MEMBERS OF CHIROPTERA PROVIDE A DIVERSITY OF ECOLOGICAL SERVICES (E.G., SEED DISPERSAL, FLOWER POLLINATION, PEST SUPPRESSION) IMPORTANT TO THE OVERALL COMPOSITION, STRUCTURE AND FUNCTION OF ECOSYSTEMS

GLOSSOPHAGINES (NECTARIVOROUS BATS) OF THE AMERICAS ARE A DIVERSE GROUP OF 36 SPECIES THAT EXHIBIT MORPHOLOGICAL, PHYSIOLOGICAL, AND BEHAVIORAL ADAPTATIONS FOR FEEDING ON POLLEN AND NECTAR OF FLOWERS IN TROPICAL AND SUBTROPICAL HABITATS

MEGABATS AND LARGER FRUGIVOROUS AND OMNIVOROUS PHYLLOSTOMID BATS LAND ON FLOWERS TO ACCESS NECTAR, WHEREAS GLOSSOPHAGINES POSSESS THE ABILITY TO HOVER AND EXTRACT NECTAR WITH PROTRUSIBLE TONGUES

WORLDWIDE, > 500 SPECIES OF FLOWERS OF > 67 PLANT FAMILIES RELY ON BATS AS THEIR MAJOR OR EXCLUSIVE POLLINATORS

TEQUILA, FROM THE AGAVE PLANT, RELIES SOLELY ON BATS TO POLLINATE ITS FLOWERS AND REPRODUCE

FROM DESERTS TO RAINFORESTS, NECTARIVOROUS BATS ARE CRITICAL POLLINATORS FOR NUMEROUS PLANTS OF CONSIDERABLE ECONOMIC AND ECOLOGICAL VALUE

NECTARIVOROUS BATS, LIKE HUMMINGBIRDS, HAVE AN EQUATORIAL DISTRIBUTION
THIS LIMITATION TO THE TROPICS PRESUMABLY OCCURS BECAUSE POLLINATORS REQUIRE A RELIABLE, YEAR ROUND SUPPLY OF NECTAR

BATS HAVE AN INCREDIBLE SPATIAL MEMORY AND CAN LOCATE, DOWN TO THE CENTIMETER, PREVIOUSLY "REWARDING" FLOWERS

FLOWERS DEVELOP NUMEROUS ADAPTATIONS TO ATTRACT POLLINATORS, WHICH REFLECT THE ENERGETIC, SENSORY AND COGNITIVE ABILITIES OF BATS

CHARACTERISTICS OF BAT POLLINATED FLOWERS INCLUDE;

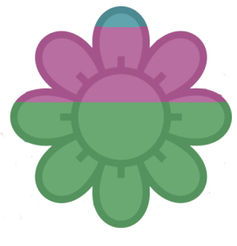
NOCTURNAL ANTHESIS (NIGHTTIME FLOWERING)
LARGE AND STURDY FLOWERS
HIGH PRODUCTION OF NECTAR AND POLLEN
INTENSE SCENT
INCONSPICUOUS COLORS
FREELY EXPOSED POSITION

LEPTONYCTERIS (LONG-NOSED BATS) AND CHOERONYCTERIS (MEXICAN LONG-TONGUED BATS) ARE NEOBUXBAUMIA CACTUS' ONLY POLLINATORS

ON THE ISLAND OF CURACAO, SOUTHERN LONG-NOSED BATS AND MILLER'S LONG-TONGUED BATS ARE THE PRINCIPAL POLLINATORS OF AT LEAST 2 OF 3 COLUMNAR CACTI; PARTURITION AND LACTATION CORRESPOND TO THE SEASONAL PHENOLOGY OF THESE CACTI

PALLID BATS, WHICH TYPICALLY CONSUME LARGE, TERRESTRIAL ARTHROPODS, VISIT AGAVE FLOWERS AND OBTAIN SUBSTANTIAL AMOUNTS OF CARBON FROM PLANTS OF THE CACTACEAE (CACTI) AND AGAVACEAE (AGAVE) FAMILIES

THIS SPECIES SERVES AS A LEGITIMATE POLLINATOR OF BAT-ADAPTED PLANTS AND MAY REPRESENT AN EARLY STAGE IN THE EVOLUTION OF NECTARIVORY AND FRUGIVORY IN VESPERTILIONIDAE (COMMON MICROBATS)



GLOSSOPHAGINES REQUIRE 40% LESS ENERGY THAN A HUMMINGBIRD AND 60% LESS ENERGY THAN A SPHINGID MOTH TO COUNTERBALANCE THEIR BODY MASS DURING HOVERING FLIGHT

BECAUSE OF BIOLOGICAL FEATURES ASSOCIATED WITH THEIR SPECIALIZED DIET, NECTARIVOROUS BATS MAY BE MORE VULNERABLE TO EXTINCTION THAN OTHER BATS