

# Occasional Papers

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**BIODIVERSITY OF THE SHIPSTERN NATURE  
RESERVE**

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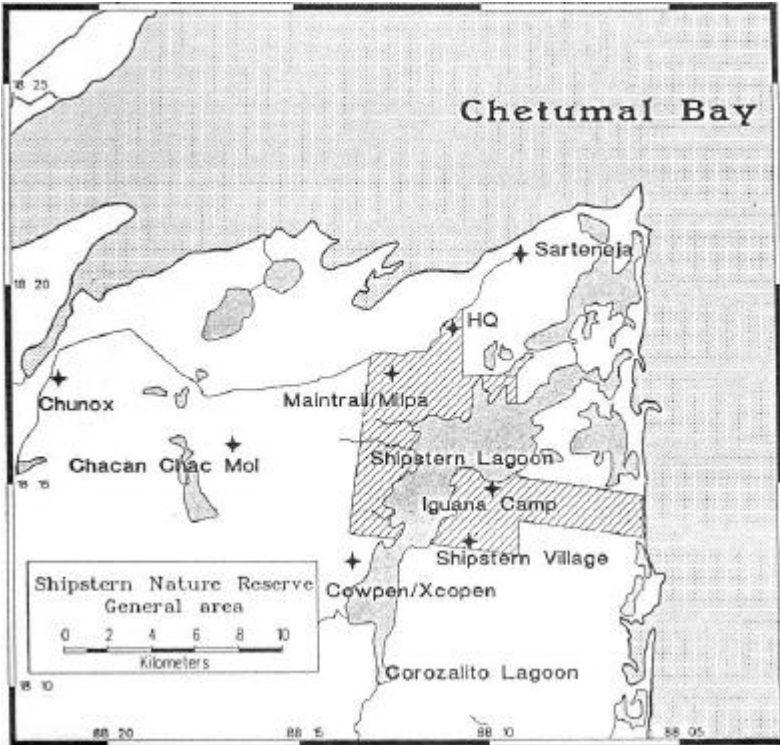
**INTRODUCTION**

This brief note serves to introduce the biodiversity of the Shipstern Nature Reserve. The papers that follow are taxa specific annotated checklists of what has been documented in the area to date. When appropriate affinities to the Yucatan Peninsula in Mexico and other areas of Belize are discussed. The Shipstern Nature Reserve is in the remote northeastern corner of Belize, close to the fishing community of Sarteneja, a 23 hour drive from the international airport. The reserve is bordered to the east by the Caribbean Sea, while its northern boundary is close to the Bay of Chetumal.

The area of what is now the Shipstern Nature Reserve was isolated from most of Belize until 1980, when the first road was constructed to link Sarteneja with Orange Walk Town passing through Chunox. Until then, there was little major disturbance to the wildlife, access being extremely difficult. The area is therefore still relatively rich, especially in comparison with other parts of northern Belize. While the forest harbors most mammals representative of Belize's fauna, such as jaguar and tapir, the lagoon system boasts not only crocodiles, but also provides an overwintering site for North American waterfowl. The importance of the lagoon system and its mangrove islands in particular for breeding birds was highlighted in the Directory of Neotropical Wetlands (IUCN/IWRB, 1986), which placed the area as one of particular conservation importance.

In 1989, The International Conservation Foundation (ITCF), based in Neuchatel, Switzerland purchased the Shipstern Nature Reserve, an 8,000 ha (20,000 acres) parcel of lot BLZ 262, making it the first protected area in Belize to include the more seasonal northern hardwood forests, saline lagoon systems and mangrove shorelines. Presently, the Shipstern Nature Reserve still holds this unique

position. The status of the Shipstern Nature Reserve was fortified by the declaration of a 13,000 ha (32,000 acres) no-hunting area around Sarteneja that includes the Shipstern Nature Reserve, on the 22nd of April 1990 by the Minister of Industry and Natural Resources, the Hon. Min. Florencio Marin.



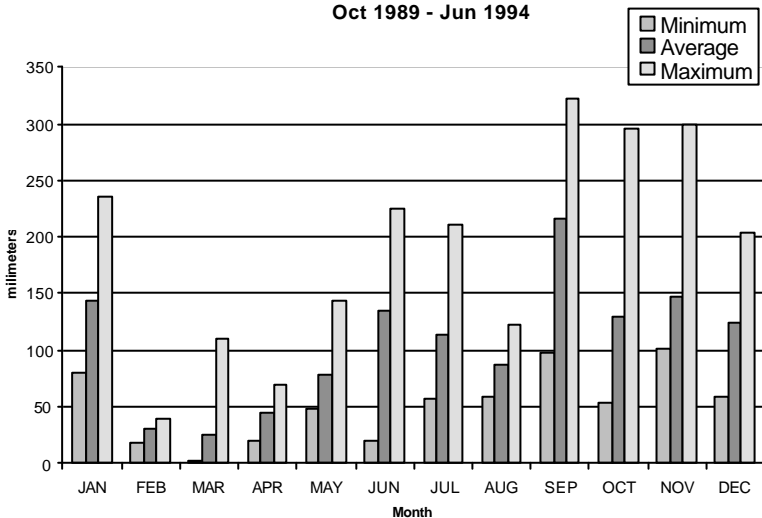
A moderately sized Butterfly Breeding Center is situated at the Headquarters still forms an important part of the reserve. One of the intentions of the butterfly breeding center was to show a possible means of economic development without disturbing the environment. It is interesting to note that in this respect, the butterfly breeding center has been very successful. Former employees of the Shipstern Nature Reserve started their own butterfly business in Sarteneja and the breeding of butterflies is now a moderate home industry in several Sartenejan households. The pupae are sold to a dealer who in turn sells the pupae to butterfly farms in England. The Reserve itself has stopped breeding butterflies for export and maintains the existing infrastructure mainly as a tourist attraction. The butterfly breeding center is also an important educational tool, especially for young local visitors. The breeding of butterflies, which includes the need to know

food plants etc., has contributed significantly to the knowledge of the biodiversity in the Shipstern Nature Reserve.

### THE HABITATS

The whole Sarteneja area lies on a very flat limestone plateau, rarely rising more than just a few meters above sea level. Soil depth varies but is usually extremely shallow. Rainfall is low, the Sarteneja/Shipstern Nature Reserve area is probably the driest area in Belize. Average rainfall amounts to 1260 mm (50 inches) per year, but considerable fluctuation occurs (fig. 1). During a near five-year period (1989-1994) extremes were recorded from 1029 mm to 1610 mm per year. The dry season in the Shipstern Nature Reserve area starts somewhere in January and usually ends in May. August, again, is usually a dry month. On average the month of September is the wettest month of the year. The area within the Reserve encompasses a variety of important habitats, ranging from sub-tropical moist forest to saline wetlands and mangrove bordered lagoon and seashores, each

**Figure 1. RAINFALL SHIPSTERN NATURE RESERVE  
Oct 1989 - Jun 1994**



with its own flora and fauna.

### SUBTROPICAL MOIST FOREST

Within the Reserve there are two tracts of forest, totalling about 9.5 km<sup>2</sup> (2,400 acres) in area. The first is about three km<sup>2</sup> and lies between the savanna north of the lagoon and the road from Orange Walk to Sarteneja. The other 6.5 km<sup>2</sup> of

forest lies south east of the lagoon (the Shipstern forest), and extends beyond the southern boundary.

These forest tracts are exceptionally heterogenous in stature and structure, and are in a state of regeneration following their devastation by hurricane Janet in 1955 and the subsequent forest fire. The forests are now essentially reaching a state of mature secondary growth. Larger specimens of commercial hardwoods (mainly siricote, mahogany and cedar) have all been logged during the past decade. The major differences in forest throughout the reserve seem to correlate with soil depth. The highest forest with emergents of 22-25 m and an average canopy height of 15-16 m is found on the deepest soils. The "high" forest has a canopy that is typically dense, with a relatively open understory. Mahogany, sapodilla, black poisonwood, gumbolimbo and siricote are among the characteristic trees. The "low forest" on shallower soils, is typified by smaller, more densely packed trees, with a canopy as low as 7-8 m. Leguminous trees and bushes such as *Albizzia* and *Acacia* are prominent.

Around the headquarters clearing, the "Chiclero Botanical Trail" with a length of approx. 700 m, leads through the forest. Many trees and shrubs along this trail have been identified, partly with the help of local chicleros. Signs including local, scientific and family name accompany the more conspicuous species. A small booklet with information about the individual species is available.

In the forest, very few permanent ponds occur. One such a pond, located along the Chiclero Botanical Trail, is slightly brackish with a salinity varying from 0.2 % in the rainy season to 0.4 % in the dry season.

## **MILPAS**

"Milpa" is originally an Aztec name for an agricultural area cleared by the means of the slash and burn method. Today the name milpa is also used in the Maya territories. Milpas are typically created in areas with deep soil, the height of the forest being indicative of this. A large, abandoned milpa is situated near the western border of the reserve. A small part of it has been put into cultivation again in an attempt to attract local wildlife to the blind constructed at the milpa edge. The rest of this milpa, as well as the several others scattered through the forest on both sides of the lagoons, are left to regenerate. With their large proportion of secondary growth species and the presence of cultivated fruits, the milpas are an attractive habitat to many forest animals.

A relatively wide trail leading from the road through these milpas to the savanna is known as the Main Trail. This trail is being kept clear of regrowth and is usually accessible by two wheel drive vehicles.

## **SALINE LAGOON**

Shipstern Lagoon, with its smaller peripheral lagoons, comprises about one fifth of the total area of the reserve. The lagoon is shallow (0.1 -0.8 m) with deeper linking channels. It has a silty bottom overlying limestone bedrock, with islands of mangrove rising out of the water. The depth of the lagoon varies according to the seasons. Peak levels in the rainy seasons can be as much as 30 cm (1 foot) above the lowest, dry season level. Northern winds during the winter months also contribute to lowering the water level in the lagoons. The salinity of the water in the Shipstern Lagoon fluctuates strongly and varies from 0.5 % in the rainy season to 3.3 % in the dry season.

## **COASTAL SAVANNA**

Wide belts of savanna surround Shipstern Lagoon and border the coastal stretches of the reserve. The savanna vegetation consists of coarse grasses, dwarf mangrove and saline mud flats, punctuated by isolated hillocks of limestone vegetated with palms and broad-leaved forest species. Much of the savanna is bare ground, due to the high salinity of the muddy soil and the lack of protection from the sun. During much of the rainy season, most of the savanna is flooded. The flooded savanna attracts many wading birds, including White Ibis. The forested hillocks are at least a temporary habitat for many of the Reserve's mammals. The surface of the savanna offers a record of all the traffic between these vegetated "islands": tracks of White tailed and Brocket Deer, Tapir and many smaller mammals are common.

## **COASTAL**

This habitat forms part of the eastern border of the reserve. The habitat is typically of dense, coastal mangrove. The "beach" usually consists of deep, white

mud. Salinity levels on this coast are not known. The Bay of Chetumal receives fresh water from the Rio Hondo and the New River. The salinity in the Bay at Sarteneja varies from 0.9 % in the rainy season to 2.2 % in the dry season.

### **BIODIVERSITY**

With the diversity of habitats, the Reserve has a very high biodiversity. The major limiting factors on the reserve are the absence of permanent fresh surface water, the absence of any variation in elevation and the pronounced dry season from the end of January to May/June.

In spite of the remoteness and the relatively pristine condition of the entire area, a few species have already become locally extinct due to human influence. These species include the Sawfish *Pristis (pectinatus?)*, the terrapin *Staurotypus triporcatus*, and the Black Howler Monkey (*Aloatta pigra*).

Although in-depth studies on the flora and fauna of the Shipstern Nature Reserve are limited, slowly identifying as many species as possible during the last five years has produced species lists that provide insight into the biodiversity of the Shipstern Nature Reserve. It is these lists presented in this document. For the flora, identification of even a small part of the enormous variety available was slow and tedious. Not being botanists, correct nomenclature here is not attempted. With the other taxa fewer problems were encountered but always our first aim was to get baseline data on paper. We leave it to others, preferably specialists, to expand our lists and to correct them where necessary.

In the faunal reports an indication of the relative abundance of each species is given. Bird species listed as "migrant" are North American migrants. Resident (Belizean) animals can be either "Common," "Uncommon" or "Rare." Species that are definitely Belizean residents but that normally do not include the Shipstern Nature Reserve area in their range are listed as "vagrants." Obviously, the notions "common," "uncommon" and "rare" are subjective concepts. In this case, "common" would mean "frequently encountered in one of the reserve's habitats while "rare" would mean "rarely encountered anywhere in the reserve." "Uncommon" would be somewhere between these two.

Although this report deals with the Shipstern Nature Reserve, the reserve is not a closed ecosystem. Listing of species is therefore not restricted to the area within the boundaries of the Shipstern Nature Reserve. Places and locations at the boundaries of the reserve, like Sarteneja, Chacan Chac Mol and Cowpen, therefore, frequently occur in the different species lists. Some effort has been made to include local names in the separate lists. Our informants were people living in Sarteneja, but since many people living in Sarteneja have Guatemalan or Creole backgrounds their nomenclature can be confusing and is not necessarily strictly Yucatec-Maya or even Spanish.



Most protected areas in Belize are hampered by a lack of knowledge of the actual biodiversity of the area. This document is probably the most extensive species listing for any single protected area in Belize and it is hoped that this document will serve as an incentive to produce similar lists for the other protected areas in Belize.

### **ACKNOWLEDGEMENTS**

This study and publication was made possible through the International Tropical Conservation Foundation in Switzerland. We want to thank C. Bijleveld, L. D. Miller, J. Y. Miller and S. R. Steinhauser for identifications and information. C. Philcox for correcting our English and B. W. Miller for final editing and preparing this document for printing. We also thank the Wildlife Conservation Society, who have supported many of our comparative field studies in other parts of Belize as part of their Maya Mountains biodiversity project.

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**PROVISIONAL ANNOTATED CHECKLIST OF THE  
FLORA OF THE SHIPSTERN NATURE RESERVE.**

**Jan C. Meerman**

*International Tropical Conservation Foundation*

The flora of the Shipstern Nature Reserve shows clear affinities with the flora of the Yucatan peninsula. Especially the dryer forest in the northeastern part of the reserve shows this clearly and is, therefore, of particular scientific interest. Several Yucatan endemics occur, some of which have never been listed from Belize before. The Western Part of the Reserve and the Shipstern area show more affinities with typical northern Belizean broad leaf forests.

This provisional checklist is divided in two parts. The first is an alphabetical listing of local names, followed by the scientific and family name. This information was provided by people living in Sarteneja, many of whom have Mexican, Guatemalan or Creole backgrounds so their nomenclature can be confusing and is not necessarily Yucatec-Maya or even Spanish in origin. The second part lists the 267 taxa identified to date, a tiny portion of the actual flora of the Shipstern Nature Reserve.

Unfortunately no herbarium voucher specimens exist for these identifications. Creating a herbarium was, considering the restraints in time and resources, out of the question.

**LOCAL NAME LISTING**

<b>Local name</b>	<b>Scientific name</b>	<b>Family</b>
Acitch	<i>Thevetia gaumeri</i>	Apocynaceae
Advocado	<i>Persea Americana</i>	Lauraceae
Aguacate	<i>Persea Americana</i>	Lauraceae
Akabxiu	<i>Blechum brownei</i>	Acanthaceae
Akits	<i>Thevetia gaumeri</i>	Apocynaceae
Almond	<i>Terminalia catappa</i>	Combretaceae
Almendra	<i>Terminalia cattapa</i>	Combretaceae
Amapa	<i>Tabebuia chrysantha</i>	Bignoniaceae
Bayal	<i>Desmonchus sp.</i>	Palmae
Basket tie-tie	<i>Desmonchus leiorhachis/schippii.</i>	Palmae
Bejuco de	<i>Petrea volubilis/arborea.</i>	Verbenaceae
Caballo		
Bejuco	<i>Climbers (non specific)</i>	
Bob	<i>Coccoloba schiedeana/belizensis</i>	Polygonaceae
Bokut	<i>Cassia grandis</i>	Caesalpinaceae
Bookut	<i>Cassia grandis</i>	Caesalpinaceae
Botan	<i>Sabal morrisiana</i>	Palmae
Botonsillo	<i>Conocarpus erecta</i>	Combretaceae
Bubble tree	<i>Jathropha gaumeri</i>	Euphorbiaceae
Bukut	<i>Cassia grandis</i>	Caesalpinaceae
Bullet tree	<i>Bucida buceras</i>	Combretaceae
Burr-Burr	<i>Cenchrus echinatus</i>	Gramineae
Buttonwood	<i>Conocarpus erecta</i>	Combretaceae
Calabash	<i>Crescentia cujete</i>	Bignoniaceae
Calbareo	<i>Chamaedorea seifrizzi</i>	Palmae
Camote	<i>Ipomoea batatas</i>	Convolvulaceae
Canelita	<i>Gymnopodium floribundum</i>	Polygoniaceae
Caoba	<i>Swietenia macrophylla</i>	Meliaceae
Capulin	<i>Tramea micrantha</i>	Ulmaceae
Caramello	Tree with bark like poisonwood. Fruit edible. Simple leaf. Identical with <i>Pouteria campechiana</i> ?	Sapotaceae?
Cat's claw	<i>Macfadyena unguis-cati</i>	Bignoniaceae
Catre	? Used for bindings in roofs.	
Catsim	<i>Mimosa hemiendyta</i>	Mimosaceae
Cedar	<i>Cedrela odorata</i>	Meliaceae

**LOCAL NAME LISTING**

<b>Local name</b>	<b>Scientific name</b>	<b>Family</b>
Cedro	<i>Cedrela odorata</i>	Meliaceae
Chacah	<i>Bursera simarouba</i>	Burseraceae
Chacnic	? Post under roof veranda HQ.	
Chactsam	<i>Rhoeo discolor</i>	Commelinaceae
Chacxiu	<i>Psittacanthus calyculatus</i>	Loranthaceae
Chaya	<i>Jathropha urens/tubulosa</i>	Euphorbiaceae
Chechem	<i>Metopium brownei</i>	Anacardiaceae
Chiceh	<i>Chrysophyllum oliviforme</i>	Sapotaceae
Chichibe	<i>Sida acuta</i>	Malvaceae
Chicken weed	<i>Chamaesyce</i> (Euphorbia) <i>prostrata</i>	Euphorbiaceae
Chicle	<i>Manilkara sapote</i>	Sapotaceae
Chicoloro	<i>Strychnos panamensis</i>	Strychnaceae
Chinanche	<i>Zanthoxylum caribaeum</i>	Rutaceae
Chit	<i>Thrinax radiata</i>	Palmae
Chuchum	<i>Pithecellobium albicans</i>	Mimosaceae
Chul	<i>Croton nivaesus</i>	Euphorbiaceae
Cibix	<i>Dalbergia glabra</i>	Fabaceae
Ciricote	<i>Cordia dodecandra/sebastena</i>	Boraginaceae
Ciruela	<i>Spondias purpurea/S.mombin</i>	Anacardiaceae
Ciruela	<i>Zizyphus jujuba</i>	Rhamnaceae
Citinche	<i>Caesalpinia gaumeri?</i>	Caesalpinaceae
Cockspur	<i>Acacia collinsii</i>	Mimosaceae
Cohune	<i>Attalea cohune</i>	Palmae
Cordoncillo	<i>Piper sp.</i>	Piperaceae
Cotton tree	<i>Ceiba pentaphylla</i>	Bombacaceae
Coyol	<i>Acrocomia mexicana</i>	Palmae
Craboo	<i>Byrsonima crassifolia</i>	Malphiaceae
Custard apple	<i>Annona reticulata</i>	Annonaceae
Cyril or Cylil	<i>Diospyros verae-crucis</i>	Diosporaceae
Ferns	See Helecho and Pino helecho	
Fiddlewood	<i>Vitex gaumeri</i>	Verbenaceae
Fig	<i>Ficus sp.</i>	Moraceae
Flor de mayo	<i>Plumeria multiflora</i>	Apocynaceae
Frijolio	<i>Cassia occidentalis</i>	Caesalpinaceae

**LOCAL NAME LISTING**

<b>Local name</b>	<b>Scientific name</b>	<b>Family</b>
Granadillo	<i>Platymiscium yucatanum</i> Tree near HQ, good polewood.	Fabaceae
Guacamayo	<i>Delonix regia</i>	Caesalpinaceae
Guanacaste	<i>Enterolobium cyclocarpum</i>	Mimosaceae
Guanawano	<i>Annona muricata</i>	Annonaceae
Guarumu	<i>Cecropia peltata</i>	Moraceae
Guaya	<i>Talisia oliviformis</i>	Sapindaceae
Guayabillo	? Tree	
Guineo	<i>Musa sapientum</i>	Musaceae.
Gumbo Limbo	<i>Bursera simarouba</i>	Burseraceae
Habim	<i>Piscidia piscipula</i>	Fabaceae
Helecho	<i>Pteridium caudatum</i>	Polypodiaceae
Henequen	<i>Agave sp.</i>	Agavaceae
Hierba mora	<i>Psychotria sp.</i>	Rubiaceae
Hulub	<i>Bravaisa tubiflora</i>	Acanthaceae
Isote	<i>Beaucarnea sp.</i>	Liliaceae
Isote	<i>Dracaena sp.</i>	Liliaceae
Iximche	<i>Andira inermis</i>	Fabaceae
Juy	<i>Casimiroa tetrameria</i>	Rutaceae
Kanche	<i>Conocarpus erecta</i>	Combretaceae
Kanelache	<i>Pithecellobium stevensonii</i>	Mimosaceae
Kanmul	<i>Bidens pilosa</i>	Compositaceae
Kapok	<i>Ceiba pentandra</i>	Bombacaceae
Katal'ox	<i>Swartzia cubensis</i>	Caesalpinaceae
Kaway	<i>Pterocarpus officinalis</i>	Fabaceae
Kineb	<i>Talisia oliviformis</i>	Sapindaceae
Kitamche	<i>Caesalpinia gaumeri</i>	Caesalpinaceae
Kouch	? Bush. Leaves have resin.	
Kuca	<i>Pseudophoenix sargentii</i>	Palmae
Kulche	<i>Cedrela odorata</i>	Meliaceae
Kunxche	<i>Calythranthes sp.?</i>	Myrtaceae
Kuun	<i>Crysophila argenta</i>	Palmae
Laba plato		Solanaceae
Laurel	<i>Nectandra sp.</i>	Lauraceae
Lime	<i>Citrus aurantifolia</i>	Rutaceae.

## LOCAL NAME LISTING

<b>Local name</b>	<b>Scientific name</b>	<b>Family</b>
Logwood	<i>Haematoxylon campechianum</i>	Caesalpinaceae
Madre cacao	<i>Gliricidia sepium</i>	Fabaceae
Mahawa	<i>Hampea trilobata</i>	Malvaceae
Mamey cerilla	<i>Lucuma campechiana</i>	Sapotaceae
Mamey	<i>Pouteria mammosa</i>	Sapotaceae
Manchich	<i>Lonchocarpus castilloi</i>	Fabaceae
Mangle colorado	<i>Rhizophora mangle</i>	Avicenniaceae
Mangle blanco	<i>Laguncularia racemosa</i>	Combretaceae
Manzanita	<i>Passiflora foetida</i>	Passifloraceae
Matapalo	<i>Ficus sp.</i>	Moraceae
Moho	<i>Hampea trilobata</i>	Malvaceae
Muc	<i>Dalbergia glabra</i>	Fabaceae
Nance	<i>Byrsonima crassifolia</i>	Malpighiaceae
Nancen	<i>Byrsonima crassifolia</i>	Malpighiaceae
Naranja	<i>Citrus sinensis</i>	Rutaceae
Naranjillo	<i>Esenbechia pentaphyla</i>	Rutaceae
Negrilo	<i>Simarouba glauca</i>	Simaroubaceae
Nictechum	<i>Plumeria multiflora</i>	Apocynaceae
Nizots	<i>Borreria verticillata</i>	Rubiaceae
Okora	<i>Hibiscus esculentus</i>	Malvaceae
Okra	<i>Hibiscus esculentus</i>	Malvaceae
Oregano del monte	<i>Lantana camara</i>	Verbenaceae
Ouarumu	<i>Cecropia peltata</i>	Moraceae
Pa Sak	<i>Simarouba glauca</i>	Simaroubaceae
Palmetto	<i>Paurotis wrightii</i>	Palmae
Palmita	<i>Zamia loddigesii</i>	Cycadaceae
Papaya	<i>Carica papaya</i>	Caricaceae
Pata de vaca	<i>Bauhinia spp.</i>	Caesalpinaceae
Payush	<i>Trema micrantha</i>	Ulmaceae
Pega pega	<i>Priva lappulacea.</i>	Verbenaceae
Pereskutch	? Leaves used in baths. Small tree.	
Pica pica	<i>Dalechampia sp.</i>	Euphorbiaceae

**LOCAL NAME LISTING**

<b>Local name</b>	<b>Scientific name</b>	<b>Family</b>
Pica pica	<i>Mucuna pruriens</i>	Fabaceae
Pignon	Tree. Large leaf, rounded but 5 pointed.	Used against sores.
Pimenta	<i>Paurotis wrightii</i>	Palmae
Pina	<i>Ananas comosus</i>	Bromeliaceae
Pine	<i>Casuarina equisetifolia</i>	Casuarinaceae
Pino helecho	Fern	Polypodaceae
Pinsil	<i>Sophora tomentosa</i>	Fabaceae
Pinuela	<i>Aechmea magdalenae</i>	Bromeliaceae
Pissa bed	<i>Cassia alata</i>	Caesalpinaceae
Pito	<i>Erythrina standleyana</i>	Fabaceae.
Pixoy	<i>Guazuma ulmifolia</i>	Sterculariaceae
Platano	<i>Musa paradisiacal</i>	Musaceae
Pochote	<i>Ceiba aesculifolia</i>	Bombacaceae
Pom	<i>Protium copal</i>	Burseraceae
Popox	<i>Tragia volubilis/yucatenensis</i>	Euphorbiaceae
Prickly yellow	<i>Zanthoxylum sp.</i>	Rutaceae
Pucte	<i>Bucida buceras</i>	Combretaceae
Puh	<i>Typha domingensis</i>	Typhaceae
Ramon	<i>Brosimum alicastrum</i>	Moraceae
Redwood	<i>Erythroxyton areolatum</i>	Erythroxyloaceae
Ruda del monte	<i>Cardiospermum sp.</i>	Sapindaceae
Ruda	<i>Ruta graveolens</i>	Rutaceae
Sac Pah	<i>Byrsonima bucidifolia</i>	Malpighiaceae
Sac Chum	<i>Dipholis salicifolia</i>	Sapotaceae
Sac Chemem	<i>Cameraria sp.</i>	Apocynaceae
Sac Chakah	<i>Dendropanax sp.</i>	Araliaceae
Sac pom	<i>Cupania dentate</i>	Sapindaceae
Salam	<i>Albizia idiopoda/Lysiloma bahamiense</i>	Mimosaceae
Santa maria	<i>Calophyllum brasilliense</i>	Guttiferaceae
Santa barbara	<i>Bombax ellipticum</i>	Bombacaceae
Sapodilla	<i>Manilkara zapota</i>	Sapotaceae
Sapote	<i>Manilkara zapota</i>	Sapotaceae
Sastab	<i>Guettarda combasii</i>	Rubiaceae

## LOCAL NAME LISTING

Local name	Scientific name	Family
Sero ak	<i>Aristolochia pilosa</i>	Aristolochiaceae
Silion	<i>Lucuma belizensis</i> (= <i>Pouteria amygdalina</i> )	Sapotaceae
Simche	<i>Pithecolobium lanceolatum</i>	Mimosaceae
Siricote	<i>Cordia</i> sp.	Boraginaceae
Soursop	<i>Annona muricata</i>	Annonaceae
Stipk'te'ak	<i>Aristolochia veracruzana</i>	Aristolochiaceae
Subin	<i>Acacia collinsii</i>	Mimosaceae
Susuk	<i>Diphysa carthaginensis</i>	Fabaceae
Taciste	<i>Paurotis wrightii</i>	Palmae
Tamay	<i>Zuelania guidonia</i>	Flacourtiaceae
Tastab	? Post under roof veranda HQ	
Tea box	<i>Myrcia cerifera</i>	Myrtaceae
Tinta	<i>Heamatoxylon campechianum</i>	Caesalpinaceae
Tubroos	<i>Enterolobium cyclocarpum</i>	Mimosaceae
Tuc	<i>Beaucarnea hameliae</i>	Liliaceae
Tuhabim	<i>Cassia emarginata</i>	Caesalpinaceae
Tulipan	<i>Hibiscus rosa-sinensis</i>	Malvaceae
Tzalam	<i>Albizia idiopoda/Lysiloma bahamiense</i>	Mimosaceae
Uva simaron	<i>Coccoloba cozumelensis</i>	Polygonaceae
Uva del mar	<i>Coccoloba uvifera</i>	Polygonaceae
Uzte	<i>Malpighia puniceifolia</i>	Malpighiaceae
Waku	<i>Aristolochia maxima</i>	Aristolochiaceae
Wanu	<i>Sabal morrisiana</i>	Palmae
Waree wood	<i>Caesalpinia gaumeri</i>	Caesalpinaceae
Warumu	<i>Cecropia peltata</i>	Moraceae
Water vine	<i>Vitis tiliifolia</i> .	Vitaceae
White Mangrove	<i>Laguncularia racemosa</i>	Combretaceae
Xaya	<i>Jatropha urens</i>	Euphorbiaceae
Xcanan	<i>Hamelia patens</i>	Rubiaceae
Xcanlol	? Showy yellow flowers	



## LOCAL NAME LISTING

Local name	Scientific name	Family
Xcansic	<i>Jaquinia aurantiaca</i>	Theophrastaceae
Xiat	<i>Chameodora sp.</i>	Palmae
Xmacolan	<i>Piper auritum</i>	Piperaceae
Xnuts	<i>Mimosa pudica</i>	Mimosaceae
Xtuab	<i>Cassia emarginata</i>	Caesalpinaceae
Yama bush	<i>Cassia occidentalis</i>	Caesalpinaceae
Yashnik	<i>Vitex gaumeri</i>	Verbenaceae
Yat	<i>Chamaedora schippii</i>	Palmae
Yaxnik	<i>Vitex gaumeri</i>	Verbenaceae
Yucca	<i>Manihot esculenta</i>	Euphorbiaceae
Zipche	<i>Bunchosia swartziana</i>	Malpighiaceae
Zizbic	<i>Vanilla fragrans</i>	Orchidaceae
Zopilote	<i>Plumeria multiflora</i>	Apocynaceae
Zubinche	<i>Platymiscium yucatanum</i>	Fabaceae

## Flora of Shipstern Nature Reserve

Species	Comments
<b>ACANTHACEAE</b>	
<i>Aphelandra sp.</i> ,	Attractive, erect, red flowering herb. Main trail.
<i>Blechum brownei</i> ,	Akabxiu. Low weed.
<i>Bravaisia tubiflora</i> ,	Hulub. Savanna Islands.
<i>Ruellia malacosperma</i> ,	HQ clearing.
<i>Ruellia nudiflora</i> ,	HQ clearing.
<b>AGAVACEAE</b>	
<i>Agave sp.</i> ,	Henequen. Common north of Lagoon.
<i>Dracaena Americana</i> ,	Collected near Chunox. May occur in reserve.
<b>ANACARDIACEAE</b>	
<i>Metopium brownei</i> ,	Chechem, Black poisonwood. Bark brown, scaly. Inner bark when cut exuding a clear yellowish acrid sap, turning black on exposure. The sap is highly caustic raising severe blisters on the skin. Wood is very hard, resistant to insect and fungus attack.

**Flora of Shipstern Nature Reserve *continued***

<b>Species</b>	<b>Comments</b>
<i>Spondias purpurea</i> ,	Ciruela. Small tree, Iguana camp. Flowers Cauliflorous, red.
<i>Spondias mombin</i>	Ciruala amarillo. Shipstern area, Common.

**ANNONACEAE**

<i>Annona Muricata</i> ,	Guanawano, Soursop. Planted.
<i>Annona reticulata</i> ,	Custard apple, Annona. Planted on HQ clearing.
<i>Guatteria amplifolia</i> ,	Flowers 3 cm broad. Pale green with 6 fleshy petals. Fruit a cluster of small oval berries on long slender red stalks. Found along maintrail, also a young but fruiting specimen near exit of botanical trail.
<i>Xylopia frutescens</i> ,	Tall but slender tree. Botanical trail.

**APOCYNACEAE**

<i>Thevetia gaumeri</i> ,	Akita. Milk is used to get insects or splinters out of the eye. Burns but cleans.
<i>Plumeria multiflora</i> ,	Flor de Mayo, Nictetchum. White flowers along Botanical Trail.
<i>Plumeria rubra</i> ,	Frangipani. Planted on HQ clearing.
<i>Allemanda violaceae</i> ,	Shrub with purple flowers. Ornamental. Planted near guesthouse.
<i>Cameraria latifolia/belizensis</i> ,	Sac chechem. Common small tree with ashy grey bark. Along Botanical trail. Leaves small, short stalked. Flower terminal, small, white. Plant with latex reported to be extremely poisonous.
<i>Catharanthus roseus</i> ,	Herbaceous shrub. Ornamental with white or pink flowers. Planted on HQ clearing.
<i>Mandevilla sp.</i> ,	Slender vine. Orange flowers.
<i>Prestonia mexicana</i> ,	Leaves oposite, large, densely pubescent. Flowers creamy yellow, salverform. Woody vine.
<i>Lacmellea edulis(?)</i> ,	Handsome bush common on the milpa. Leaves leathery and glabrous, 12 cm long. Flowers white to yellowish in flat axillary cymes.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Odontadenia hoffmannseggiana</i>	Large glabrous woody vine; leaves opposite, short stalked, large, oblong to elliptic. Flowers in May. Large, funnellform, bright yellow, in large terminal or axillary cymes.
<i>Rhabdadenia paludosa</i> ,	White fowered climber at edge of forest and savannah.
<b>ARACEAE</b>	
<i>Philodendron sp.</i> ,	Possibly several species occur.
<b>ARALIACEAE</b>	
<i>Dendropanax sp.</i> ,	Sac Chacah. Tree, Main Trail.
<b>ARISTOLOCHIACEAE</b>	
<i>Aristolochia maxima</i> ,	Waku. Leaf oblong, flower small. Relatively common. Main trail.
<i>Aristolochia veracruzana</i> ,	Sero Ak, Stipk'te'ak, Leaf oblong, slightly velvety. Main trail. Root used in medicin against stomach ache.
<b>ASCLEPIACEAE</b>	
<i>Asclepias currasavica</i> ,	Disturbed areas, roadside, HQ.
<i>Sarcostemma glauca(?)</i> ,	White vine. Creeping and climbing succulent vine. HQ clearing.
<b>AVICENNIACEAE</b>	
<i>Avicennia germinans</i> ,	Black Mangrove. Common.
<b>BATACEAE</b>	
<i>Batis maritima</i> ,	Saltworth. Herb in the savannah. Aromatic fleshy leaves.
<b>BIGNONIACEAE</b>	
<i>Crescentia cujete</i> ,	Calabash. Wet places in Forest.
<i>Arrabidaea lundellii</i> ,	Vine, leaflets 2-3. Flowers purple.
<i>Macfadyena unguis-cati</i> ,	Cat's claw, Blossoms in may. Yellow flowers. Tendrils are clawed.

**Flora of Shipstern Nature Reserve *continued***

<b>Species</b>	<b>Comments</b>
<i>Tabebuia chrysantha</i> ,	Amapa. Tree with spectacular yellow flowers. Dry season on bare branches. Flowers in bursts a few days after some rain.
<b>BOMBACACEAE</b>	
<i>Bombax ellipticum</i> ,	Santa Barbara. Near Xcopen.
<i>Ceiba aesculifolia</i> ,	Pochote. Tree armed with large conical spines.
<i>Ceiba pentandra</i> ,	Ceiba. Cotton Tree. Shipstern area, planted on HQ clearing.
<b>BORAGINACEAE</b>	
<i>Cordia dodecandra</i> ,	Ciricote. Valuable hardwood. Orange flowers in dry season. Deciduous.
<i>Cordia sebestena</i> ,	Ciricote. Small tree along seashore. Flowers year round.
<b>BROMELIACEAE</b>	
<i>Aechmea spec.</i> ,	Large redflowering Bromeliad in trees.
<i>Aechmea magdalenae</i> ,	Wild pineapple, Pinuela. Terrestrial Bromeliad with edible fruits.
<i>Ananas comosus</i> ,	Pina. Cultivated, persisting along Main trail.
<i>Tillandsia sp.</i> ,	Several species in forest and along Lagoons.
<b>BURSERACEAE</b>	
<i>Bursera simarouba</i> ,	Chacah, Gumbo limbo. Outer bark red brown, papery, peeling of in thin shreds. Poles used for living fence posts. Bark boiled and used as a treatment against Black poisonwood (Chechem) burns.
<i>Protium copal</i> ,	Pom. Shipstern.
<b>CACTACEAE</b>	
<i>Cereus pentagonus</i> ,	Climbing, vinelike cactus with 3-5 angled stems. Climbs in mangrove etc. Flowers very large, creamy white, fragrant. Fruit large, red, edible.
<i>Selenicereus sp.</i> ,	Several species of climbing cactus occur. Especially on savanna hammocks.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<b>CAESALPINACEAE</b>	
<i>Bauhinia divaricata</i> ,	Pata de vaca. Shrub common along the roadside. Leaves bilobed to the middle. Flowers white with long, narrow petals.
<i>Bauhinia glabra</i> ,	Pata de vaca. Massive climber. Leaves bilobed more or less to the middle. More rounded than in <i>divaricata</i> . Yellow flowers at the change of the year. Found along western survey line.
<i>Bauhinia jenningsii</i> ,	Pata de Vaca. Red flowering erect treelet. Leaves entire.
<i>Caesalpinia gaumeri</i> ,	Waree Wood, Kitamche. Common tree on the reserve. Bole typically fluted. Seems to consist out of several stems. Leaves when crushed emit a unpleasant smell similar to that of the Waree (White lipped peccary). Wood extremely hard and durable. Used for posts etc.
<i>Cassia emarginata</i> ,	Tuhabim, Xtuaab. Tree, leaflets few.
<i>Cassia grandis</i> ,	Bokut. Large tree, Flowers pink. Tea from leaves activates the kidneys. Against blood poisoning. Shipstern, Iguana Camp. Planted on HQ clearing.
<i>Cassia leiophylla</i> ,	A coarse, erect shrub, sometimes shrubby but often annual. Leaves with glands between the leaflets. Leaflets 3-6 pair. Pubescent beneath, Oblancoate, apiculate at apex. Flowers small. Pods narrow, 4 mm wide.
<i>Cassia undulata</i> ,	Bush. Leaflets in two pairs. Flowers large, yellow. Seedpods round, very long. Along road.
<i>Cassia occidentalis</i> ,	Frijolio, Yama bush. Herb.
<i>Cassia stenocarpa</i> ,	Annual herb. Leaflets thin, many, but usually less than 20 pairs. Common on the clearing.
<i>Cassia (Pseudocassia) petensis</i> ,	Bush with climbing braches. Branches armed with pairs of stout, curved prickles. Leaflets 3 or 4 pair, oblong-elliptic, obtuse, densely pubescent beneath. Flowers yellow, in short, dense racemes. Pods long and narrow, compressed, as much as 30 cm long and 1.5 cm wide. Found along the road.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Haematoxylon campechianum</i> ,	Tinta, Logwood. Occurs along Chacan chac mol and western surveyline.

*Swartzia cubensis*, Katal'ox. Rachis of the leaf very narrowly winged. Seeds in fleshy substance. 2 or 3 seeds per pod. Common tree.

CANNACEAE

*Canna indica*, Platanillo. Shipstern area, indicator of abandoned Milpa's.

CARICACEAE

*Carica papaya*, Papaya. Cultivated fruit. Established all over the area.

CASUARINACEAE

*Casuarina equisetifolia*, Pine. Tree along the seashore. Australian immigrant.

CHENOPODIACEAE

*Salicornia virginica*, Glassworth, herb on savannah.

CHRYSOBALANACEAE

*Chrysobalanus icaco*, Hicaca. Coastal.

CLUSIACEAE

*Clusia sp.*, One specimen found in 1993 near Xcopen. Definitely uncommon.

COMBRETACEAE

*Bucida buceras*, Pucte, Bullet tree. Bark grey to black, scaly. Branchlets with terminal spines. Leaves crowded at the ends of branchlets. Along Botanical trail. Very hard timber.

*Laguncularia racemosa*, White mangrove. Mangle blanco. Common.  
*Terminalia catappa*, Almond. Almendra. Tree on clearing, Planted.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Conocarpus erecta</i> ,	Botonsillo, buttonwood. Common on Savanna.
<b>COMMELINACEAE</b>	
<i>Callisia repens</i> ,	Small weed, HQ.
<i>Commelina elegans</i> (?),	Small weed, HQ.
<i>Rhoeo discolor</i> ,	Chactsam. Herb in undergrowth. Rocky spots.
<b>COMPOSITAE</b>	
<i>Ageratum conyzoides</i> (?),	Common blue flowered weed in plant beds.
<i>Mikania cordifolia</i> ,	Somewhat woody vine, White flowered, early in the year. Identified from the reserve.
<i>Bidens pilosa</i> ,	Kanmul.
<i>Bidens squarrosa</i> ,	Abundent creeper/climber with yellow flowers around the change of the year. a weed on and around the HQ clearing.
<i>Eupatorium odoratum</i> ,	White flowered herb. Attractive to butterflies.
<b>CONVOLVULACEAE</b>	
<i>Ipomoea alba</i> ,	Coastal.
<i>Ipomoea sinuate</i> ,	White flowered weed. Leaf cut into 7toothed segments. Main trail.
<i>Ipomoea batatas</i> ,	Camote. Sweet potato. Cultivated.
<i>Ipomoea violacea</i> ,	Coastal. Xcopen.
<i>Quamoclit coccinea</i> ,	Small, attractive red flowers. Near the village.
<b>CYCADACEAE</b>	
<i>Zamia loddigesii</i> (now <i>Z. polymorpha</i> )	Palmita. Cycad of the forest undergrowth. Relatively common. Root poisonous.
<b>CYPERACEAE</b>	
<i>Cyperus sp.</i> ,	In pond HQ.
<i>Eleocharis geniculata</i> ,	In pond HQ.
<i>Scleria bracteata</i> ,	Saw grass. On Savanna.
<b>EBENACEAE</b>	
<i>Diospyros verae-crucis</i> ,	Cylil, Cyril. Fruiting tree. Soft wood, firewood, burns long and hot. Fruit in dry season 2 cm., edible.

**Flora of Shipstern Nature Reserve** *continued*

**Species**

**Comments**

**ERYTHROXYLACEAE**

*Erythroxylon areolatum*, Redwood. Faint band bordering midvein of each leaf. Fine specimen close to veranda of guesthouse. Best stand is around Botanical trail pond.

**EUPHORBIACEAE**

*Chamaesyce prostrata*, Chicken weed. Small flat herb. Other *C.* species occur.

*Croton niveus*, Chul. Small tree. Leaves alternate, ovate, acute to mucronate. Cordate at base. Leaf appears glabrous but is covered with minute silvery scales. Flowers white, racemose, the pistillate below, the staminate above. Fruit a three lobed capsule. Very common around the clearing. Flowers attractive to butterflies like Adelpha and Marpesia.

*Croton humilis*, A low aromatic shrub, densely stellate pubescent, leaves ovate to lanceolate, obtuse to rounded at the base. Flowers slender pedicelled, in lax and interrupted racemes.

*Croton pyramidalis*, Shrub. Leaves lanceolate, acuminate, long petioled. Densely pubescent. Flowers white, in long racemes. Fruit a three lobed capsule. Flowers attractive to butterflies. Common on open, dryer places in the reserve. Also around the clearing.

*Dalechampia triphylla*, Climber with three lobed, urticating leaves. Also an entire leafed species with less stinging hairs.

*Jathropa gaumeri*, Bubble tree. Common near botanical trail.

*Jathropa urens/tubulosa*, Chaya, Xaia. Common weed on clearings. Extremely painful stings. Excellent butterfly nectar/pollen plant.

*Manihot esculanta*, Yucca, maniok. Planted on Main trail.

*Plukenetia angustifolia*, Slender woody vine.

*Poinsettia cyathophora*, Weed on HQ clearing.

*Tragia vol yucatenensis*, Popox. Urticaceous herb.



**Flora of Shipstern Nature Reserve *continued***

Species	Comments
FABACEAE	
<i>Andira inermis</i> ,	Iximche. Tree, leaves pinnate, the leaflets opposite, 7-13, oblong, acuminate, glabrous, flowers purple. Supposed to occur along Main trail.
<i>Dalbergia glabra</i> ,	Cibix. Shrub, branches long and trailing. Habitus a bit like <i>Machaerium</i> but lacking prickles. Leaflets few, number uneven, alternate, less than 2.5 cm long, rounded at the apex. Flowers small, white, fragrant, in short axillary panicles. Pods 1 seeded.
<i>Desmodium sp.</i> ,	Weed with the familiar flat, sticky seeds.
<i>Diphysa carthaginensis</i> ,	Susuk. Yellow flowers. Very hard wood, usefull for posts, durable in contact with the soil. Two specimens on the HQ clearing.
<i>Erythrina standleyana</i> ,	Pito. Small, spiny tree, Red flowers.
<i>Gliricidia sepium</i> ,	Madre cacao. Living fence posts. Wood durable in contact with the ground.
<i>Lonchocarpus castilloi</i> ,	Manchich, black cabbage bark. Wood used for houseposts and construction.
<i>Machaerium sp.</i> ,	Woody vine. Characterised by spiny stipules. Possibly two species in the reserve. Small leaved form common along Main trail. Larger leaved form close to exit Botanical trail.
<i>Mucuna pruriens</i> ,	Annual climber with highly urticating seedpods. Shipstern.
<i>Piscidia piscipula</i> ,	Habim. Hardwood tree. Leaves used to poison fish. Flowers in may on the onset of the rainy season. For the ancient maya, the flowering of the Habim was the signal to start planting and seeding. Wood used for keel and bow of boats. Fairly large tree on the HQ clearing.
<i>Pterocarpus officinalis</i> ,	Kaway. Tree, thin buttresses. Sap red. Planted near HQ pond, occuring naturally in the area?
<i>Sesbania emerus</i> ,	Tall, annual herb. Grew once on the clearing but disappeared.
<i>Sophora tomentosa</i> ,	Pinsil. Yellow flowering shrub along shore. Leaves pubesent.

**Flora of Shipstern Nature Reserve** *continued*

Species	Comments
<b>FLACOURTIACEAE</b>	
<i>Zuelania guidonia</i> ,	Tamay. Tall tree along orchid trail. Leaves 15-25 cm long, narrowly oblong. Wood yellow, not utilized.
<b>GRAMINEAE</b>	
<i>Cenchrus sp.</i> ,	Burr burr. On forest clearings.
<i>Distichlis spicata</i> ,	Grass growing along the lagoon edges.
<i>Lasiasis ruscifolia</i> ,	Main trail.
<i>Spartina spartinae</i> ,	Swordgrass, Savanna.
<b>GUTTIFERAE</b>	
<i>Calophyllum brasiliense</i> ,	Santa Maria. Bark grey with yellowish blotches. Wood is durable but has a strong tendency to twist. Widely utilized. Main trail.
<b>HIPPOCRATAACEAE</b>	
<i>Hemiangium excelsum</i> ,	Tree with large leaves.
<b>LAURACEAE</b>	
<i>Nectandra sp.</i> ,	Laurel. Common shrub
<i>Persea americana</i> ,	Aguacate, Advocado. Shipstern.
<b>LILIACEAE</b>	
<i>Beaucarnea hameliae</i> ,	Tuc. Not in any list. But seems positive. Yucatan endemic. First listing for Belize. Some Agavaceae occur as well. also listed as Tuc. <i>Yucca elephantides</i> (Agavaceae) and <i>Dracaena americana</i> (Agavaceae). In the forest a true Agave ( <i>Agave</i> sp.) can be found.
<i>Hymenocallis latifolia</i> ,	Spider lily, Seashore. White flowers.
<i>Sanseveria trifasciata</i> ,	Established on burrial grounds near Iguana Camp.
<b>LOGANIACEAE</b>	
<i>Strychnos panamensis</i> ,	Chicoloro. Climber with edible fruits. Near pond. Name means "small parrot". Poisonous. Is used for many medicinal purposes.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<b>LORANTHACEAE</b>	
<i>Phoradendron robustissimum</i> ,	Mistletoe with very small green flowers. One near exit botanical trail.
<i>Psittacanthus calyculatus</i> ,	Chacxiu. Showy red flowers at the end of the year. Fruit a black berry. In the crown of trees. A few in Ficus sp. on the clearing.
<b>MALPIGHIACEAE</b>	
<i>Heteropteris platyptera</i> ,	Climber. Opposite lanceolate leaves. Flowers yellow, small. Seeds ornamental with red tipped wings. Specimen in road edge.
<i>Bunchosia swartziana</i> ,	Zipche. Shrub along Botanical Trail.
<i>Byrsonima bucidifolia</i> ,	Sac Pah. Bush, small tree on HQ and HQ-forest. Leaves rounded at apex, Obovate to wedge (spatulate) shaped. Fruit white, edible.
<i>Byrsonima crassifolia</i> ,	Craboo, Nancen. Tree or bush with large oblong to obovate leaves. Acute to nearly rounded. Showy flowers, start yellow, turn red. Much appreciated yellow fruits. Several on and around HQ clearing
<i>Malpighia puniceifolia</i> ,	Uzte. Shrub with pink flowers. Leaves oblong to obovate. Fruit edible but with a few needle like hairs that cause intense irritation if they penetrate the skin.
<i>Tetrapteris schiedeana</i> (?),	Vine with small (8mm across) yellow flowers in axillary cymes. Fruit of three 4-winged samaras. Leaves opposite, elliptic, acute to acuminate, short petioled without stipules. Identification uncertain, description in Flora of BH does not completely fit above description but is the nearest available. Vine very common around the clearing. Several other Malpighiaceae vines occur.
<b>MALVACEAE</b>	
<i>Gossypium hirsutum</i> ,	Wild cotton. Coastal plant. Iguana Camp.
<i>Hampea euryphylla</i> ,	Savanna Islands.
<i>Hampea trilobata</i> ,	Mahawa. Moho. Shrub along clearing

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Hibiscus clypeatus</i> ,	Shrub with large flowers. Attracts Hummingbirds. Main trail. First record for Belize.
<i>Hibiscus esculentus</i> ,	Okora, Okra. Cultivated.
<i>Malvaviscus arboreus/brevibracteatus</i> ,	Shrub with red flowers. Flowers attract hummingbirds. Orange or red fruits are eaten by Orioles and other birds.
<i>Sida acuta</i> ,	Chichibe. Small herb.
<b>MELIACEAE</b>	
<i>Cedrela odorata</i> ,	Cedro, Kulche. Bark boiled for 10 minutes and drunken warm for all coughs and colds. Shipstern.
<i>Swietenia macrophylla</i> ,	Caoba, Mahogany. Main trail, Common.
<b>MENISPERMACEAE</b>	
<i>Cissampelos pareira</i> ,	Small vine, green flowers.
<i>Hyperbaena winzerlingii</i> ,	Tree with leathery " <i>Ilex</i> "-like leaves.
<b>MIMOSACEAE</b>	
<i>Acacia collinsii</i> ,	Subin, Bullhorn acacia. Tree with fierce, paired, inflated, hollow spines, somewhat united at base. Flowers in short dense spikes. Common throughout the reserve. Do not confuse with <i>A.cookii</i> .
<i>Acacia dolichostachya</i> ,	Small unarmed tree, leaves bipinnate, leaflets very (more than 50 pairs) numerous, small (3-4 mm). Flowers in may, creamy in dense spikes of 3-7 cm long, strongly smelling of Coumarin. Pods flat, thin. Found along the road.
<i>Albizia idiopoda</i> ,	Salam. Common tree on clearing and along road. Wood soft and not durable. Possibly <i>Lysiloma bahamiense</i> ?
<i>Enterolobium cyclocarpum</i> ,	Guanacaste, Tubroos. Fruit a broad flat, shiny dark-brown pod coiled into an almost complete circle with undulate margins. Pods are eaten by wildlife. The chief use for the wood is for the manufacture of dugout canoes. Common in the Shipstern area.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Leucaena leucocephala</i> , <i>Mimosa hemiendyta</i> ,	Common, secondary growth. Catsim. Tree, armed with rather few prickles; leaflets numerous, 4-5 mm long, glabrate; flowers pink, in paniced heads. HQ Clearing.
<i>Mimosa pudica</i> ,	Xmuts, Dormilona. Entire plant made into a tea against irritability. Common weed on clearings.
<i>Pithecellobium albicans</i> ,	Chucum. Supposed to occur along Botanical trail.
<i>Pithecellobium erythrocarpum</i> ,	Pinae 3 pairs, leaflets aprox. 10 pair. Red twisted seedpod. Main trail.
<i>Pithecellobium lanceolatum</i> ,	Simche. Spiny shrub, leaflets 4, leathery. Flowers white in short dense spikes. A <i>Pithecolobium</i> closely fitting the description of this species, found along the road.
<i>Pithecellobium stevensonii</i> ,	Kanelache. Leaves and leaflets very uneven in size. Cauliflorous.
<b>MORACEAE</b>	
<i>Brosimum alicastrum</i> ,	Ramon, Breadnut. Thin and low buttressed tree. Bark smooth, greenish-grey, containing white latex. Fruit a globose, fleshy receptacle, 6 cm, containing a large greenish-brown edible seed. The branches are lopped for fodder. Fruit much appreciated by Peccaries. Tree used to be protected as a source of fodder (Chicleros). Maintrail.
<i>Cecropia peltata</i> ,	Warumu, Guarumu, Trumpet tree. Common tree in secondary growth. Seperate male and female plants. Fruits nearly the whole year and the fruits are a favoured food for fruit-eating bats, Toucans and Woodpeckers. Male flowers attract large numbers of bees. Very common around the HQ clearing.
<i>Chorophora sp.</i> ,	Very variable leaves entire or pinnasect. Rough surface. Very conspicuous. Main trail.
<i>Ficus hemsleyana</i> ,	HQ Clearing.

**Flora of Shipstern Nature Reserve *continued***

<b>Species</b>	<b>Comments</b>
<i>Ficus laevigata</i> ,	Fig, along Botanical trail.
<i>Ficus lapathifolia</i> ,	Matapalo. Botanical trail
<i>Ficus ovalis</i> ,	Common on clearing. Recognised by long petioles.
<i>Ficus popenoei(?)</i> ,	One very small stunted plant found near entrance of loop-trail. Leaves multishaped, very hairy on both sides.
<i>Ficus sp.</i> ,	Species with narrow leaves. Keys out to laevigata but colour of fruit is wrong.
<i>Ficus sp.</i> ,	Similar to ovalis but probably diferent. On HQ Clearing.
<i>Ficus sp.</i> ,	Showy plant with large leaves. Entrance of clearing. As yet unidentified.
 <b>MUSACEAE</b>	
<i>Musa acuminata</i> ,	Guineo, Banana. Main trail.
<i>Musa paradisiaca</i> ,	Platano, Plantain. Main Trail.
 <b>MYRICACEAE</b>	
<i>Myrica cerifera</i> ,	Tea box. Supposed to occur along the margin of the savanna and forest in Littoral swamp.
 <b>MYRTACEAE</b>	
<i>Calyptranthes sp.</i> ,	Kunxche. Shrubs near Botanical trail pond. Fruits with strong, pleasant, smell.
<i>Eugenia sp.</i> ,	Tree with peeling, pale bark.
<i>Pimenta officinalis</i> ,	Pimenta. Tree with scaling bark. Very strong smelling leaves. Shipstern area.
<i>Psidium guajava</i> ,	Guava. Probably naturalized.
 <b>NYCTAGINACEAE</b>	
<i>Boerhavia caribaea</i> ,	Weed in plantbeds HQ clearing.
 <b>OCHNACEAE</b>	
<i>Ouratea (pyramidalis?)</i> ,	Along Botanical trail. Curious fruits.
 <b>OLACACEAE</b>	
<i>Ximenia americana</i> ,	Coastal savanna. Spiny shrub.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<b>ORCHIDACEAE</b>	
<i>Brassavola nodosa</i> ,	White flowers, fleshy, linear leaves. Swampy areas. Nov- Dec.
<i>Catasetum integerrimum</i> ,	Common in Chit palms.
<i>Epidendrum boothianum</i> ,	Common. Buttonlike pseudobulbs. Sept-Nov.
<i>Epidendrum nocturnum</i> ,	Spiderlike, green/white flowers Sept-Dec. Mangrove swamps.
<i>Habenaria sp.</i> ,	Terrestrial orchid. Lagoon trail, Nov.
<i>Myrmecophilla tibicinis</i> ,	Large pseudobulbs. Extremely long flowerstalk. May. Lagoons, Savanna.
<i>Oncidium ascendens</i> ,	Rat-tail orchid. Common.
<i>Oncidium sphecelatum</i> ,	Golden shower orchid. Common. December. One found along Botanical trail.
<i>Polystachia derea</i> ,	Common. Small with tiny flowers Oct-Dec.
<i>Psymorchis pusilla</i> ,	Dwarf fan orchid. Single, yellow flower.
<i>Vanilla fragrans</i> ,	Zizbic. Not uncommon in the forest. Terrestrial but climbs into trees.
<b>PALMAE</b>	
<i>Acrocomia mexicana</i> ,	Coyol, Spiny palm. Shipstern area only.
<i>Attalea cohune</i> ,	Cohune, Corozal. Only near Shipstern village.
<i>Chamaedorea seifrizii</i> ,	Calbareo, Yat, Xiat. Low, slender palm with reed-like stem. Leaves pinasect, scattered along the stem. Young specimen at the edge of the Botanical trail pond.
<i>Coccothrinax readii</i> ,	Nakax. Palm with leaves like Chit. Stem more slender. Flowers below the leaves. Yucatan endemic. Expected.
<i>Cocos nucifera</i> ,	Coconut. Planted and naturalized.
<i>Cryosophila argenta</i> ,	Kuun. Give and take palm. Shipstern area.
<i>Desmonchus leiorrhachis/schippii</i> ,	Bayal. Rotan like palm with nasty hooks and spines.
<i>Paurotis wrightii</i> ,	Taciste, Tasiste, Pimenta. Palm used for housing. Common on swampy places (not in salt water). Hardly any untouched stands remain around Sarteneja. Nice small stand on the edge of the Botanical trail pond.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Pseudophoenix sargentii</i> ,	Kuka, Kuca, Palmita. Palm common behind HQ. Resembles small royal palm. Yucatan endemic. First record for Belize.
<i>Sabal morrisiana</i> ,	Botan. Palm used for thatching. Young form is called Wanu. <i>Sabal yapa</i> is expected in the area but not confirmed
<i>Thrinax radiata</i> ,	Chit. Fan palm with smooth stem and conspicuous outgrowth at base of trunk. Tolerates saline water. Forest and Savanna.
<b>PAPAVERACEAE</b>	
<i>Argemone mexicana</i> .	Found in 1993 near Xcopen.
<b>PASSIFLORACEAE</b>	
<i>Passiflora biflora</i> ,	Common, slender vine.
<i>Passiflora foetida</i> var. <i>nicaraguensis</i> ,	Manzanita. Dog-faced leaf (trilobed). Common on clearing and savanna.
<i>Passiflora rovirosae</i> ,	Near Shipstern Village.
<i>Passiflora serratifolia</i> ,	Simple leaf. Common along main-trail.
<i>Passiflora xiikzodz</i> ,	Bat-wing passionflower. Common. Yucatan endemic.
<b>PHYTOLACACEAE</b>	
<i>Rivina humilis</i> (?),	Found in 1993 near Xcopen.
<b>PIPERACEAE</b>	
<i>Piper atrichopus</i> (?),	Cordonsillo. Common
<i>Piper auritum</i> ,	Xmacolan. Occurs in Sarteneja.
<b>POLYGONACEAE</b>	
<i>Coccoloba acapulcensis</i> ,	Common treelet. Leaves very typical with petiole within the leaf-blade.
<i>Coccoloba belizensis</i> ,	Leaves huge. Near Main trail and Xcopen.



**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Coccoloba cozumelensis</i> ,	Uva simaron. Botanical trail.
<i>Coccoloba reflexiflora</i> ,	Found along road, flowering in August.
<i>Coccoloba shiedeana</i> ,	Bob. Large tree, big leaves.
<i>Coccoloba uvifera</i> ,	Sea Grape, Uva del mar. Along seashore.
<i>Coccoloba sp.</i> ,	Thin, wrinkly round leaves. Common.
<i>Gymnopodium floribundum</i> ,	Canelita. Dense shrub, branches scratching but not really spini. Leaves small, obovate, rounded at the apex. Glabrous. Flowers in racemes, yellow. Fruit within the three dried sepals. Botanical trail.
<b>POLYPODIACEAE</b>	
<i>Acrostichum aureum</i> ,	Mangrove fern, In fresh water mangrove. Rare in reserve.
<i>Adiantum sp.</i> ,	Fern, mainly on ruins.
<i>Microframmania nitida</i> ,	One in Ficus on HQ. Climbing fern.
<i>Pteridium caudatum</i> ,	Bracken fern. Helecho.
<b>RHAMNACEAE</b>	
<i>Zizyphus jujuba</i> ,	Ciruela. Old world species. Established on the HQ clearing. A spiny shrub with three nerved leaves. Fruit yellow to orange when ripe. Generally eaten while not quite ripe. Sour but very popular.
<b>RHIZOPHORACEAE</b>	
<i>Cassipourea guianensis</i> ,	Main trail.
<i>Rhizophora mangle</i> ,	Mangle colorado. Common on savanna and in lagoons.
<b>RUBIACEAE</b>	
<i>Borreria verticillata</i> ,	Nizots. Common weed on HQ and trails.
<i>Guettarda combsii</i> ,	Sastab. Tree. Bark thin, greenish grey, scaling of in small conchoidal sections, recalling the appearance of chipped glass. Botanical trail.
<i>Hamelia patens</i> ,	Xcanan, Firebush.

**Flora of Shipstern Nature Reserve *continued***

<b>Species</b>	<b>Comments</b>
<i>Morinda royoc</i> ,	Small shrub, more or less scandent. Flowers white in dense stalked heads. Fruit conspicuous; a fleshy globose syncarp.
<i>Psychotria sp.</i> ,	Hierba mora. Leaves opposite, entire with serrated edges. Bunches of small white flowers at the end of the shoot. Several species. Common on main trail.
<b>RUTACEAE</b>	
<i>Citrus aurantifolia</i> ,	Rutaceae. Lime. Persisting on old habitation sites.
<i>Esenbechia pentaphyla</i> ,	Naranjillo. Slender tree. Provides long, thin poles that do not rot in contact with soil.
<i>Zanthoxylum caribaeum</i> ,	Chinanche. Spiny stems and leaves. Spines are used in medicine. To relieve headaches etc. (to let out "air").
<b>SAPINDACEAE</b>	
<i>Cardiospermum sp.</i> ,	Ruda del monte. Slender climber with pinnate, nearly fern like leaves. Petioles remarkably widened.
<i>Talisia oliviformis</i> ,	Kineb, Guaya. Tree, Leaves compound with four leaflets. Fruit 2-3 cm with a large stone and thin orange-colored juicy pulp. Often planted for its fruit. Botanical trail, Iguana camp.
<i>Cupania dentata</i> ,	Sac pom. Small tree, leaves alternate, large, pinnate, flowers small, whitish. Main Trail, Iguana Camp.
<i>Serjania yucatenensis</i> ,	Woody vine, Leaf composed of 3 leaflets. Crenate-serrate or entire, glabrous. Flowers small, whitish, in short elongate racemes; fruit composed of 3 winged seeds. Seed in the apex. Very comon.
<b>SAPOTACEAE</b>	
<i>Dipholis salicifolia</i> ,	Sac Chum.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
<i>Manilkara zapota</i> ,	Sapodilla. Chicle. Sapote. Bark thick, grey, deeply fissured. Exuding white latex when cut. Fruit brown, ovoid or globose. 5 cm in diameter containing 2-5 black seeds embedded in yellowish-brown flesh, which is highly palatable. The latex is the source of Chicle gum. The wood has a high resistance to insect and fungus attack. Very lasting in contact with the ground. Used for house-posts, beams etc.
<i>Pouteria mammosa</i> ,	Mamey. Buttressed tree, Bark grey to brown, longitudinally fissured with white latex. Flowers small, yellowish white borne in small clusters at the end of the branchlets. Fruit large ovoid or globose with pink to reddish flesh. Seed single, large. On Shipstern clearing.
<i>Chrysophyllum oliviforme</i> ,	Chicheh. Tree or bush. Leaves glabrous above. Beneath covered with redish brown to grey hairs. Fruit black, oblong or ellipsoid, 1.5 cm long. 1-seeded. Seed looks as if the top has been chewed of. Fruit appreciated both by humans and by animals. Comon main trail.
<i>Lucuma belizensis</i> (= <i>Pouteria amygdalina</i> ),	Silion. Possibly occurs in our parts. Tree with milky latex. Timber of sapodilla quallity. Leaves short stalked, epilptic oblong. 6-8 cm long, acute, at the base acute or acutish, glabrous in age.
<i>Lucuma (Pouteria) campechiana</i> ,	Mamey cerilla, Kanizte (?). Tree with large simple leaves. Veins conspicuous.
<b>SIMAROUBACEAE</b>	
<i>Simarouba glauca</i> ,	Negrilo, Pa Sak. Bark grey, smooth, inner bark bitter to taste. Leaves leathery, dark glabrous green above, pale glaucous gray green below. Tree seldom attains large dimmensions. Bark and root used against dysentery and diarrhoea.
<b>SMILACACEAE</b>	
<i>Smilax sp.</i> ,	Smilacaceae. Several species occur.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
SOLANACEAE	Various species occur.
STERCULARIACEAE	
<i>Helicteres guazumifolia</i> ,	Shrub with conspicuous twisted seedpod. Common in the reserve.
<i>Guazuma ulmifolia</i> ,	Pixoy, Bay cedar. Common tree with Ulmus like leaves. Shipstern.
THEOPHRASTACEAE	
<i>Jacquinia aurantiaca</i> ,	Xcansic. Common shrub with leathery leaves that have a spiny apex. Small ornage fruits.
TURNERACEAE	
<i>Turnera ulmifolia</i> ,	Herb with yellow flowers. HQ clearing.
TYPHACEAE	
<i>Typha domingensis</i> ,	Puh, Matras. Botanical trail pond.
ULMACEAE	
<i>Trema micrantha</i> ,	Payush. Common bush in secondary growth.
URTICACEAE	
<i>Pilea microphylla</i> ,	Weed on HQ clearing.
VERBENACEAE	
<i>Lantana camara</i> ,	Oregano del monte. Common small bush, attractive to butterflies.
<i>Petrea volubilis</i> ,	Bejuco de caballo. Climber with spectacular blue flowers. Comon along the road and the main trail.
<i>Priva lappulacea</i> ,	Pega pega. Weed in cleared areas.
<i>Stachytarpheta jamaicensis</i> ,	Blue flowered herb on clearing.
<i>Stachytarpheta</i> sp.,	Red flowered species on open, wet spots.
<i>Vitex gaumeri</i> ,	Yaxnik. Tree with large, opposite, palmate leaves, densely tomentose. Flowers small, in large panicles, greyish-blue. Common around the HQ clearing.

**Flora of Shipstern Nature Reserve *continued***

Species	Comments
VIOLACEAE	
<i>Rinorea</i> sp.,	Shrub. Leaves opposite, entire. Petiole short. No special features. Flowers a bit like heather.
VITACEAE	
<i>Cissus gossypifolia</i> ,	Common vine. Flower umbels flaming red.
<i>Vitis tiliifolia</i> ,	Water vine. Cut above and then below. Fresh water drips out. Common in the forest.

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## **CHECKLIST OF THE BUTTERFLIES OF THE SHIPSTERN NATURE RESERVE**

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The Butterfly fauna of the Shipstern Nature Reserve is well known and has focussed mainly on the three "big" families Papilionidae, Pieridae and Nymphalidae, started in January 1989 and has been consistent since. Data were gathered using the obvious butterfly net, butterfly traps baited with rotting fruit, Malaise traps and visual surveys. The Lycaenidae, Riodinidae and Hesperidae in this list are not annotated as they received little attention during this study we know virtually nothing about their status.

Currently 122 species of Papilionidae, Pieridae and Nymphalidae are known from the Shipstern Nature Reserve. An additional 2 species are known only from Sarteneja but may eventually turn up in the Reserve and are therefore included in the list. Additionally 21 species of Lycaenidae, 17 species of Riodinidae and 51 species of Hesperidae have been identified up to now, bringing the total for the reserve to 212 species. But since many specimens of the last three families as yet remain unidentified, this number has the potential to increase to nearly 300 species once more work has been done on these three families.

Records gathered during the sample period indicate considerable fluctuations in species richness throughout the year (fig 1.). Richest in species are the end of the rainy season/beginning dry season and the "small" dry season in August.

Conspicuously absent from the Reserve are the Ithomiinae (Nymphalidae) butterflies. These typical Neotropical forest butterflies probably require moister conditions that are available in the Reserve. One species,

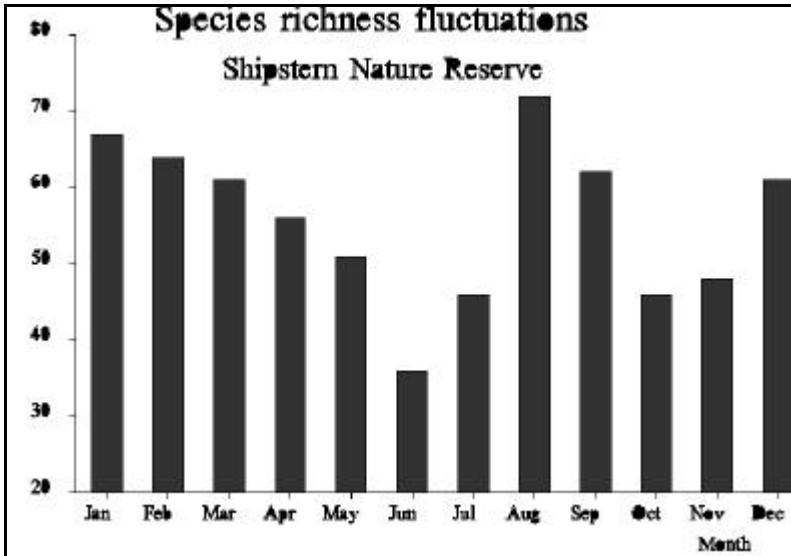


Figure 1. Number of butterfly species recorded per month. Papilionidae, Pieridae and Nymphalidae only.

*Pteronymia cottyto* has been collected only once in nearby Chunox, which already receives more rain than the Shipstern Nature Reserve. In spite of the fact that we have extensively worked throughout Belize, eleven species or 9 % of the big three families (Papilionidae, Pieridae and Nymphalidae) to date have been recorded only from the Shipstern Nature Reserve. The fact that all three species endemic to the Yucatán peninsula also occur in the research area, confirms the affinity of the Shipstern Nature Reserve area with that part of Mexico.

### Checklist of the Butterflies of Shipstern Nature Reserve

Species	PAPILIONIDAE	Abundance
# species (also) recorded from butterfly traps, * recorded for Shipstern Nature Reserve only (11 species)		
<i>Battus philenor acauda</i>	*	Rare, Yucatán endemic
<i>Battus polydamas</i>		Common
<i>Battus laodamas</i>		Uncommon
<i>Parides photinus</i>		Uncommon



**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>PAPILIONIDAE</b>	<b>Abundance</b>
<small># species (also) recorded from butterfly traps, * recorded for Shipstern Nature Reserve only (11 species)</small>		
<i>Parides sesostris</i>		Common
<i>Parides iphidamas</i>		Common
<i>Protographium philolaus</i>		Common
<i>Protographium epidaus</i>		Uncommon
<i>Protographium agesilaus</i>		Uncommon
<i>Papilio astyalus</i>		Rare
<i>Papilio thoas</i>		Common
<i>Papilio crespontes</i>		Common
<i>Papilio androgeus</i>		Rare
<i>Papilio rogeri</i>		Rare, Yucatan endemic
<i>Papilio anchisiades</i>		Uncommon
<i>Papilio torquatus</i>		Uncommon
<i>Papilio victorinus</i>		Rare

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>PIERIDAE</b>	<b>Abundance</b>
<small># species (also) recorded from butterfly traps, * recorded for Shipstern Nature Reserve only (11 species)</small>		
<i>Melete isandra</i>		Rare
<i>Appias drusilla</i>		Common
<i>Itaballia demophile</i>		Rare
<i>Pieriballia viardi</i>		Uncommon
<i>Ascia josephina</i>	*	Rare
<i>Ascia monuste</i>		Common
<i>Anteos clorinde</i>		Common
<i>Anteos maerula</i>		Common
<i>Kricogonia lyside</i>	*	Rare
<i>Phoebis sennae</i>		Common
<i>Phoebis philea</i>		Common
<i>Phoebis argante</i>		Common
<i>Phoebis agarithe</i>		Common
<i>Phoebis trite</i>		Rare
<i>Aphrissa statira</i>		Rare

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>PIERIDAE</b>	<b>Abundance</b>
<small># species (also) recorded from butterfly traps, * recorded for Shipstern Nature Reserve only (11 species)</small>		
<i>Eurema nicippe</i>	*	Rare
<i>Eurema albula</i>		Common
<i>Eurema daira</i>		Uncommon
<i>Eurema boisduvaliana</i>		Rare
<i>Eurema proterpia</i>		Common
<i>Eurema dina</i>		Common
<i>Eurema lisa</i>		Rare
<i>Eurema nise</i>		Common

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>NYMPHALIDAE</b>	<b>Abundance</b>
<small># species (also) recorded from butterfly traps, * recorded for Shipstern Nature Reserve only (11 species)</small>		
<i>Prepona omphale</i>	#	Uncommon
<i>Prepona gnorima</i>	# *	Uncommon
<i>Archaeoprepona demophoon</i>	#	Common
<i>Archaeoprepona demophon</i>	#	Common
<i>Siderone marthesia</i>	#	Uncommon
<i>Zaretis callidryas</i>	# *	Rare
<i>Consul electra</i>		Uncommon
<i>Memphis glycerium</i>	#	Common
<i>Memphis pithyusa</i>	# *	Common
<i>Memphis morvus</i>	#	Common
<i>Memphis forreri</i>	#	Common
<i>Memphis oenomais</i>	#	Rare
<i>Doxocopa pavon</i>		Rare
<i>Doxocopa laure</i>		Rare
<i>Libytheana carinenta</i>		Sarteneja only
<i>Colubura dirce</i>	#	Common
<i>Historis odius</i>	#	Common
<i>Historis acheronta</i>	#	Uncommon
<i>Biblis hyperia</i>	#	Common
<i>Mestra anymone</i>	#	Common

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>NYMPHALIDAE</b>	<b>Abundance</b>
<hr/>		
# species (also) recorded from butterfly traps,	* recorded for Shipstern Nature Reserve only (11 species)	
<hr/>		
<i>Hamadryas februa</i>	#	Common
<i>Hamadryas honorina</i>	# *	Common, Yucatán endemic
<i>Hamadryas feronia</i>	#	Uncommon
<i>Hamadryas guatemalena</i>	#	Uncommon
<i>Hamadryas amphinome</i>	#	Rare
<i>Myscelia cyaniris</i>	#	Common
<i>Myscelia ethusa</i>	# *	Rare
<i>Dynamine thalassina</i>		Sarteneja only
<i>Dynamine mylitta</i>		Common
<i>Dynamine artemissia glauce</i>		Uncommon
<i>Dynamine dyonis</i>		Uncommon
<i>Marpesia petreus</i>		Common
<i>Marpesia chiron</i>		Uncommon
<i>Eunica tatila</i>	#	Common
<i>Eunica monima</i>		Uncommon
<i>Eunica alcmena</i>		Uncommon
<i>Temenis laothoe</i>	#	Uncommon
<i>Pyrrhogyra neaerea</i>		Common
<i>Pyrrhogyra otolais</i>		Uncommon
<i>Catenophele mexicana</i>		Rare
<i>Nessaea aglaura</i>	#	Common
<i>Adelpha massilia</i>	#	Common
<i>Adelpha basiloides</i>	#	Common
<i>Adelpha naxia</i>		Uncommon
<i>Adelpha ixia</i>	*	Rare
<i>Adelpha fessonia</i>	# *	Uncommon
<i>Syroeta stelenes</i>		Uncommon
<i>Anartia jatrophae</i>		Common
<i>Anartia fatima</i>		Common
<i>Junonia evarete</i>		Common
<i>Junonia genoveve</i>		Common
<i>Euptoieta hegesia</i>		Common
<i>Dryadula phaetusa</i>		Uncommon
<i>Dione juno</i>		Rare
<i>Agraulis vanillae</i>		Common

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>NYMPHALIDAE</b>	<b>Abundance</b>
<small># species (also) recorded from butterfly traps, * recorded for Shipstern Nature Reserve only (11 species)</small>		
<i>Dryas iulia</i>		
<i>Eueides isabella</i>		Uncommon
<i>Heliconius erato</i>		Common
<i>Heliconius charitonius</i>		Common
<i>Thessalia theona</i>		Common
<i>Anthanassa ptolyca</i>		Rare
<i>Anthanassa tulcis</i>		Rare
<i>Castilia myia</i>		Rare
<i>Danaus gilippus</i>		Common
<i>Danaus eresimus</i>		Common
<i>Danaus plexippus</i>		Common
<i>Lycorea cleobaea</i>		Vagrant, 1 record only
<i>Morpho peleides</i>	#	Common
<i>Opsiphanes quiteria</i>	#	Rare
<i>Opsiphanes cassina</i>	#	Common
<i>Caligo memnon</i>		Uncommon
<i>Caligo uranus</i>		Uncommon
<i>Taygetis virgilia</i>	#	Common
<i>Taygetis andromeda</i>	#	Uncommon
<i>Cissia similis</i>	#	Uncommon
<i>Cissia usitata</i>	#	Common
<i>Cissia confusa</i>	#	Uncommon
<i>Cissia pseudoconfusa</i>	#	Common
<i>Cissia libyoidea</i>		Common
<i>Cissia metaleuca</i>	#	Common
<i>Cissia ocirrhoe</i>	#	Common
<i>Cissia hermes</i>	#	Common
<i>Cissia glaucina</i>	#	Uncommon

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>LYCAENIDAE</b>	<b>Species</b>
<small># species (also) recorded from butterfly traps,</small>	<small>* recorded for Shipstern Nature Reserve only (11 species)</small>	
<i>Arawacus phaea</i>		<i>Leptotes cassius</i>
<i>Arawacus sito</i>		<i>Leptotes marina</i>
<i>Arawacus togarna</i>		<i>Ministrymon clytie</i>
<i>Brephidium exilis</i>		<i>Panthiades bittias</i>
<i>Calycopis isobea</i>		<i>Rekoa meton</i>
<i>Calycopis sethon</i>		<i>Strymon melinus</i>
<i>Eumaeus toxea</i>		<i>Strymon yojoa</i>
<i>Evenus regalis</i>		<i>Thecla empusa</i>
<i>Everes commyntas</i>		<i>Thecla halciones</i>
<i>Hemiargus ceraunus</i>		<i>Thecla marsyas</i>
		<i>Thecla tephreus</i>

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>RIODINIDAE</b>	<b>Species</b>
<small># species (also) recorded from butterfly traps,</small>	<small>* recorded for Shipstern Nature Reserve only (11 species)</small>	
<i>Calephelis sp.</i>		<i>Lymnas pixe</i>
<i>Calydna sinuata</i>		<i>Mesene sp.</i>
<i>Charis sp.</i>		<i>Mesosemia lamachus</i>
<i>Cremna umbra</i>		<i>Napaea sp.</i>
<i>Emesis lucinda</i>		<i>Rhetus arcus</i>
<i>Eusalesia sp.</i>		<i>Synargis mycone</i>
<i>Juditha molpe</i>		<i>Theope virgilius</i>
<i>Leucochimona philemon</i>		<i>Thisbe lycorius</i>
		<i>Xinias sp.</i>

**Checklist of the Butterflies of  
Shipstern Nature Reserve**

<b>Species</b>	<b>HESPERIDAE</b>	<b>Species</b>
# species (also) recorded from butterfly traps,	* recorded for Shipstern Nature Reserve only (11 species)	
<i>Achalarus toxeus</i>		<i>Heliopetes macaira</i>
<i>Achlyodes mithridates</i>		<i>Hylephila phyleus</i>
<i>Aguna metophis</i>		<i>Nisoniades rubescens</i>
<i>Arteurotia tractipennis</i>		<i>Panoquina fusina</i>
<i>Astraptus alector</i>		<i>Paraides dysoni</i>
<i>Astraptus anaphus</i>		<i>Perichares philetas</i>
<i>Astraptus fulgurator</i>		<i>Phanus marshalli</i>
<i>Astraptus talus</i>		<i>Phocides belus</i>
<i>Bungalotis midas</i>		<i>Phocides pigmalion</i>
<i>Calpodus ethilus</i>		<i>Phocides polybius</i>
<i>Castoides ethilus</i>		<i>Polygonus manueli</i>
<i>Castoides hondura/lilia</i>		<i>Proteides mercurius</i>
<i>Cecropterus aunus</i>		<i>Pyrgus adepta</i>
<i>Celaenorrhinus stola</i>		<i>Pyrgus communis</i>
<i>Chioides catillus</i>		<i>Pyrgus oileus</i>
<i>Chioides zilpa</i>		<i>Pyrhopyge</i>
		<i>erythrosticka</i>
<i>Chiomara asychis</i>		<i>Quadrus cerealis</i>
<i>Chiomara mithrax</i>		<i>Rhiton chiriquensis</i>
<i>Cogia calchas</i>		<i>Sostrata bifasciata</i>
<i>Epargyreus exadeus</i>		<i>Timochares rufifasciata</i>
<i>Epargyreus zestos</i>		<i>Timochares trifasciata</i>
<i>Grais stigmaticus</i>		<i>Typhedanus ampyx</i>
<i>Heliopetes alana</i>		<i>Urbanus dorantes</i>
<i>Heliopetes arsalte</i>		<i>Urbanus esta</i>
<i>Heliopetes ericetorum</i>		<i>Urbanus proteus</i>
		<i>Urbanus teleus</i>

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## HAWKMOTHS OF THE SHIPSTERN NATURE RESERVE (LEPIDOPTERA, SPHINGIDAE)

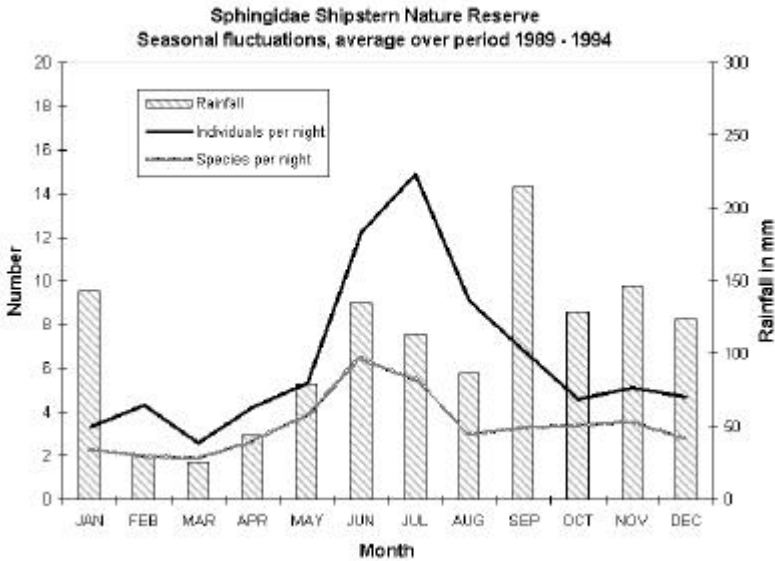
Jan C. Meerman

*International Tropical Conservation Foundation*

Hawkmoth data have been intensively collected in the Shipstern Nature Reserve since 1989 and the Hawkmoth fauna of the Reserve is therefore well known. All data were collected at the Headquarters' clearing using a 12 v., 15 w. ultraviolet light (GE F15-T8BL). The light was permanently fixed on a south facing, white wall of one of the buildings on the clearing and operated every month around new moon for at least seven nights. During moonlit nights the light was disconnected. Forty nine species were identified were identified using D'Abrera (1986), Brou (1984) and Hodges (1971). There is one endemic Hawkmoth species to the Yucatan peninsula; *Manduca wellingi* (Brou, 1984, Schreiber, 1978) and the occurrence of this species again confirms the strong affinity of the study site with the Yucatán peninsula. The presence of *Agrius cingulatus*, *Cocytius duponchel* and *Xylophanes tersa*, on the other hand, indicates a transition to the Central American rain-forest centre fauna (Schreiber, 1978).

The data clearly show that hawkmoth abundance is seasonal. The peak abundance of both species and individuals occurs during the first months of the rainy season, then numbers gradually drop to the lowest point during the driest part of the year (fig.1).

Several species collected only during the rainy season may actually be immigrants that are present in the surrounding habitat when the conditions are right (compare Janzen, 1983). Some of these "rainy season species" in the Shipstern Nature Reserve may also be resident species that have a



**Figure Figure 1** Average catches of Hawkmoths at the Shipstern Nature Reserve. Expressed in Individuals per night and Species per night (in this reprint the period extended to include data from January 1989 – June 1994).

diapause and spend the dry season in the pupal stage, or they might pass the dry season continuously breeding but their numbers fall to an undetectable low level (Meerman, 1992). More research is needed to determine which species are true residents in the Shipstern Nature Reserve, and which ones are strictly migratory.

**Hawkmoths of Shipstern Nature Reserve**

Species	Abundance
SPHINGINAE:	
<i>Agrius cingulatus</i>	Uncommon
<i>Cocytius duponchel</i>	Uncommon
<i>Cocytius lucifer</i>	Uncommon
<i>Cocytius antaneus</i>	Uncommon
<i>Cocytius cluentius</i>	Rare
<i>Manduca sexta</i>	Common
<i>Manduca dilucida</i>	Rare

**Hawkmoths of Shipstern Nature Reserve**

Species	Abundance
<i>Manduca wellingi</i>	Rare
<i>Manduca rustica</i>	Uncommon
<i>Manduca lanuginosa</i>	Rare
<i>Protambulyx strigilis</i>	Common
<i>Adhemarius gannascus</i>	Common
 MACROGLOSSINAE:	
<i>Pseudosphinx tetrio</i>	Common
<i>Isognathus rimosa</i>	Common
<i>Erinnyis alope</i>	Rare
<i>Erinnuis lassauxi</i>	Rare
<i>Erinnyis yucatanana</i>	Common
<i>Erinnyis domingonis</i>	Rare
<i>Erinnyis ello</i>	Uncommon
<i>Erinnyis obscura</i>	Uncommon
<i>Erinnyis oenotrus</i>	Common
<i>Phryxus caicus</i>	Common
<i>Pachylia syces</i>	Uncommon
<i>Pachylia ficus</i>	Uncommon
<i>Pachyloides resumens</i>	Rare
<i>Hemeroplanes triptolemus</i>	Rare
<i>Madoryx oiclus</i>	Uncommon
<i>Callionima falcifera</i>	Rare
<i>Callionima parce</i>	Rare
<i>Enyo ocypete</i>	Uncommon
<i>Enyo lugubris</i>	Uncommon
<i>Enyo gorgon</i>	Rare
<i>Cautethia yucatanana</i>	Common
<i>Perigonia lusca</i>	Uncommon
<i>Aellopos tantalus</i>	Rare
<i>Eupyrhroglossum sagra</i>	Rare
<i>Eumorpha anchemolus</i>	Rare
<i>Eumorpha triangulum</i>	Rare
<i>Eumorpha satellita</i>	Uncommon
<i>Eumorpha vitis</i>	Common
<i>Eumorpha fasciatus</i>	Rare

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**Hawkmoths of Shipstern Nature Reserve**

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<b>Species</b>	<b>Abundance</b>
<i>Eumorpha labruscae</i>	Rare
<i>Xylophanes pluto</i>	Common
<i>Xylophanes porcus</i>	Rare
<i>Xylophanes anubis</i>	Rare
<i>Xylophanes turbata</i>	Uncommon
<i>Xylophanes tersa</i>	Common
<i>Xylophanes maculator</i>	Rare
<i>Xylophanes libya</i>	Uncommon

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## **SILKMOTHS OF THE SHIPSTERN NATURE RESERVE (LEPIDOPTERA, SATURNIIDAE)**

**Jan C. Meerman**

*International Tropical Conservation Foundation*

Silkmoth data have been intensively collected in the Shipstern Nature Reserve since 1989 and the Saturniidae fauna of the Reserve is therefore well known. All data have been collected at the headquarters clearing using a 12v, 15 w. ultraviolet light (GE F15-T8BL). The light was permanently fixed on a south facing, white wall on one of the buildings on the clearing and operated every month around new moon for at least seven nights. During moonlit nights the light was disconnected. The Saturniidae were identified using Janzen (1982) and Lemaire (1973, 1980, 1988). In some cases the identifications had to be verified by making genitalia preparations.

The Saturniidae fauna of the Shipstern Nature Reserve is less diverse than the Sphingidae fauna but like in the Sphingidae, the Saturniidae fauna of the Shipstern Nature Reserve shows great affinities with the Yucatán fauna. *Adeloneivaia wellingi* is a Yucatán endemic, although many Shipstern specimens show affinities to *A. isara*, a closely related species that is found elsewhere in Belize. Also *Eacles imperialis* and *Rothschildia lebeau* are represented by subspecies restricted to the Yucatán peninsula.

I reared only a few Saturniidae larvae at the Shipstern Nature Reserve. In two instances cocoons of *Rothschildia lebeau* were found in Red Mangrove *Rhizophora mangle*. It is probably that the larvae had been feeding on this species. The gregarious larvae of *Periphobia hircia* are frequently found feeding on a variety of trees. These highly urticacious larvae are locally called "Chamalkin".

**Silkmoths of Shipstern Nature Reserve**

Species	Abundance
ARSENURINAE:	
<i>Caio championi</i>	Rare
<i>Copiopteryx semiramis</i>	Rare
<i>Dysdaemonia boreas</i>	Rare
CERATOCAMPINAE:	
<i>Adeloneivaia wellingi</i>	Common
<i>Eacles imperialis quintanensis</i>	Rare
<i>Othorene purpurascens</i>	Rare
<i>Syssphinx mexicana</i>	Rare
<i>Syssphinx molina</i>	Uncommon
<i>Syssphinx quadrilineata</i>	Common
HEMALEUCINAE:	
<i>Automeris moloneyi</i>	Common
<i>Automeris zozine</i>	Uncommon
<i>Hylesia dalina</i>	Uncommon
<i>Lonomia electra</i>	Common
<i>Periphobia hircia</i>	Common
SATURNIINAE:	
<i>Copaxa rufinans</i>	Rare
<i>Rothschildia lebeau yucatan</i>	Rare

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## **DRAGONFLIES AND DAMSELFLIES OF THE SHIPSTERN NATURE RESERVE (ODONATA)**

**Tineke Boomsma**

*P. O. Box 134, Orange Walk, Belize*

Since 1991 Odonata have been intensively collected in the Shipstern Nature Reserve. Most information was gathered by collecting adults with an ordinary butterfly net. Little time was spent on collecting larvae and exuviae. The larval stages of many Odonata are still undescribed making their identification problematic.

A total of fourteen species of Zygoptera (damselflies) and forty one species of Anisoptera (dragonflies) were collected during the survey period in the Reserve, an additional 3 species were collected in the village of Sarteneja, 2 of them (*Miathyria marcella* and *Pantala hymenaea*) during migration of dragonflies. All species listed are related to lotic (standing) waterbodies.

Although the Shipstern Nature Reserve lacks any lentic (flowing) waterbodies and there are only few permanent "fresh"water ponds present, the total of 54 species is an amazingly high number for the area. Most species encountered are common, widespread species, specialized in colonizing temporary habitats. Others, like the *Chrysobasis lucifer* and the *Remartinia* sp.nov. are nowhere common, but their secretive lifestyle may hamper closer observations of these species. Locally all odonata are called "Tulix".

### **Damselflies of Shipstern Nature Reserve**

Species	S = Found in Sarteneja only	Abundance
<b>ZYGOPTERA</b>		
<b>Lestidae</b>		
<i>Lestes forficula</i>		Common
<i>Lestes tenuatus</i>		Common
<i>Lestes tikalus</i>		Common



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**Damselflies of Shipstern Nature Reserve**

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Species	S = Found in Sarteneja only	Abundance
Pseudostigmatidae		
<i>Pseudostigma accedens</i>		Uncommon
Protoneuridae		
<i>Protoneura corculum</i>		Uncommon
Coenagrionidae		
<i>Argia gaumeri</i>		Common
<i>Chrysobasis lucifer</i>		Rare
<i>Enacantha caribbea</i>		Common
<i>Ischnura hastata</i>		Uncommon
<i>Ischnura ramburii</i>		Common
<i>Leptobasis vacillans</i>		Common
<i>Nehalennia minuta</i>		Common
<i>Neoerythromma cultellatum</i>		Common
<i>Telebasis salva</i>		Common

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**Dragonflies of Shipstern Nature Reserve**

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Species	S = Found in Sarteneja only	Abundance
ANISOPTERA		
Aeshnidae		
<i>Anax amaziliua</i>		Common
<i>Anax concolor</i>		Common
<i>Anax junius</i>		Vagrant
<i>Coryphaeschna adnexa</i>		Common
<i>Coryphaeschna viriditas</i>		Common
<i>Gynacantha helenga</i>		Common
<i>Gynacantha mexicana</i>		Common
<i>Gynacantha nervosa</i>		Common
<i>Remartinia</i> sp.nov.		Rare
<i>Triacanthagyna caribbea</i>		Common
<i>Triacanthagyna septima</i>		Common
Gomphidae		
<i>Aphylla angustifolia</i>		Rare

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**Damselflies of Shipstern Nature Reserve**

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Species                      S = Found in Sarteneja only                      Abundance

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## Libellulidae

<i>Anatya normalis</i>	Common
<i>Brachymesia furcata</i>	Uncommon
<i>Cannaphila insularis</i>	Common
<i>Dythemis sterilis</i>	Uncommon
<i>Erythemis attala</i>	Common
<i>Erythemis haematogaster</i>	Uncommon
<i>Erythemis simplicicollis</i>	Common
<i>Erythemis vesiculosa</i>	Common
<i>Erythrodiplax berenice</i>	Common
<i>Erythrodiplax fervida</i>	Common
<i>Erythrodiplax fusca</i>	Common, S
<i>Erythrodiplax umbrata</i>	Common
<i>Idiataphe cubensis</i>	Uncommon
<i>Miathyria marcella</i>	Uncommon, S
<i>Micrathyria atra</i>	Uncommon
<i>Micrathyria debilis</i>	Common
<i>Micrathyria didyma</i>	Common
<i>Micrathyria hagenii</i>	Common
<i>Orthemis ferruginea</i>	Common
<i>Orthemis levis</i>	Common

## Libellulidae

<i>Pantala flavescens</i>	Common
<i>Pantala hymenaea</i>	Uncommon, S
<i>Perithemis domitia</i>	Common
<i>Perithemis mooma</i>	Uncommon
<i>Tholymis citrina</i>	Common
<i>Tramea abdominalis</i>	Common
<i>Tramea binotata</i>	Common
<i>Tramea calverti</i>	Common
<i>Tramea onusta</i>	Common

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**MISCELLANEOUS  
INVERTEBRATES OF THE  
SHIPSTERN NATURE RESERVE**

**Jan C. Meerman**

*International Tropical Conservation Foundation*

Virtually no invertebrate groups other than the lepidoptera and odonata presented earlier have been studied at the Shipstern Nature Reserve. Yet there are a limited number of identifications of miscellaneous groups that are interesting enough to report. The majority of the Formicidae (ants) were collected and identified by C.F.A.Bijleveld. The following are listed in alphabetical order.

**SPIDERS**

ARANEIDAE: Orb-web spiders      *Nephila clavipes*, Golden Orb Spider

THERAPHOSIDAE: Tarantulas      *Brachypelma vagans*, Tarantula,  
Chiwo'

**INSECTS**

ACRIDIDAE: Grasshoppers *Tropidacris cristata*

ASCALAPHIDAE: Owlflies *Ascalobias albistigma*

COLEOPTERA: Beetles      *Megasoma elepha*, Rhinoceros Beetle

FORMICIDAE: Ants

    PSEUDOMYRMICINAE: *Pseudomyrmex sp.*

    ECITONINAE:      *Eciton sp.*

MYRMICINAE: *Acromyrmex sp.*  
*Aphaenogaster sp.*  
*Atta sp.*, Leaf-cutting Ants  
*Crematogaster sp.*  
*Leptothorax sp.*  
*Nesomyrmex (?) sp.*  
*Solenopsis sp.*  
*Pheidole sp.*  
*Trachymyrmex sp.*  
*Tranopelta (?) sp.*

PONERINAE: *Anochetus sp.*  
*Hypoponera sp.*  
*Odontomachus sp.*  
*Pachycondyla sp.*  
*Ponera sp.*

DOLICHODERINAE: *Forelius sp.*

FORMICINAE: *Brachymyrmex sp.*  
*Camponotus spp.*

FULGORIDAE: Fulgorid Planthoppers. *Fulgora laternaria*, Alligator bug

HOMOPTERA: Tree Hoppers. *Umbonia crassicornis*

LEPIDOPTERA: Butterflies and Moths

NOCTUIDAE: *Ascalapha odorata*, Black Witch  
*Diphtera festiva*

HYPSIDAE: *Eucyane arcaeii*

MANTIDAE: Mantids. *Acanthops godmani*, Dead leaf Praying  
Mantis

PHASMIDAE: Stick insects. *Anisomorpha monstrosa*

## Occasional Papers

of

60

## FISH OF THE SHIPSTERN NATURE RESERVE

**Jan C. Meerman**

*International Tropical Conservation Foundation*

Bijleveld (1990) provided the only in depth study of the fish fauna of the Shipstern Nature Reserve. His work showed a very interesting "fresh" water fish fauna. In the lagoons several species of Cichlids live normally as if it was just another freshwater body. Even in the salty Chetumal bay, Cichlids in breeding colors have been observed. Seasonality has great influence on life cycles: One cichlid species, *Cichlasoma urophthalmus* has adapted to a unique breeding cycle in response to the seasonal changes. This fish breeds at the very start of the dry season so that at least some young will survive in the remaining small pool, while the parents perish due to starvation and desiccation. These young reach sexual maturity just before the next dry season in order for the cycle to continue.

In this checklist the fifteen species recorded by Bijleveld have been augmented with incidental observations of my own, mostly of lagoon fishes, bringing the total to 26 species. One species, the Sawfish or "Peje Espada" *Pristis (pectinatus ?)*; Pristidae, once occurring in Shipstern Lagoon, is now probably extinct in the area as result of overfishing.

Since the reserve includes large expanses of coastal lagoons, the marine fish fauna is of great importance to the reserve and needs thorough survey work. The nomenclature has as much as possible been adapted to the nomenclature used in Greenfield & Thomerson with local names have been added wherever possible.

### Fish of Shipstern Nature Reserve

Species	Common name	Abundance
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CHONDRICHTHYES

DASYATIDAE,

*Dasyastis americana* Lebissa Common.

OSTEICHTHYES

MEGALOPIDAE

*Tarpon atlanticus*

Sabalo, Large Tarpons have on occasion been seen in Shipstern Lagoon and in the Corozalito creeks.

CHARACIDAE,

*Astyanax fasciatus*

Common in a few ponds

ARIIDAE,

*Ariopsis assimilis*

Ceto

Common

PIMELOIDAE

*Rhamdia laticauda/guatemalensis*

Known from one pond

BELONIDAE

*Strongylura sp.*

Common

CYPRINODONTIDAE

*Cyprinodon variegatus*

Uncommon. First Mainland record in Belize.

*Jordanella pulchra*

Common

*Rivulus ocellatus*

Common

POECILIIDAE

*Belonesox belizanus*

Common

*Gambusia yucatana*

Common

*Poecilia orri*

Common in a few ponds

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**Fish of Shipstern Nature Reserve**

Species	Common name	Abundance
SYNBRANCHIDAE:		
<i>Ophisteron aenigmaticum</i>		Common
GERREIDAE:		
<i>Eugerres plumieri</i> ,	Chiwa	Common
<i>Gerres cinereus</i>	Mojarra	Common
SPARIDAE,		
<i>Archosargus (rhomboidalis.?)</i>		Uncommon
SCIAENIDAE		
<i>(Bairdella ronchus ?)</i>	Ronceador.	Common in Shipstern Lagoon and in Corozallito creeks.
EPHIPPIDAE		
<i>Chaetodipterus faber</i>		Uncommon in mouth of Shipstern Lagoon.
CICHLIDAE		
<i>Ciclasoma meeki</i>	Xpinta	Uncommon
<i>Ciclasoma salvini</i>		Uncommon
<i>Ciclasoma synspillum</i>	Tuba	Common
<i>Ciclasoma urophthalmus</i>	Crana'	Common
<i>Petenia splenida</i>		Uncommon
SPHYRAENIDAE		
<i>Sphyaena barracuda</i>	Picaco.	Common
ELEOTRIDIDAE		
<i>Gobiomorus dormitor</i>		Unknown
TETRAODONTIDAE,		
<i>Sphoeroides testudineus</i>	Xpu	Common

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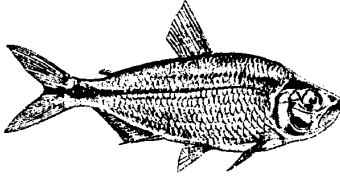


Figure 1. *Astyanax fasciatus*

**CHECKLIST OF THE REPTILES AND AMPHIBIANS  
OF THE SHIPSTERN NATURE RESERVE AND  
SARTENEJA, COROZAL DISTRICT, BELIZE**

**Jan C. Meerman**

*International Tropical Conservation Foundation*

The herpetological fauna of the Shipstern Nature Reserve is unexpectedly rich considering the virtual absence of any permanent fresh water bodies in the area, the lack of any relief and the fact that much of the area consists of saline savannas, a hostile habitat for nearly all reptiles and amphibians. Currently the list contains 78 species of which 66 I have identified. This means that more than half of the species occurring in Belize, occur in the Shipstern Nature Reserve! Many of the species recorded, mainly snakes, Serpenta, are known virtually only from road kills.

To the average observer, amphibians seem to be scarce in the reserve. It may be thought that the low rainfall and the generally saline conditions of most pools do not create a good habitat for these animals, but the night after the first heavy rains of the rainy season proves otherwise. From every pool, large or small, sounds a deafening chorus of frogs and toads.

At least one species of turtle, the "Morokoi" *Staurotypus triporcatus*; Testudines, is now probably extinct in the area as a result of overhunting. The Shipstern Nature Reserve probably provides a marginal habitat for this species but at least it occurred in Chacan Chac Mol.

**Amphibians of Shipstern Nature Reserve**

Species	Abundance *
* = Species reported by others which I have not positively identified; S = Sarteneja only	
<b>CAUDATA</b>	
<i>Bolitoglossa yucatanana</i>	Rare, 1 record
<b>ANURA</b>	
<i>Rhinophrynus dorsalis</i>	Common
<i>Bufo valiceps</i> , Sapo	Common
<i>Bufo marinus</i> , Sapo	Common
<i>Leptodactylus labialis</i>	Uncommon
<i>Leptodactylus melanonotus</i>	Common
<i>Agalychnis callidryas</i>	Rare
<i>Hyla loquax</i>	Rare
<i>Hyla microcephala</i>	Rare
<i>Ololygon staufferi</i>	Common
<i>Phrynohyas venulosa</i>	Common
<i>Smilisca baudini</i>	Common
<i>Triprion petasatus</i>	Common
<i>Hypopachus variolosus</i>	Uncommon
<i>Rana berlandieri</i>	Rare

**Reptiles of Shipstern Nature Reserve**

Species	Local name	Abundance
* = Species reported by others which I have not positively identified; S = Sarteneja only		
<b>SQUAMATA</b>		
<i>Coleonyx elegans</i>		Uncommon
<i>Phyllodactylus tuberculosus</i>		Rare
<i>Sphaerodactylus glaucus</i>	Pica Sombre, Escorpion.	Common
<i>Thecadactylus rapicauda</i>		Uncommon
<i>Norops biporcatus</i>		Rare
<i>Norops lemuringus</i>		Uncommon
<i>Norops limifrons</i>		Common
<i>Norops sagrei</i>	Coastal.	Common in Sarteneja

**Reptiles of Shipstern Nature Reserve**

Species	Local name	Abundance
* = Species reported by others which I have not positively identified; S = Sarteneja only		
<b>SQUAMATA</b>		
<i>Basiliscus vittatus</i>		Common
<i>Corytophanes hernandezii</i>		Rare
<i>Ctenosaura similis</i>		Common
<i>Laemantcus longipes</i>		Rare *
<i>Laemantcus serratus</i>		Uncommon
<i>Sceloporus chrysostictus</i>		Common
<i>Sceloporus lundelli</i>		Rare
<i>Sceloporus taepensis</i>		Rare *
<i>Eumeces schwartzei</i>		Rare
<i>Eumeces sumichrasti</i>		Rare
<i>Mabuya unimarginata</i>		Rare
<i>Ameiva undulata</i>	Salamandra	Common
<b>SERPENTES</b>		
<i>Typhlops microstomus</i>		Rare, S
<i>Boa constrictor</i>	Wowla, Boa	Common
<i>Clelia scytalina</i>		Rare
<i>Coniophanes bipunctatus</i>		Rare *
<i>Coniophanes fissidens</i>		Rare *
<i>Coniophanes imperialis</i>		Common
<i>Coniophanes schmidti</i>		Rare
<i>Conophis lineatus</i>		Rare *
<i>Dipsas brevifacies</i>		Common
<i>Dryadophis melanolomus</i>		Rare
<i>Drymarchon corais</i>		Common
<i>Drymobius margaritiferus</i>		Common
<i>Elaphe flavirufa</i>		Rare
<i>Elaphe triaspis?</i>		Identification uncertain
<i>Imantodes cenchoa</i>		Common
<i>Lampropeltis triangulum</i>	Corallo	Rare
<i>Leptodeira frenata</i>		Common
<i>Leptodeira septentrionalis</i>		Common
<i>Leptophis ahaetulla</i>		Rare *
<i>Leptophis mexicana</i>		Common
<i>Masticophis mentovarius</i>		Rare

## Reptiles of Shipstern Nature Reserve

Species	Local name	Abundance
* = Species reported by others which I have not positively identified; S = Sarteneja only		
<b>SERPENTES</b>		
<i>Oxybelis aeneus</i>	Xtabai	Common
<i>Oxybelis fulgidus</i>		Common
<i>Pseustes poecilonotus</i>		Common
<i>Scaphiodontophis annulatus</i>		Rare
<i>Sibon sanniola</i> (incl. <i>S.s.neilli</i> )		Uncommon
<i>Sibon sartori</i>	Corallo	Common
<i>Spilotes pullatus</i>		Common
<i>Tantilla canula</i>		Uncommon
<i>Tantilla schistosa</i>		Rare
<i>Thamnophis proximus</i>		Rare
<i>Tretanorhinus nigroluteus</i>		Vagrant, S,*
<i>Micrurus diastema</i>	Corallo	Common
<i>Micrurus nigrocinctus</i>	Corallo	Rare*
<i>Bothrops asper</i>	Barba amarilla	Rare
<i>Crotalus durissus</i>	Cascabel	Common
<b>CROCODYLIA</b>		
<i>Crocodylus acutus</i>		Rare
<i>Crocodylus moreleti</i>		Rare
<b>TESTUDINES</b>		
<i>Kinosternon leucostomum</i>		Rare, *
<i>Kinosternon acutus</i>		Rare, *
<i>Kinosternon scorpioides</i>		Common
<i>Chrysemys scripta</i>		Uncommon
<i>Rhinoclemys areolata</i>		Common

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## **CHECKLIST OF THE BIRDS OF THE SHIPSTERN NATURE RESERVE**

**Jan C. Meerman**

*International Tropical Conservation Foundation*

This list was compiled from my own observations and those provided by various visiting naturalists and biologists. Most important among those are Sean Reed who did an intensive survey from August 1987 to November 1987 (Reed, 1988) and Chandler S. Robins who looked at Shipstern Nature Reserve as part of the U.S. Fish and Wildlife Service wintering bird studies during the month of April 1991. Nomenclature largely based on Scott et al. (1986). Since ornithologists usually use common names rather than scientific ones, only common names are used in this list. To prevent confusion, however, note that the Yucatan Poorwill is *Nyctiphrynus yucatanicus*, the Yucatan Nightjar *Caprimulgus badius* and the Northern Potoo is *Nyctibius jamaicensis*. Where possible, local names have been included in the list.

So far 242 species of birds have been reported for the Shipstern Nature Reserve. But I am convinced that additional surveys will increase this number. Many of the birds are residents like the Lineated Woodpecker, Keel-billed Toucan and Blue-crowned Motmot. Others are passing or wintering migrants such as Blue-winged Teal, American Coot and many of the warblers. The Shipstern Lagoon is probably the most important feeding ground of the Reddish Egret in Belize. Of international importance is the presence of the Black Catbird. The worldwide distribution of this species is limited to some islands off the coast of Belize and Mexico with limited distribution in the Yucatán. In Belize, the population were usually considered to be concentrated on two Islands, Ambergris Caye and Caye Caulker. The discovery that this species appears to be relatively common with a breeding population in the Reserve was therefore an exiting event.

Other than for the Black Catbird the Shipstern Nature Reserve provides important habitat for the following species, Reddish Egret, Wood Stork, Yellow Lored Parrot, Yucatan Nightjar, Yucatan Poorwill, Red Vented Woodpecker, Yucatan Jay and Orange Oriole. Some of these species barely occur elsewhere in Belize, have very small ranges (Yucatán endemics) or are endangered/rare over large parts of their range. The Woodstork breeding colony is perhaps one of the most important of these (Meerman, 1993)



I expect that most resident birds also breed within the reserve. In cases where breeding has been confirmed by nest findings or young birds being fed, "breeding" is added under the comments as verified. Since there are hardly any fresh water bodies present in the Shipstern Nature Reserve, typical fresh water birds are rare but sometimes inhabitants of the adjacent Chacan Chac Mol swamp system wander into the Reserve.

### **Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
# = Species of international concern		
<b>TINAMOUS</b>		
Great Tinamou		Rare
Little Tinamou		Rare
Thicket Tinamou	Perdiz	Common, Commonly heard
<b>GREBES</b>		
Least Grebe		Mainly Chacan Chac Mol
Pied billed grebe		Mainly Chacan Chac Mol
<b>BOOBIES</b>		
Brown Booby		Rare, coastal
<b>PELICANS</b>		
White Pelican		Vagrant
Brown Pelican	Pelikin	Common, Coastal
<b>CORMORANTS</b>		
Double crested Cormorant	Shag	Common, Breeding colonies
Olivaceous Cormorant	Shag	Uncommon, breeding?

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
<b>ANHINGAS</b>		
Anhinga		Rare, breeding
<b>FRIGATEBIRDS</b>		
Magnificent Frigatebird	Rabio	Common, Coastal
<b>HERONS</b>		
Least Bittern		Mainly Chacan Chac Mol
Bare throated Tiger-Heron		Rare
Great Blue Heron	Garza morene	Uncommon, Breeding
Great Egret	Garza blanca	Common, Breeding colonies
Snowy Egret	Garza blanca	Uncommon
Little Blue Heron	Garza morene	Common
Tricolored Heron	Garza morene	Common, Breeding colonies
# Reddish Egret	Garza morene	Common, breeding colonies
Green backed Heron		Common, breeding
Black crowned Night Heron		Uncommon
Yellow crowned Night Heron		Common, breeding
Boat billed Heron		Common, breeding
<b>IBISSES AND SPOONBILLS</b>		
White Ibis	Cocito	Common, Breeding colonies found outside SNR in Shipstern Lagoon
Roseate Spoonbill	Cuchara	Rare, breeding
<b>STORKS</b>		
Jabiru		Vagrant
# Wood Stork,	Galletan	Common, breeding colony
<b>FLAMINGOS</b>		
Greater Flamingo		Reported but unconfirmed
<b>DUCKS, Patos</b>		
Black bellied Whistling Duck		Rare, mainly Chacan Chac Mol
Muscovy Duck		Rare, mainly Chacan Chac Mol
Blue winged teal		Migrant
Lesser Scaup		Migrant

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
<b>AMERICAN VULTURES</b>		
	Sopes	
Black Vulture		Common
Turkey Vulture		Common
Lesser yellow headed Vulture		Rare
King Vulture		Vagrant
<b>ACCIPITRIDAE</b>		
	Gavillanes	
Osprey	Jincho	Uncommon
Gray headed Kite		Rare
Black shouldered Kite		Migrant
Snail Kite		Rare, Mainly Chacan Chac Mol
Common Black Hawk		Uncommon, breeding
Great Black Hawk		Rare
Gray Hawk		Rare
Roadside Hawk		Common
Broad-winged Hawk		Rare
Short tailed hawk		Rare
White tailed Hawk		Rare
<b>FALCONS</b>		
	Gavillanes	
Laughing Falcon		Uncommon
Collared Forest Falcon		Uncommon
Bat Falcon		Uncommon
Perigrine Falcon		Migrant
<b>CRACIDS</b>		
Plain Chachalaca	Chachalaca	Common, breeding
Crested Guan		Reported but doubtfull
Great Currasow	Pahouil	Uncommon, breeding
<b>RAILS</b>		
Ruddy Crake		Uncommon
Clapper Rail		Rare ?
Grey-necked Wood Rail	Gallinola	Common
American Coot		Migrant

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
# = Species of international concern		
<b>LIMPKINS</b>		
Limpkin		Mainly Chacan Chac Mol
<b>PLOVERS</b>		
Black bellied Plover		Migrant
Wilson's Plover		Migrant
Semipalmated Plover		Migrant
Kildeer		Migrant
<b>STILTS</b>		
Black necked Stilt		Uncommon
<b>JACANAS</b>		
Northern Jacana		Mainly Chacan Chac Mol
<b>SANDPIPERS</b>		
Greater yellowlegs		Migrant
Spotted Sandpiper		Migrant
Semipalmated Sandpiper		Migrant
Least Sandpiper		Migrant
White rumped Sandpiper		Migrant
<b>GULLS AND TERNS</b>		
	Gaviotas	
Laughing Gull		Uncommon
Royal Tern		Coastal
Sandwich Tern		Uncommon
Least Tern		Rare
Black Tern		Rare migrant
<b>PIGEONS AND DOVES</b>		
	Palomas, Turtulitas	
Pale-vented Pigeon		Uncommon
Scaled Pigeon		Rare
Red billed Pigeon		Common, breeding
White winged dove		Common, breeding
Common Ground dove		Common, breeding

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
Plain-breasted Ground Dove		Uncommon
Ruddy Ground Dove		Uncommon
Blue Ground Dove		Rare
White tipped dove		Common
Caribbean dove		Common
Ruddy Quail Dove		Rare
<b>PARROTS</b>	<b>Loros</b>	
Olive throated Parakeet		Common
White crowned Parrot		Rare
White fronted Parrot		Unknown
Yellow lored Parrot		Common, Yucatan endemic
#Yellow headed Parrot		Rare
<b>CUCKOOS</b>		
Squirrel Cuckoo		Common
Groove billed Ani	Chel	Uncommon
<b>OWLS</b>	<b>Curujos</b>	
Vermiculated Screech Owl		Common
Ferruginous Pygmy -Owl		Common
Mottled Owl		Common
<b>NIGHTJARS AND ALLIES</b>		
Lesser Nighthawk		Migrant
Common Nighthawk		Common
Common Paraque	Xpuhuy	Uncommon
Yucatan Poorwill	Xpuhuy	Common
Yucatan Nightjar		Common
Northern Potoo		Uncommon
<b>SWIFTS</b>		
Chimney Swift		Migrant
Vaux's Swift		Common

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
# = Species of international concern		
<b>HUMMINGBIRDS</b>		
	Chupaflores	
Green breasted Mango		Rare
Fork tailed Emerald		Uncommon
White bellied Emerald		Uncommon
Rufous tailed Hummingbird		Common, Breeding
Buff bellied Hummingbird		Uncommon
Cinamon Hummingbird		Rare
<b>TROGONS</b>		
Black headed Trogon	Pecho amarillo	Common, breeding
Violaceous Trogon		Uncommon
<b>MOTMOTS</b>		
Blue-crowned Motmot		Common, breeding
<b>KINGFISHERS</b>		
	San Martines	
Ringed Kingfisher		Common
Belted Kingfisher		Common
Green Kingfisher		Uncommon
American Pygmy Kingfisher		Uncommon, breeding
<b>PUFFBIRDS</b>		
White-necked Pufbird		Uncommon
<b>TOUCANS</b>		
Collared Aracari,	Medio Pito	Common
Keel-billed Toucan,	Pito real	Common
<b>WOODPECKERS</b>		
Red-vented Woodpecker	Che'ko'	Common, Yucatan endemic
Golden fronted Woodpecker	Che'ko'	Common
Yellow bellied Sapsucker		Rare
Smocky Brown Woodpecker		Rare
Golden Olive Woodpecker		Rare
Chesnut colored Woodpecker		Rare
Lineated Woodpecker	Colonte'	Common
Pale billed Woodpecker		Rare

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
<b>WOODCREEPERS</b>		
Tawny winged Woodcreeper	Pica piedras	Uncommon
Ruddy Woodcreeper		Common
Olivaceous Woodcreeper		Uncommon
Barred Woodcreeper		Rare
Ivory billed Woodcreeper		Rare
Streak headed Woodcreeper		Uncommon
<b>ANTBIRDS</b>		
Barred Antshrike		Uncommon
Black faced Antthrush		Rare
<b>TYRANT FLYCATCHERS</b>		
Northern beardless Tymannulet		Rare
Ochre bellied Flycatcher		Rare
Sepia capped Flycatcher		Rare
Northern Bentbill		Rare
Yellow olive Flycatcher		Common
<b>FLUVICOLINE FLYCATCHERS</b>		
Greater Pewee		Rare
Eastern Wood Pewee		Common, migrant
Yellow bellied Flycatcher		Migrant
Least Flycatcher		Migrant
<b>TYRANNINE FLYCATCHERS</b>		
Bright-rumped Attila		Uncommon
Yucatan Flycatcher		Rare
Dusky-capped Flycatcher		Rare
Great-crested Flycatcher	Kiskadee	Migrant
Brown-crested Flycatcher	Kiskadee	Breeding
Great Kiskadee	Kiskadee	Common, breeding
Boat-billed Flycatcher	Kiskadee	Common
Social Flycatcher	Kiskadee	Breeding
Tropical Kingbird	Kiskadee	Common, breeding
Cassin's Kingbird,	Kiskadee	Rare

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
Eastern Kingbird		Uncommon
Rose-throated Becard		Common, breeding
Masked Tityra		Breeding
<b>MANAKINS</b>		
Red capped Manakin		Uncommon
<b>SWALLOWS</b>		
	Jolondrinas	
Purple Martin		Migrant
Gray breasted Martin		Common
Tree Swallow		Migrant
Mangrove Swallow		Common
Bank Swallow		Migrant
<b>JAYS</b>		
Green Jay		Rare
Brown Jay, Piam piam		Common, breeding
Yucatan Jay	Chel	Common, Yucatan endemic, breeding
<b>WRENS</b>		
Spot breasted Wren		Uncommon
House Wren		Uncommon
White bellied Wren		Uncommon
White breasted Wood Wren		Uncommon
<b>GNATCATCHERS</b>		
Long billed Gnatwren		Rare
Blue Gray Gnatcatcher		Common
Tropical Gnatcatcher		Rare
<b>TRUSHES</b>		
Wood thrush		Migrant



**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
<b>MOCKINGBIRDS</b>		
Gray Catbird		Uncommon
# Black Catbird		Common near lagoons, breeding
Tropical Mockingbird		Common, breeding
<b>WAXWINGS</b>		
Cedar Waxwing		Rare
<b>VIREOS</b>		
White eyed Vireo		Migrant
Thick billed Vireo		Reported, doubtful
Mangrove Vireo		Common
Yellow throated Vireo		Uncommon
Red-eyed Vireo		Rare
Yucatan Vireo		Uncommon
Lesser Greenlet		Common
Rufous-browed Peppershrike		Rare
<b>WOOD WARBLERS</b>		
Blue winged Warbler		Migrant
Tennessee Warbler		Migrant
Northern Parula		Migrant
Yellow Warbler		Migrant
Mangrove Warbler		Common
Magnolia Warbler		Migrant
Yellow rumped Warbler		Migrant
Black throated Green Warbler		Migrant
Yellow throated warbler		Migrant
Bay breasted Warbler		Migrant
Black and White Warbler		Migrant
American Redstart		Migrant
Prothonotary Warbler		Migrant
Ovenbird		Migrant
Northern Waterthrush		Migrant
Louisiana Waterthrush		Migrant
Kentucky Warbler		Migrant

**Birds of Shipstern Nature Reserve**

Species	Local name	Abundance
	# = Species of international concern	
Common Yellowthroat		Migrant
Gray crowned yellowthroat		Uncommon
Hooded Warbler		Migrant
Wilson's Warbler		Migrant
Yellow breasted Chat		Migrant
Gray throated chat		Rare
<b>TANAGERS</b>		
Red legged Honeycreeper		Rare
Scrub Euphonia		Uncommon
Yellow throated euphonia		Common
Red throated Ant Tanager		Common
Rose throated Tanager		Rare
Summer Tanager		Migrant
Scarlet Tanager		Migrant
<b>CARDINALS</b>		
Black headed saltator		Uncommon
Northern Cardinal, Cardinal		Uncommon
Rose brested Grosbeak		Rare
Blue bunting		Uncommon
Blue Grosbeak		Migrant, rare
Indigo Bunting		Uncommon
Painted bunting		1 record, Migrant
<b>EMBERIZINE SPARROWS</b>		
Olive sparrow		Rare
Green-backed Sparrow		Common
Blue-black Grassquit		Uncommon
White-collared Seedeater		Common, breeding
<b>BLACKBIRDS</b>		
Red-winged Blackbird	Rare, southern part of Lagoons only	
Melodious Blackbird		Common, breeding
Great tailed Grackle	Rare, common Iguana Camp	
Bronzed Cowbird		Common, breeding

### Birds of Shipstern Nature Reserve

Species	Local name	Abundance
	# = Species of international concern	
Black cowled Oriole	Banana bird	Common
Orchard Oriole	Banana bird	Migrant
Hooded Oriole	Banana bird	Common, breeding
Orange Oriole	Banana bird	Common, Yucatan endemic, breeding. New record for Belize.
Yellow backed Oriole	Banana bird	Uncommon
Altamira Oriole	Banana bird	Common, breeding
Baltimore Oriole	Banana bird	Migrant
Yellow billed Cacique		Common
Montezuma Oropendola		Vagrant

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## **MAMMALS OF THE SHIPSTERN NATURE RESERVE.**

**Jan C. Meerman**

*International Tropical Conservation Foundation*

No specific Mammal survey has been conducted in the reserve. This species list is, therefore, based on occasional observations, track records and roadkills. Because of this, smaller mammals like the Marsupalia, Rodentia and Chiroptera are under represented in this list. The Caribbean Manatee (*Trichechus manatus*, Sirenia), frequently seen just offshore, has been reported as a casual visitor to the lagoons within the reserve. But in themselves the lagoons are not a good habitat for Manatees and these records have never been confirmed. The same applies to Bottlenose Dolphins (*Tursiops truncatus*, Delphinidae), which probably, on occasion, enter the mouth of the lagoons near Shipstern Caye.

Definitely absent from the reserve are the Primates. Black Howler Monkeys (*Alouatta pigra*) and possibly Spider Monkeys (*Ateles geoffroyi*) used to occur in the area but were lost after Hurricane Janet in 1955 and have now to be considered extinct. Most mammals are very shy due to a high hunting pressure although Coati's often seem to be indifferent of Human presence. Local names have been incorporated in the list where possible.

### **Mammals of Shipstern Nature Reserve**

<b>Species</b>	<b>Local name</b>	<b>Abundance</b>
# = Species of conservation concern		
<b>MARSUPIALIA</b>		
<i>Didelphis virginiana</i>	Virginia Opossum, Zorro.	Common
<i>Philander opossum</i>	Four eyed Opossum	Rare
<i>Marmosa sp.</i>	Mouse Opossum.	

**Mammals of Shipstern Nature Reserve *continued***

Species	Local name	Abundance
# = Species of conservation concern		
<b>EDENTATA</b>		
# <i>Tamandua mexicana</i>	Tamandua, Oso hormiguero.	Uncommon
<i>Dasyus novemcinctus</i>	Nine Banded Armandillo, Ouetch.	Uncommon
<b>CHIROPTERA</b>		
<i>Saccopteryx bilineata</i>	Greater White Lined Bat.	Unknown
<i>Uroderma bilobatum</i>	Tent making Bat	Common
<i>Desmodus rotundus</i>	Vampire Bat.	Uncommon
<b>CARNIVORA</b>		
<i>Urocyon cinereoargenteus</i>	Gray Fox, Gato de Monte	Common
<i>Procyon lotor</i>	Nothern Raccoon	Uncommon
# <i>Nasua nasua</i>	White Nosed Coati, Pisote	Common
# <i>Potos flavus</i>	Kinkajou, Mico de noche	Rare
# <i>Eira barbara</i>	Tayra, Perro de Monte	Uncommon
<i>Spilogale putorius</i>	Spotted Skunk	Rare
<i>Conepatus semistriatus</i>	Hog Nosed Skunk	Rare
# <i>Lutra longicaudis</i>	Southern River Otter	Rare
# <i>Felis pardalis</i>	Ocelot, Tigrillo	Rare
# <i>Felis wiedii</i>	Margay, Tigrillo	Rare
# <i>Herpailurus yagouaroundi</i>	Jaguarundi	Rare
# <i>Puma concolor</i>	Puma, Tigre, Leoncillo	Rare
# <i>Panthera onca</i>	Jaguar, Tigre	Rare
<b>PERISSODACTYLA</b>		
# <i>Tapirus bairdii</i>	Bairds' Tapir, Danto.	Rare
<b>ARTIODACTYLA</b>		
# <i>Tayassu tajacu</i>	Collared Peccary, Queqeo.	Uncommon
# <i>Tayassu pecari</i>	White lipped Peccary, Jawilla.	Rare
<i>Mazama americana</i>	Red Brocket Deer, Antelope.	Uncommon
<i>Odocoileus virginianus</i>	White tailed Deer, Venado.	Uncommon

**Mammals of Shipstern Nature Reserve** *continued*

Species	Local name	Abundance
# = Species of conservation concern		
RODENTIA		
<i>Sciurus yucatenensis</i>	Yucatan Squirrel, Ardilla	Uncommon
<i>Coendou mexicanus</i>	Mexican Hairy Porcupine, Puercoespin	Rare
<i>Agouti paca</i>	Paca, Tepesquintle	Uncommon
<i>Dasyprocta punctata</i>	Agouti, Ouatusa, Lievre	Common
<i>Heteromys desmarestianus</i>	Spiny Pocket Mouse	Unknown

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