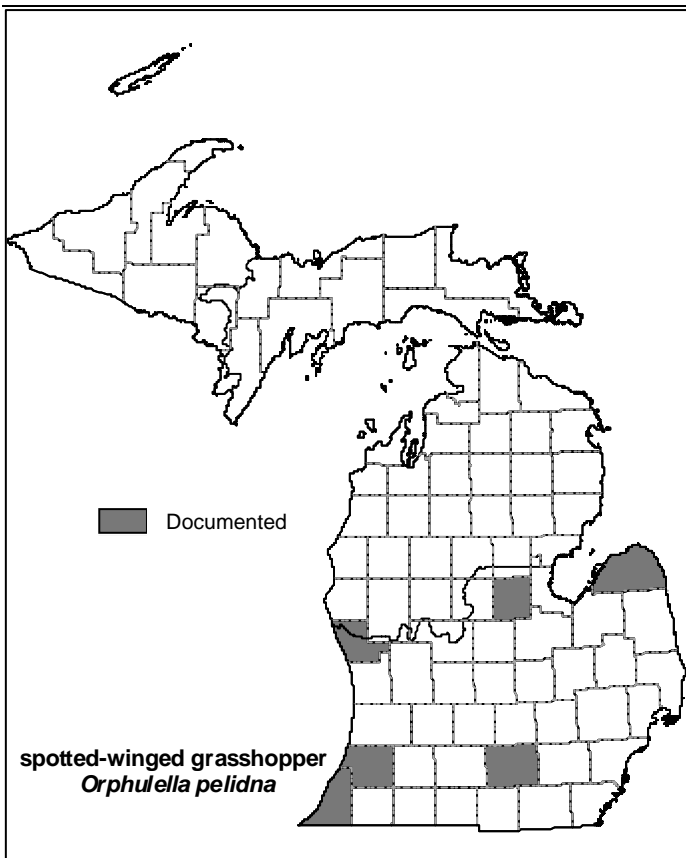


INSECTS – GRASSHOPPERS & CRICKETS



barrens locust

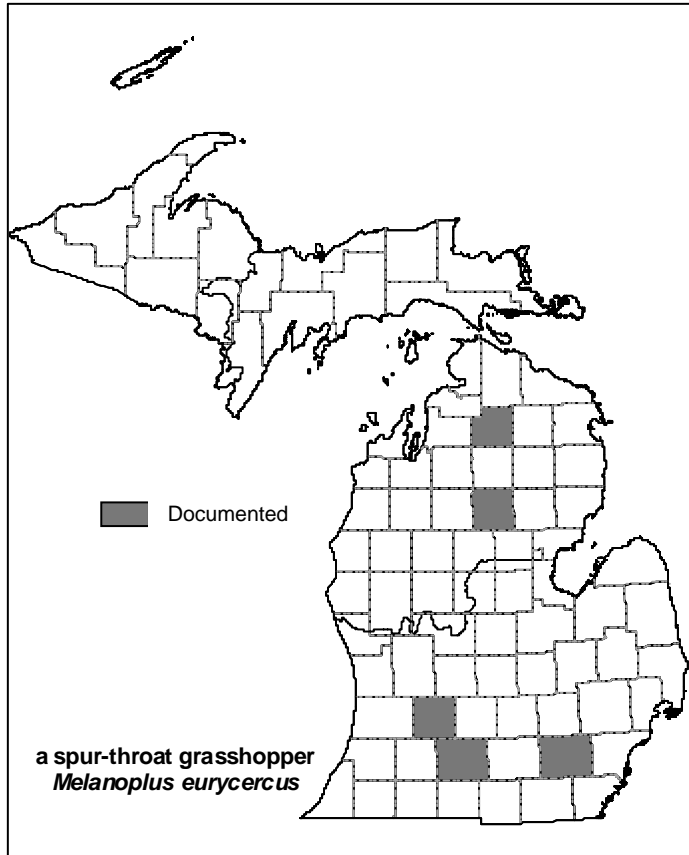
(*Orphulella pelidna*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs sporadically in the Southern Lower Peninsula in oak savanna and associated prairie communities. The abundance of this species is currently not determined in the State.

ASSOCIATED LANDSCAPE FEATURES: prairie; pasture; right-of-way; savanna; dry hardwood; inland emergent wetland; coastal dune/beach

ASSOCIATED THREATS: lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known and other currently unknown threats may exist for this species; a threats assessment is needed for this species.



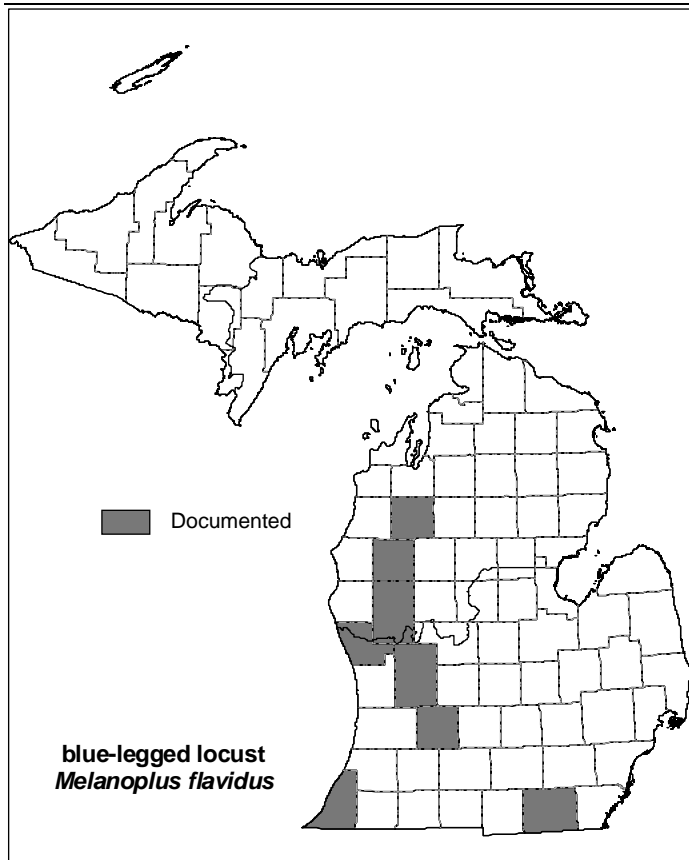
a spur-throat grasshopper
(*Melanoplus eurycerus*)

DISTRIBUTION & ABUNDANCE: Known from at least 8 sites in only 5 counties in the Lower Peninsula. The status of this species in Michigan is currently in question, but it appears to be limited in distribution and is associated with rare savanna and prairie areas.

ASSOCIATED LANDSCAPE FEATURES: idle/old field; savanna; lowland shrub; upland shrub; lowland hardwood; mesic hardwood; forest opening; other (sand plains)

ASSOCIATED THREATS: lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known



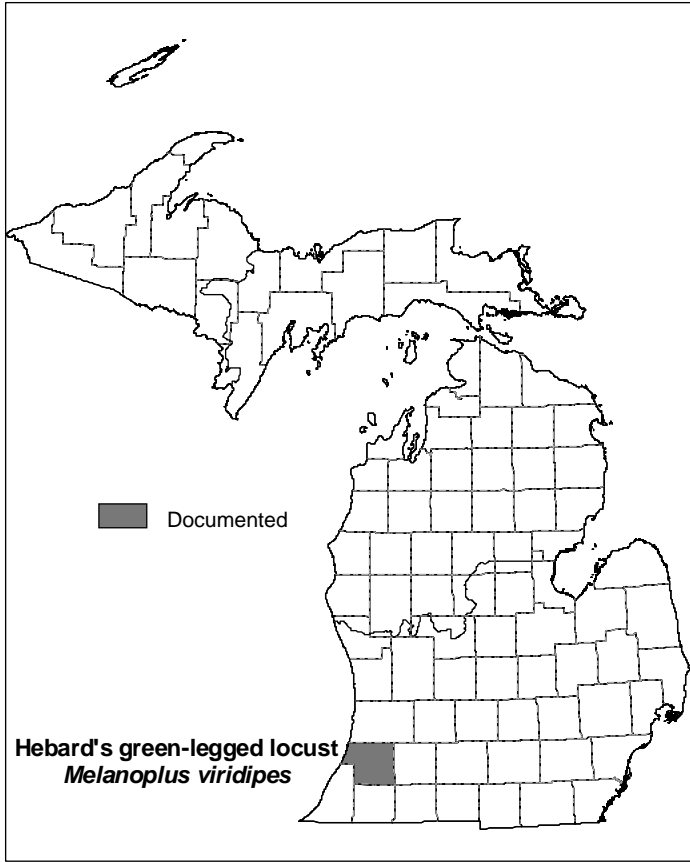
blue-legged locust
(*Melanoplus flavidus*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs sporadically in the western Lower Peninsula. The specific status of this species in Michigan is currently undetermined, but it is clearly rare in the State and may be critically imperiled.

ASSOCIATED LANDSCAPE FEATURES: prairie; idle/old field; savanna; coastal dune/beach

ASSOCIATED THREATS: altered fire regime; incompatible natural resource mgmt; lack of scientific knowledge; pesticides & herbicides

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats. Prescribed fire is an important management tool, but care should be taken to ensure that occupied areas are only partially burned.



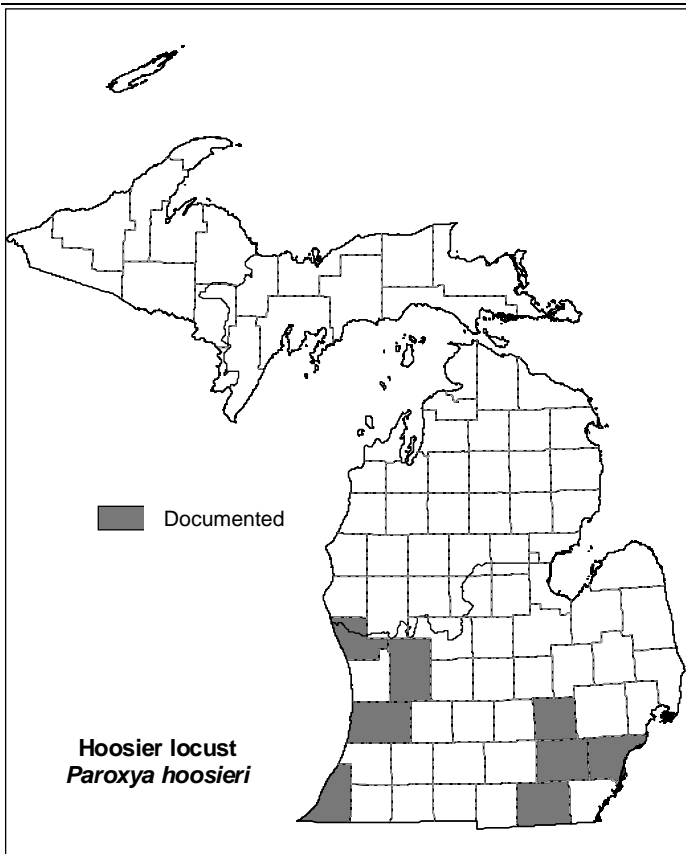
Hebard's green-legged locust
(Melanoplus viridipes)

DISTRIBUTION & ABUNDANCE: Known from only one county in the Southern Lower Peninsula. It has a limited range-wide distribution, centered regionally around the upper Mississippi River and northern Illinois, so Michigan represents the edge of its range. The specific status of this species in Michigan is currently undetermined, but it is clearly rare in the State and may be critically imperiled.

ASSOCIATED LANDSCAPE FEATURES: idle/old field; savanna; lowland shrub; upland shrub; lowland hardwood; forest opening

ASSOCIATED THREATS: lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known and other currently unknown threats may exist for this species; a threats assessment is needed for this species.



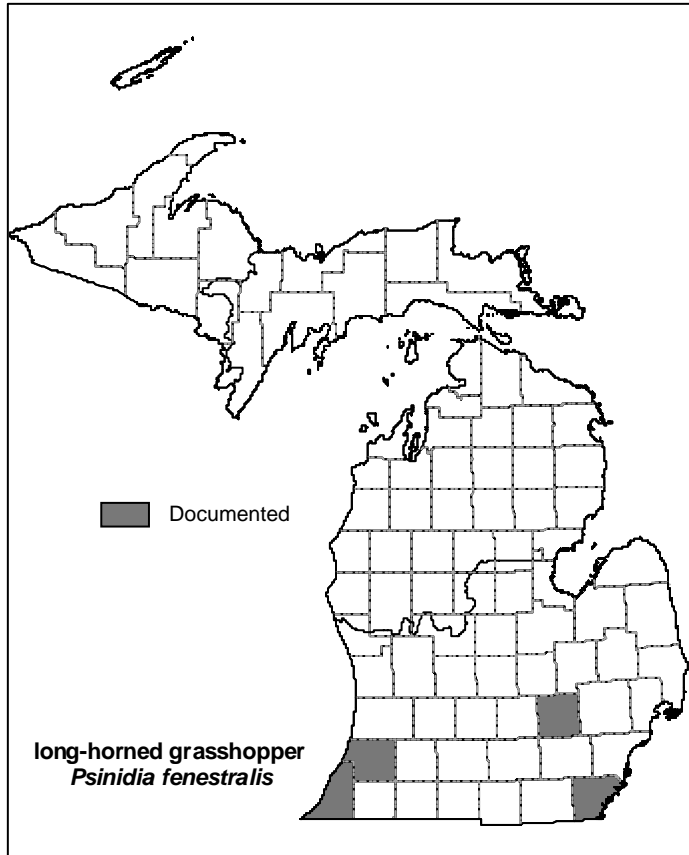
Hoosier locust
(Paroxya hoosieri)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs at scattered locations throughout the Lower Peninsula. It is rare in Michigan and may be imperiled. It is rare across its range. Michigan probably maintains the strongest populations for this species.

ASSOCIATED LANDSCAPE FEATURES: idle/old field; bog; inland emergent wetland; fen; ephemeral wetland; pond; inland lake; river/stream/riparian/floodplain corridor; down woody debris

ASSOCIATED THREATS: altered fire regime; altered hydrologic regimes; lack of scientific knowledge; non-consumptive recreation; pesticides & herbicides; wetland modifications

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



Atlantic-coast locust

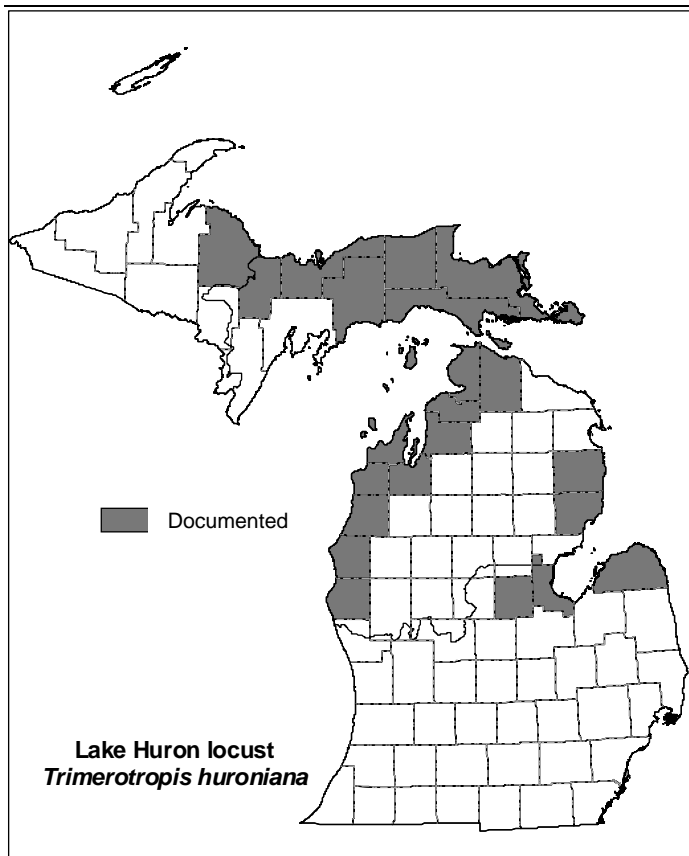
(*Psinidia fenestralis*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. The specific status of this species in Michigan is currently undetermined, but it is clearly very rare in the State and may be critically imperiled. The status throughout most of its range is in question, but it appears to be rare or imperiled across its range.

ASSOCIATED LANDSCAPE FEATURES: savanna; inland lake; river/stream/riparian/floodplain corridor; coastal dune/beach; edge

ASSOCIATED THREATS: lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known and other currently unknown threats may exist for this species; a threats assessment is needed for this species.



Lake Huron locust

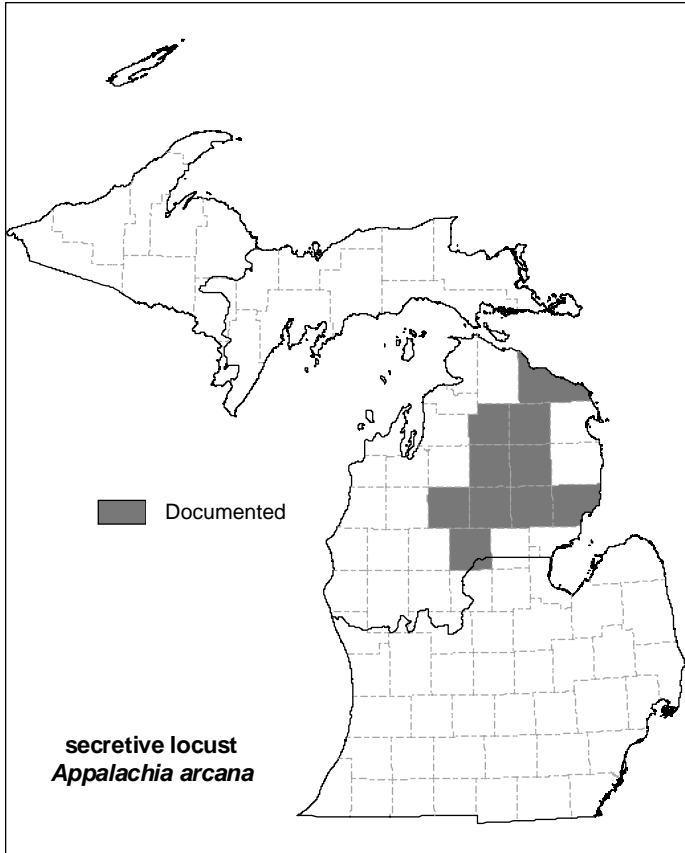
(*Trimerotropis huroniana*)

DISTRIBUTION & ABUNDANCE: Occurs in dune areas along the Great Lakes shoreline in the Northern Lower Peninsula and Eastern Upper Peninsula. It is locally abundant where its habitat is suitable. Overall it is considered rare in Michigan and it is listed as a State threatened species. This species has a distribution limited to the upper Great Lakes and Michigan represents the core of the species distribution.

ASSOCIATED LANDSCAPE FEATURES: coastal dune/beach; Great Lakes island

ASSOCIATED THREATS: fragmentation; industrial/residential/recreational development; invasive plants & animals; non-consumptive recreation

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to further identify threats. ORV traffic should be redirected around occupied areas. Due to dispersal limitations, the large-scale development of Great Lakes shoreline areas is likely to result in fragmentation of populations.



secretive locust

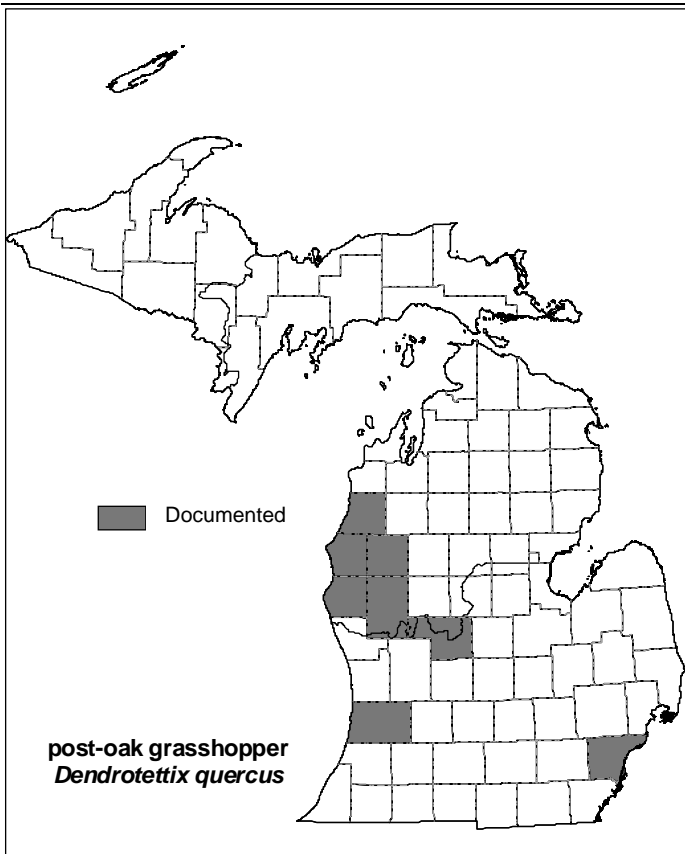
(Appalachia arcana)

DISTRIBUTION & ABUNDANCE: State listed as special concern. It is endemic to Michigan and occurs across nine counties in the Northern Lower Peninsula, but it may no longer occur in two of these counties. It is considered rare in Michigan.

ASSOCIATED LANDSCAPE FEATURES: prairie; savanna; lowland shrub; upland shrub; mesic hardwood; dry hardwood; dry conifer; forest opening; bog; fen; ephemeral wetland

ASSOCIATED THREATS: altered fire regime; fragmentation; incompatible natural resource mgmt; industrial/residential/recreational development; lack of scientific knowledge; forestry practices; pesticides & herbicides

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



post-oak grasshopper

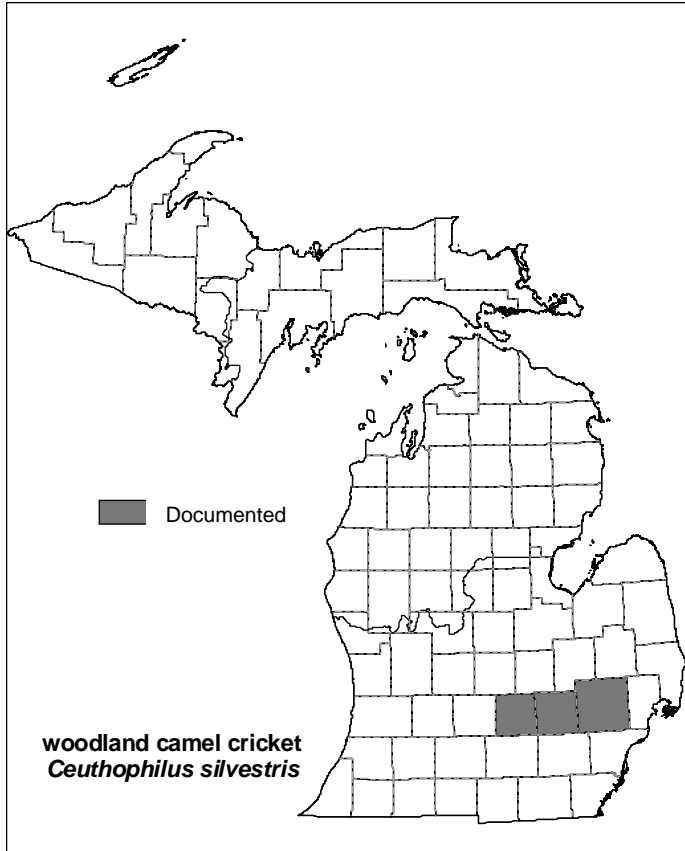
(Dendrotettix quercus)

DISTRIBUTION & ABUNDANCE: Known from 8 counties in the Lower Peninsula. The specific status of this species in Michigan is currently undetermined, but it is clearly rare in the State. This species also occurs in Ontario, where it may be extirpated, and Wisconsin, the core of its distribution.

ASSOCIATED LANDSCAPE FEATURES: lowland hardwood; mesic hardwood; dry hardwood; forest opening; edge

ASSOCIATED THREATS: lack of scientific knowledge; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



woodland camel cricket

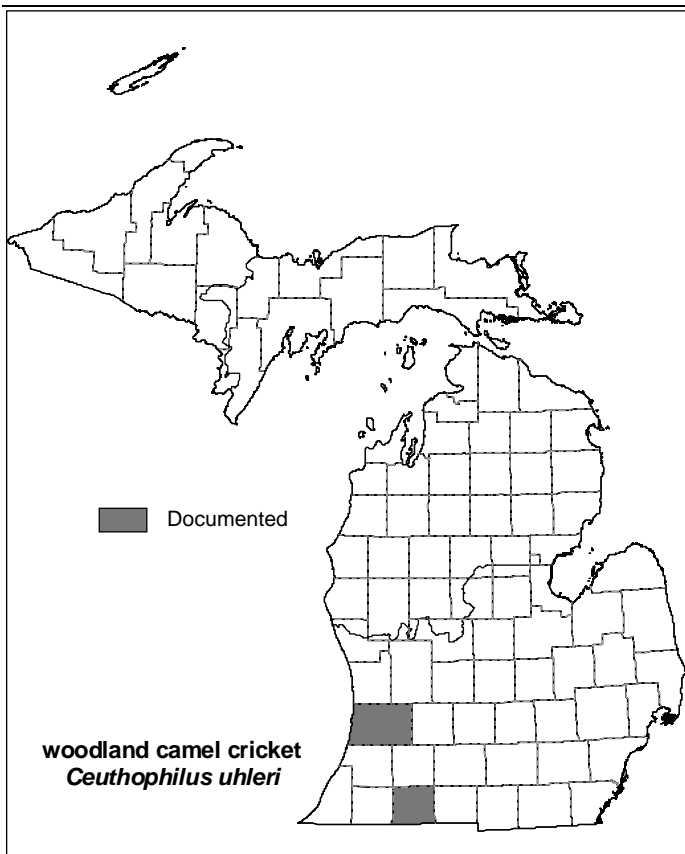
(*Ceuthophilus silvestris*)

DISTRIBUTION & ABUNDANCE: Known from 3 counties in the Southern Lower Peninsula. It is rare in Michigan except in specific habitats. It has a limited distribution; known only from a handful of locations in the Midwest.

ASSOCIATED LANDSCAPE FEATURES: idle/old field; fence row; lowland shrub; river/stream/riparian/floodplain corridor; inland rock/cliff/ledge; other (mole tunnels)

ASSOCIATED THREATS: lack of scientific knowledge; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



woodland camel cricket

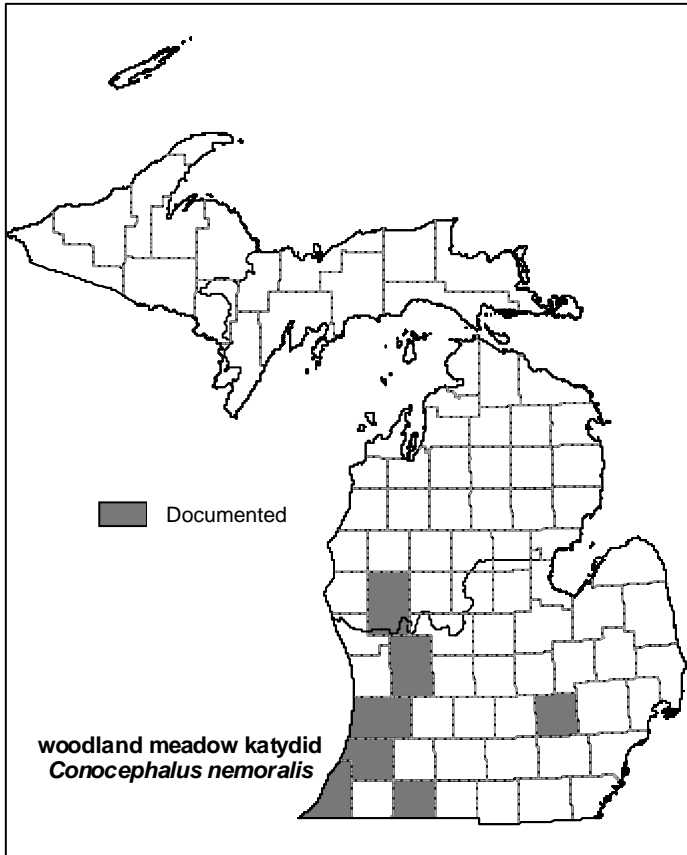
(*Ceuthophilus uhleri*)

DISTRIBUTION & ABUNDANCE: Known from only 2 counties in the Southern Lower Peninsula. The specific status of this species in Michigan is currently undetermined, but it is clearly rare in the State. It is also known from Ontario, where it is critically imperiled, and Missouri, where its status is undetermined.

ASSOCIATED LANDSCAPE FEATURES: lowland hardwood; mesic hardwood; dry hardwood; down woody debris

ASSOCIATED THREATS: lack of scientific knowledge; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



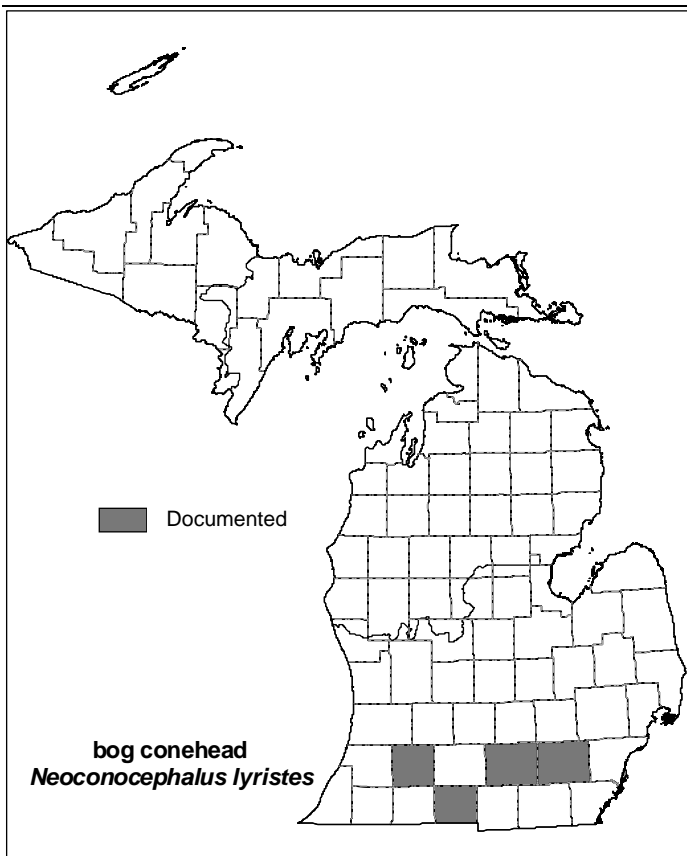
woodland meadow katydid
(*Conocephalus nemoralis*)

DISTRIBUTION & ABUNDANCE: Known from 7 counties in the Southern Lower Peninsula. The specific status of this species in Michigan is currently undetermined, but it is clearly rare in the State. Its status rangewide is also currently undetermined, but it has a limited distribution in the upper Great Lakes region and may be globally imperiled.

ASSOCIATED LANDSCAPE FEATURES: idle/old field; fence row; dry hardwood; coastal dune/beach; edge; down woody debris

ASSOCIATED THREATS: lack of scientific knowledge; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



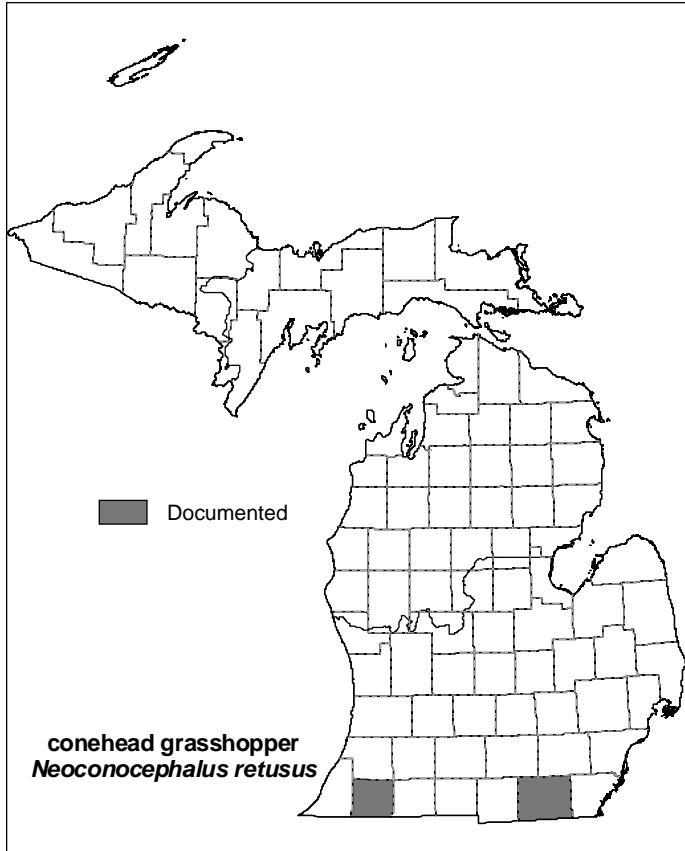
bog conehead
(*Neoconocephalus lyristes*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Has been found at scattered locations across the Southern Lower Peninsula. It is considered rare and may be critically imperiled in the State. Its rangewide status is currently undetermined; its status is unknown in Wisconsin and Ontario and it is uncommon in Missouri.

ASSOCIATED LANDSCAPE FEATURES: bog; inland emergent wetland; fen; ephemeral wetland

ASSOCIATED THREATS: conversion to agriculture lands; altered fire regime; industrial/residential/recreational development; invasive plants & animals; lack of scientific knowledge; wetland modifications

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



conehead grasshopper

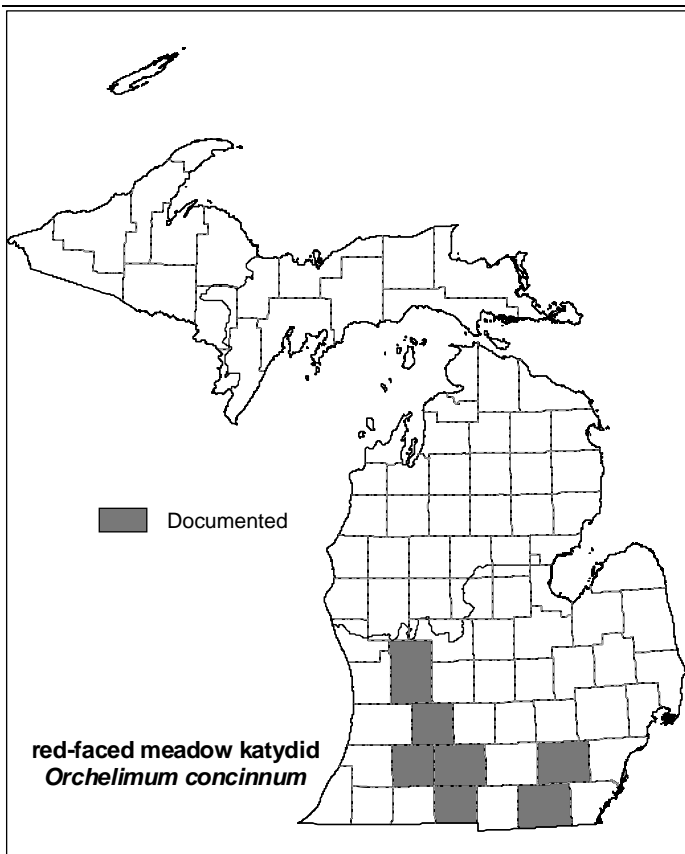
(*Neoconocephalus retusus*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. This species is extremely rare in Michigan and is considered critically imperiled. Its range wide status is unknown, but it may be fairly secure in Missouri.

ASSOCIATED LANDSCAPE FEATURES: idle/old field; savanna; upland shrub; mesic hardwood; dry hardwood; forest opening; inland emergent wetland

ASSOCIATED THREATS: lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known and other currently unknown threats may exist for this species; a threats assessment is needed for this species.



red-faced meadow katydid

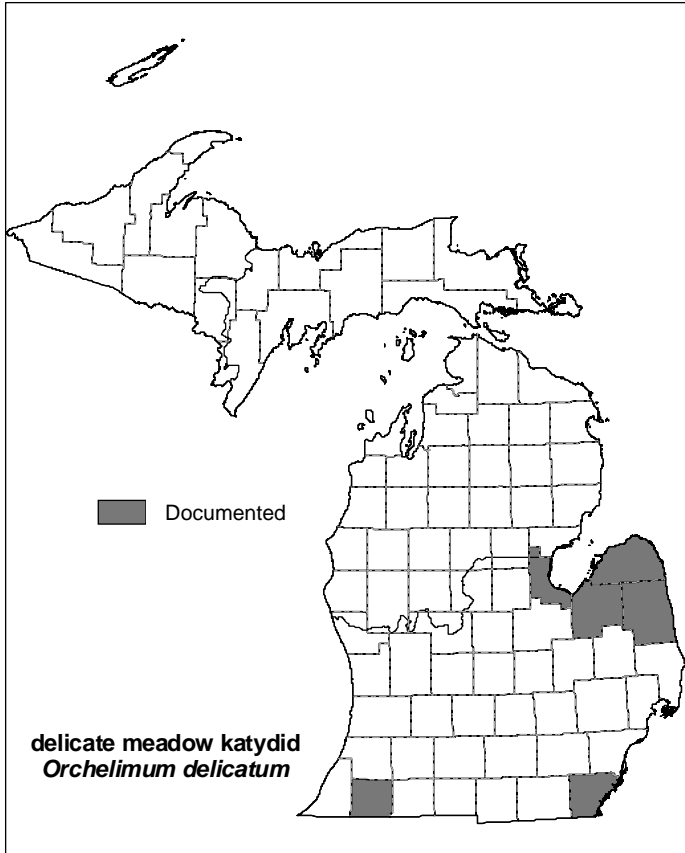
(*Orchelimum concinnum*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs sporadically throughout much of the Lower Peninsula. It is considered rare and may be imperiled in the State. The range-wide status of this species is undetermined, but Michigan appears to represent the core of its range.

ASSOCIATED LANDSCAPE FEATURES: inland emergent wetland; fen; ephemeral wetland

ASSOCIATED THREATS: conversion to agriculture lands; altered fire regime; industrial/residential/recreational development; invasive plants & animals; lack of scientific knowledge; pesticides & herbicides; wetland modifications

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



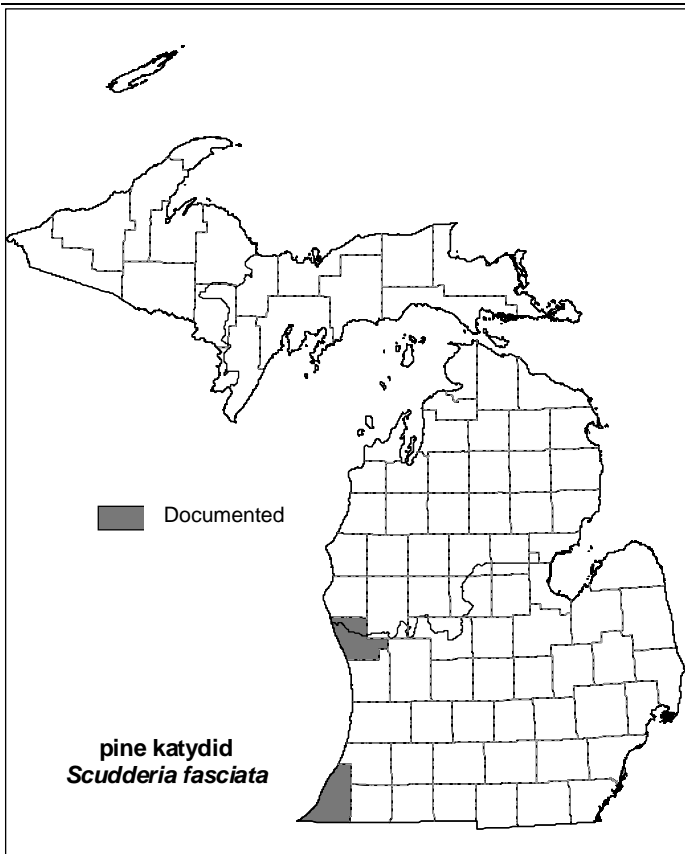
delicate meadow katydid
(*Orchelimum delicatum*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs scattered sporadically across much of the southeast Lower Peninsula. It is rare in the State and may actually be extremely rare. A more solid status determination is dependent upon surveys.

ASSOCIATED LANDSCAPE FEATURES: prairie; lowland shrub; inland emergent wetland; ephemeral wetland; coastal emergent wetland; coastal dune/beach

ASSOCIATED THREATS: conversion to agriculture lands; altered fire regime; altered hydrologic regimes; industrial/residential/recreational development; lack of scientific knowledge; pesticides & herbicides; wetland modifications

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



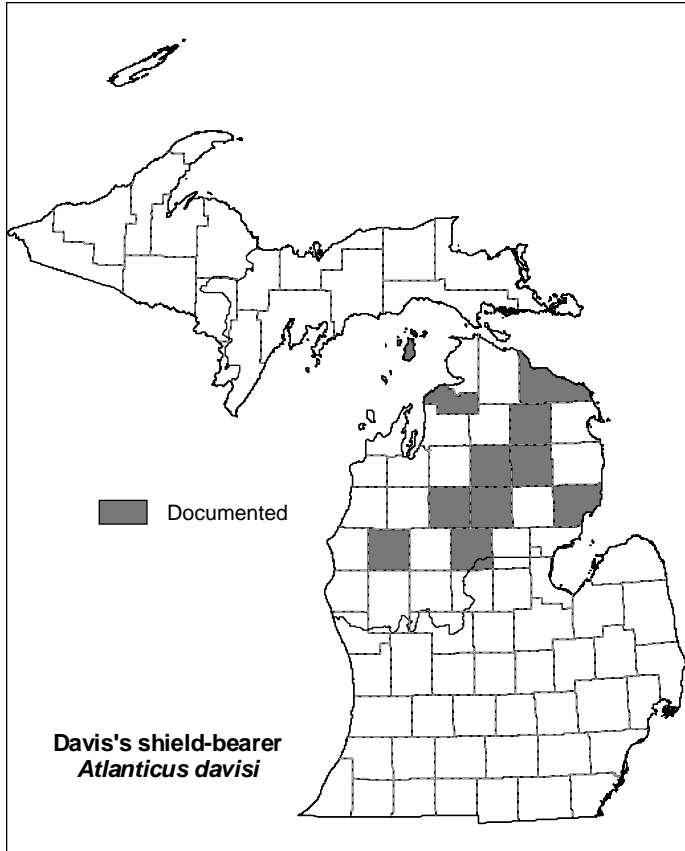
pine katydid
(*Scudderia fasciata*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs sporadically in the Southern Lower Peninsula. It is rare in the State and may be extremely rare. A more solid status determination is dependent upon surveys. It is sporadically distributed throughout the northeastern U.S., so Michigan appears to represent the edge of its range. Its rangewide status is undetermined.

ASSOCIATED LANDSCAPE FEATURES: mesic conifer; dry conifer

ASSOCIATED THREATS: incompatible natural resource mgmt; lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known and other currently unknown threats may exist for this species; a threats assessment is needed for this species.



Davis's shield-bearer

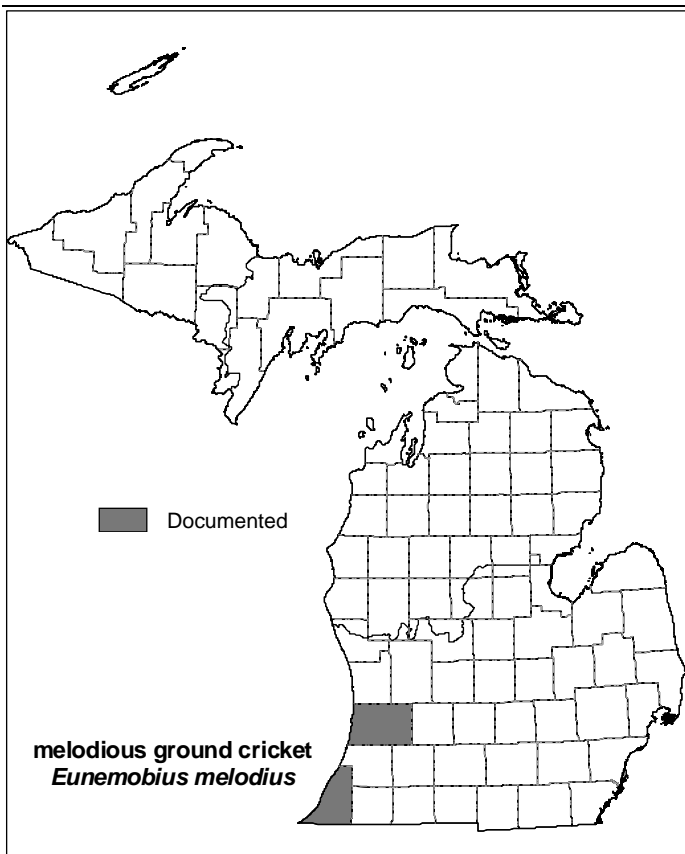
(*Atlantiscus davisii*)

DISTRIBUTION & ABUNDANCE: State listed as special concern. This Northern Lower Peninsula species is rare in Michigan and may be imperiled. Michigan represents the western edge of its range. Its global conservation status has not been determined.

ASSOCIATED LANDSCAPE FEATURES: savanna; lowland hardwood; mesic hardwood; dry hardwood; bog; other (dead leaves)

ASSOCIATED THREATS: lack of scientific knowledge; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



melodious ground cricket

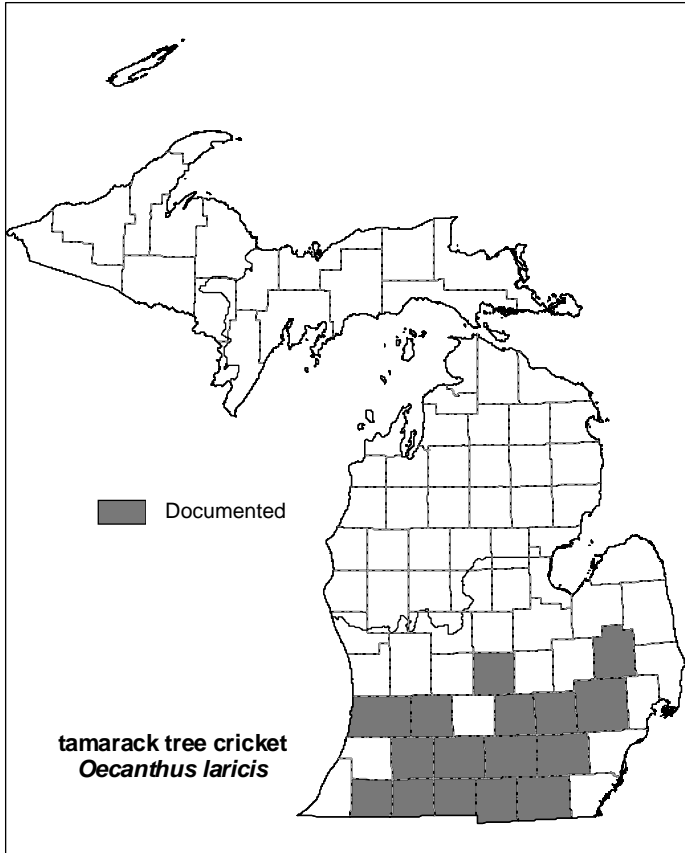
(*Eunemobius melodius*)

DISTRIBUTION & ABUNDANCE: Known from only 2 counties in the Southern Lower Peninsula. It has a very limited distribution; known only from Ohio and Michigan.

ASSOCIATED LANDSCAPE FEATURES: lowland shrub; bog; inland emergent wetland; swamp; river/stream/riparian/floodplain corridor; down woody debris

ASSOCIATED THREATS: dredging & channelization; altered hydrologic regimes; invasive plants & animals; lack of scientific knowledge

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



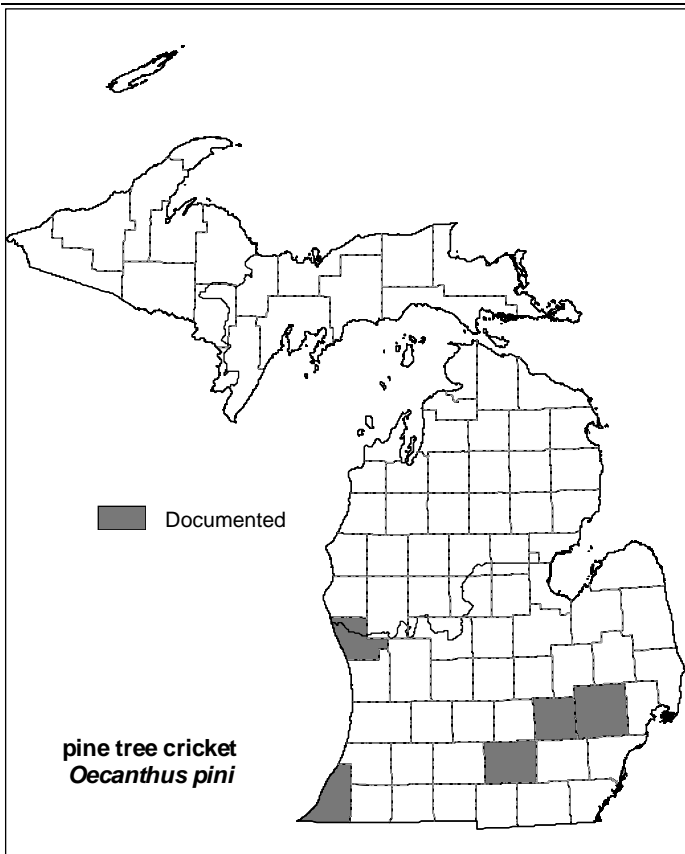
tamarack tree cricket
(Oecanthus laricis)

DISTRIBUTION & ABUNDANCE: State listed as special concern. This species is extremely rare in the State, occurring only in isolated patches of appropriate habitat in the Southern Lower Peninsula. It has a very limited distribution; known only from Ohio and Michigan.

ASSOCIATED LANDSCAPE FEATURES: prairie; lowland conifer; bog; fen; swamp

ASSOCIATED THREATS: conversion to agriculture lands; altered fire regime; fragmentation; altered hydrologic regimes; incompatible natural resource mgmt; industrial/residential/ recreational development; invasive plants & animals; pesticides & herbicides; wetland modifications

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information; need to identify threats.



pine tree cricket
(Oecanthus pini)

DISTRIBUTION & ABUNDANCE: State listed as special concern. Occurs sporadically in the Southern Lower Peninsula. It appears to be extremely rare in Michigan, but a more solid status determination is needed. It is sporadically distributed throughout the northeastern U.S. and Michigan appears to represent the edge of its range. Its rangewide status is undetermined.

ASSOCIATED LANDSCAPE FEATURES: lowland conifer; mesic conifer; dry conifer

ASSOCIATED THREATS: lack of scientific knowledge; pesticides & herbicides; unknown

COMMENTS: Need surveys to assess abundance and distribution; need basic life history information. Relative severity of listed threats is not well known and other currently unknown threats may exist for this species; a threats assessment is needed for this species.