comparison with the type (NHMUK, ♂ Amazons) and NHMUK series. Aaron Wheeler photographed a male near Black Rock (Fig. 28), the only record from Tobago.

GEOMETRIDAE

***Eois binaria* (Guenée, [1858]) (Larentiinae)**
Trinidad specimens were identified by comparison with the NHMUK series. It is an occasional and widespread species in Trinidad, usually found in forested areas. AED's photograph (Fig. 29) is the first record for Tobago.

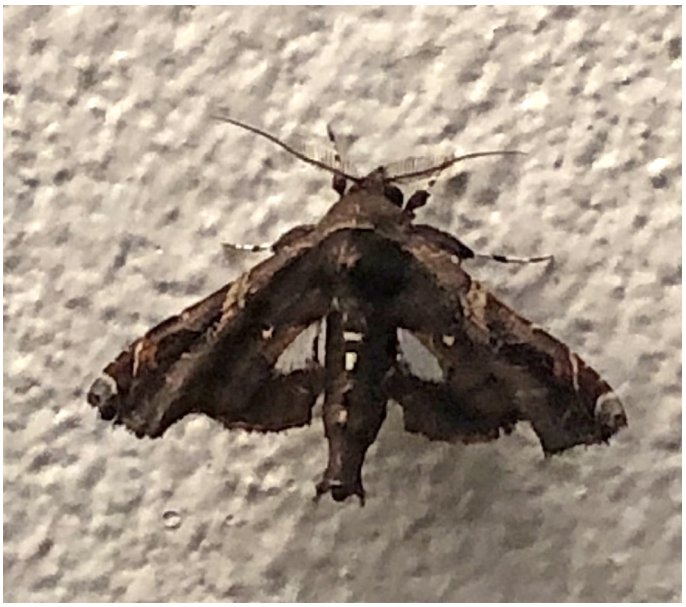

Fig. 28. Male *Eutelia auratrix*, Black Rock, 28 December 2021, A. Wheeler (iNaturalist observation 103911366); F 13 mm. © figtree, under CC-BY-NC license.

Fig. 29. Male *Eois binaria*, Englishman's Bay, 11.28 -60.68, 9 January 2022, A. Deacon (iNaturalist observation 104684177); F 10 mm.

***Idaea flavicosta* (Dognin, 1914) (Sterrhinae)**
Males from Trinidad were identified by comparison with the type (USNM, ♂ Colombia), and the female was associated by elimination of alternatives in Trinidad. There are a handful of Trinidad records from the Northern Range of Trinidad, but this is not a commonly seen species, and has not previously been reported from Trinidad. The only records from Tobago are AED's photograph of a male and MK's of a female (Fig. 30).

Fig. 30. *Idaea flavicosta*; **above**, male Englishman's Bay, 11.285 -60.696, 2 January 2022, A. Deacon (iNaturalist observation 104320957), F 8 mm; **below**, female above Englishman's Bay at light, 19 January 2022, M. Kelly, F 8 mm.

***Idaea gospera* (Dyar, 1914) (Sterrhinae)**

Material from Trinidad was identified by comparison with the type (USNM, ♂ Panama, Taboga Is.). This is the species which Kaye & Lamont (1927) referred to as *Idaea caudata* (Warren) (= *Deinopygia caudata*) based on material in NHMUK curated as that species. MK photographed females above Englishman's Bay 29 January 2020 and 3 December 2021, and AED photographed another nearby on 2 January 2022 (Fig. 31). A male photographed in Trinidad is shown for comparison.

***Idaea rufulata rufulata* (Warren, 1900) (Sterrhinae)**

Although this species has not previously been reported from Trinidad or Tobago, it is an occasional and widespread species in Trinidad (Asa Wright Nature Centre, Brasso Seco, Caigual, Curepe, Maracas Valley, Penal, St Benedict's), identified by comparison with the type (NHMUK, Venezuela). MK's photo (Fig. 32) is the first record from Tobago.

Fig. 31. *Idaea gospera*. **Above**, male, Trinidad, Arima Valley, Asa Wright Nature Centre, at light, 21 September 2013, K. Sookdeo; F 6 mm. ©, with permission. **Centre**, female, Englishman's Bay, 2 January 2022, A. Deacon (iNaturalist observation 104320956); F 6 mm. **Below,** female, Englishman's Bay, 29 January 2020, M. Kelly; F 6 mm.

Fig. 32. Male *Idaea rufulata*, Englishman's Bay, at light, 19 March 2022, M. Kelly; F 8–9 mm.

***Leuciris fimbriaria* (Stoll, 1781) (Ennominae)**

This is a common and widespread species in disturbed areas of Trinidad, as the caterpillars feed on ti marie, *Mimosa pudica* (Fabaceae). Identified by comparison with the NHMUK series and type of *paecilmidia* Butler

(♂, NHMUK, a synonym). In BOLD, this species appears as several BINs; a Trinidad sequence (MJWC-367) forms part of BIN BOLD:ABY7720, which also occurs in Peru and Costa Rica, and is provisionally considered to represent the true *L. fimbriaria* described from Suriname. A photo from near Englishman's Bay by AED (Fig. 33) is the only Tobago record of which we are aware.

Fig. 33. *Leuciris fimbriaria*, Englishman's Bay, 11.28 -60.68, 9 January 2022, A. Deacon (iNaturalist observation 104684167); F 10 mm.

***Oospila dicraspeda* Prout, 1932 (Geometrinae)**

Cook and Scoble (1995) record a Trinidad specimen in NHMUK, and MJWC has three records from Curepe, which were identified by comparison with the lectotype (NHMUK, ♂ Brazil). MK's photo (Fig. 34) is the first record from Tobago.

Fig. 34. *Oospila dicraspeda*, Englishman's Bay, at light, 30 January 2022, M. Kelly; F 11 mm.

***Oospila venezuelata* (Walker, 1861) (Geometrinae)**

Kaye and Lamont (1927) and Cook and Scoble (1995) recorded this distinctive species from Trinidad. MJWC identified further Trinidad material by comparison with the lectotype (NHMUK, ♂ Venezuela) and NHMUK series. MK's photograph (Fig. 35) is the first record from Tobago.

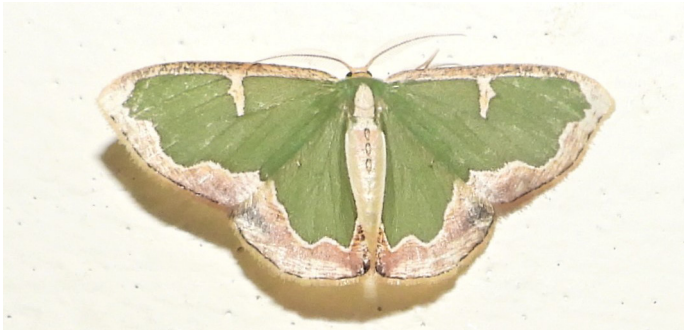

Fig. 35. Male *Oospila venezuelata*, Englishman's Bay, at light, 20 December 2021, M. Kelly; F 12 mm.

***Pleuroprucha archigetes* (?) Prout, 1932 (Sterrhinae)**

Prout (1932) described this species from Guyana and *P. protopages* Prout from French Guiana, and noted that although the two are very similar, *P. protopages* is smaller and has three spurs on the hind femora instead of four. MJWC identified both species from Trinidad by comparison with the types and examination of the femora. Identifications based on photographs (Fig. 36) can only be considered provisional, and specimens are needed to confirm this species from Tobago.

Fig. 36. Female(?), *Pleuroprucha archigetes*(?), Englishman's Bay, 11.28 -60.68, 6 January 2022 (**above**), 8 January 2022 (**below**), A. Deacon (iNaturalist observations 104618822, 104499964); F 9 mm.

***Semaeopus bimacula* (Warren, 1897) (Sterrhinae)**

Kaye and Lamont (1927) recorded this species from Palmiste and MJWC has specimens from Simla, which were identified these by comparison with the type (NHMUK, Guyana). There seems to be a second, larger, more orange species

confused with this, which also occurs in Trinidad (specimens from Caparo and Sangre Grande in NHMUK, OUMNH), but MK's photo from Englishman's Bay (Fig. 37) matches the type and material from Simla.

Fig. 37. *Semaeopus bimacula*, Englishman's Bay, at light, 19 November 2021 (M. Kelly photo 9923); F 11 mm.

***Synchlora gerularia* (Hübner, [1823]) (Geometrinae)**
This is a common and widespread species in Trinidad, identified by comparison with the NHMUK series. Although MJWC has a male and female from Tobago (Speyside, MVL, 14–17 May 1982), these were overlooked when compiling the provisional checklist of Tobago moths (Cock 2017b). This only came to light when MG photographed this species above Englishman's Bay (Fig. 38). Tobago specimens, particularly females, have the forewing discal spot larger than those from Trinidad.

Fig. 38. Female *Synchlora gerularia*, Englishman's Bay, at light, 10 January 2022, M. Gibson (iNaturalist observation 104732422); F 10 mm.

HEDYLIDAE

***Macrosoma rubedinaria* (Walker, 1862)**
This night-flying butterfly has long been known from Trinidad (Kaye 1901, Kaye and Lamont 1927). Our identification follows Scoble (1990). There have been two recent photographs from Englishman's Bay by MK (Fig. 39) and MG (5 April 2022).

Fig. 39. *Macrosoma rubedinaria*, Englishman's Bay, at light, 19 March 2022, M. Kelly; F 17–18 mm.

HESPERIIDAE

***Salatis salatis* (Stoll, 1782) (Eudaminae)**
This is a rarely seen species in Trinidad (Cock and Alston-Smith 1994), although this is at least partly due to its crepuscular or nocturnal habits. During a night walk (Deo *et al*. 2020) in Tobago, Rainer Deo photographed a male resting beneath a leaf at 21.45h (Fig. 40).

Fig. 40. Male *Salatis salatis*, Main Ridge Forest Reserve, 11.29N 60.60W, 1 August 2020, 21.45h, R. Deo, iNaturalist observation 55233404. ©, with permission.

LASIOCAMPIDAE

***Artace* sp. (Poecilocampinae)**
This species has not previously been reported from Trinidad, although it is uncommon but widespread in lowland areas, both forested and suburban. It is probably an undescribed species in a group of similar-looking moths, and is the subject of on-going investigation by the first author. MK photographed a male in Tobago (Fig. 41) which appears to be the same species.

Fig. 41. Male *Artace* sp., above Englishman's Bay, at light, 23 January 2022, M. Kelly, F 21 mm.

LIMACODIDAE

[*Natada supectinata* Dyar, 1905]
Cock (2017b) listed this species from Tobago based on a specimen collected by Ingraham, but this is here re-identified as *Perola subpunctata* Walker, which is already known from Tobago. There are no confirmed records of *N. subpectinata* from Tobago.

MEGALOPYGIDAE

***Trosia dimas* (Cramer, 1775) (Trosiinae)**
A recent revision of this genus by Becker (2022) is the basis for using this name, although as Becker states, DNA barcoding is likely to reveal cryptic species within this widespread, variable species. It is known from Trinidad (Hopp 1934-1935, Lamont and Callan 1950), where it is common and widespread in suburban and forested areas. AED's photographs at Englishman's Bay (Fig. 42) are the first for Tobago.

NOCTUIDAE

***Catabenoides lazelli* Becker & Miller, 2002 (Oncocnemidinae)**
Cock (2017b) listed this species from Tobago as *C. vitrina* (Walker), but this is here corrected to *C. lazelli*. Becker and Miller (2002) described *C. lazelli* from the British Virgin Islands, and it is now known from Puerto Rico south through the Lesser Antilles to Grenada (Becker 2021). Tobago is therefore the southernmost point of the known range of this species.

Fig. 42. Male *Trosia dimas*, Englishman's Bay, 8 January 2022, A. Deacon (iNaturalist observation 104618834); F 13 mm.

***Cropia grandimacula* (Schaus, 1911) (Cropiinae)**
There is one record of this species from Trinidad (♀, Curepe, 13 September 1978), which MJWC identified by comparison with the type (USNM, ♀ Costa Rica). MK photographed the first record from Tobago (Fig. 43).

***Drobeta mesoscota* (Hampson, 1910) (Dyopsinae)**
Hampson (1910) described this species from Trinidad and MJWC has examined the female type from Caparo in NHMUK. It is believed this habitus represents a dark variation of *D. ithaca* (Druce), based on examination of the type from Panama in NHMUK, and variation within Trinidad material, so that it is anticipated that *D. mesoscota* will be shown to be a junior synonym of *D. ithaca*. However, without making dissections or obtaining DNA barcodes to compare the different variations in Trinidad and Panama, no action is taken at this time. This is an occasional species in Trinidad, mostly found in forested areas but some records are from Curepe. MK photographed a specimen in Tobago (Fig. 44).

Fig. 43. *Cropia grandimacula*, above Englishman's Bay, 31 December 2021, M. Kelly; F 21 mm.

Fig. 44. Female(?) *Drobeta mesoscota*, above Englishman's Bay, at light, 12 January 2022, M. Kelly, F 14 mm.

***Neostrotia albescens* Schaus, 1914 (incertae sedis)**

The correct subfamily for this species has yet to be established. This species has not previously been reported from Trinidad; MJWC identified specimens from Arima Valley (Simla) and Sangre Grande by comparison with the USNM series (type not seen). AED photographed a Tobago specimen (Fig. 45).

Fig. 45. *Neostrotia albescens*, Englishman's Bay, 11.28 -60.68, 10 January 2022, A. Deacon (iNaturalist observation 104742152); F 5.5 mm.

NOLIDAE

***Afrida pnixis* Dyar (Afridinae)**

This species is reported here for the first time from Trinidad and Tobago. Trinidad specimens from Curepe (4 September 1978, 9 September 1978) were identified by comparison with the type (USNM, ?♂ Panama, photo) and the NHMUK series. AED photographed this species at light near Englishman's Bay (Fig. 46).

Fig. 46. *Afrida pnixis*, Englishman's Bay, 11.28 -60.68, 9 January 2022, A. Deacon (iNaturalist observation 104684168); F 6 mm.

***Meganola bifiliferata* (Walker, 1862) (Nolinae)**

Trinidad material was identified by comparison with the NHMUK series (including a Trinidad specimen), although this species has not previously been reported from Trinidad. The generic placement is from Poole (1989). This is an uncommon but widespread species in Trinidad, with most records from forest areas. MK's photograph (Fig. 47) is from Englishman's Bay.

Fig. 47. *Meganola bifiliferata*, above Englishman's Bay, at light , 14 January 2022, M. Kelly, F ♂ 7.5–8 mm, ♀ 9–10 mm.

NOTODONTIDAE

***Marthula multifascia* (Walker, 1856) (Heterocampinae)**
See Cock (2021a) for details of this species and its presence in Trinidad; the broad orange region of the forewing costa is just visible in MG's photo (Fig. 48 above), which is the first record from Tobago. A more recent record by Rainer Deo (Fig. 48 below) confirms this species is present in Tobago.

Fig. 48. Male *Marthula multifascia;* **above**, Englishman's Bay, at light, 7 April 2022, M. Gibson (iNaturalist observation 110717149); **below**, Main Ridge, 11.29 -60.60, at light, 10.vi.2022, R. Deo (iNaturalist observation 121325877); F 17 mm; ©, with permission.

NYMPHALIDAE

***Chlosyne lacinia* (Geyer, 1837) *saundersi* (Doubleday, [1847]) (Nymphalinae)**
This is a common species, frequently seen and photographed in Trinidad, but an image from Corbin Local Wildlife (Fig. 49) is the first record from Tobago. It seems unlikely that this species has been hitherto overlooked in Tobago, so it might be a recent arrival. With no specimens to examine, it is assumed this is the same as the subspecies found in Trinidad.

Fig. 49. *Chlosyne lacinia saundersi*, Mason Hall, 15 February 2014, corbinlocalwildlife photo (iNaturalist observation 101463001); F ♂ 20 mm, ♀ 24 mm. ©, under CC-BY-NC license.

***Hermeuptychia canthe* (Hübner, [1811]) (Satyrinae)**
This species has hitherto been reported from Trinidad and Tobago as *Euptychia hermes* (Fabricius) (Cock 2014, 2017a), but the painstaking review of the literature relating to *Hermeuptychia* spp. by Viloria (2021) showed that the species concerned for both islands is *H. canthe*.

PAPILIONIDAE

***Heraclides thoas* (Linnaeus, 1771) *nealces* (Rothschild and Jordan, 1906) (Papilioninae)**
This is a common and widespread species in Trinidad (Barcant 1970, Cock 2017a), but a 2019 photo by Saifudeen Muhammad (Fig. 50) appears to be the only record from Tobago. Like *Chlosyne lacinia* (above) it seems unlikely that this species would have been overlooked, so perhaps it is a stray or has recently spread to Tobago?

Fig. 50. *Heraclides thoas nealces*, south-western Tobago, 1 December 2022, S. Muhammad, iNaturalist observation 102336961. ©, under CC-BY-NC license.

PIERIDAE

***Phoebis statira statira* (Cramer, 1777) (Coliadinae)**
Sheldon (1936) reported this species from Tobago, attributing the record to A. Hall at Speyside. However, Hall's unpublished journal only refers to a possible sighting, and so Cock (2017a) did not accept this Tobago record. However, photos of worn males at Corbin Local Wildlife by Aaron Wheeler (25 August 2021, iNaturalist observation 92504103) and MG (Fig. 51), confirm that this migratory species does occur in Tobago. This species appears as *Aphrissa statira* in the checklists of Cock (2014, 2017a), but Murillo-Ramos *et al*. (2018) made *Aphrissa* a synonym of *Phoebis* based on a morphological and genetic phylogenetic analysis.

Fig. 51. Male *Phoebis statira statira*, Corbin Local Wildlife, south of Mason Hall, 12 September 2021, M. Gibson.

PYRALIDAE

***Clydonopteron pomponius* Druce, 1895 (Chrysauginae)**
Kaye and Lamont (1927) misidentified this species from Trinidad as *C. sacculana* (Bosc), which is a North American species. This was confirmed by examining the specimens to which they refer in NHMUK, which are now curated as *C. pomponius*. It is an occasional species in forested areas of Trinidad. Recently, MK (Englishman's Bay, 4 January 2022) and AED (Fig. 52) both photographed males in Tobago.

Fig. 52. Male *Clydonopteron pomponius*, Englishman's Bay, 11.28 -60.68, at light, 12 January 2022, A. Deacon (iNaturalist observation 104846550); F 5 mm.

***Hypsipyla ferrealis* (Hampson, 1929) (Phycitinae)**
Kaye and Lamont (1927) first reported this species from Trinidad, where the caterpillars are known to feed on the seeds of crappo (*Carapa guyanensis*, Meliaceae) (Rao and Bennett 1969). Material in the CABI collection in UWIZM was identified at NHMUK. The first record from Tobago is MK's photo from Englishman's Bay (Fig. 53).

Fig. 53. *Hypsipyla ferrealis*, Englishman's Bay, at light, 19 March 2022, M. Kelly; F 11–12 mm.

URANIIDAE

***Coelurotricha curvilinea* Warren, 1906 complex (Epiplemidae)**

This is the species which Kaye and Lamont (1927) reported from Trinidad as *Epiplema olivaria* Walker, based on a specimen from Guiaco, 18 April 1915 (N. Lamont). MJWC examined Lamont's male specimen in NMS, and matched it to other Trinidad material, which he identified as *C. curvilinea* from the treatment in BOLD as BIN BOLD:AAA3221 (bearing in mind that in Costa Rica this is a species complex). This is a sexually dimorphic and variable species; the females being greyer, with a pointed projection on the forewing margin below the apex, and the male shades of brown and without the pointed projection on the forewing margin. AED photographed a female in Tobago (Fig. 54).

Fig. 54. Female *Coelurotricha curvilinea* complex, Englishman's Bay, 7 January 2022, A. Deacon (iNaturalist observation 104591058); F 9 mm.

Other noteworthy records

In addition to the new Tobago records treated above, three butterfly species that had not been recorded for more than 70 years were recently confirmed by photographs from Tobago: *Ithomia agnosia pellucida* Weymer (near Mason Hall, 15 February 2014, Corbin Local Wildlife photo, iNaturalist observation 101463002), *Hypolimnas misippus* (Linnaeus) (near Mason Hall, 15 February 2014, Corbin Local Wildlife photo, iNaturalist observation 101463006), *Historis odius dious* Lamas (common at Englishman's Bay, 4 January 2022, M. Kelly; M. Hulme, iNaturalist observation 67582872).

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Nature Notes

A colony of the social wasp *Polybia striata* (Hymenoptera: Vespidae) in Trinidad, West Indies

The New World tropics are home to the vespid tribe Epiponini, a monophyletic group of 19 genera of swarm-founding social wasps (Somavilla and Carpenter 2020) commonly known as *marabuntas* or *maribons*. The largest genus *Polybia*, consists of about 57 known species, and is found throughout the continental neotropics, probably with at least one abundant species at every lowland locality. *Polybia striata* is not among the locally abundant species in most of its broad range, which encompasses most of South America north of the Southern Cone and east of the Andes (Richards 1978:47-49). *P. striata* can be distinguished from the other three members of its genus in Trinidad (Starr and Hook 2003) by the presence of yellow marks on the scutellum and metanotum and longitudinal yellow stripes on the mesoscutum against the black ground colour.

Richards's (1978) description of the nest shows it to be typical of the genus: a series of combs, each based on the previous one above it, each comb covered below by an envelope, which serves as the base for the comb below it, a pattern known as *phragmocytarous*. He estimated that a 14-comb nest from Brazil contained 7000 adults. Our purpose here is to describe a second colony of this little-known species.

In March 2013 we encountered an active *P. striata* colony in the Arena Forest Reserve (10º34'N 61º14'W) in Trinidad, West Indies. It was based on a very long, narrow tree branch at a height of about two metres. By means of externally visible traces in the nest envelope, we estimate that it had seven combs at the time (Fig. 1).

Ten weeks later we collected the colony near dusk, when wasps were no longer flying to or from. The colony had grown considerably in the interim and weighed down the substrate branch such that the bottom of the nest was about 40cm from the ground. About half an hour after collecting, we found no more than 50 returned wasps clustered on the nest substrate, indicating that we had collected virtually the entire colony.

The nest comprised 13 combs with an estimated total of 9658 cells. We estimated the number of cells in all but the smallest combs according to the empirical formula $n=(D1+D2+D3)^2/12$, in which D1, D2 and D3 are the three diameters of the comb measured as numbers of cells counted side-to-side across each of the three midlines (Scobie and Starr 2012: Fig. 1). In contrast, the 14-comb nest described by Richards comprised almost 24000 cells.

Fig. 1. Active *Polybia striata* nest with an estimated seven combs.

We estimated the number of adult wasps volumetrically at 1511, plus up to 50 that escaped during collection. All were female, as was a sample of 36 pupae. The absence of males indicates that the colony had not yet reached the reproductive phase in which males and new queens are produced.

Unlike in many other social wasps, we found no entirely reliable way to distinguish newly-emerged from fully mature adults. Dissection of the abdomens of a sample of 100 apparently fully mature females showed that 35 of these had at least moderately developed ovaries. However, we found it difficult to assess the ovaries in this species, as the variation among individuals was more continuous than what we have found in other social wasps, and 35% seems like an uncommonly high fraction of egg-laying females.

In the course of observing the colony on the earlier occasion, one of us (CKS) was treated to one solid sting. This was moderately painful with no sting autotomy and brought on a mild anaphylactic shock.

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Observation of a spider of the Sparassidae family feeding on fermenting guava fruit in Trinidad

Spiders are thought to be predominantly carnivorous. While this may be true for most spiders, there are numerous records of spiders feeding on a variety of plant products, demonstrating that plants may not be as insignificant to the diet of many spiders as was once thought. These observations, which spanned 10 spider families and more than 60 species, were brought together in a comprehensive review by Nyffeler *et al.* (2016). This review highlighted the broad range of plant products consumed by spiders, ranging from the consumption of pollen grains by juvenile araneids (Smith and Mommsen 1984); feeding on the food bodies of *Cecropia* trees by *Clubonia* sp. (Andrade 1981; Jolivet 1988); *Anelosimus* sp. using chelicerae to bite mango leaves (Stejskal 1976); and nectivorous behaviour in an anyphaenid (Taylor and Foster 1996).

Spiders, like other organisms, have morphological and behavioural adaptations that allow them to survive in their habitats. For example, cursorial spiders that wander in vegetation with extrafloral nectaries (EFNs) are likely to encounter nectar, which they have the potential to detect with "gustatory" hairs on their tarsi (Barth 2002). Independent observations of members of the Thomisidae, Salticidae, Anyphaenidae, Miturgidae and Corinnidae all suggest that they feed on the floral nectaries and EFNs of plants. (Edmunds 1978; Vogelei Greissl 1989; Pollard *et al.* 1995; Ruhren Handel 1999; Jackson *et al.* 2001).

Recent observations of spiders in Japan (Suzuki and Sano 2021) show that members of Sparassidae, Phrurolithidae, and Pimoidae families should also now be added to list of 'true omnivorous spiders' prepared by Nyffeler *et al*. (2016). These observations include evidence of a sparassid (huntsman), *Sinopoda forcipata,* feeding on fermented tree sap (Suzuki and Sano 2021).

Here, we describe a new observation in Trinidad which adds a second species of huntsman (*Olios* sp.) to the list of spiders known to consume plant products. This observation also represents the first record of a huntsman feeding on fermenting fruit (Figs. 1 and 2).

On September 6, 2021 the authors were conducting field-work in Moruga, southwestern Trinidad. At approximately 2235h, while RND was setting moth bait and SEG was actively searching for spiders, RND first noticed a huntsman spider lurking near his guava bait. The bait was a mixture of naturally ripened and rotting guava (*Pisidium guajava*). The first thought was that the spider was actively hunting and using the bait as a means to catch unsuspecting prey. However, SEG later observed and documented that the hunts-

Fig. 1. Frontal view of an adult male *Olios* sp. (Sparassidae) feeding on guava bait.

Fig. 2. Dorsal view of an adult male *Olios* sp. (Sparassidae) feeding on guava bait.

man was indeed feeding on the bait.

The huntsman was missing three legs and strategically positioned itself over the guava bait with its five remaining limbs. With its pedipalps extended horizontally forward, the huntsman repeatedly clenched its fangs into the bait (as if it were live prey) before finally dipping its head - which concealed its chelicerae and mouthparts - into the guava bait. At regular intervals, the spider then repositioned itself over the bait and repeated the process of fang clenching and dipping its head into the bait.

The spider was later identified from photographs as *Olios* sp., and possibly *Olios trinitatis* Strand 1916, with the assistance of Cristina Anne Rheims, of the Butantan Institute in Brazil.

Although there are records of spiders feeding on a wide diversity of plant-derived products including nectar, stigmatic exudate, plant sap, honeydew, seeds, Beltian bodies, Mullerian bodies and pollen (Nyffeler, Olson, and Symondson 2016), there are few reports of them feeding on fruits or fermenting fruit. As for the feeding habits of the nocturnal runners, this is still largely unknown (Taylor and Foster 1996), much less of the members of the Sparassidae family.

It is becoming clear that, for some spiders, plant products are more than just an incidental part of their diet. Taylor and Bradley (2009) found that nectar contributed significantly to the energy requirements of *Cheiracanthium mildei*, allowing the spider to persevere with its frenetic running each night. They also found nectar consumption was also associated with a higher incidence of molting in prey-deprived *H. velox.* Indeed, even in the presence of water, these cursorial spiders drank nectar when offered it (Taylor and Bradley 2009).

In conjunction with the observation made in Japan of *S. forcipata* feeding on fermented tree sap (Suzuki and Sano 2021), this observation of *Olios* sp. feeding on fermented guava bait suggests that members of the family Sparassidae have an omnivorous diet in an environment where plant products are readily available.

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Report of the Trinidad and Tobago Birds Status and Distribution Committee, Records Submitted during 2021

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The Trinidad and Tobago Birds Status and Distribution Committee (TTBSDC) (established in 1995 as the T&T Rare Birds Committee) serves to assess, document and archive the occurrence of rare or unusual birds in Trinidad and Tobago and thus provide reliable long-term monitoring of our less common species. In 2021, the second year during which fieldwork was seriously impeded by the ongoing pandemic, 80 records were submitted to the Committee, representing 55 different species. One species was added to the National Official List. As in previous years, we wish to commend the quality of photographs by so many observers. Of the submissions assessed, in only two cases did we find the identification inconclusive.

Records presented below follow the revised nomenclature and taxonomic order of the South American Classification Committee as of April 2022 (Remsen *et al*. 2022).

The Committee comprises the following members: Martyn Kenefick (Secretary), Faraaz Abdool, Geoffrey Gomes, Nigel Lallsingh, Bill Murphy, Kris Sookdeo and Graham White. The Committee has benefited from supporting international expert knowledge to assist us with certain identification issues. We wish to acknowledge the valuable assistance provided by Dave Cooper and James Smith. Archived records, including photographic submissions, number 1,746 at the end of 2021. Reports are published annually in Living World and are available at https://ttfnc.org/livingworld/index.php/lwj/issue/archive.

The list of species considered by the TTBSDC, together with the Official List of the Birds of Trinidad and Tobago and details of all accepted records by the Committee can be accessed, from our website at http://ttbsdc.ttfnc.org. We urge finders to document and report their sightings to us.

All documented sightings summarized below occurred in 2021 unless otherwise stated.

Records accepted

The Committee has decided to assess and monitor the spread of **Trinidad Piping-Guan *Pipile pipile*** sightings away from their established forested sites south of Grande Riviere and on Morne Bleu. On 10 May, two birds were photographed on the road to Morne Catherine, Chaguaramas (TA) and on 23 June, one was in forest south of Blanchisseuse village (GW).

An early wandering **Dark-billed Cuckoo *Coccyzus melacoryphus*** was photographed along Covigne Rd, Chaguaramas on 13 May (Bd'A). We continue to document the post-breeding dispersal of this species from its South American breeding grounds. All but one of the previous 13 sightings in Trinidad have been during the period July to August.

On 19 April an adult male **Amethyst Woodstar *Calliphlox amethystine*** was photographed along Gomez Trace, Brasso Seco (JMM, KK *et al.*) and from 21 April to 6 May, an immature was seen on several occasions feeding on Antigua Heath in Surrey Village (GW). Following its initial identification in Trinidad in 2015, this wanderer from mainland South America has been found annually between late April and late July.

The corpse of a **Paint-billed Crake *Mustelirallus erythrops*** was retrieved along Freeman Road, Caroni on 17 July (NL). Of the nine records to date, in the last 26 years, seven have been found between 29 June and 8 August. Sadly, of these four individuals have been found dead.

A Killdeer *Charadrius vociferus* was found in a wet, grassy field in Caroni Rice Project on 27 December, remaining at least until the end of the year (NL, LN) (Fig. 1). This species remains an extremely rare migrant shorebird from continental North America and is just the fifth documented record this century; the last being in 2012. All sightings have been between December and March.

Fig. 1 Killdeer *Charadrius vociferus* Caroni Rice Project, December 2021. Photo Nigel Lallsingh.

For the fifth year in succession, a **Double-striped Thick-Knee *Burhinus bistriatus*** was discovered within the Queens Park Savannah, Port of Spain. It was first observed on 4 August (Bd'A), and joined by a second more furtive individual the following day. At least one remained until 11 September. Over in Tobago, one was photographed on Lowlands Golf Course on 28 August (KT). Of the 19 documented records in the last 26 years, all but two have occurred between 6 July and 7 September.

On 18 May, a basic plumaged male **Ruff *Calidris pugnax*** was photographed feeding in a ploughed field at Caroni Rice Project (NL) (Fig. 2). Whilst there have been 12 documented records this century, this is the first Spring sighting of this "Old World" shorebird which normally migrates from its wintering grounds in Africa and south-east Asia to its northern European breeding grounds

Fig. 2 Ruff *Callidris pugnax*, Caroni Rice Project, 18 May 2021. Photo Nigel Lalsingh. .

An **Upland Sandpiper *Bartramia longicauda*** was photographed in long grass within Queens Park Savannah, Port of Spain on 11 September (Bd'A). There have been 14 documented sightings this century and all but one have been on southbound migration between 31 August and 31 October.

A lone **Buff-breasted Sandpiper *Calidris subruficollis*** was found in a wet, grassy field in Caroni Rice Project on 14 October (MH, AS). This sighting comes within the classic southbound migration window of 16 September to 28 October which accounts for 84% of all sightings this century.

A first-winter plumaged **Franklin's Gull *Leucophaeus pipixcan*** was found roosting on the fishing boats at Orange Valley in the company of many Laughing Gulls, *L atricilla* on 27 November (NL). Whilst this migrant from continental North America has been found in all but one of the last 11 years, it is still a rare visitor to our shores.

A **Jabiru *Jabiru mycteria*** was photographed in the unlikely setting of a roof-top in Bejucal village on 27 May (per AR). Historically this was an extremely rare visitor from the mainland, however they have now been found in nine out of the last 12 years, all between the end of May and early September.

An adult **Fasciated Tiger-Heron *Tigrisoma fasciatum*** was photographed in the atypical location of Techier Village, Pt. Fortin on 3 November (LB per DHu). Whilst the chosen site included a small stream and grassy banks within a residential area, this is far removed from the forested river settings of the only other two sightings in Trinidad at Shark River and Grand Riviere.

An adult **Green Heron *Butorides virescens*** was photographed in Nariva swamp on 24 November 2017 (LMA). It's distribution within the region is a bit complex. Green Herons are abundant from Canada south to Tobago, and to our west, from Mexico through Central America and into Colombia. However there have only been two documented records from Trinidad in the last 26 years. This status may be slightly distorted as immature birds are visually extremely similar to Striated Heron.

An adult **Striated Heron *Butorides striata*** was photographed and carefully studied at Bon Accord, Tobago on 17 February 2020 (MKe, AA). Whilst abundant throughout Trinidad and continental South America, this is just the third documented record from Tobago this century. Within the region, wandering birds have been found as far north as Puerto Rico. Elsewhere Striated Herons are common throughout sub-Saharan Africa and Asia.

A **Gray Heron *Ardea cinerea*** on the west coast mudflats at Carli Bay was photographed on 31 December (NL). This "Old World" heron is still a rare visitor to T&T, however there are now small resident populations on both Barbados and Guadeloupe.

An adul**t Cocoi Heron *Ardea cocoi*** was found at Bon Accord, Tobago on 15 June (KF). This is a fairly common seasonal wanderer to Trinidad's freshwater wetlands from mainland South America, however this is only the fifth sighting for Tobago this century.

A sub-adult **Purple Heron *Ardea purpurea*** was found within the freshwater marsh along Rahamut Trace on 16 January 2020 (KF). This is just the fourth documented record for the country of this Old World heron, whose wintering grounds are sub-Saharan Africa and south-east Asia.

A **Whistling Heron *Syrigma sibilatrix*** was photographed flying over the Aripo Livestock Farm on 27 December (RL). This is just the second documented sighting of this native to South American freshwater wetlands; the first being from similar habitat, just seven kilometers to the south-east at Turure back in 2013.

Whilst the status of **Glossy Ibis** ***Plegadis falcinellus*** in the freshwater marshes of Trinidad and Tobago is now well understood, two flocks, totalling some 35 birds, flying south towards Caroni Swamp on 30 December (NL *et al.*) are by far the highest total ever documented in the country.

Two **Buff-necked Ibis** ***Theristicus caudatus*** were photographed within private farmland south of Pasea on 9 July, remaining until 13 July at least (NK, JK, ASi) (Fig. 3). This constitutes the first documented record of this South American ibis for T&T.

Fig. 3 Buff-necked Ibis *Theristicus caudatus* Pasea, 9 July 2021. Photo Annuradha Singh.

A **Roseate Spoonbill** ***Platalea ajaja*** was photographed in flight over Caroni Rice Project on 30 December (NL, RJ). There have now been just six documented sightings in the last 26 years. This remains an extremely rare visitor from mainland South America.

A **Black Vulture** ***Coragyps atratus*** was photographed over Speyside, Tobago on 25 April (DHu). Given the abundance of this species in Trinidad and their aerial habits, it is surprising that such wanderings are not more common.

An adult female **Snail Kite** ***Rostrhamus sociabilis*** was found at Caroni Rice Project on 14 May (NL) and an immature in Aranguez farmland on 20 October (Bd'A). Once a rare visitor from the mainland, 22 birds have now been documented in the last six years feeding in wet arable farmland or freshwater marshes.

A Black Kite ***Milvus migrans*** was photographed soaring over Claxton Bay on 22 November 2020 (SR). The only previous documented sighting of this Old World raptor was at Gasparillo, back in December 2014. Given the proximity of the two locations and that this species, thought to be the most numerous raptor in the world, can live for 24-28 years, one cannot rule out the possibility of the same individual being involved. Within the region in recent years, there have been documented reports from nearby Barbados, Dominica and Guadeloupe.

An adult **White-tailed Hawk** ***Geranoaetus albicaudatus*** was seen and photographed in the unlikely setting flying over Queens Park Savannah, Port of Spain on 25 October (LN) (Fig 4.) and an immature was photographed perched on a dead tree at Icacos on 19 November (DHu). Whilst historically the species has been considered an extremely rare wanderer from the mainland, there have now been five documented sightings in the last five years, all between October and January.

Fig. 4 White-tailed Hawk *Geranoaetus albicaudatus* Queen's Park Savannah, Port of Spain, January 2022. Photo Kevin Foster.

The spread of **Crested Caracaras** ***Caracara plancus*** throughout much of Trinidad over the last 20 years is well documented. This has now extended to the northwest peninsula with the sighting of a pair photographed in Tucker Valley, Chaguaramas National Park on 9 December (SR).

Continuing the well documented trend of post-breeding dispersal from mainland South America**,** up to six **Small-billed Elaenias** ***Elaenia parvirostris*** were recorded along the southern border of Caroni Rice Project on 2 May with at least one remaining until 1 August (NL *et al.*). Also on 2 May, three were photographed within Orange Grove farmland (DH).

A **Lesser Elaenia** ***Elaenia chiriquensis*** was photographed and carefully studied in scrubland within Orange Grove agricultural fields on 11 April (MK, RJ). Several Yellow-bellied Elaenias, *E flavogaster* were observed close by. This made the visual separation of these two very similar species straightforward.

A very vocal **Yellow-throated Vireo** ***Vireo flavifrons*** was photographed inside a Cocoa plantation along Tortuga Shortcut Rd. on 5 January (MK, NL) (Fig. 5). It remained until at least the 16 January. This is the first documented sighting for Trinidad of this migrant North American vireo. There have been two previous records from Tobago.

Fig. 5 Yellow-throated vireo *Vireo flavifrons* Tortuga, 5 January 2021. Photo Nigel Lalsingh.

A **Black-whiskered Vireo *Vireo altiloquus*** was found at Chaguaramas National Park on 22 August (Bd'A). There is the possibility of this being the same individual as found at this same site in both December 2019 and July 2020. The species is resident throughout the Lesser Antilles, yet historically considered a winter month visitor to T&T. The Committee will continue to monitor this possible change of status.

During southbound migration a **Cliff Swallow *Petrochelidon pyrrhonota*** was found amongst many Barn Swallows, all hawking for flying insects, at Caroni Rice Project on 12 September (NL). In similar circumstances, at least two were photographed amongst both Barn, *H rustica* and Bank Swallows, *R riparia* along Rahamut Trace on 7 November (FA). This is now a scarce but anticipated visitor to both islands with 14 documented sightings in the last seven years.

An adult male **Lesser Goldfinch *Spinus psaltria*** was photographed inside Caroni Rice Project on 2 May (NL). This is the first documented record since a small population was present on Mt St Benedict between 2005-2013. Coincidentally this observation is just several kilometers due south of the initial sightings. Could there be a remnant population existing in the arable land in between?

A Bobolink *Dolichonyx oryzivorus* was photographed amongst a group of Yellow-hooded Blackbirds, *C. icterocephalus* at Caroni Rice Project on 5 December (MH, AS). Whilst found annually on southbound migration, often in large flocks, this is the lowest return in the last seven years.

The adult female **Cerulean Warbler *Setophaga cerulea*** found in Gran Couva, having returned for its fourth winter, on 28 October 2020 remained faithful to its favoured Samaan tree until 8 February at least (many observers). On 7 December, an adult male was found feeding in a Mango tree along Tortuga Shortcut Rd (FA, LN) (Fig. 6), remaining until the year's end. Remarkably this sighting is in almost exactly the same place as a male photographed back in February 2020. This is most likely the same bird and is another example of winter site fidelity in migrant North American passerines.

Fig. 6 Cerulean Warbler *Setophaga cerulea,* Tortuga, 22 February 2022. Photo Graham White.

A **Bay-breasted Warbler *Setophaga castanea*** was photographed in a Palmiste garden on 24 November (FA). The population of this migrant North American warbler may be governed by the relative abundance of Spruce Budworm on their breeding grounds. During the period 2013-2018, 18 birds were documented in Trinidad. Since then, just two.

A **Blackburnian Warbler *Setophaga fusca*** was found in forest along Mrs Mills Trace, Englishman's Bay, Tobago on 21 November (MKe). This remains a rare passage migrant from continental North America with just nine documented sightings this century, all between November and March.

An immature/female plumaged **Rose-breasted Grosbeak *Pheucticus ludovicianus*** was photographed at Roussilac on 9 March (DH) (Fig. 7). There have now been 18 documented records of this North American migrant over the last 26 years, 11 of which have been during March and April.

Fig. 7 Rose-breasted Grossbeak *Pheucticus ludovicianus,* Roussilac, 9 March 2021. Photo Darryl Hernandez.

Two adult male and one female **Lesson's Seedeater *Sporophila bouvronides*** were found feeding in roadside sedges and grasses along Rahamut Trace, Oropouche on 6 November (MK, LN) (Fig. 8.) A second female was seen later that day (NL) and up to three birds were present until at least 20 November. This species, together with *S lineola*, are known to have a post-breeding dispersal from their South American breeding grounds.

Fig. 8 Lesson's Seedeater *Sporophila bouvronides,* Rahamut Trace, Oropouche, 6 November 2021. Photo Nigel Lallsingh.

An adult male **Lined Seedeater *Sporophila lineola*** was seen along Rahamut Trace on 8 October (MK, LN) (Fig. 9); by mid-afternoon, three males and two females were found. At least one male remained until 21 October.

Fig. 9 Lined Seedeater *Sporophila lineola,* Rahamut Trace, October 2021. Photo Nigel Lallsingh.

Escaped cage and aviary species

We are aware of a reintroduction project involving **Muscovy Ducks *Cairina moschata*** from Point a Pierre Wildfowl Trust. e-Bird Sightings of this species from the south-west peninsula of Trinidad may involve birds from this scheme.

Red-and-Green Macaws *Ara chloropterus* continue to be regularly reported from the south-west peninsula and north coast of Trinidad plus sightings near Chaguanas and a **Scarlet Macaw *Ara macao*** was photographed at Pt Fortin. **Village Weavers *Ploceus cucullatus*** are frequently seen inside Caroni Rice Project. A **Vermilion Cardinal *Cardinalis phoeniceus*** was seen in La Romaine, **Java Sparrow *Padda oryzivora*** at Carli Bay and both **Black-headed Parrot *Pionites melanocephalus*** and **White-throated Toucan *Ramphastos tucanus*** at Palmiste.

The provenance of most native seedeater and seed-finch species continues to be a problem. The Committee has taken a decision that, unless there is supporting evidence to the contrary, all sightings will be considered under this category and that assessment will be based on identification alone. To illustrate this issue, an adult male **Lined Seedeater *Sporophila lineola***, photographed close to Charlotteville, Tobago on 27 June (ZF), was not added to the Tobago list due to doubt as to whether the bird reached Tobago naturally.

Additional records

Acceptable records were also received or submitted for a further 26 sightings of the following species whose status has been established but whose distribution continues to be monitored by the Committee: **Scaled Dove *Columbina squammata*, Yellow-billed Cuckoo *Coccyzus americanus*, Little Egret *Egretta garzetta*, Glossy Ibis *Plegadis falcinellus*, Hook-billed Kite *Chondrohierax uncinatus*, Black Hawk-Eagle *Spizaetus tyrannus*, Crane Hawk *Geranospiza caerulescens*, Rufous Crab Hawk *Buteogallus aequinoctialis*, Great Black Hawk *Buteogallus urubitinga*, Aplomado Falcon *Falco femoralis*, White-eyed Parakeet *Psittacara leucophthalmus*,Variegated Flycatcher *Empidonomus varius*, Summer Tanager *Piranga rubra* and Yellow-bellied Seedeater *Sporophila nigricollis.***

In early June 2021, an **Atlantic Yellow-nosed Albatross *Thalassarche chlororhynchos*** was taken into care at El Socorro CWC, but died a few days later. Whilst the identification was confirmed, how this bird came to be found in someone's back yard in South Trinidad and whether it arrived within Trinidad & Tobago territorial waters in a free/wild state has not been established. The Committee deems that there are insufficient grounds to add the species to the Official List.

Inconclusive records

Submissions of the following species were deemed inconclusive :- **Scaled Antpitta *Grallaria guatimalensis*** and **Black-and-White Warbler *Mniotilta varia.***

Nomenclature changes

Part of the mission statement of the South American Classification Committee is to create a standard classification, with English names, for the birds of South America. This is subject to constant revision by the proposal system to

Fig. 10 Yellow-billed Cuckoo *Coccyzus americanus,* Waterloo, October 2021 Photo Vishal Rangersammy.

Fig. 11 Aplomado Falcon *Falco femoralis,* Caroni Rice Project July 2021. Photo Nigel Lallsingh.

allow incorporation of new data. The following changes were made in 2021.

Large-billed Seed-Finch :- a recent DNA study of all six museum skin specimens of birds originating from Trinidad has concluded that they are all, in fact, **Great-billed Seed-Finch**, ***Sporophila maximiliani parkesi*** (Dyer 2021). Whilst the species is believed to be locally extirpated, and is indeed globally endangered; and in the absence of any alternative evidence, TTBSDC has amended the nomenclature on our Official List.

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