BUTTERFLY AND MOTH CHECKLIST YAVAPAI COUNTY, ARIZONA



GARRY ROGERS

Butterfly and Moth Checklist and Notebook Yavapai County, Arizona

By Garry Rogers

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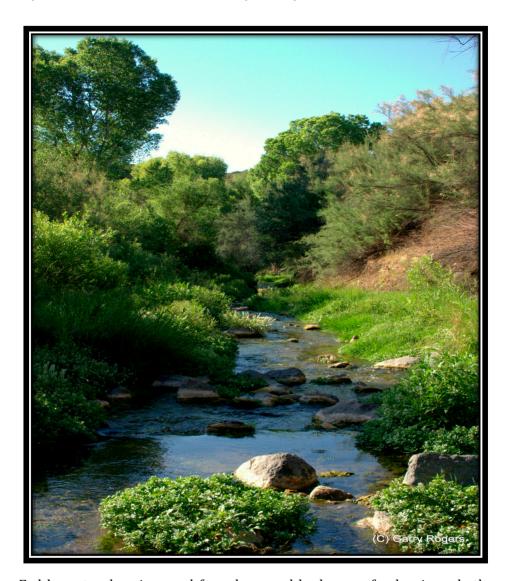
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Cover photograph: The brilliant Monarch (Danaus plexippus) is probably the most familiar North American butterfly. During a unique annual migration that varies in length from 1,200 to 3,000 miles, Monarchs drink the nectar of many flower species and they lay eggs on milkweeds. Milkweeds contain cardiac glycosides that can cause vomiting and heart failure. As Monarch eggs hatch and the caterpillars consume the milkweeds, they accumulate glycosides in their tissues. The accumulated chemicals persist in the metamorphosed butterflies, creating a dangerous flavor that most predators have learned to avoid.

To continue their annual migration, Monarchs must have milkweeds and the trees where they rest during winter. Chemical herbicides that people spray on crops and yards have eliminated most milkweeds. Loggers and developers have cut most of the essential trees. Efforts to save the monarch are underway, but there are problems. The Mexican government tried to save Monarchs by creating the *Monarch Butterfly Biosphere Reserve* to protect the Oyamel Fir forests where Monarchs spend winters. However, loggers slip into the reserve and cut trees. As with many other reserves worldwide, local people often place their needs ahead of the needs of the animals.



Fed by natural springs and forced upward by layers of volcanic rock, the Agua Fria River flows above ground through Dewey-Humboldt, Arizona. Native Cottonwood and Willow trees occupy the banks and form patches of closed-canopy forest on the floodplain. Human impact on the stream is profound. Introduced Salt Cedar, Russian Olive, Siberian Elm, and more than 50 other nonnative plant species are present. Wastewater from two small towns and runoff from a farm and a mine pollute the water. Invasive Crawdads, Bullfrogs, and other introduced species are present. Though human impacts probably shorten their lives, many native species of plants and animals could not survive without water from the river. How long they survive will depend on future increases of toxic wastes and the growing human population's diversion of the springs.

Introduction

In 1997. I began making lists of the butterflies and other wildlife I saw around my 20-acre farm on the Agua Fria River in the town of Dewey-Humboldt. Arizona, I dog-eared page corners and sometimes made notes in the margins of my field guides. Soon, I had information scattered across more than a dozen books. I decided to consolidate by making alphabetical checklists with all the names of the species known to occur in my area. Then, when I identified a species, I could easily check if I had seen it before and read any notes I might have made.

I researched the various species groups (butterflies, mammals, reptiles, etc.) and found that the Arizona Game and Fish Department (AZGFD) and numerous wildlife organizations had lists of the species known to live in or to visit Arizona. One butterfly organization (Butterflies and Moths of North America - BAMONA) made county lists available. No lists for any species groups were available for Dewey-Humboldt (D-H). Though the statewide lists included species that would never visit D-H, including all the names didn't make the lists any harder to use, and with all the names, the lists would be useful outside Dewey-Humboldt.

AZGFD wildlife biologists rank species according to their conservation status. The basic ranks S1 through S5 indicate the level of concern for each species' health and stability with S1 indicating species of greatest concern. The AZGFD data also indicated whether a species was threatened or endangered according to the U. S. Endangered Species Act. This is valuable information and a great service provided by the people of the AZGFD. I decided to include the conservation ranks in my checklists.

My Arizona Wildlife Notebook, published in 2014, includes eleven groups (amphibians, ants, birds, butterflies and moths, dragonflies and damselflies, fish, grasshoppers and other singing insects, lizards, mammals, snakes, and turtles). The book has common and scientific names and species conservation rank. It's a handy tool for recording species sightings anywhere in the State of Arizona.

In 2016, I updated and published the bird chapter from the notebook (https://garryrogers.com/birds-of-dewey-humboldt-arizona) with photographs of the species I had seen in D-H. I called on interested residents of D-H to report species they saw around town so that I could add them to future editions.

BAMONA has recorded species sightings since lepidopterists organized the initial database in 1995. Anyone can extract county checklists from the database. I decided to make a somewhat localized checklist for Dewey-Humboldt

by combining BAMONA's list for Yayapai County where I live with species conservation status from the AZGFD website.

For species identification, I use Jeffrey Glasssberg's Butterflies through Binoculars (Glassberg 2001) and the BAMONA website at http://www.butterfliesandmoths.org/identify. The checklist links every species name to descriptions and photographs on the BAMONA website. The PDF file has editable space for notes beneath each species name.

Experienced volunteers review species sightings submitted to BAMONA (http://www.butterfliesandmoths.org/node/add/sighting). If the volunteers can identified the species, they add it to BAMONA's online database.

The checklists below have scientific and common names alphabetized by scientific name. Field guides usually list butterflies and moths in related groups such as Blues, Brushfoots, Coppers, and so forth. For quick switches between a field guide and a notebook, I find an alphabetical list easier to use.

Conservation and the Human Impact

Research coming from many sources shows that human activities are forcing animal extinctions 100 times faster than at any time in Earth's past. However tragic it is, extinction isn't the only concern. Total loss of a species results after years of decline. In 2014, the World Wildlife Fund, the Zoological Society of London, and other organizations published an extensive analysis of more than 10,000 wildlife studies. The analysis reached a stunning conclusion: The total number of animals on Earth has declined by more than 50% since 1970.

An updated World Wildlife Fund report published in 2016 showed that by 2012, Earth's animals had declined by 57%. Biologists predict the decline will reach 67% by 2020. The cause? Human overpopulation, pollution, and overuse of resources is destroying essential habitat for most of Earth's plants and animals.

Butterflies and moths are not just beautiful, they are important as pollinators and as food for other species. Without them, some plants and some animals would soon be lost. Butterflies and moths are also interesting objects of study. They are more socially independent than ants, but they do interact bevond their feeding and mating behavior. I've watched two Monarchs perched side-by-side patiently taking turns at a tiny nectar source, and we've all seen butterflies swirling around in aerial dances with members of their own and other species.

We know very little about butterflies and moths. Entomologists have named most of the butterflies, but they have named only 10 or 15 percent of the moths. Though I don't believe that we humans are obligated to care for other species, poisoning and destroying habitat seems cruel, and not trying to learn the identities of the species we are eliminating seems foolish.

Human activities are destroying butterfly and moth populations. For example, researchers have determined that the decline of Monarch butterflies is a result of habitat loss, much of it illegal logging in Mexico, and increased pesticide use on farms, roadsides, and yards throughout the migratory flyways of the butterfly. Pesticide use is exploding as scientists genetically modify more crop plants to build in herbicide resistance. The most harmful human activities in need of correction are:

- habitat destruction (building, farming, and fighting),
- resource harvests (logging, livestock grazing, and water diversion).
- habitat deterioration caused by introduced invasive plants,
- habitat poisoning with pesticides and toxic wastes.
- global warming from release of greenhouse gasses from burning fossil fuels

For more on general conservation, read the essay on my website (http://wp.me/P26kDO-dnR).



Cloak **Butterflies** Mourning (Nymphalis antiopa) such as the one in the photograph are common around my home in D-H. I've seen them in every month of the year. In years past, there often were dozens in March when the plumb trees bloomed. The numbers have been falling, however, and this year from January through March, I've only seen two. We just had a wet winter (2016-17). Perhaps Mourning Cloaks will rebound next year.

Many people help slow the de-

cline of butterflies and moths by including a few desirable plants in their yards and gardens. A small area can be very productive. For instance, a 4foot square patch of 16 milkweed plants will often attract Monarchs. Last year, several caterpillars appeared on the milkweeds planted on the elementary school playground near my house. Desirable native plants for butterflies, moths, and other pollinators that grow well in Yavapai County are Butterfly Bush (Buddleia), Horsetail Milkweed (Asclepias subverticillata), and Larkspur (*Delphinium*). Foreign species that do well and are pollinator magnets are Coneflower (Echinacea purpurea) and Hyssop (Hyssopus). All of these plants can be invasive, but in arid locations like Yavapai County, they will stay where you provide supplemental water. An exception is Horehound (Marrubium vulgare) which is included in the North American Butterfly Association (NABA, http://nababutterflv.com) list of plants for the Prescott area. This small European shrub is invasive in Dewey-Humboldt in central Yavapai County where I live. It produces small hooked seeds that mat the fur of dogs, cats, and wildlife. Pull it whenever you find it.

NABA is the coordinator of butterfly counts resembling the Audubon Society's Christmas Bird counts. The counts produce annual records of butterflies sighted during a one-day search in a permanent count circle. After a few years, repeated count records can indicate declining species that may need our support.

Butterfly and Moth Numbers and Conservation Status

Rates of wildlife decline in Arizona are a close match to the worldwide rates reported by the World Wildlife Fund. The table below shows the numbers of vertebrate species that AZGFD considers **critically imperiled (S1)**, **imper**iled (S2), and vulnerable (S3). It also shows U.S. Endangered Species Act (ESA) numbers for threatened (LT) and endangered (LE) species. I didn't included butterflies and moths in the table because their status is mostly unknown. I define the AZGFD symbols below, and the ESA symbols in the Arizona Wildlife Notebook.

ARIZONA WILDLIFE CONSERVATION STATUS			
Species Group	Arizona	AZGFD	ESA
Species Group	Native Species	S1+S2+S3	LT+LE
Amphibians	31	18 (58%)	2 (6%)
Birds	451	260 (58%)	9 (2%)
Fish	40	40 (100%)	13 (33%)
Lizards	67	27 (40%)	0 (0%)
Mammals	189	64 (34%)	15 (8%)
Snakes	76	35 (46%)	1 (1%)
Turtles	10	6 (67%)	2 (20%)
TOTAL	864	450 (52%)	42 (9%)

Estimates of Butterfly and Moth Species Numbers

Butterfly Species Worldwide: 20,000 Butterfly Species in the U.S.: 750

Arizona Butterflies: 400

- Yavapai County (Central Arizona) Butterflies: 158
- Yavapai County Butterflies with risk estimates: 17 (11%)
- Yavapai County Butterflies at Risk (S1 to S4): 14 (82%)
- ESA Yayapai County Butterflies of Concern: 0
- Moth Species Worldwide: 160,000
- Moth Species in the U.S.: 11,000
- Yavapai County Moths: 1600 (very rough estimate)
- Yavapai County Moths in this book: 160
- Yavapai County Moths of Uncertain Status: 157 (98%)

Conservation Rank Symbols

I placed conservation-rank symbols in the two right-hand columns of the lists. I used the May 5, 2016 species lists and definitions posted on the internet by AZGFD (http://azgfd.gov). In the next section, I define only the symbols AZGFD had applied to the Yavapai County species.

Symbols used by AZGFD

- **S1 Critically Imperiled:** Extremely rare or some factor(s) is making the species especially vulnerable to extinction. Typically five or fewer locations or very few remaining individuals (<1,000).
- **S2 Imperiled:** Rare or some factor(s) is making the species very vulnerable to extirpation. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000).
- **Vulnerable:** Rare or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.
- **Apparently Secure:** Uncommon but not rare, and usually widespread. Usually more than 100 occurrences* and more than 10,000 individuals. Possible long-term concern.
- **S5 Secure:** Common, widespread, and abundant. Safe under present conditions. Typically with considerably more than 100 locations and more than 10.000 individuals.
- **Inexact or Uncertain**: Qualifies the character immediately preceding. Used alone to indicate insufficient information to assign a rank.
- SA Accidental: Not native.
- SE **Exotic Origin:** Not native.
- SH **Possibly Extirpated (Historical):** Historically present, and there is some expectation that the species may be rediscovered.
- S#S# Range of uncertainty about status (e.g., S3S4).

Symbols Used by the U.S. Fish and Wildlife Service (FWS) for the Endangered Species Act (ESA)

Most symbols omitted because Fish and Wildlife Service has classified only one butterfly and no moths for Yavapai County.

Species of Concern: Species whose status may be of concern to SC the U.S. Fish and Wildlife Service, but without official federal status.

Butterfly Identification

Jeffrey Glassberg (2001) recommends identifying butterflies using close-focusing binoculars instead of capturing and possibly harming them. I have followed his recommendation.

Photographs

Here are a few photographs of butterflies and moths I've seen around my home. Many others did not hold still long enough for me to snap a photo.



I could not identify the species of this beautiful little Buckmoth (Hemileuca sp.). From the photo alone, BAMONA wasn't sure either.



Pipevine Swallowtail on a Butterfly Bush (Buddleia). Monarch caterpillar snacking on Horsetail Milkweed (Asclepias subverticillata).



Butterfly Checklist

This list includes information from the BAMONA and AZGFD websites. Moths are in a separate table following the butterflies. Scientific names (in the PDF copy) link to the species descriptions on the BAMONA website.

BUTTERFLIES OF YAVAPAI COUNTY, ARIZONA				
S1=Critically Imperiled, S2=Impe	S1=Critically Imperiled, S2=Imperiled, S3=Vulnerable, S4-S5=Safe, SA = Accidental, SC= Of Concern, SH= Possibly Extripated			
SCIENTIFIC NAME	COMMON NAME	AZ	ESA	
Abaeis nicippe	Sleepy Orange			
Adelpha eulalia	Arizona Sister	S2		
<u>Agathymus baueri</u>	Bauer's Giant-Skipper	·		
Agathymus neumoegeni	Orange Giant-Skipper	S3		
<u>Agraulis vanillae</u>	Gulf Fritillary			
Amblyscirtes aenus	Bronze Roadside-Skipper			
<u>Amblyscirtes eos</u>	Dotted Roadside-Skipper			
Amblyscirtes exoteria	Large Roadside-Skipper			
Anaea andria	Goatweed Leafwing			
Ancyloxypha arene	Tropical Least Skipper			
Anthanassa texana	Texan Crescent			
Anthocharis cethura	Desert Orangetip	S4		
Anthocharis thoosa	Southwestern Orangetip	S 5		
Apodemia mormo	Mormon Metalmark			
Apodemia nais	Nais Metalmark			

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SCIENTIFIC NAME	COMMON NAME	AZ	ESA
<u>Apodemia palmeri</u>	Palmer's Metalmark		
Asterocampa celtis	Hackberry Emperor		
Asterocampa leilia	Empress Leilia		
Atalopedes campestris	Sachem		
<u>Atlides halesus</u>	Great Purple Hairstreak		
Atrytonopsis deva	Deva Skipper	S 3	
Atrytonopsis pittacus	White-barred Skipper		
Atrytonopsis python	Python Skipper		
<u>Atrytonopsis vierecki</u>	Viereck's Skipper		
Battus philenor	Pipevine Swallowtail		
<u>Brephidium exilis</u>	Western Pygmy-Blue		
<u>Calephelis nemesis</u>	Fatal Metalmark		
<u>Callophrys affinis</u>	Western Green Hairstreak		
Callophrys augustinus	Brown Elfin	•	
<u>Callophrys gryneus</u>	Juniper Hairstreak		
<u>Callophrys spinetorum</u>	Thicket Hairstreak		
<u>Callophrys xami</u>	Xami Hairstreak	S2?	
<u>Celastrina echo</u>	Echo Azure	S3S4	

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S1=Critically Imperiled, S2=Imp	periled, S3=Vulnerable, S4-S5=Safe, SA = Acc SH= Possibly Extripated	cidental, SC= Of C	Concern,	
SCIENTIFIC NAME	COMMON NAME	AZ	ESA	
<u>Celastrina ladon</u>	Spring Azure			
<u>Celotes nessus</u>	Common Streaky-Skipper			
<u>Cercyonis meadii</u>	Mead's Wood-Nymph			
<u>Cercyonis pegala</u>	Common Wood-Nymph			
<u>Chlorostrymon simaethis</u>	Silver-banded Hairstreak			
Chlosyne acastus	Sagebrush Checkerspot	S5	SC	
Chlosyne californica	California Patch			
<u>Chlosyne fulvia</u>	Fulvia Checkerspot			
<u>Chlosyne lacinia</u>	Bordered Patch			
<u>Chlosyne theona</u>	Theona Checkerspot			
<u>Cogia caicus</u>	Gold-costa Skipper			
Cogia hippalus	Acacia Skipper			
<u>Colias alexandra</u>	Queen Alexandra's Sulphur			
<u>Colias eurytheme</u>	Orange Sulphur	·	-	
<u>Colias philodice</u>	Clouded Sulphur			
Copaeodes aurantiaca	Orange Skipperling			
<u>Cupido amyntula</u>	Western Tailed-Blue			
<u>Cyllopsis pertepida</u>	Canyonland Satyr			

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SCIENTIFIC NAME	COMMON NAME	AZ	ESA
<u>Danaus gilippus</u>	Queen		
<u>Danaus plexippus</u>	Monarch	S2S4	
<u>Dymasia dymas</u>	Tiny Checkerspot		
Echinargus isola	Reakirt's Blue		
Emesis zela	Zela Metalmark	S1	
Epargyreus clarus	Silver-spotted Skipper		
<u>Erora quaderna</u>	Arizona Hairstreak		
<u>Erynnis afranius</u>	Afranius Duskywing		
<u>Erynnis brizo</u>	Sleepy Duskywing		
<u>Erynnis funeralis</u>	Funereal Duskywing		
Erynnis icelus	Dreamy Duskywing		
<u>Erynnis meridianus</u>	Meridian Duskywing		
<u>Erynnis pacuvius</u>	Pacuvius Duskywing		
<u>Erynnis persius</u>	Persius Duskywing	·	_
<u>Erynnis telemachus</u>	Rocky Mountain Duskywing		
<u>Euchloe lotta</u>	Desert Marble		
<u>Euphilotes bernardino</u>	Bernardino Dotted-Blue		
<u>Euphilotes enoptes</u>	Pacific Dotted-Blue		

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SCIENTIFIC NAME	COMMON NAME	AZ	ESA	
<u>Euphilotes rita</u>	Rita Dotted-Blue			
Euphydryas anicia	Anicia Checkerspot	S4		
Euphydryas chalcedona	Chalcedon Checkerspot			
<u>Euphyes vestris</u>	Dun Skipper			
<u>Euptoieta claudia</u>	Variegated Fritillary			
Eurema mexicana	Mexican Yellow			
Glaucopsyche lygdamus	Silvery Blue			
<u>Gyrocheilus patrobas</u>	Red-bordered Satyr			
<u>Heliopetes ericetorum</u>	Northern White-Skipper			
<u>Heliopyrgus domicella</u>	Erichson's White-Skipper			
<u>Hemiargus ceraunus</u>	Ceraunus Blue			
<u>Hesperia pahaska</u>	Pahaska Skipper			
<u>Hesperia uncas</u>	Uncas Skipper			
<u>Hesperia woodgatei</u>	Apache Skipper	·	-	
<u>Hesperopsis alpheus</u>	Saltbush Sootywing			
<u>Hylephila phyleus</u>	Fiery Skipper			
<u>Hypaurotis crysalus</u>	Colorado Hairstreak			
<u>Junonia coenia</u>	Common Buckeye			

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SCIENTIFIC NAME	COMMON NAME	AZ	ESA		
<u>Junonia evarete</u>	Tropical Buckeye				
<u>Leptotes marina</u>	Marine Blue				
<u>Lerodea eufala</u>	Eufala Skipper				
<u>Libytheana carinenta</u>	American Snout				
<u>Limenitis archippus</u>	Viceroy	S4			
<u>Limenitis arthemis</u>	Red-spotted Purple or White Admiral				
Limenitis arthemis arizonensis	Arizona Red-spotted Purple				
<u>Limenitis weidemeyerii</u>	Weidemeyer's Admiral				
<u>Megathymus ursus</u>	Ursine Giant-Skipper	S3			
Megathymus yuccae	Yucca Giant-Skipper				
<u>Megisto rubricata</u>	Red Satyr				
<u>Ministrymon leda</u>	Leda Ministreak				
<u>Nathalis iole</u>	Dainty Sulphur				
Neophasia menapia	Pine White	S5			
NotAmblyscirtes simius	Simius Roadside-Skipper				
<u>Nymphalis antiopa</u>	Mourning Cloak				
Nymphalis californica	California Tortoiseshell				
<u>Oarisma garita</u>	Garita Skipperling				
1					

BUTTERFLIES	OF YAVAPAI COUNTY	, ARIZON	Α
S1=Critically Imperiled, S2=Imp	periled, S3=Vulnerable, S4-S5=Safe, SA = Acc SH= Possibly Extripated	idental, SC= Of Co	oncern,
SCIENTIFIC NAME	COMMON NAME	AZ	ESA
<u>Ochlodes yuma</u>	Yuma Skipper		
Papilio cresphontes	Giant Swallowtail		
<u>Papilio machaon</u>	Old World Swallowtail		
Papilio multicaudata	Two-tailed Swallowtail		
<u>Papilio polyxenes</u>	Black Swallowtail		
<u>Papilio rutulus</u>	Western Tiger Swallowtail		
Phaeostrymon alcestis	Soapberry Hairstreak		
<u>Phoebis agarithe</u>	Large Orange Sulphur		
<u>Phoebis sennae</u>	Cloudless Sulphur		
<u>Pholisora catullus</u>	Common Sootywing		
Phyciodes cocyta	Northern Crescent		
Phyciodes mylitta	Mylitta Crescent		
Phyciodes pallida	Pale Crescent		
Phyciodes picta	Painted Crescent		
Phyciodes pulchella	Field Crescent		
Phyciodes tharos	Pearl Crescent		
<u>Pieris rapae</u>	Cabbage White	SE	
<u>Piruna pirus</u>	Russet Skipperling		

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SCIENTIFIC NAME	COMMON NAME	AZ	ESA	
<u>Piruna polingii</u>	Four-spotted Skipperling	S3S4		
<u>Plebejus glandon</u>	Arctic Blue			
<u>Plebejus icarioides</u>	Boisduval's Blue			
<u>Plebejus lupini</u>	Lupine Blue			
<u>Plebejus melissa</u>	Melissa Blue (includes Karner Blue)			
<u>Plebejus saepiolus</u>	Greenish Blue			
<u>Poanes taxiles</u>	Taxiles Skipper			
<u>Poladryas arachne</u>	Arachne Checkerspot			
Poladryas minuta	Dotted Checkerspot			
<u>Polites carus</u>	Carus Skipper			
Polites rhesus	Rhesus Skipper			
Polygonia gracilis	Hoary Comma			
Polygonia interrogationis	Question Mark			
<u>Polygonia satyrus</u>	Satyr Comma	•		
<u>Polygonus leo</u>	Hammock Skipper			
Pontia protodice	Checkered White			
<u>Pontia sisymbrii</u>	Spring White			
<u>Pyrgus albescens</u>	White Checkered-Skipper			

	OF YAVAPAI COUNT		
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SCIENTIFIC NAME	COMMON NAME	AZ	ESA
<u>Pyrgus philetas</u>	Desert Checkered-Skipper		
<u>Pyrgus scriptura</u>	Small Checkered-Skipper		
Pyrisitia proterpia	Tailed Orange	S1S2	
<u>Satyrium behrii</u>	Behr's Hairstreak		
<u>Satyrium ilavia</u>	llavia Hairstreak		
<u>Satyrium sylvinus</u>	Sylvan Hairstreak		
<u>Speyeria hesperis</u>	Northwestern Fritillary	S3	
<u>Staphylus ceos</u>	Golden-headed Scallopwing		
<u>Strymon melinus</u>	Gray Hairstreak		
<u>Systasea zampa</u>	Arizona Powdered Skipper		
<u>Texola elada</u>	Elada Checkerspot		
<u>Thorybes pylades</u>	Northern Cloudywing		
<u>Vanessa annabella</u>	West Coast Lady		
<u>Vanessa atalanta</u>	Red Admiral	•	-
<u>Vanessa cardui</u>	Painted Lady		
<u>Vanessa virginiensis</u>	American Lady		
<u>Zestusa dorus</u>	Short-tailed Skipper		

D-H Moth Checklist with Sightings in Bold

This list includes moths of Yavapai County, Arizona based on the BAMONA and AZGFD lists. It includes conservation ranking from the AZGFD website (only three). Butterflies are in the table above. Scientific names link to the species descriptions on the BAMONA website.

MOTHS OF YAVAPAI COUNTY, ARIZONA			
S2=Imperiled, S3=Vu	Inerable, S4=Possible long-term Conce	rn, S5=Safe	
SCIENTIFIC NAME	COMMON NAME	AZ	ESA
<u>Acontia expolita</u>			
<u>Acontia lucasi</u>			
<u>Acontia tetragona</u>	Four-spotted Bird-dropping Moth	l	
Acronicta thoracica			
<u>Agonopterix psoraliella</u>			
<u>Agonopterix sabulella</u>			
<u>Agrius cingulata</u>	Pink-spotted hawkmoth		
Antaeotricha lindseyi			
Antaeotricha thomasi			
Antaeotricha unipunctella			
Antheraea oculea	Oculea silkmoth		
Apachea barbarella			
<u>Arachnis picta</u>	Painted Tiger Moth		
Aroga paraplutella			
Ascalapha odorata	Black Witch		
<u>Automeris cecrops</u>	Cecrops eyed silkmoth		
Bagisara buxea			

мотнѕ	OF YAVAPAI	COUNTY,	ARIZONA	
S2=Imperiled	, S3=Vulnerable, S4=Possil	ble long-term C	oncern, S5=Safe	
SCIENTIFIC NAM	IE COMM	MON NAME	AZ	ESA
<u>Bertholdia trigona</u>				
<u>Bryolymnia semifascia</u>	Half-banded I	Bryolymnia Mot	h	
Catocala babayaga				
Catocala hermia				
Catocala neogama	The Bride			
Catocala piatrix	The Penitent	Underwing		
Chamaeclea pernana				
Chararica bicolorella				
<u>Cisthene angelus</u>				
<u>Cisthene tenuifascia</u>	Thin-Banded	Lichen Moth		
Clostera inornata				
Coloradia pandora	Pandora pine	moth		
<u>Crambidia impura</u>				
Ctenucha brunnea	Brown Ctenud	cha		
Ctenucha venosa				
Cucullia cucullioides				
<u>Cydia latiferreana</u>	Filbertworm I	Moth		
<u>Datana chiriquensis</u>				
Dichomeris georgiella				
<u>Digrammia colorata</u>				

мотнѕ	OF YAVAI	PAI COUNT	Y, ARIZO	NA	
S2=Imperiled,	, S3=Vulnerable, S	4=Possible long-teri	n Concern, S5=	:Safe	
SCIENTIFIC NAM	E	COMMON NAM	E ,	AZ E	SA
<u>Drasteria inepta</u>					
<u>Drasteria mirifica</u>					
<u>Drasteria tejonica</u>					
<u>Dysschema howardi</u>					
<u>Ectypia clio</u>					
Embola ciccella					
<u>Erinnyis crameri</u>	Cramo	er's sphinx			
<u>Erinnyis ello</u>	Ello s	ohinx			
<u>Erinnyis obscura</u>	Obscı	ure sphinx			
Ethmia discostrigella					
Ethmia marmorea					
<u>Euchaetes antica</u>					
Euchromius ocelleus					
Eucosma matutina					
Eucosma ponderosa					
Eulithosia discistriga					
Eumorpha achemon	Acher	mon sphinx			
Euscirrhopterus cosyra	Stagh	orn Cholla Moth			
Furcula scolopendrina	Zigzag	g Furcula Moth			
<u>Galenara lixaria</u>					

мотнѕ	OF YAVAPAI COUNTY,	ARIZONA
S2=Imperiled,	S3=Vulnerable, S4=Possible long-term (Concern, S5=Safe
SCIENTIFIC NAM	E COMMON NAME	AZ ESA
<u>Givira lotta</u>		
Gluphisia septentrionis	Common Gluphisia	
Gnophaela discreta		
Grammia incorrupta		
Grammia nevadensis		
<u>Grammia williamsii</u>		
Hahncappsia mancalis		
<u>Halysidota davisii</u>		
Halysidota tessellaris	Banded Tussock Moth/Pale Tig Moth	er
<u>Hemaris thetis</u>		
Hemeroplanis incusalis		
Hemihyalea edwardsii	Edwards' Glassywing	
Hemileuca sp.	Unidentified buckmoth	
<u>Hemileuca burnsi</u>	Burns' buckmoth	
<u>Hemileuca electra</u>	Electra buckmoth	
<u>Hemileuca grotei</u>	Grote's buckmoth	
<u>Hemileuca juno</u>	Juno buckmoth	
Hemileuca neumoegeni	Neumoegen's buckmoth	
<u>Hemileuca nevadensis</u>	Nevada buckmoth	
<u>Hemileuca tricolor</u>	Tricolor buckmoth	

мотнѕ	OF YAVAPA	I COUNTY,	ARIZONA	
S2=Imperiled,	, S3=Vulnerable, S4=Po	ossible long-term C	Concern, S5=Safe	
SCIENTIFIC NAM		MMON NAME	AZ	ESA
<u>Henricus contrastana</u>	Contrastir	ng Henricus Moth		
<u>Heterocampa amanda</u>			S2S3	
Heterocampa incongrud	<u>a</u>			
<u>Heterocampa lunata</u>				
Heterocampa ruficornis				
Heterocampa subrotato	<u>2</u> Small Het	erocampa		
Hexorthodes accurata				
Holochroa dissociarius				
<u>Hyalophora columbia</u>	Columbia	silkmoth		
<u>Hyles lineata</u>	White-line	ed Sphinx	S4	
Hyparpax aurora	Pink Prom	inent		
Hyperaeschra georgica	Georgian	Prominent		
Hypercompe permacula	<u>nta</u>			
Hyphantria cunea	Fall Webv	orm Moth		
<u>Idaea gemmata</u>				
Inga ciliella				
<u>Iridopsis obliquaria</u>	Oblique L	ooper Moth		
Leucanopsis lurida				
Lintneria separatus	Separated	sphinx		
Lophocampa argentata	Silver-Spo	tted Tiger Moth		

MOTHS OF Y	AVAPAI	COUNTY,	ARIZONA	
S2=Imperiled, S3=Vulne	erable, S4=Pos	sible long-term C	oncern, S5=Safe	
SCIENTIFIC NAME	CON	MON NAME	AZ	ESA
Lophocampa ingens				
<u>Lophocampa pura</u>				
<u>Loxostege albiceralis</u>				
Lycomorpha grotei				
Macrurocampa dorothea				
Manduca florestan				
Manduca muscosa	Muscosa sp	hinx		
Manduca quinquemaculata	Five-spotte	d hawkmoth	S4	
Manduca rustica	Rustic sphir	ıx		
Manduca sexta	Carolina spl	hinx		
Nemoria obliqua				
Notarctia proxima	Mexican Tig	ger Moth		
Oligocentria alpica				
<u>Orgyia leuschneri</u>				
Pachysphinx occidentalis	Big poplar s	phinx		
Pachysphinx spp.(occidentalis is similar)		on bench under apr cation uncertain	icot	
<u>Panthea qigantea</u>				
Paonias myops	Small-eyed	sphinx		
Pero occidentalis				
Ponometia phecolisca				

мотнѕ	OF YAVAPAI	COUNTY,	ARIZONA	
S2=Imperiled,	S3=Vulnerable, S4=Pos	sible long-term C	oncern, S5=Safe	
SCIENTIFIC NAM	E COM	MON NAME	AZ	ESA
<u>Ponometia venustula</u>				
<u>Proserpinus juanita</u>	Juanita sphi	nx		
<u>Proserpinus vega</u>	Vega sphinx			
Pseudohemihyalea amb	<u>igua</u>			
Pseudohemihyalea labe	<u>cula</u>			
Pygarctia murina				
Pyrausta roseivestalis				
<u>Ruacodes tela</u>				
<u>Sagenosoma elsa</u>	Elsa sphinx			
Schinia arcigera	Arcigera Flo	wer Moth		
Schinia argentifascia				
Schinia bicuspida				
<u>Schinia ciliata</u>				
Schinia coercita				
<u>Schinia errans</u>				
<u>Schinia gaurae</u>	Clouded Cri	mson		
Schinia grandimedia				
<u>Schinia hulstia</u>				
Schinia jaguarina				
<u>Schinia luxa</u>				

MOTHS	OF YAVAPAI	COUNTY,	ARIZONA	
S2=Imperiled, S	3=Vulnerable, S4=Pos	sible long-term C	oncern, S5=Safe	
SCIENTIFIC NAME	CON	MON NAME	AZ	ESA
<u>Schinia mortua</u>				
<u>Schinia oleagina</u>				
Schinia sexplagiata				
<u>Schinia tertia</u>				
Schinia trifascia	Three-lined	Flower Moth		
Schinia walsinghami				
Smerinthus jamaicensis	Twin-spotte	ed sphinx		
<u>Smerinthus saliceti</u>	Salicet sphi	nx		
Sphingicampa hubbardi	Hubbard's S	Small Silkmoth		
<u>Sphinx asellus</u>	Asella sphin	ıx		
Sphinx chersis	Great ash s	ohinx		
<u>Sphinx dollii</u>	Doll's sphin	х		
Sphinx libocedrus	Incense ced	ar sphinx		
Spragueia funeralis				
Stenoporpia macdunnou	<u>ghi</u>			
<u>Symmerista suavis</u>				
Symmerista zacualpana				
Sympistis perscripta	Scribbled Sa	allow		
<u>Tarache areli</u>				
Tarache augustipennis	Narrow-wir	nged Midget Mot	h	

MOTHS OF YAVAPAI COUNTY, ARIZONA

S2=Imperiled, S3	3=Vulnerable, S	S4=Possible long-term C	oncern, S5=Safe	
SCIENTIFIC NAME		COMMON NAME	AZ	ESA
Tarache expolita				
Tesagrotis piscipellis				
Ursia noctuiformis				
Virbia costata				
<u>Virbia ostenta</u>	Show	y Holomelina		
otes:				
	• • • • • • • • • • •			

Butterfly and Moth References

The Butterflies and Moths of North America (BAMONA) website (http://www.butterfliesandmoths.org/) includes photos and detailed information.

The Naturalist's Bookstore has field guides (at the end of the category list) and other references. Go to: http://bit.ly/RKW2bC.

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Beyond Pesticides: http://beyondpesticides.org/.

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Pesticide Action Network: http://panna.org.

Scoble, M.J. 1995. The Lepidoptera: Form, function, and diversity. Oxford University Press, Oxford. 416 p.

Southwest Monarch Study: http://www.swmonarchs.org/.

- U. S. Fish and Wildlife Service: https://www.fws.gov/savethemonarch/.
- U. S. Forest Service Save the Monarch Butterfly: https://www.fs.fed.us/wildflowers/pollinators/.
