Appendix A.–Distribution maps, in taxonomic order, for the 119 species of Michigan fishes collected 1993–2001.

Common name (family)	Scientific name	Page number
Lampreys (Petromyzontidae)		
Chestnut lamprey	*Ichthyomyzon castaneus* Girard	47
Northern brook lamprey	*Ichthyomyzon fossor* Reighard & Cummins	47
Silver lamprey	*Ichthyomyzon unicuspis* Hubbs & Trautman	47
American brook lamprey	*Lampetra appendix* (DeKay)	47
Sturgeons (Acipenseridae)		
Lake sturgeon	*Acipenser fulvescens* Rafinesque	48
Gars (Lepisosteidae)		
Spotted gar	*Lepisosteus oculatus* (Winchell)	49
Longnose gar	*Lepisosteus osseus* (Linnaeus)	49
Bowfins (Amiidae)		
Bowfin	*Amia calva* Linnaeus	50
Herrings (Clupeidae)		
Alewife	*Alosa pseudoharengus* (Wilson)	51
Gizzard shad	*Dorosoma cepedianum* (Lesueur)	52
Carps and Minnows (Cyprinidae)		
Central stoneroller	*Campostoma anomalum pullum* (Agassiz)	53
Goldfish	*Carassius auratus* (Linnaeus)	54
Redside dace	*Clinostomus elongatus* (Kirtland)	55
Lake chub	*Couesius plumbeus* (Agassiz)	56
Spotfin shiner	*Cyprinella spiloptera* (Cope)	57
Common carp	*Cyprinus carpio* Linnaeus	58
Brassy minnow	*Hybognathus hankinsoni* Hubbs	59
Striped shiner	*Luxilus chrysocephalus* Rafinesque	60
Common shiner	*Luxilus cornutus* (Mitchill)	61
Redfin shiner	*Lythrurus umbratilis* (Girard)	62
Northern pearl dace	*Margariscus nachtriebi* (Cox)	63
Hornyhead chub	*Nocomis biguttatus* (Kirtland)	64
River chub	*Nocomis micropogon* (Cope)	65
Golden shiner	*Notemigonus crysoleucas* (Mitchill)	66
Pugnose shiner	*Notropis anogenus* Forbes	67
Emerald shiner	*Notropis atherinoides* Rafinesque	68
Silverjaw shiner	*Notropis buccatus* (Cope)	69
Ghost shiner	*Notropis buchanani* Meek	70
Bigmouth shiner	*Notropis dorsalis* (Agassiz)	71
Blackchin shiner	*Notropis heterodon* (Cope)	72
Blacknose shiner	*Notropis heterolepis* Eigenmann & Eigenmann	73
Spottail shiner	*Notropis hudsonius* (Clinton)	74
Silver shiner	*Notropis photogenis* (Cope)	75
Rosyface shiner	*Notropis rubellus* (Agassiz)	76
Sand shiner	*Notropis stramineus* (Cope)	77
Mimic shiner	*Notropis volucellus* (Cope)	78

Appendix A.–Continued.

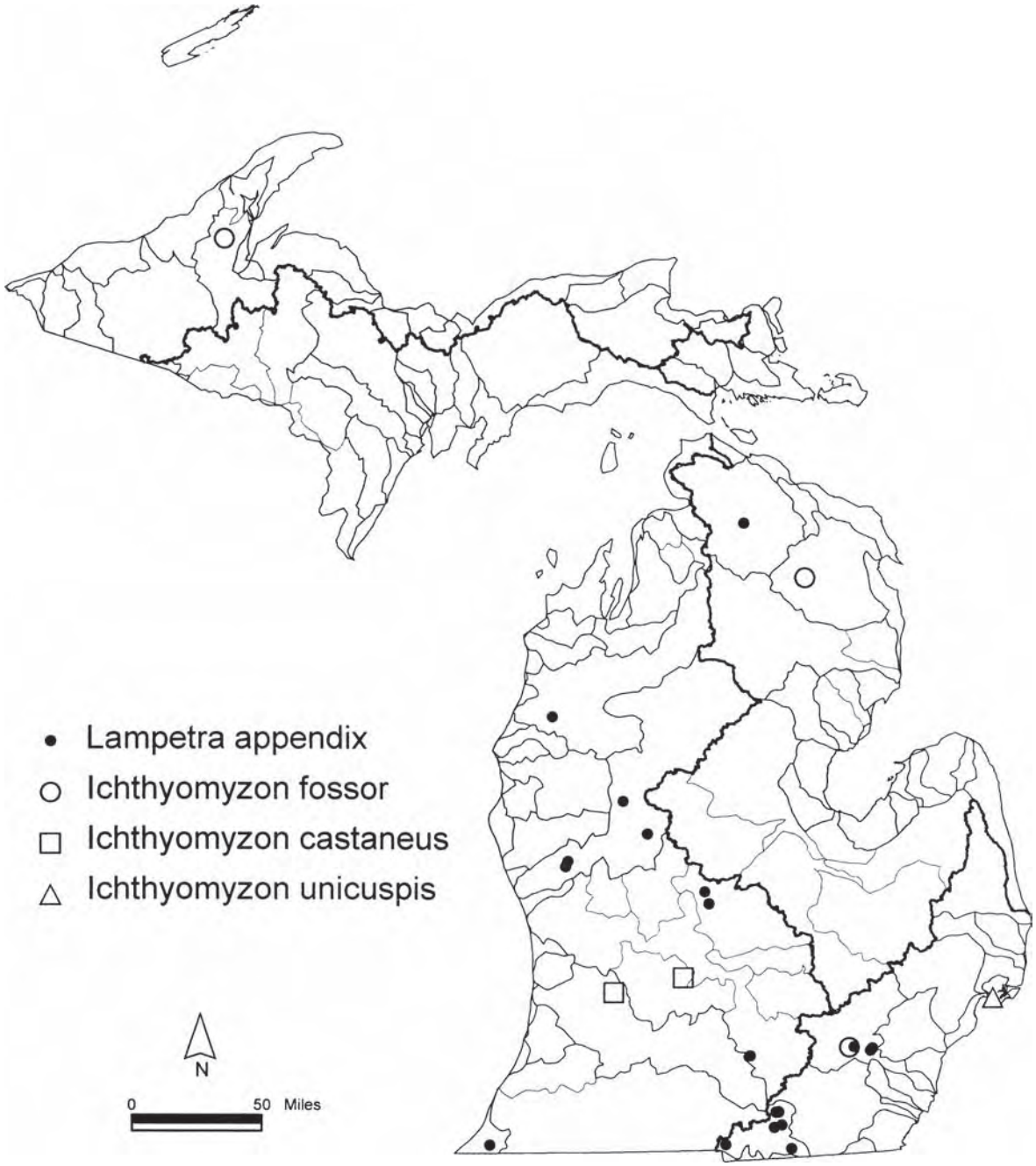
Common name (family)	Scientific name	Page number
Pugnose minnow	*Opsopoeodus emiliae* Hay	79
Suckermouth minnow	*Phenacobius mirabilis* (Girard)	79
Northern redbelly dace	*Phoxinus eos* (Cope)	80
Finescale dace	*Phoxinus neogaeus* Cope	81
Bluntnose minnow	*Pimephales notatus* (Rafinesque)	82
Fathead minnow	*Pimephales promelas* Rafinesque	83
Longnose dace	*Rhinichthys cataractae* (Valenciennes)	84
Blacknose dace	*Rhinichthys obtusus* Agassiz	85
Creek chub	*Semotilus atromaculatus* (Mitchill)	86
Suckers (Catostomidae)		
Quillback	*Carpiodes cyprinus* (Lesueur)	87
Longnose sucker	*Catostomus catostomus* (Forster)	88
White sucker	*Catostomus commersonii* (Lacepède)	88
Lake chubsucker	*Erimyzon sucetta* (Lacepède)	89
Northern hog sucker	*Hypentelium nigricans* (Lesueur)	90
Spotted sucker	*Minytrema melanops* (Rafinesque)	87
Silver redhorse	*Moxostoma anisurum* (Rafinesque)	91
Black redhorse	*Moxostoma duquesnei* (Lesueur)	92
Golden redhorse	*Moxostoma erythrurum* (Rafinesque)	93
Shorthead redhorse	*Moxostoma macrolepidotum* (Lesueur)	94
Greater redhorse	*Moxostoma valenciennesi* Jordan	95
Bullhead catfishes (Ictaluridae)		
Black bullhead	*Ameiurus melas* (Rafinesque)	96
Yellow bullhead	*Ameiurus natalis* (Lesueur)	97
Brown bullhead	*Ameiurus nebulosus* (Lesueur)	98
Channel catfish	*Ictalurus punctatus* (Rafinesque)	99
Stonecat	*Noturus flavus* Rafinesque	100
Tadpole madtom	*Noturus gyrinus* (Mitchill)	101
Brindled madtom	*Noturus miurus* Jordan	101
Pikes (Esocidae)		
Grass pickerel	*Esox americanus vermiculatus* Lesueur	102
Northern pike	*Esox lucius* Linnaeus	103
Muskellunge	*Esox masquinongy* Mitchill	103
Mudminnows (Umbridae)		
Central mudminnow	*Umbra limi* (Kirtland)	104
Smelts (Osmeridae)		
Rainbow smelt	*Osmerus mordax* (Mitchill)	105
Trouts (Salmonidae)		
Lake whitefish	*Coregonus clupeaformis* (Mitchill)	106
Coho salmon	*Oncorhynchus kisutch* (Walbaum)	107
Rainbow trout	*Oncorhynchus mykiss* (Walbaum)	108
Chinook salmon	*Oncorhynchus tshawytscha* (Walbaum)	107
Brown trout	*Salmo trutta* Linnaeus	109
Brook trout	*Salvelinus fontinalis* (Mitchill)	109

Appendix A.–Continued.

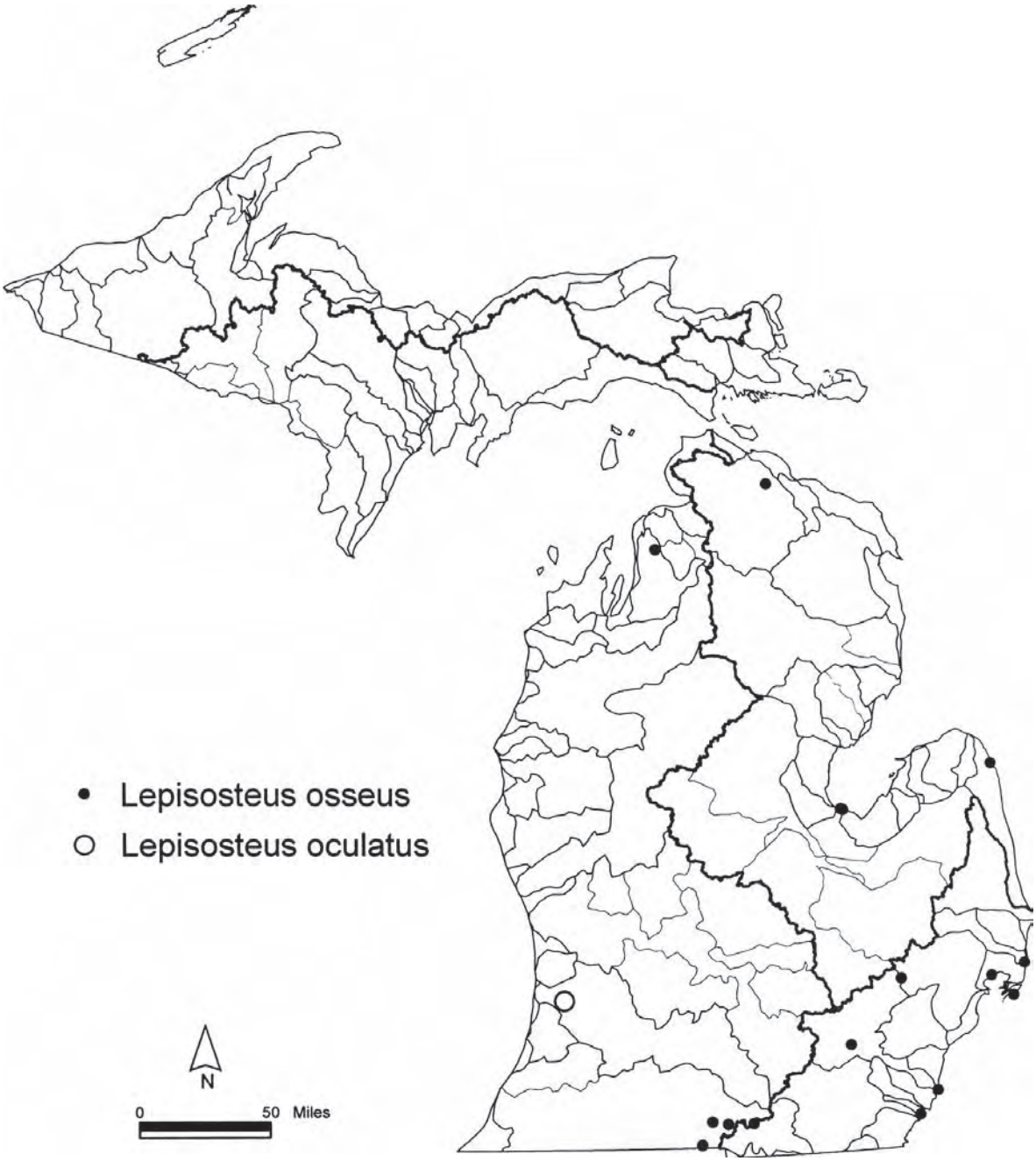
Common name (family)	Scientific name	Page number
Trout-perches (Percopsidae)		
Trout-perch	*Percopsis omiscomaycus* (Walbaum)	110
Pirate perches (Aphredoderidae)		
Pirate perch	*Aphredoderus sayanus* (Gilliams)	111
Cods (Gadidae)		
Burbot	*Lota lota* (Linnaeus)	112
Killifishes (Fundulidae)		
Banded killifish	*Fundulus diaphanous menona* (Jordan & Copeland)	113
Starhead topminnow	*Fundulus dispar* (Agassiz)	114
Blackstripe topminnow	*Fundulus notatus* (Rafinesque)	114
Silversides (Atherinidae)		
Brook silverside	*Labidesthes sicculus* (Cope)	115
Sticklebacks (Gasterosteidae)		
Brook stickleback	*Culaea inconstans* (Kirtland)	116
Threespine stickleback	*Gasterosteus aculeatus* Linnaeus	116
Ninespine stickleback	*Pungitius pungitius* (Linnaeus)	116
Sculpins (Cottidae)		
Mottled sculpin	*Cottus bairdii* Girard	117
Slimy sculpin	*Cottus cognatus* Richardson	118
Temperate basses (Moronidae)		
White perch	*Morone americana* (Gmelin)	119
White bass	*Morone chrysops* (Rafinesque)	120
Sunfishes (Centrarchidae)		
Rock bass	*Ambloplites rupestris* (Rafinesque)	121
Green sunfish	*Lepomis cyanellus* Rafinesque	122
Pumpkinseed	*Lepomis gibbosus* (Linnaeus)	123
Warmouth	*Lepomis gulosus* (Cuvier)	124
Orangespotted sunfish	*Lepomis humilis* (Girard)	124
Bluegill	*Lepomis macrochirus* Rafinesque	125
Redear sunfish	*Lepomis microlophus* (Günther)	126
Northern longear sunfish	*Lepomis peltastes* Cope	126
Smallmouth bass	*Micropterus dolomieu* Lacepède	127
Largemouth bass	*Micropterus salmoides* (Lacepède)	128
White crappie	*Pomoxis annularis* Rafinesque	129
Black crappie	*Pomoxis nigromaculatus* (Lesueur)	129
Perches (Percidae)		
Western sand darter	*Ammocrypta clara* Jordan & Meek	130
Eastern sand darter	*Ammocrypta pellucida* (Putnam)	130
Greenside darter	*Etheostoma blennioides* Rafinesque	131

Appendix A.–Continued.

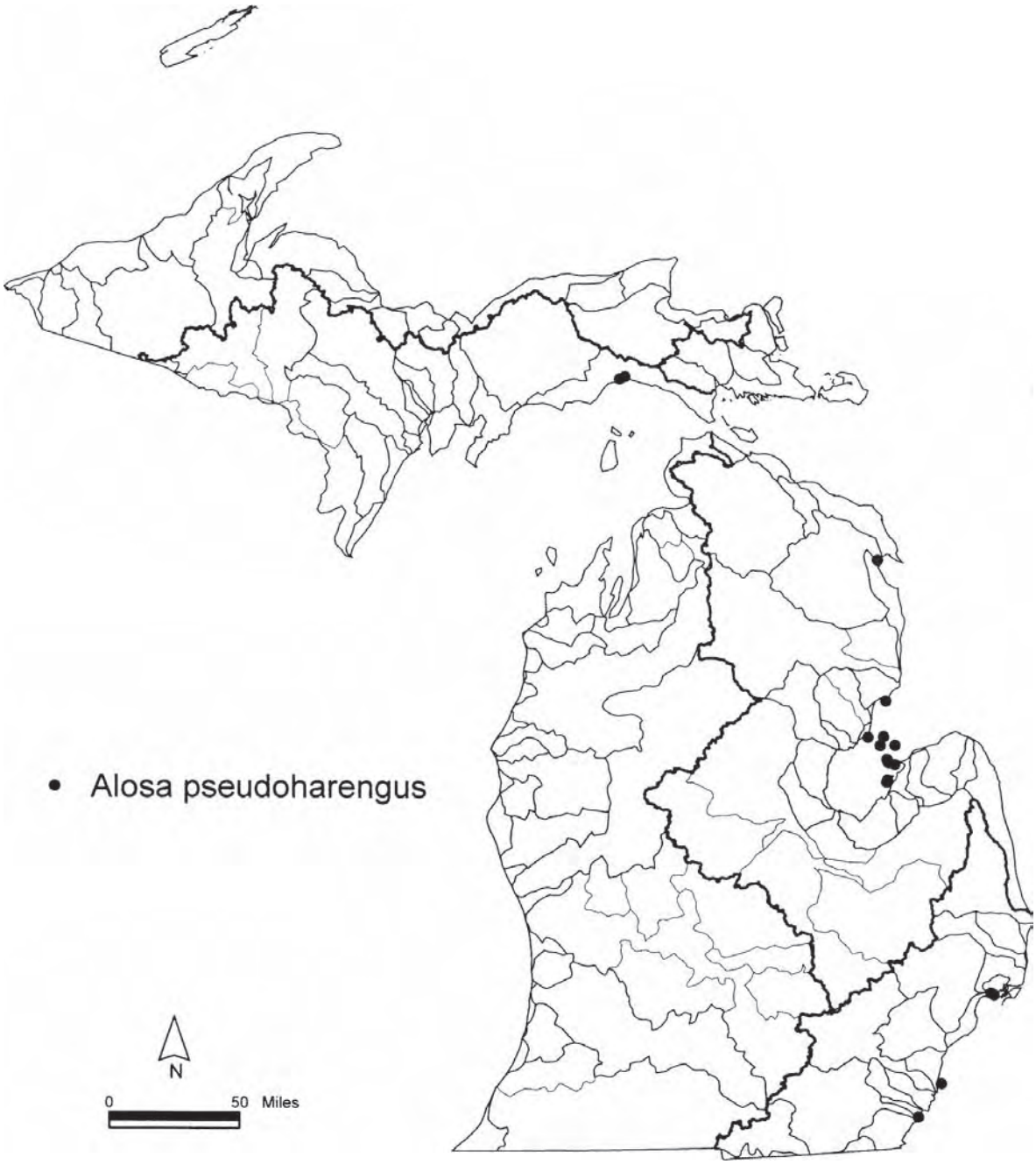
Common name (family)	Scientific name	Page number
Rainbow darter	*Etheostoma caeruleum* Storer	132
Iowa darter	*Etheostoma exile* (Girard)	133
Barred fantail darter	*Etheostoma flabellare flabellare* Rafinesque	134
Striped fantail darter	*Etheostoma flabellare lineolatum* (Agassiz)	134
Least darter	*Etheostoma microperca* Jordan & Gilbert	135
Johnny darter	*Etheostoma nigrum* Rafinesque	136
Orangethroat darter	*Etheostoma spectabile* (Agassiz)	135
Banded darter	*Etheostoma zonale* (Cope)	135
Yellow perch	*Perca flavescens* (Mitchill)	137
Northern logperch	*Percina caprodes semifasciata* (DeKay)	138
Channel darter	*Percina copelandi* (Jordan)	139
Blackside darter	*Percina maculata* (Girard)	140
Walleye	*Sander vitreus* (Mitchill)	141
Drums (Sciaenidae)		
Freshwater drum	*Aplodinotus grunniens* Rafinesque	142
Gobies (Gobiidae)		
Round goby	*Neogobius melanostomus* (Pallas)	143
Tubenose goby	*Proterorhinus marmoratus* (Pallas)	144


Lampetra appendix
Ichthyomyzon fossor
Ichthyomyzon castaneus
Ichthyomyzon unicuspis
N
0
50 Miles

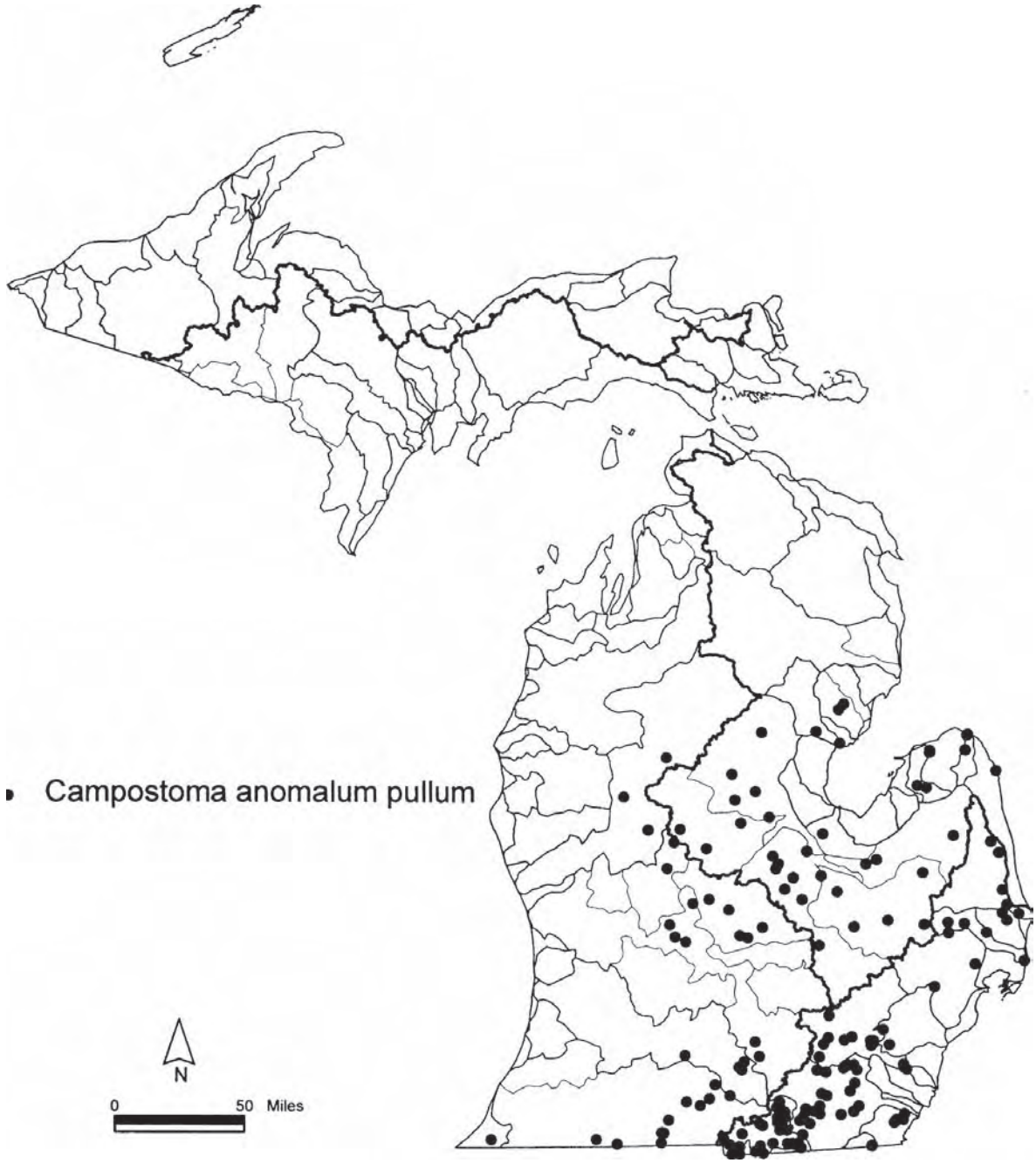
Acipenser fulvescens
N
0
50 Miles


Lepisosteus osseus
Lepisosteus oculatus
N
0
50 Miles

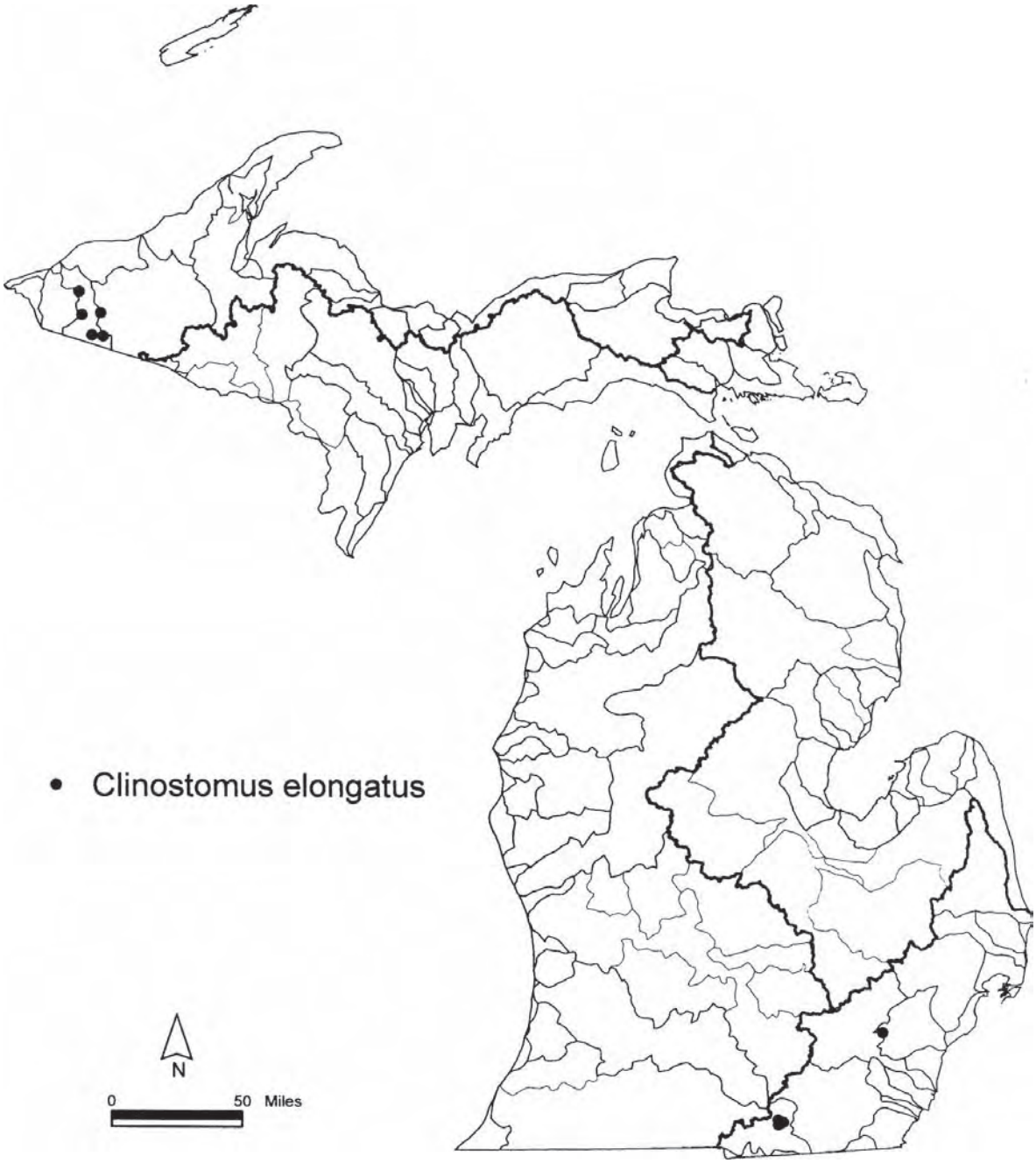
Amia calva
N
0
50 Miles


Alosa pseudoharengus
N
0
50 Miles

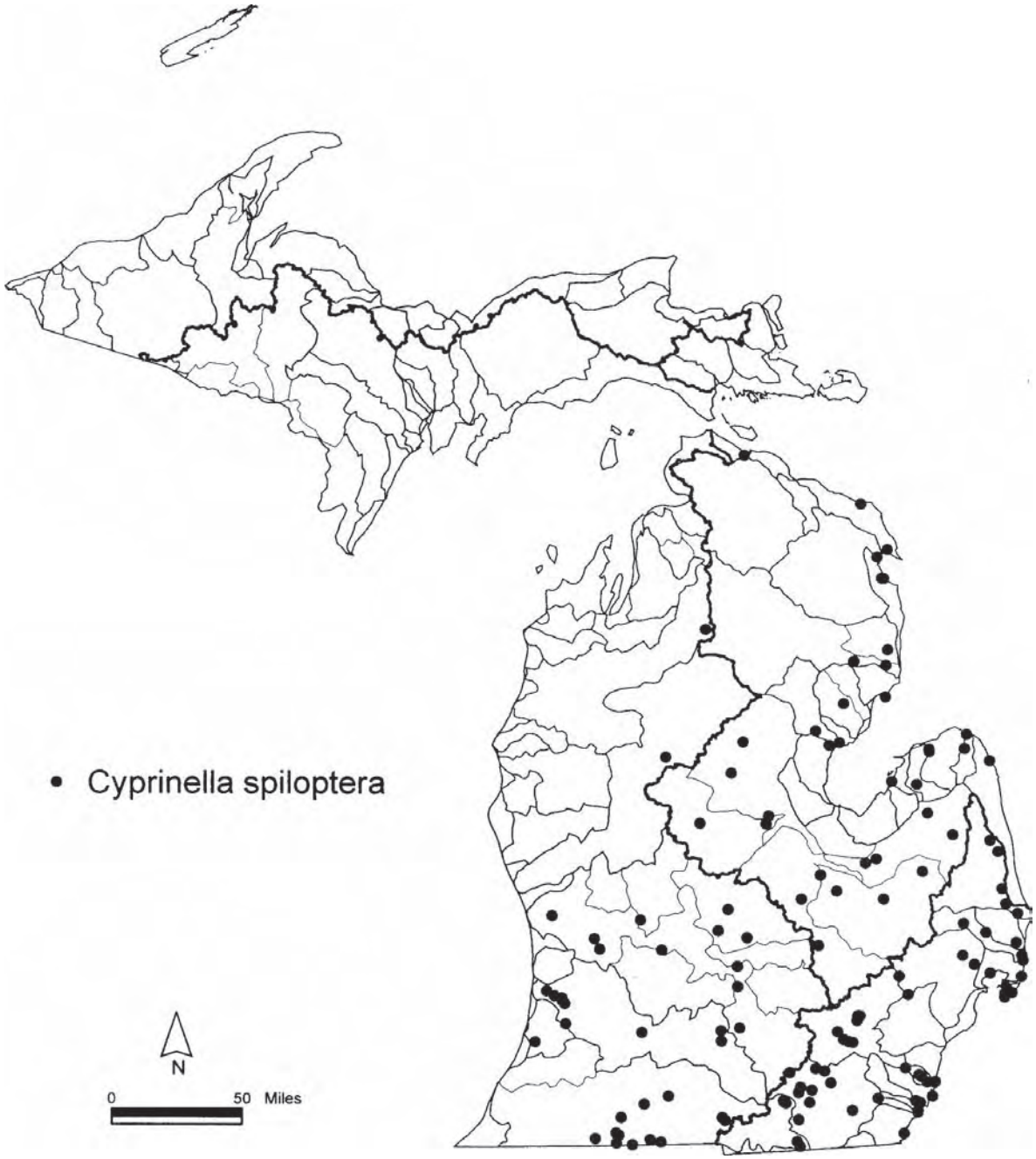
Dorosoma cepedianum
N
0
50 Miles


Campostoma anomalum pullum
N
0
50 Miles

Carassius auratus
N
0
50 Miles

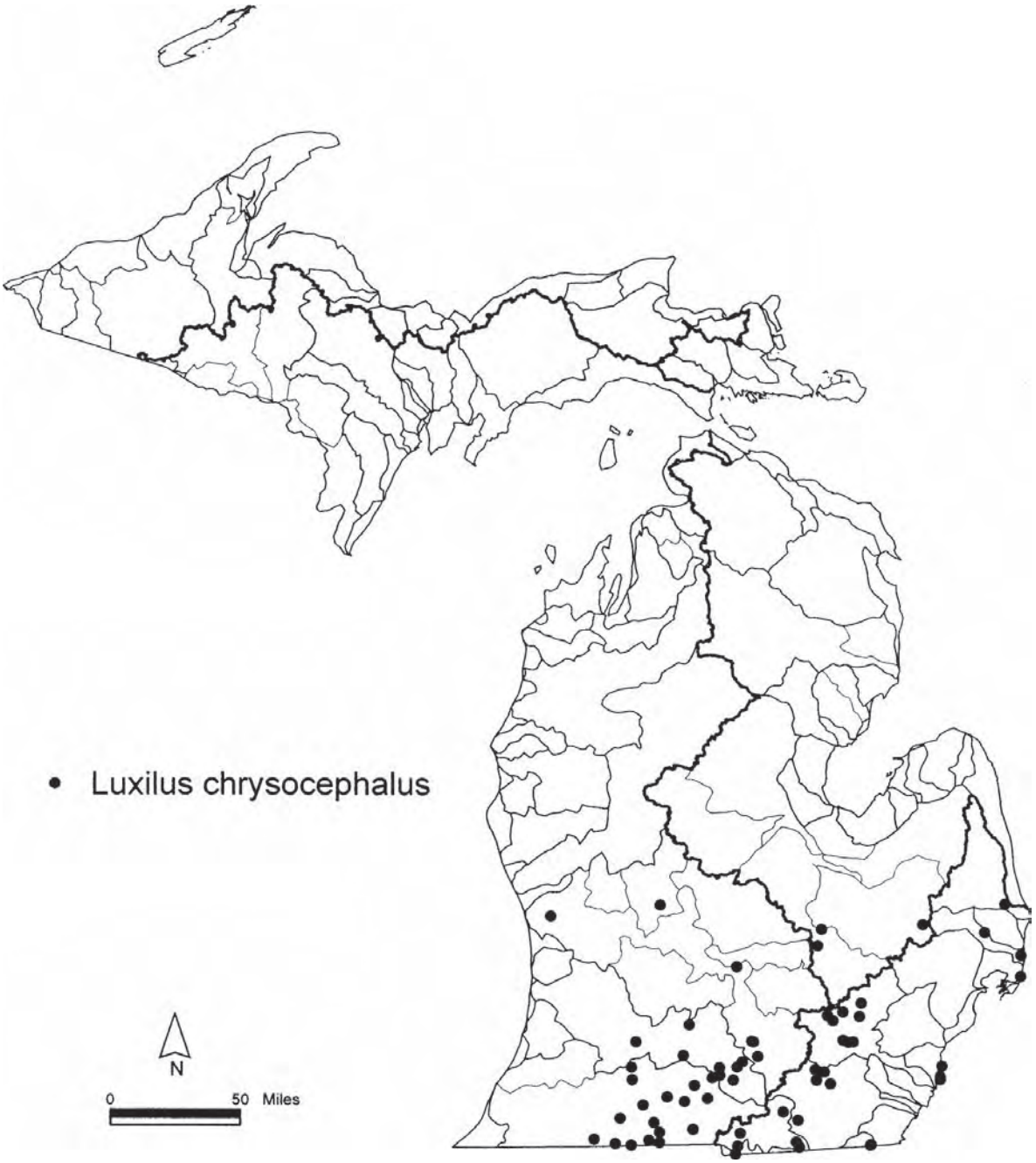

Clinostomus elongatus
N
0
50 Miles

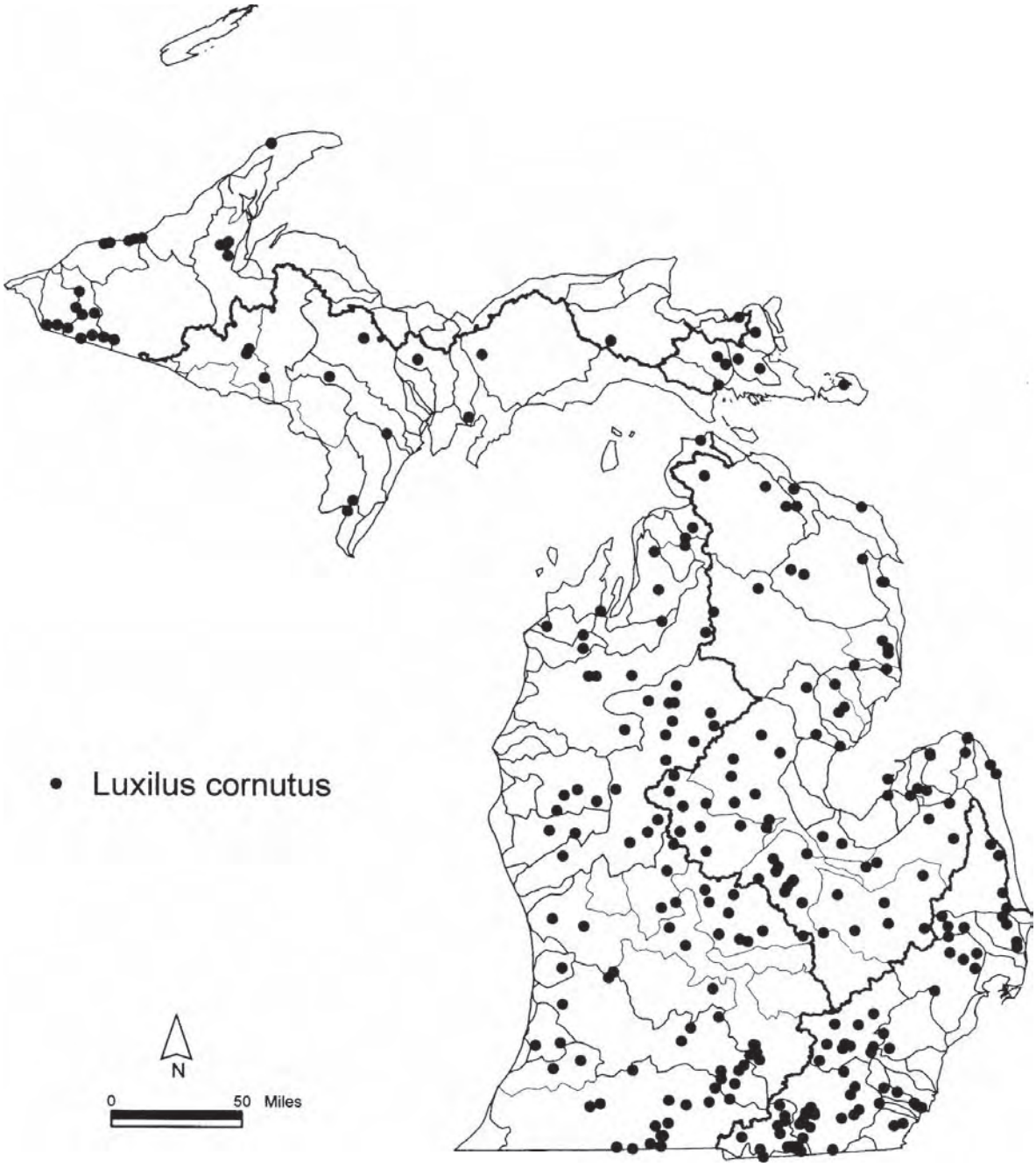
• Couesius plumbeus
N
0
50 Miles

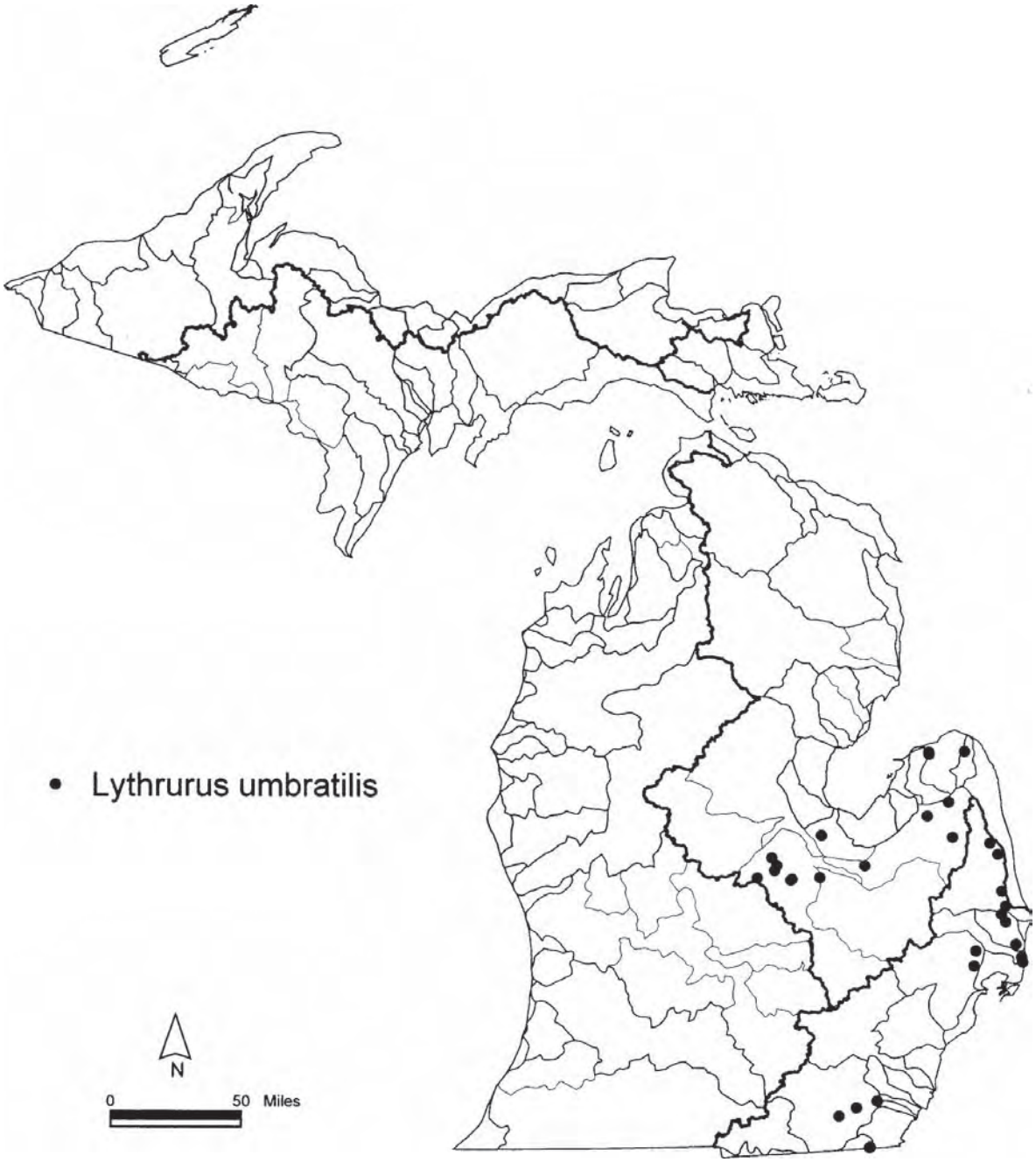

• Cyprinella spiloptera
N
0
50 Miles

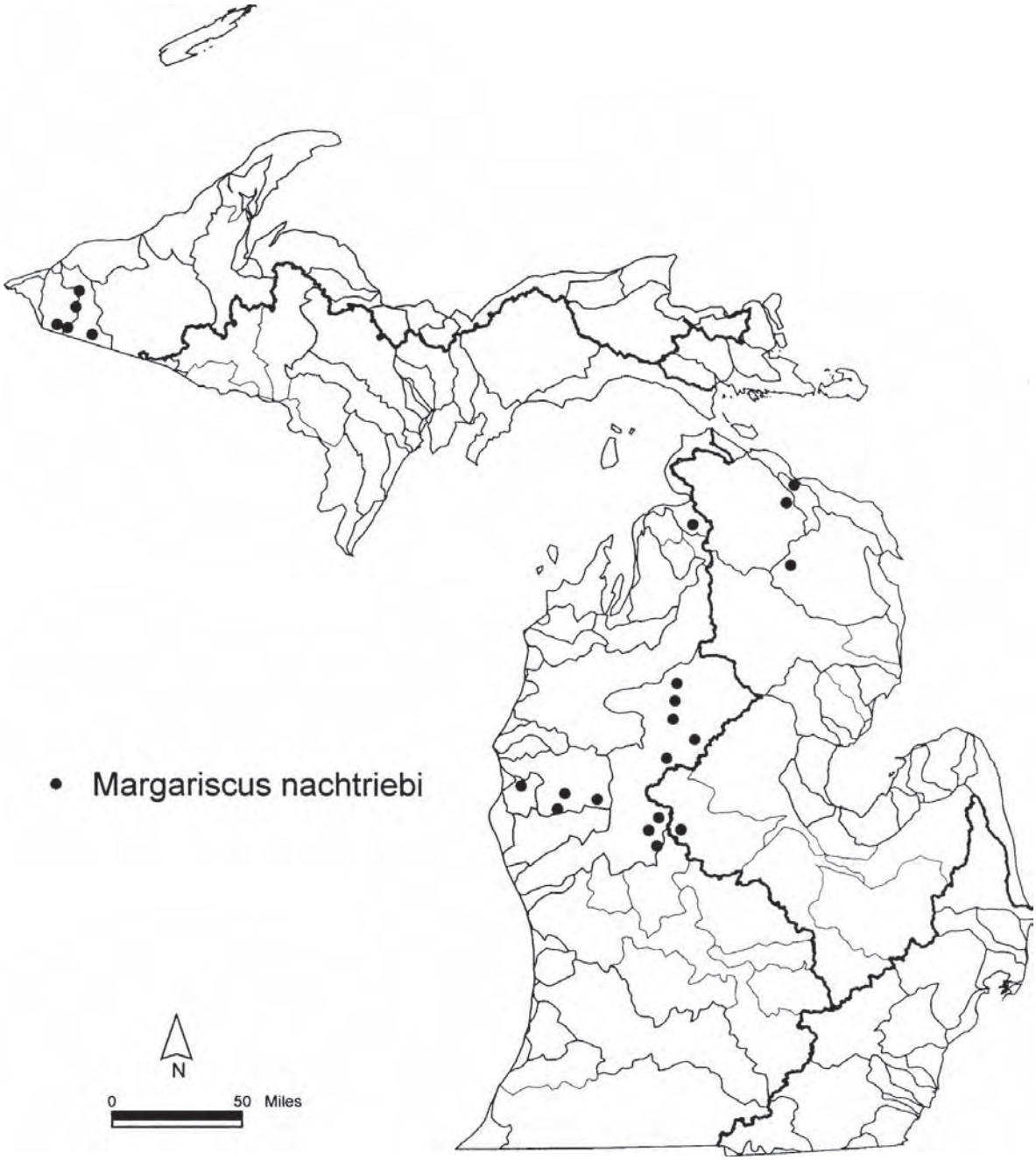
Cyprinus carpio
N
0
50 Miles

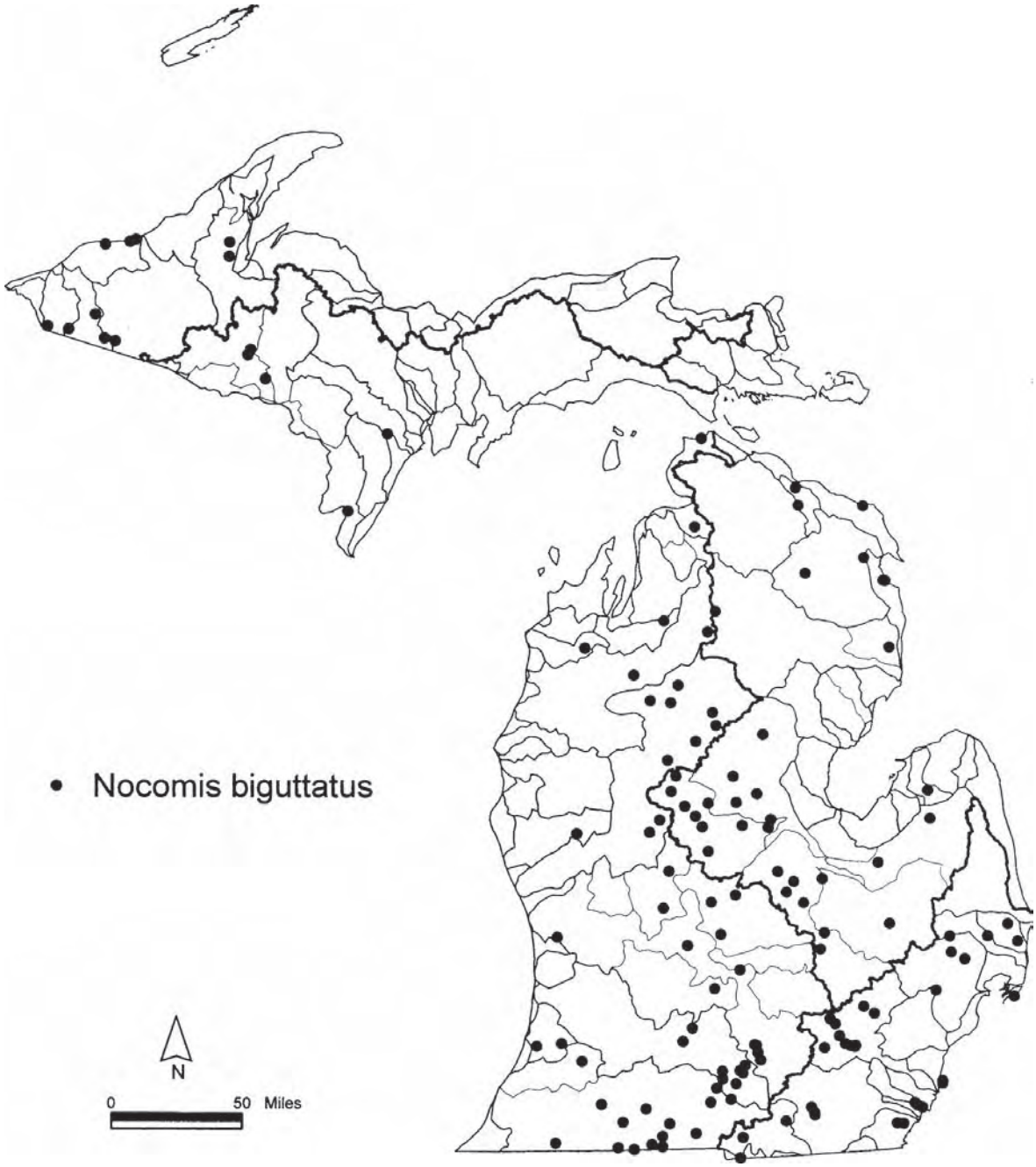
Hybognathus hankinsoni
N
0
50 Miles

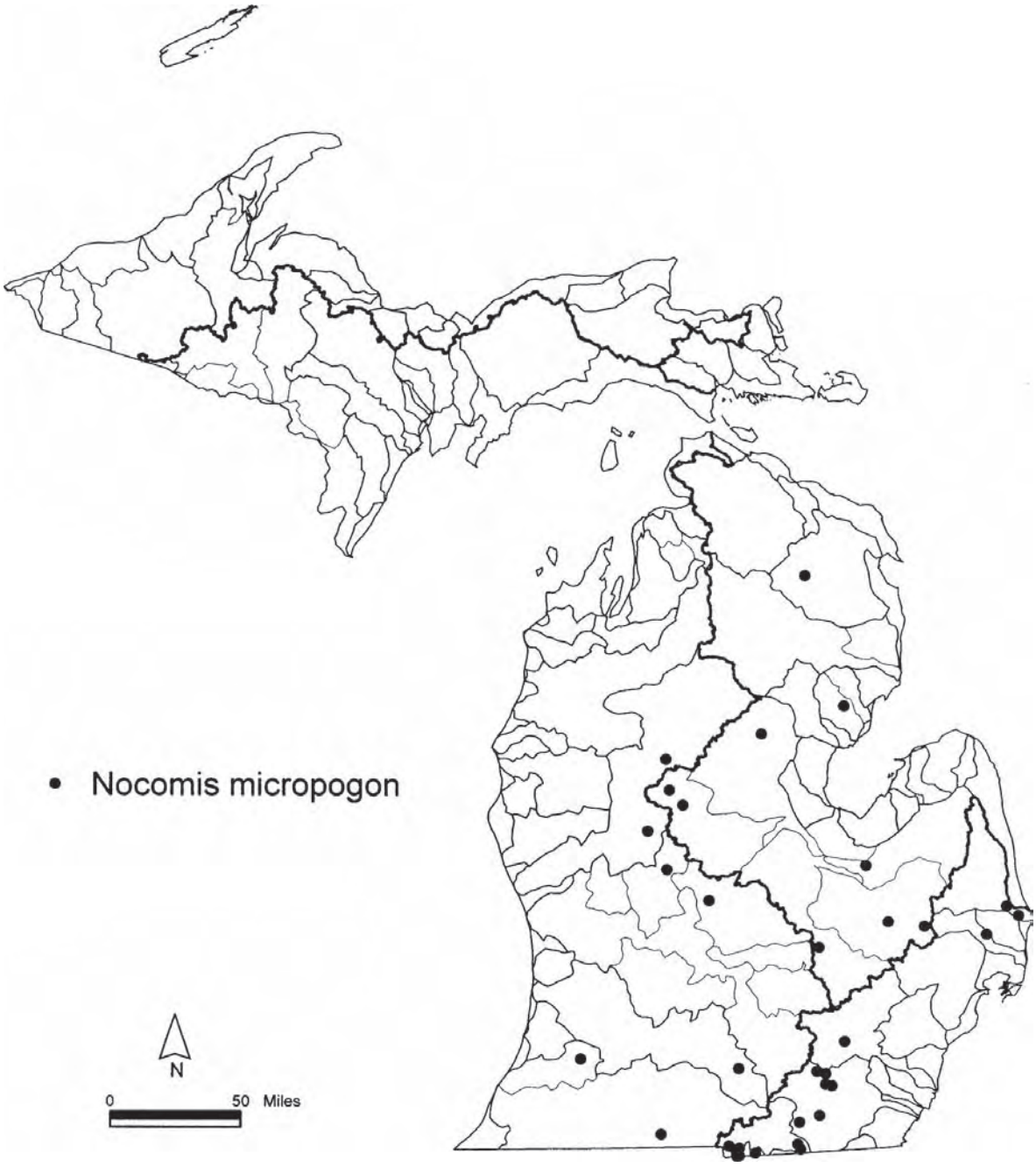

Luxilus chrysocephalus
N
0
50 Miles

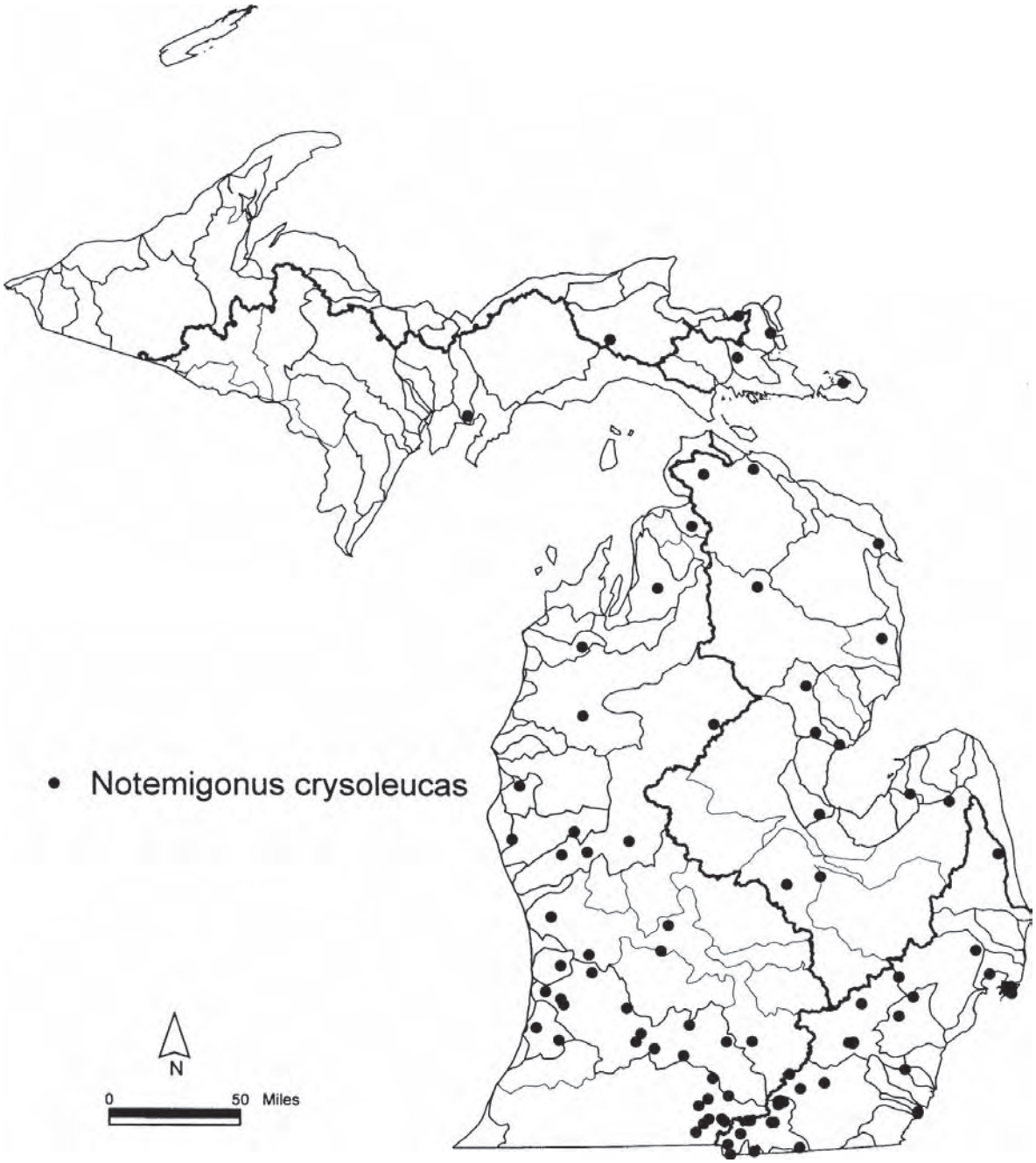

Luxilus cornutus
N
0
50 Miles

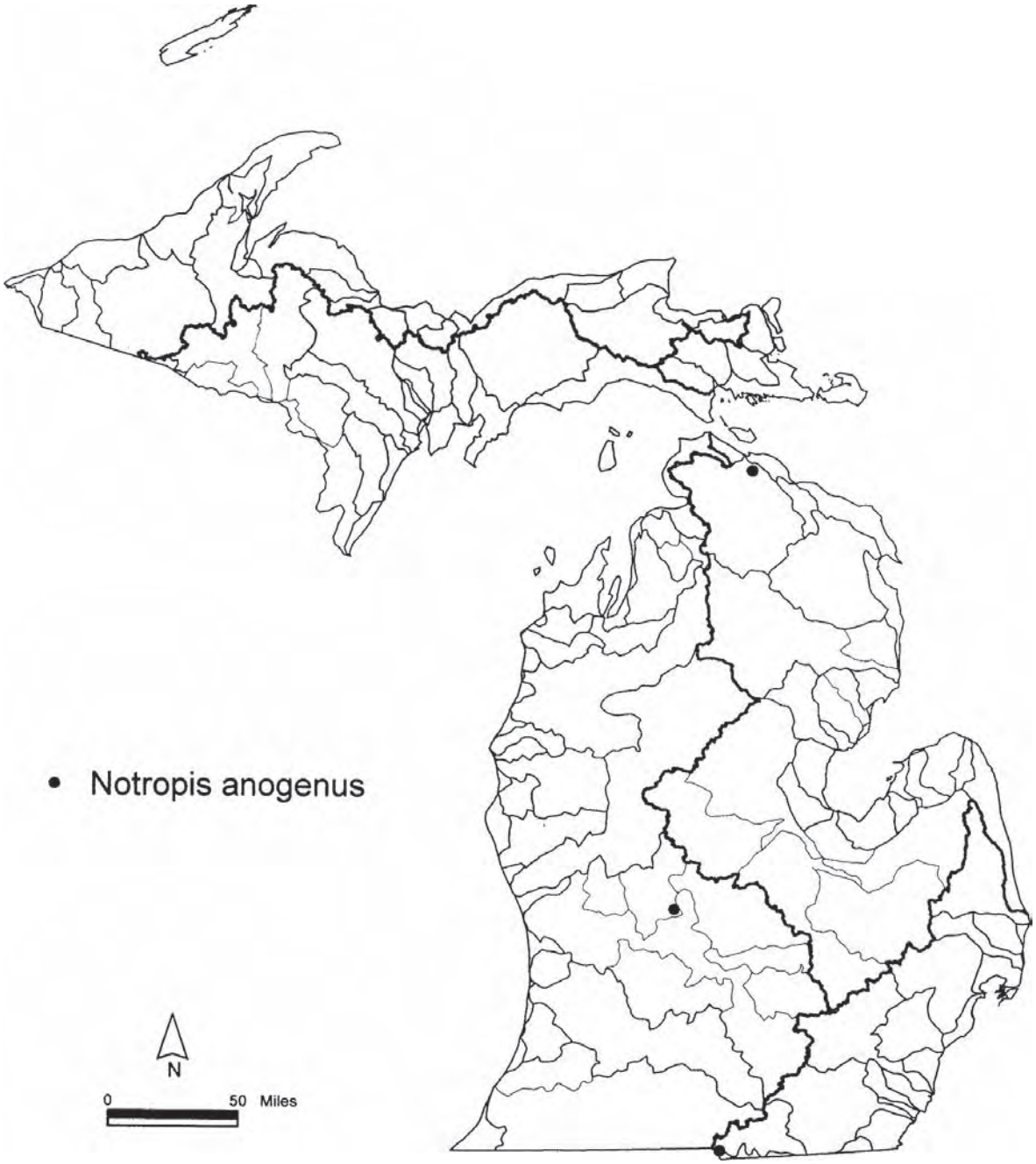

Lythrurus umbratilis
N
0
50 Miles

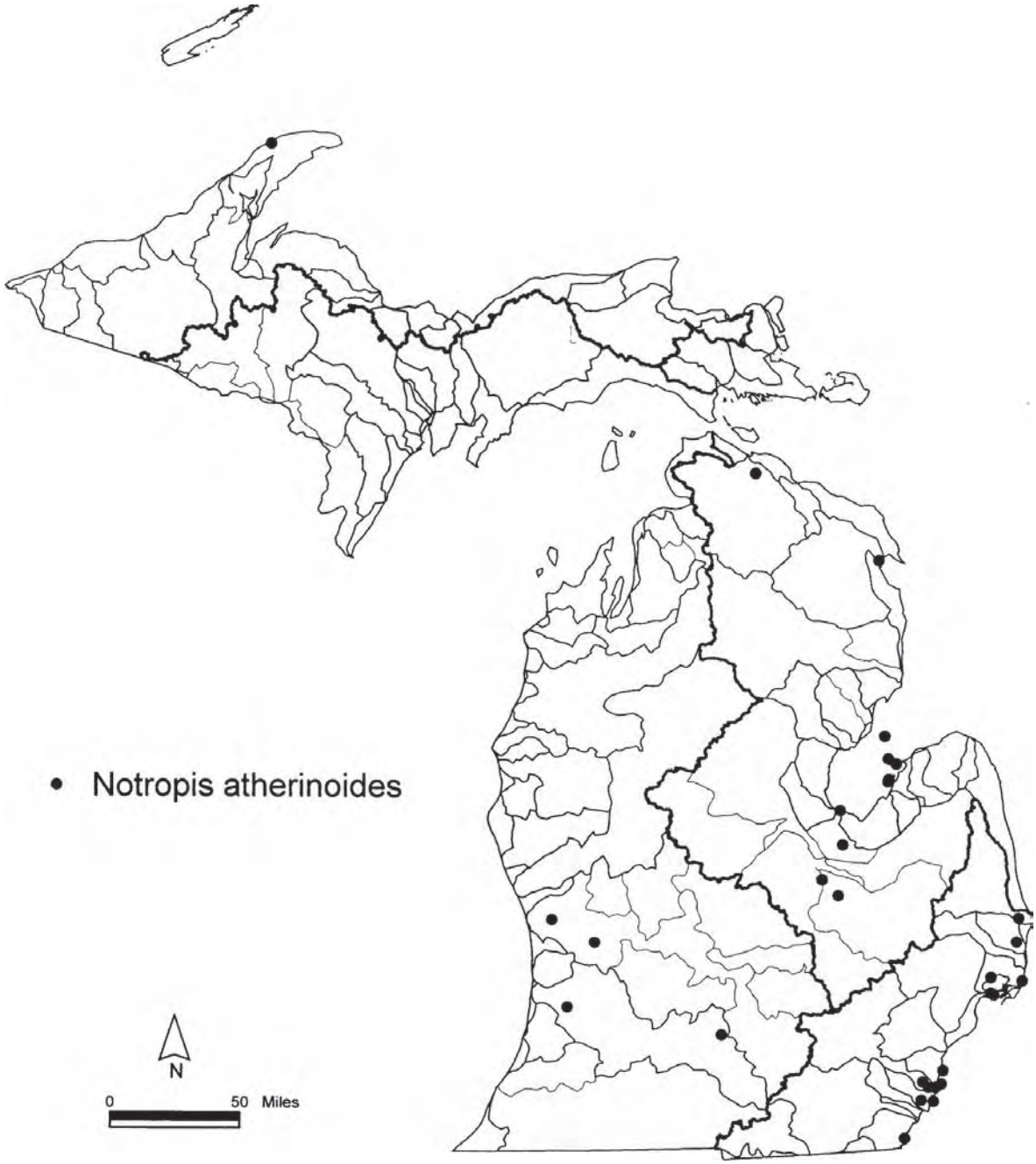

Margariscus nachtriebi
N
0
50 Miles

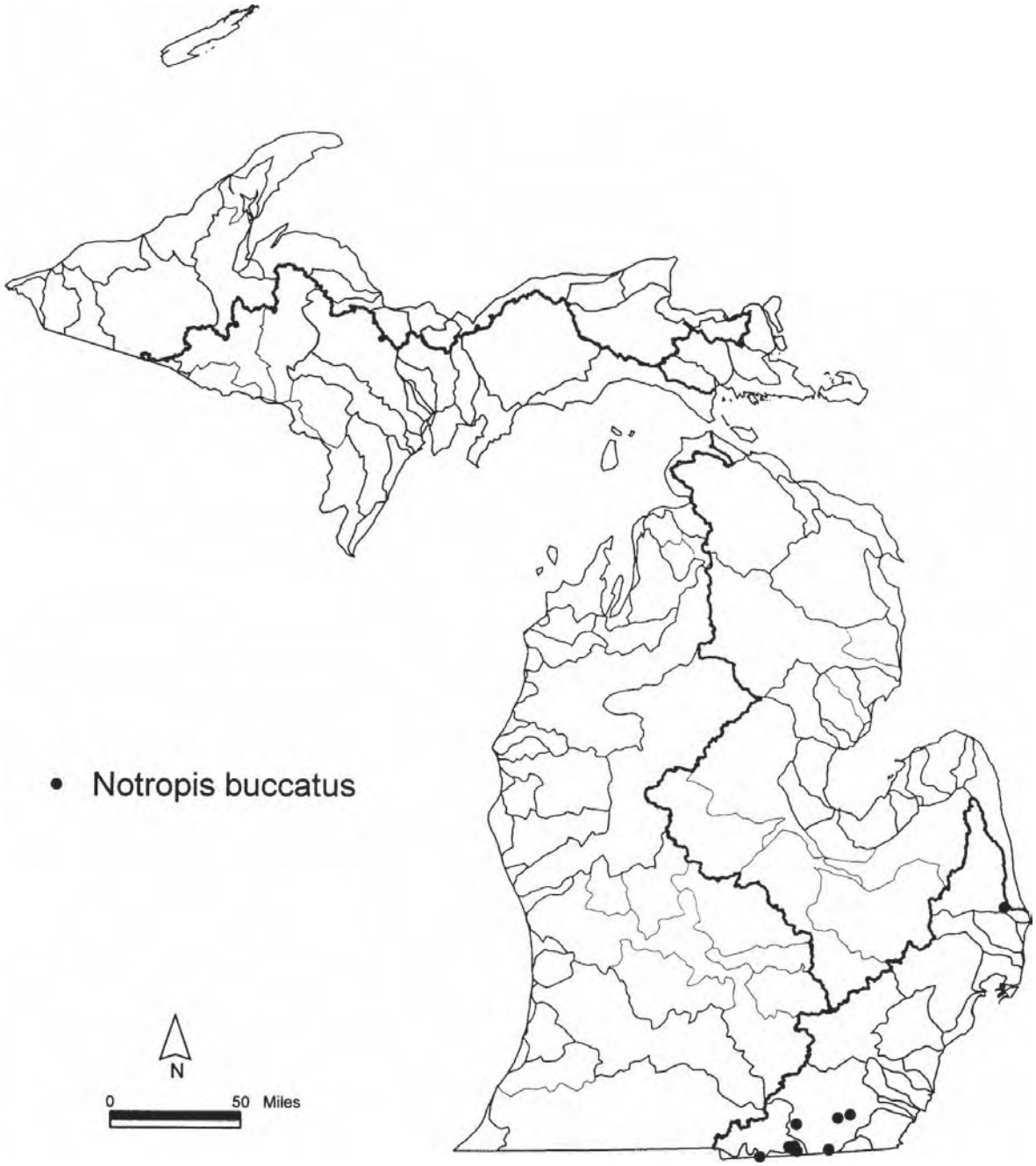

Nocomis biguttatus
N
0
50 Miles


Nocomis micropogon
N
0
50 Miles


Notemigonus crysoleucas
N
0
50 Miles

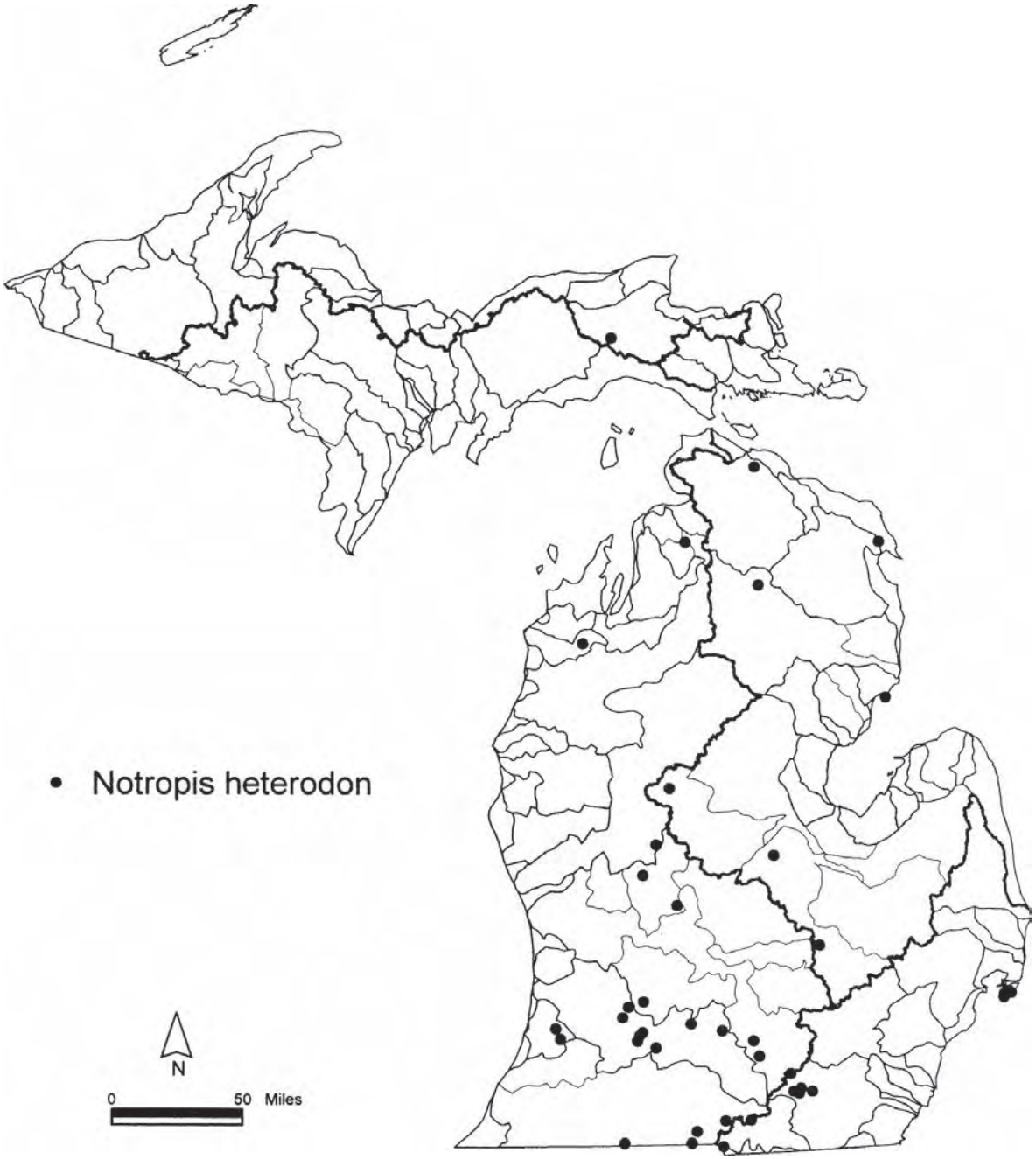

Notropis anogenus
N
0
50 Miles

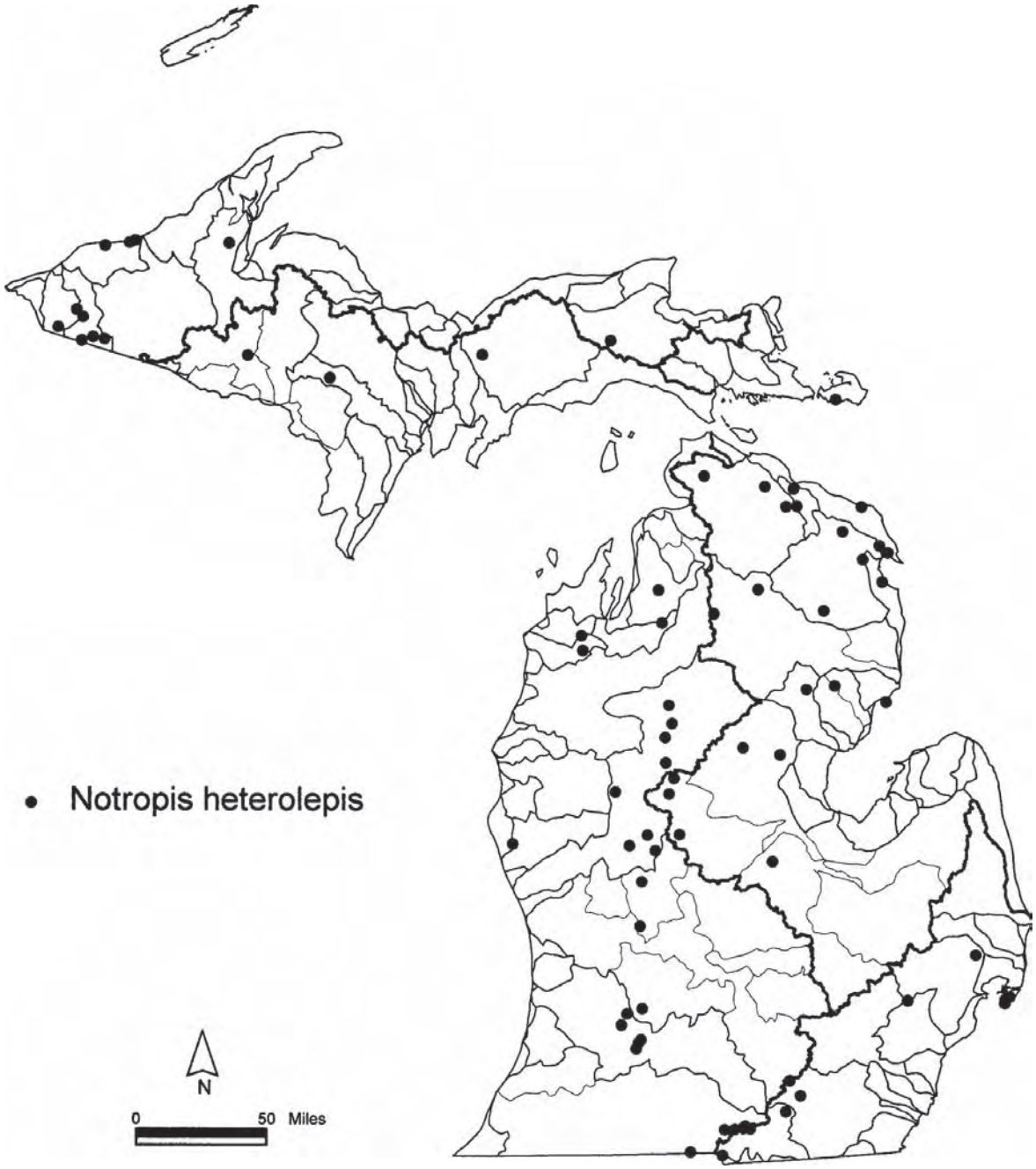

Notropis atherinoides
N
0
50 Miles


Notropis buccatus
N
0
50 Miles

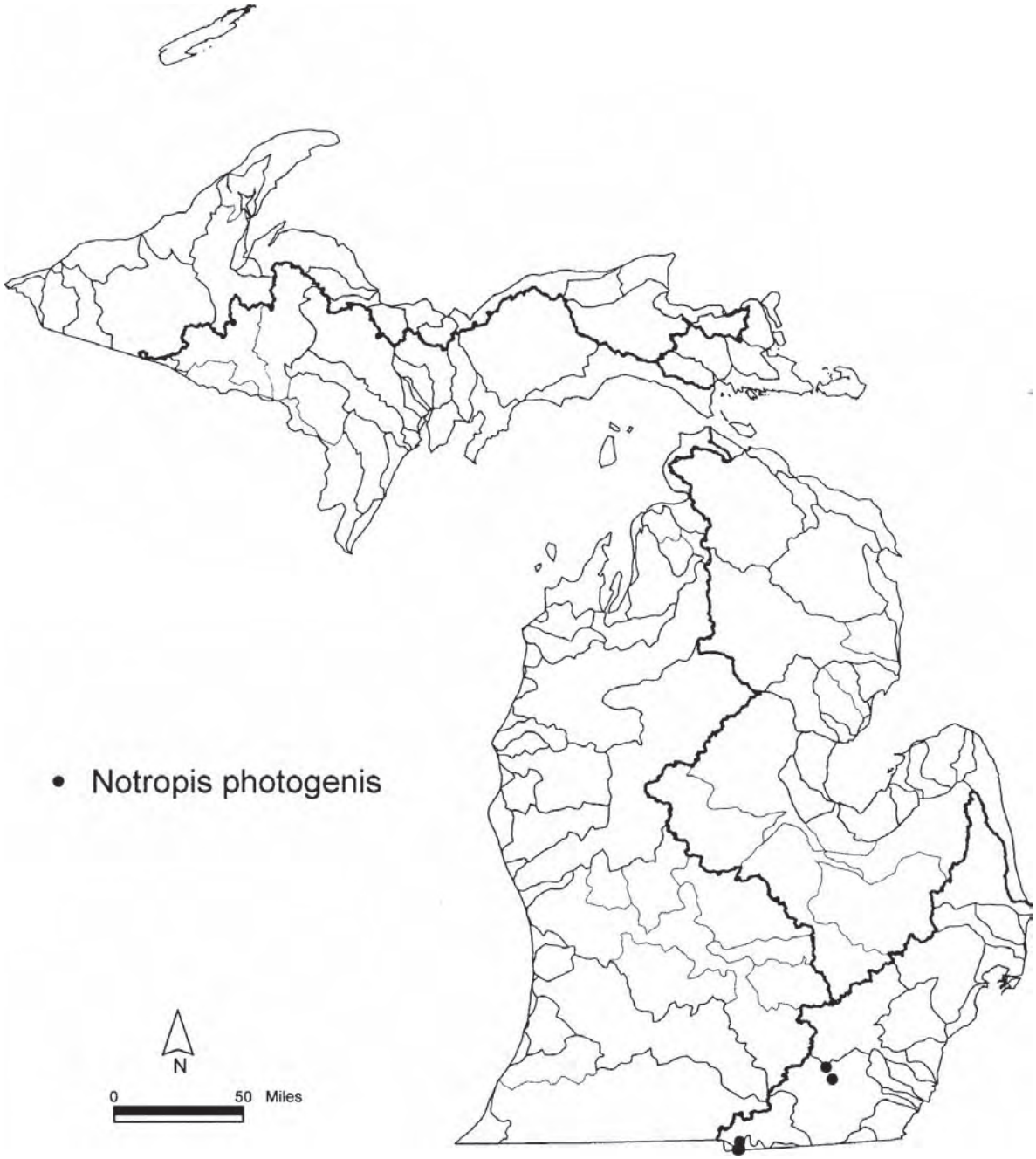
Notropis buchanani
N
0
50 Miles

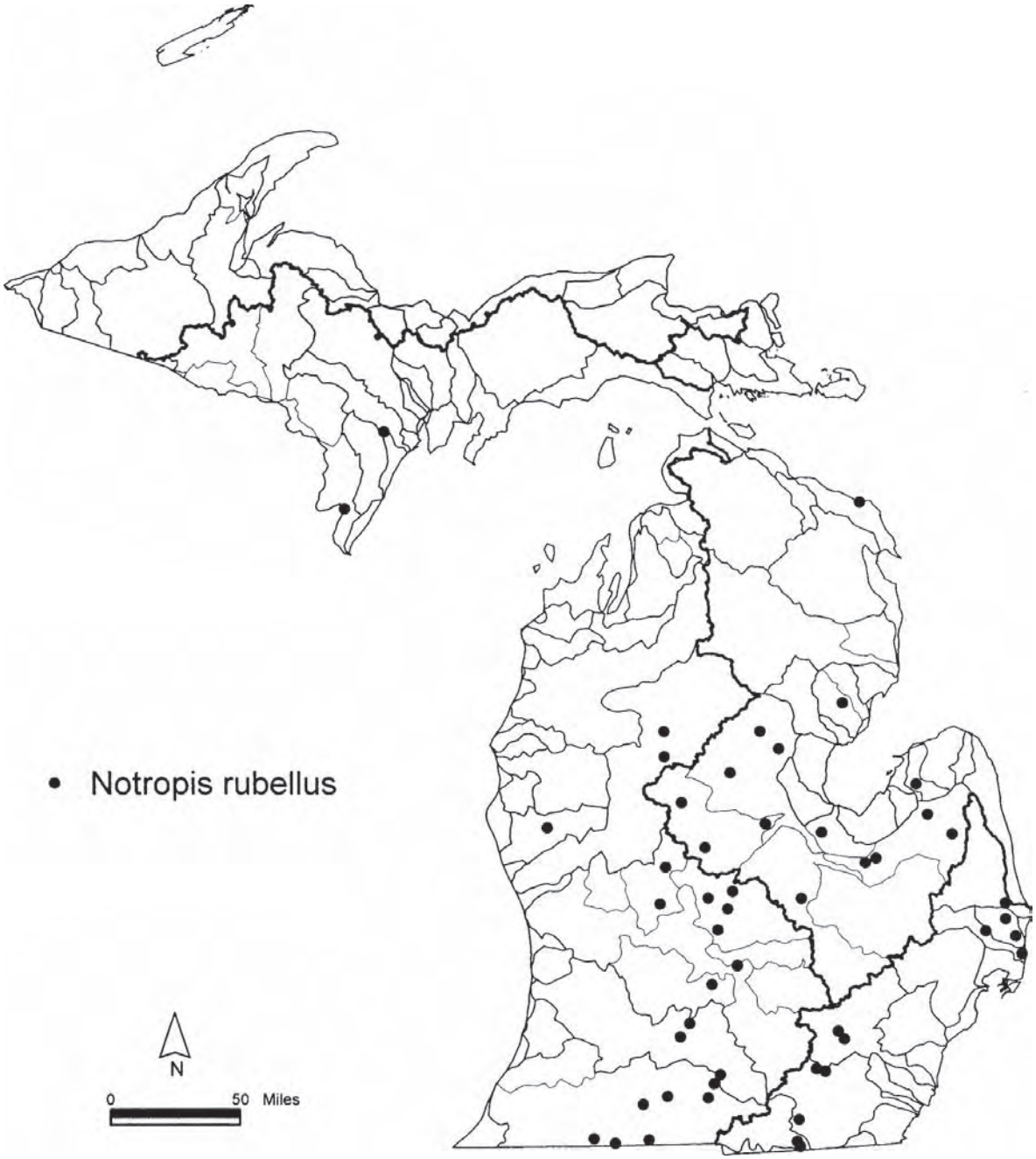
Notropis dorsalis
N
0
50 Miles

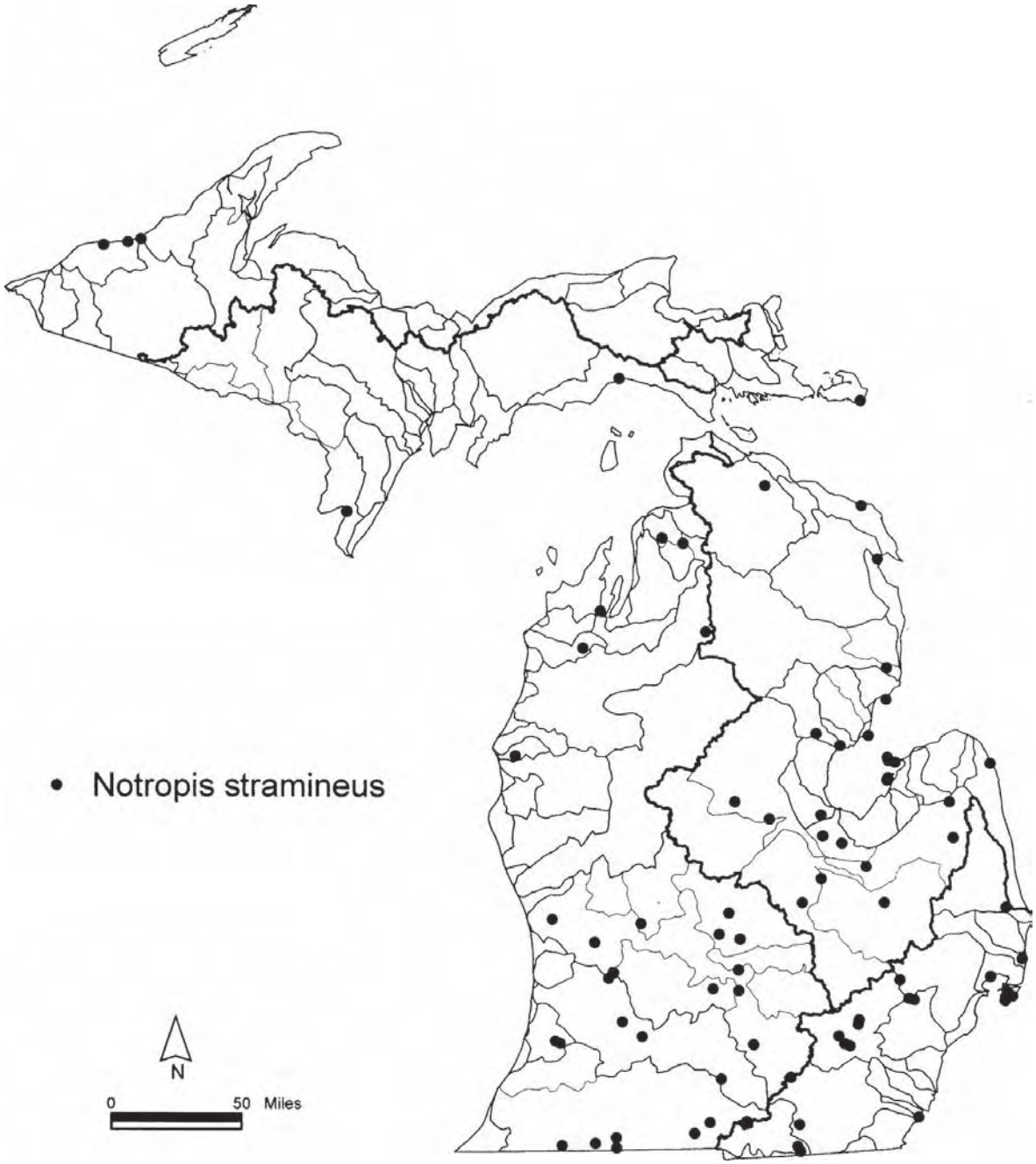

Notropis heterodon
N
0
50 Miles

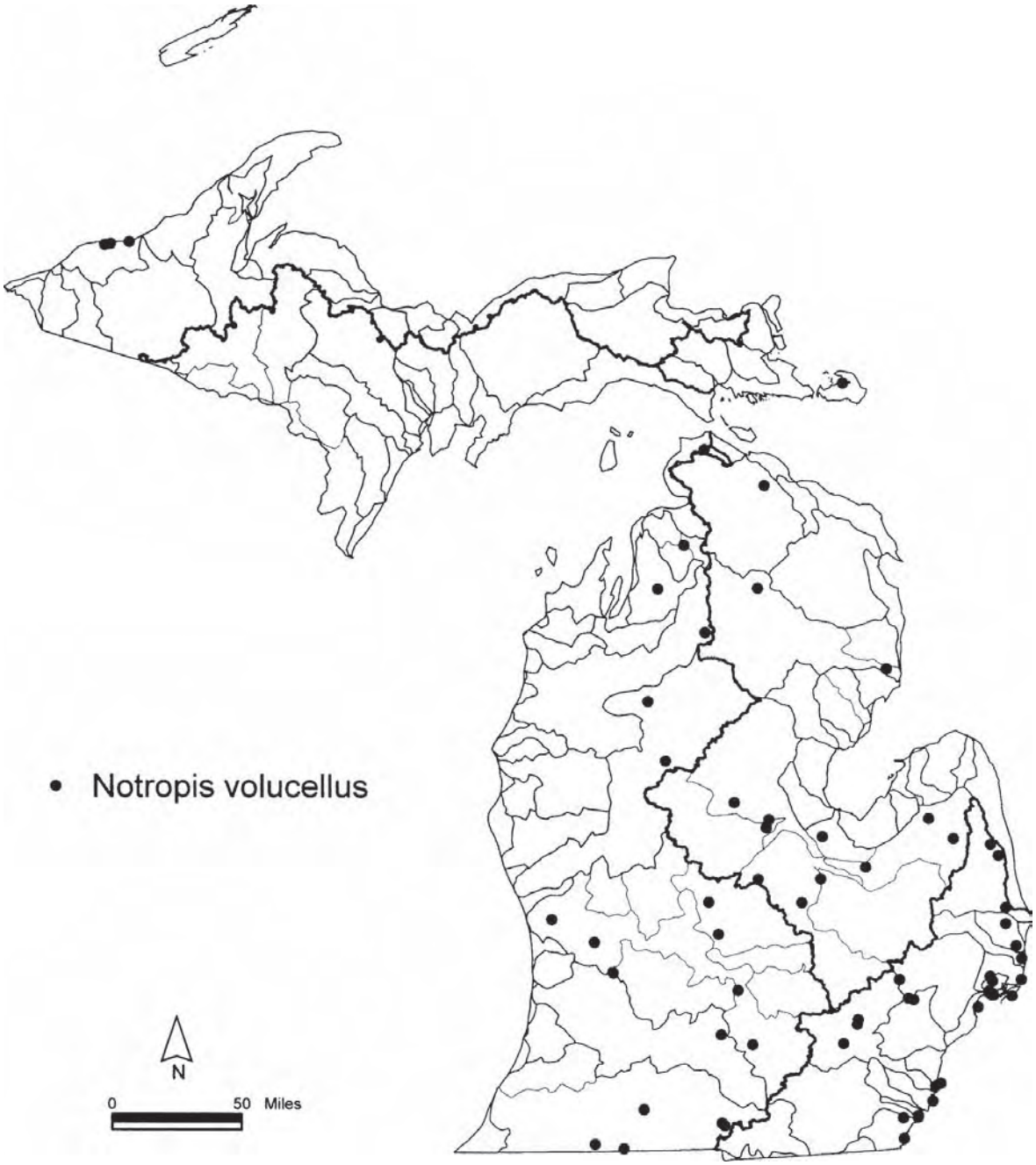

Notropis heterolepis
N
0
50 Miles

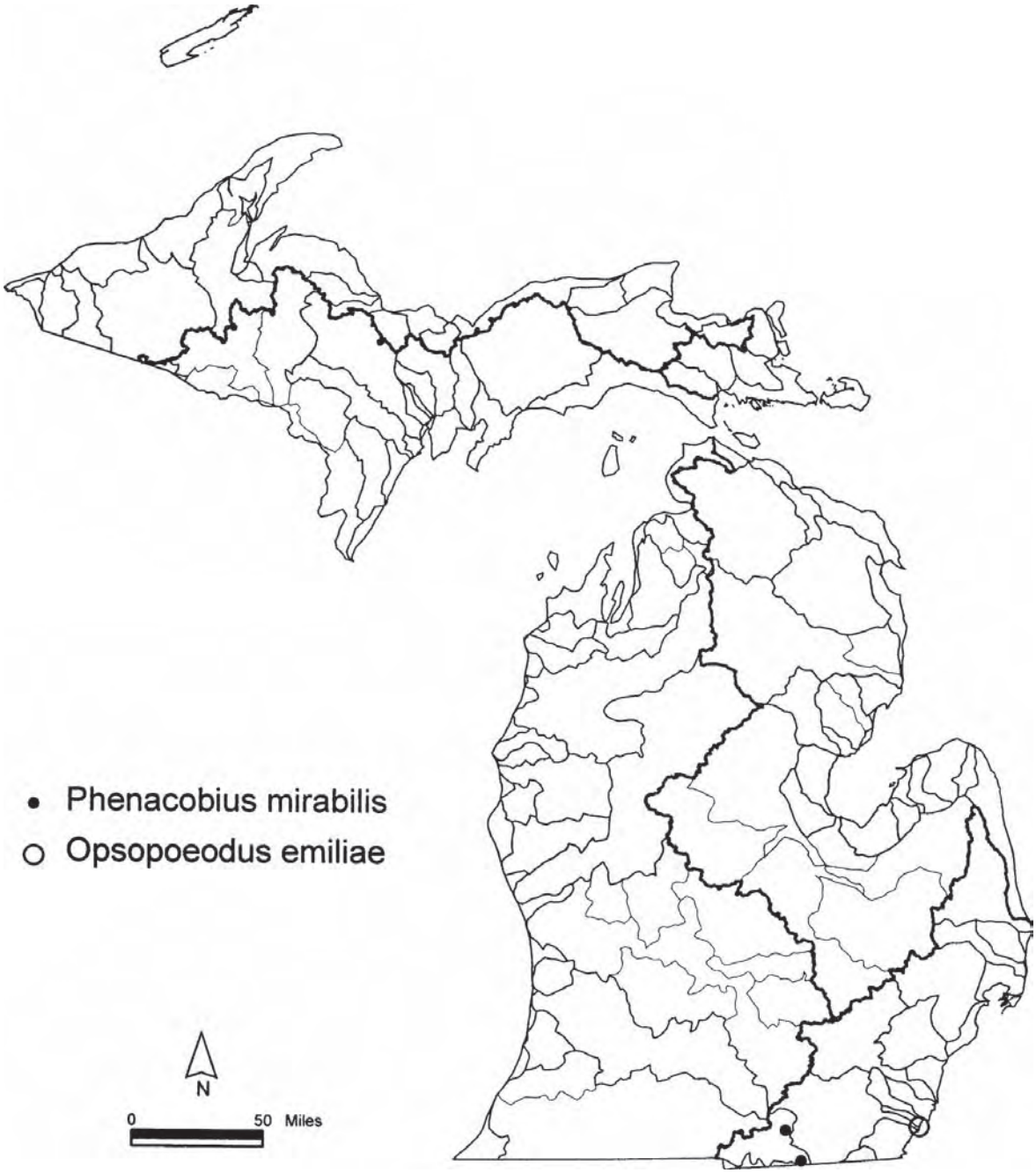
Notropis hudsonius
N
0
50 Miles


• Notropis photogenis
N
0
50 Miles


Notropis rubellus
N
0
50 Miles

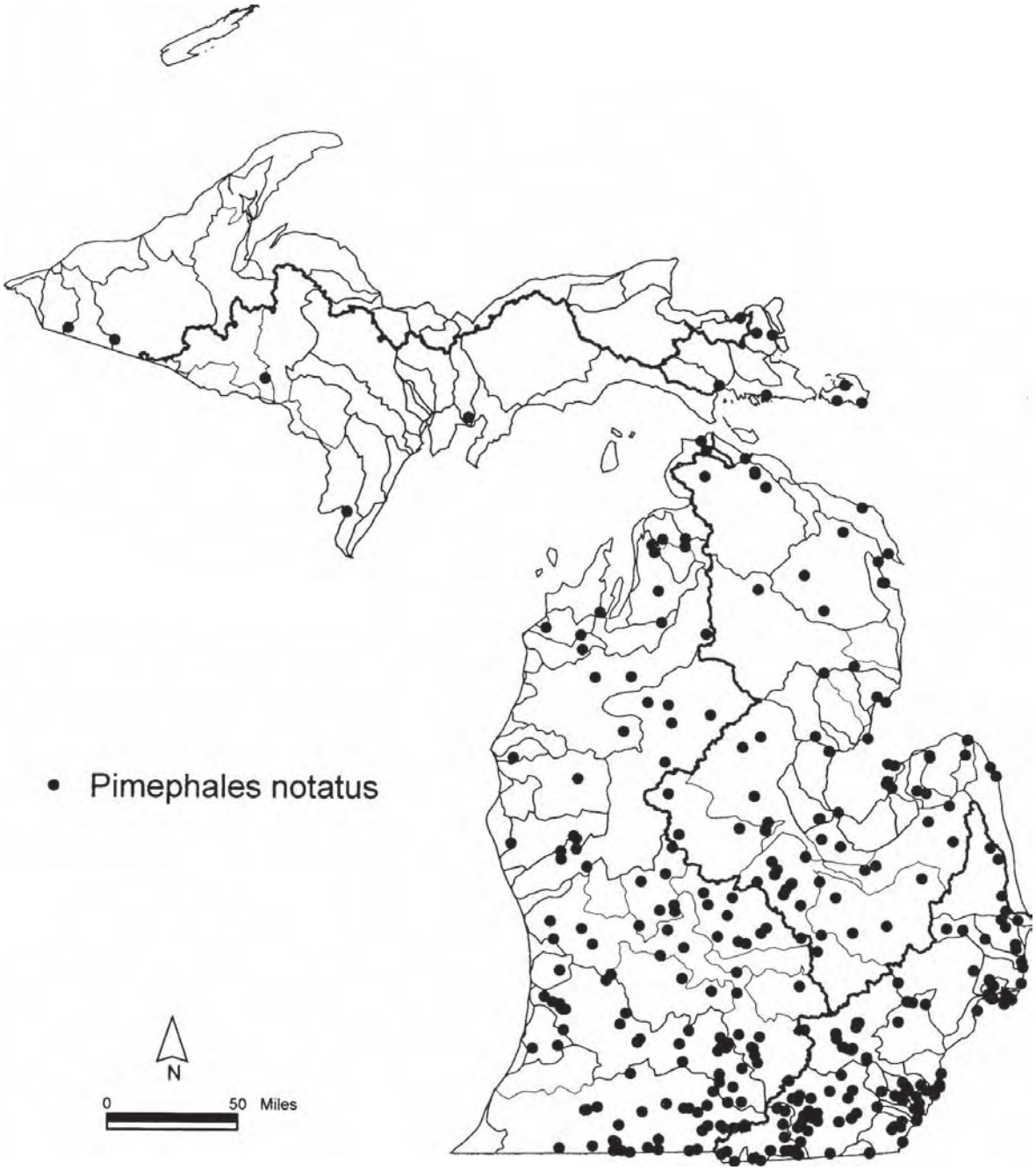

Notropis stramineus
N
0
50 Miles

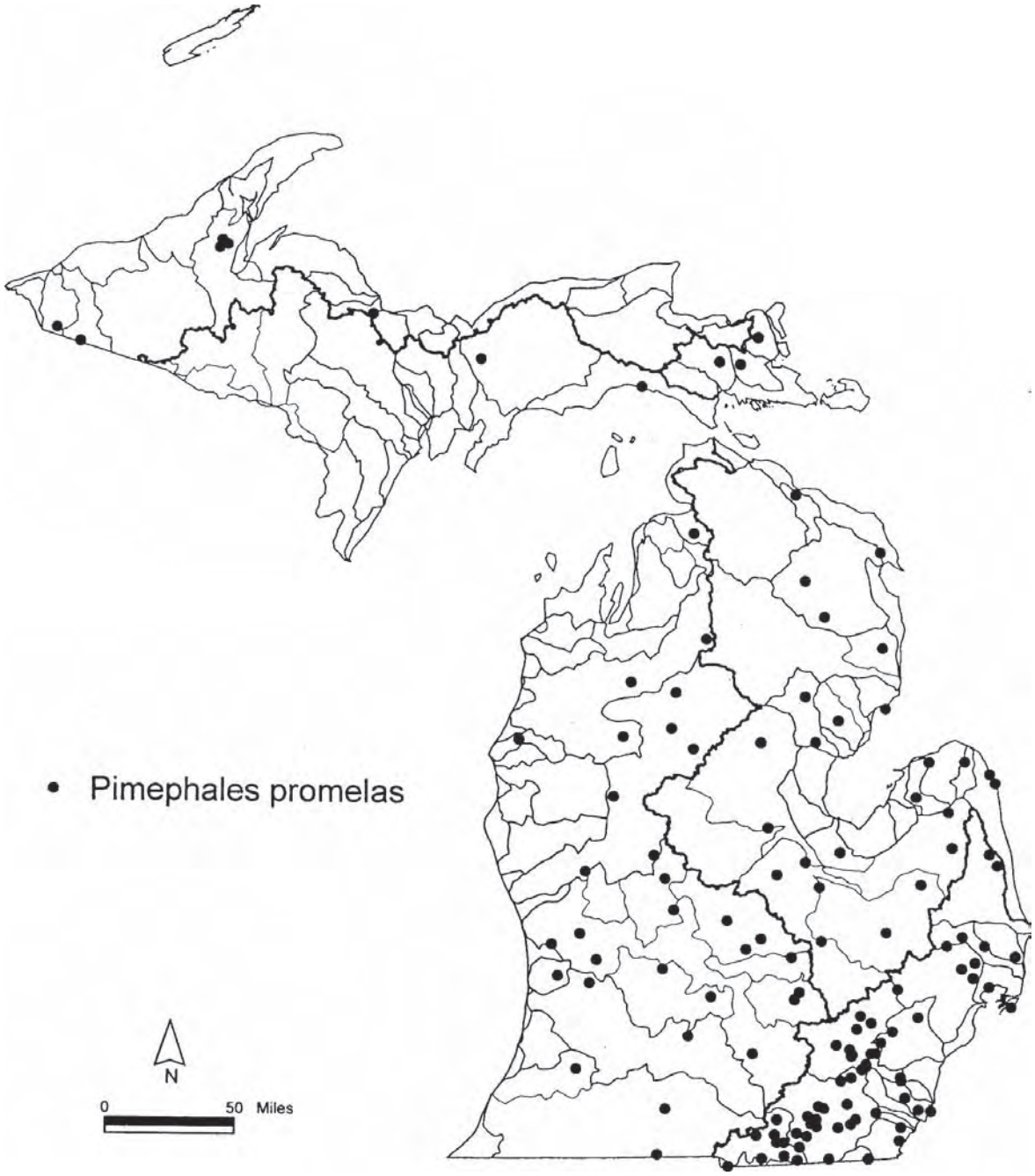

Notropis volucellus
N
0
50 Miles

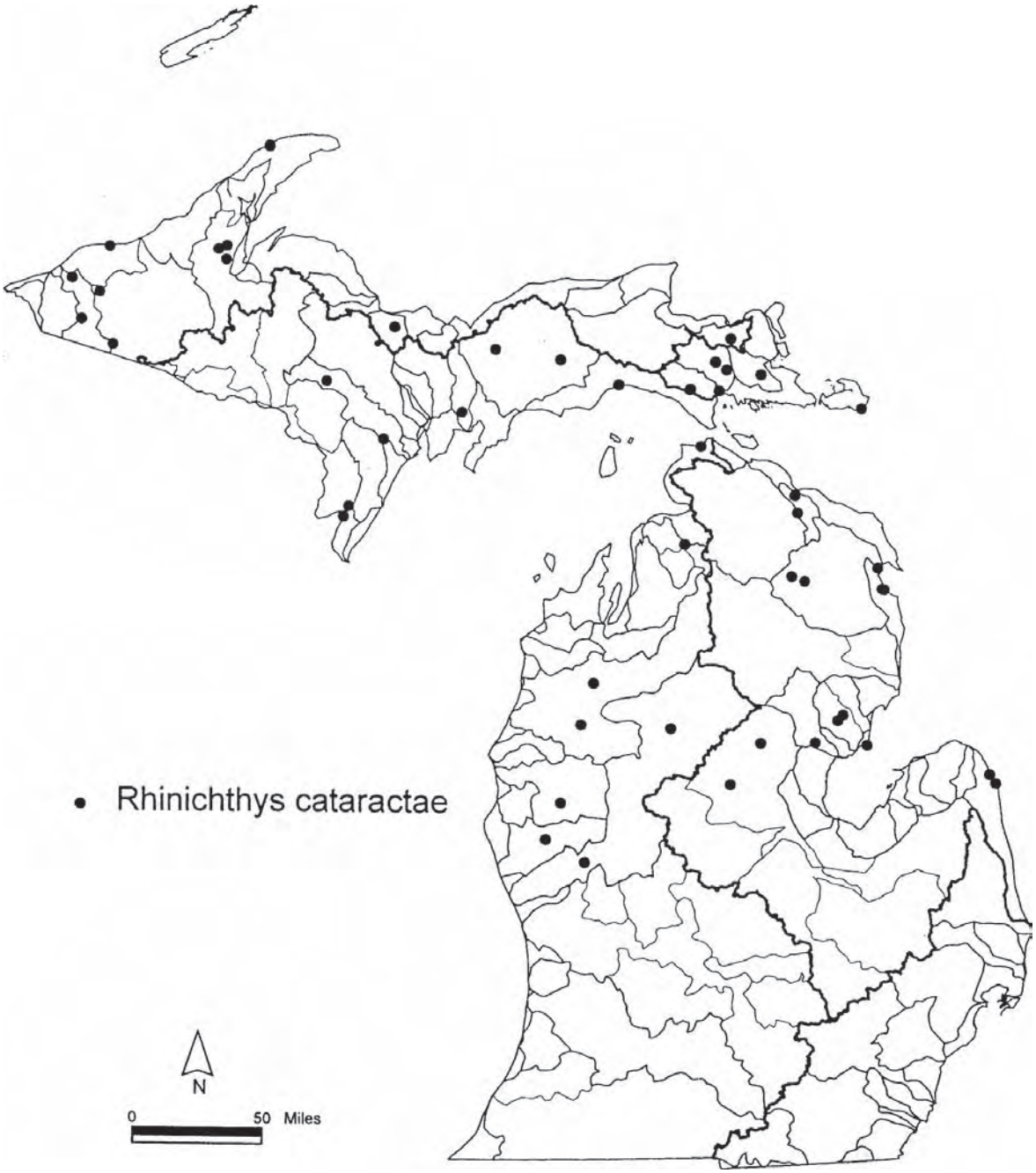

Phenacobius mirabilis
Opsopoeodus emiliae
N
0
50 Miles

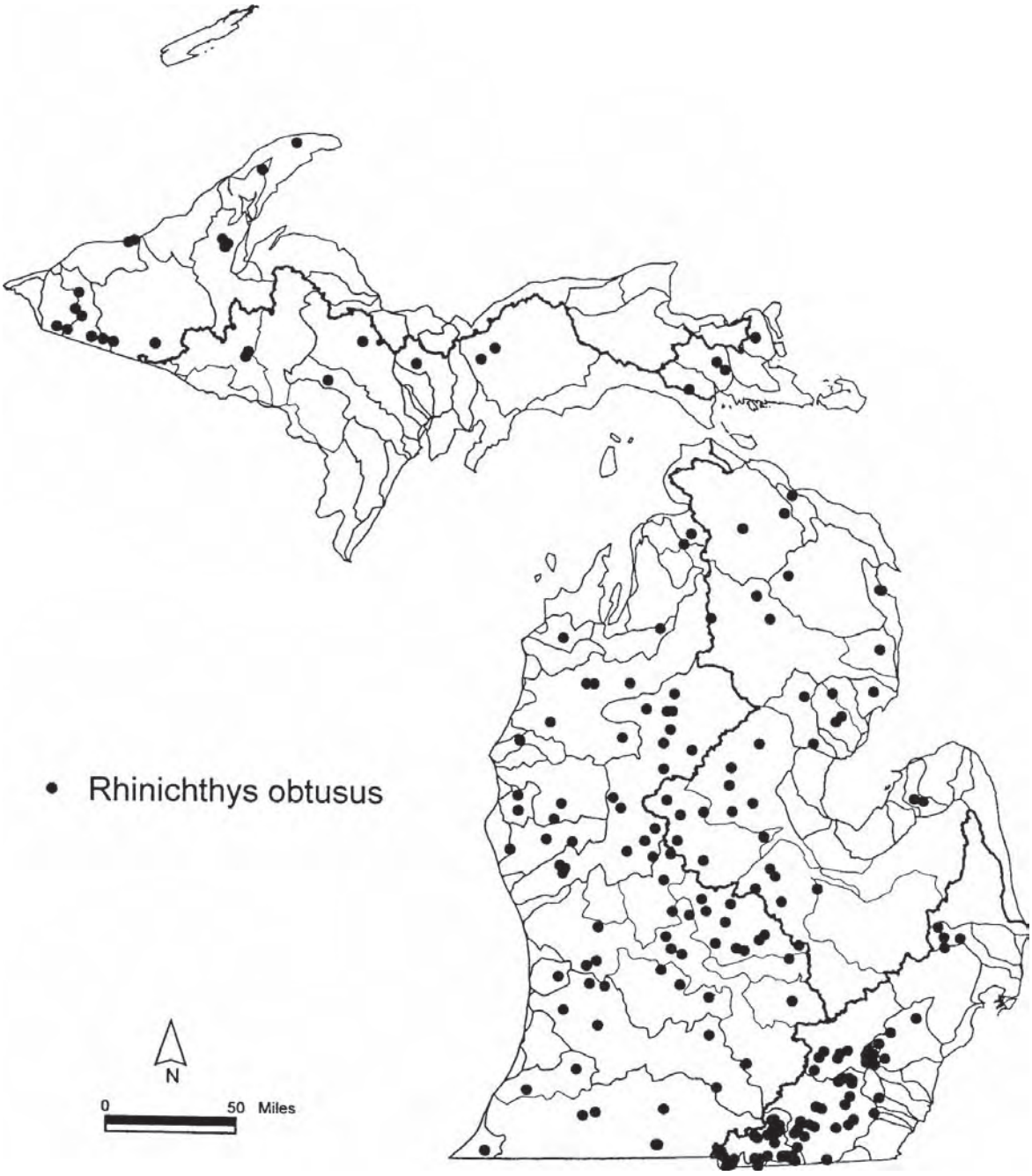
Phoxinus eos
N
0
50 Miles

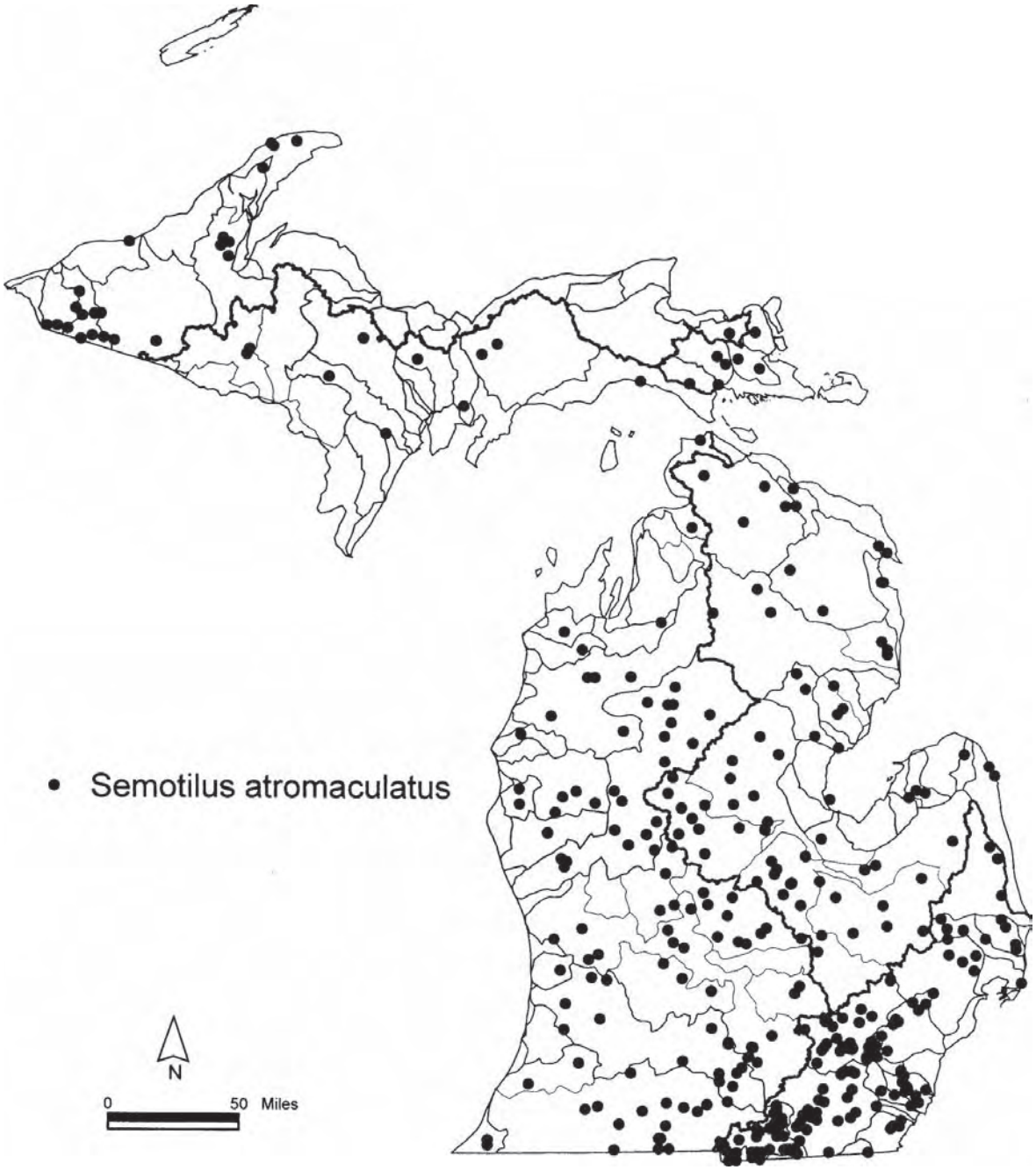
Phoxinus neogaeus
N
0
50 Miles

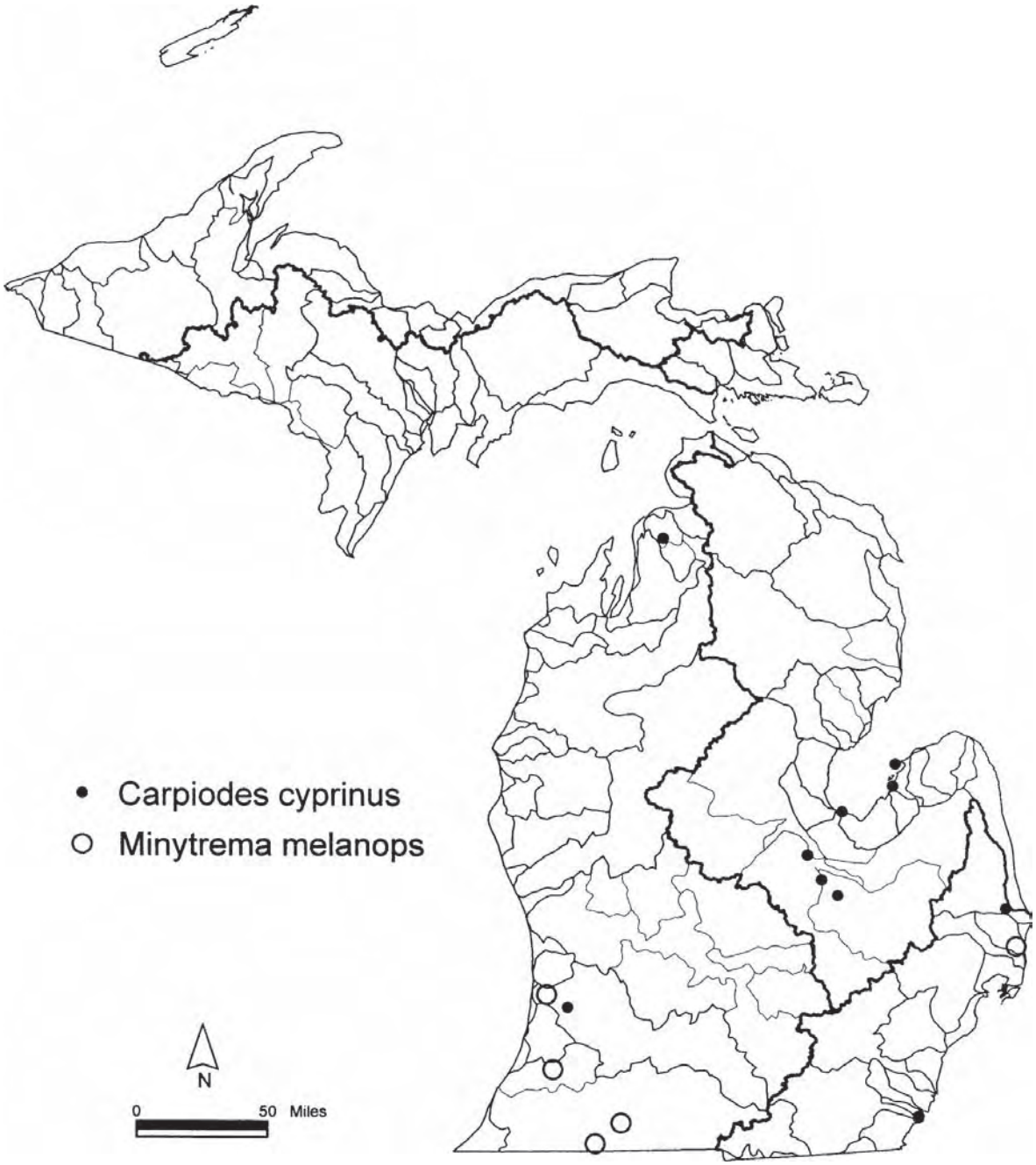

Pimephales notatus
N
0
50 Miles

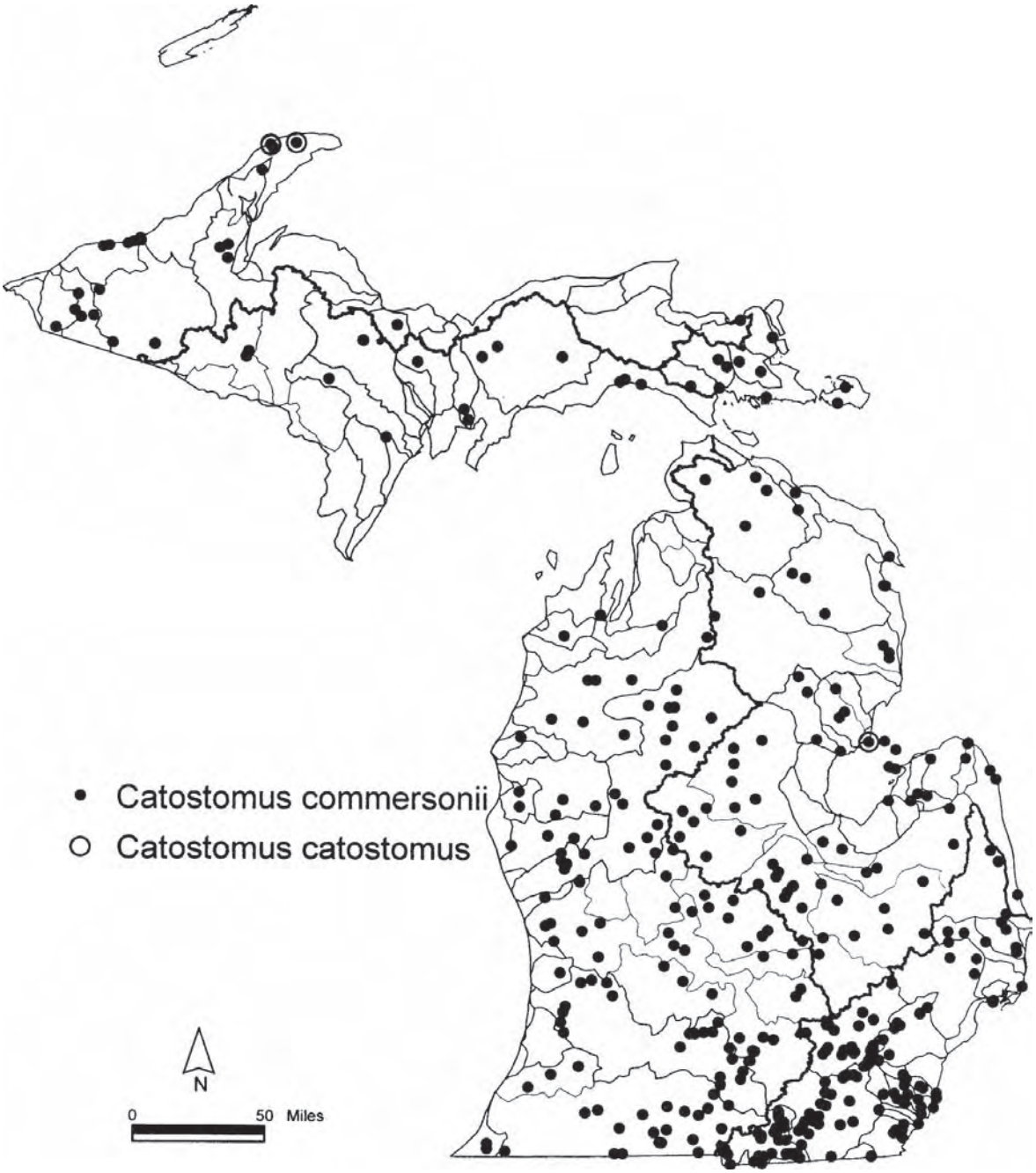

Pimephales promelas
N
0
50 Miles

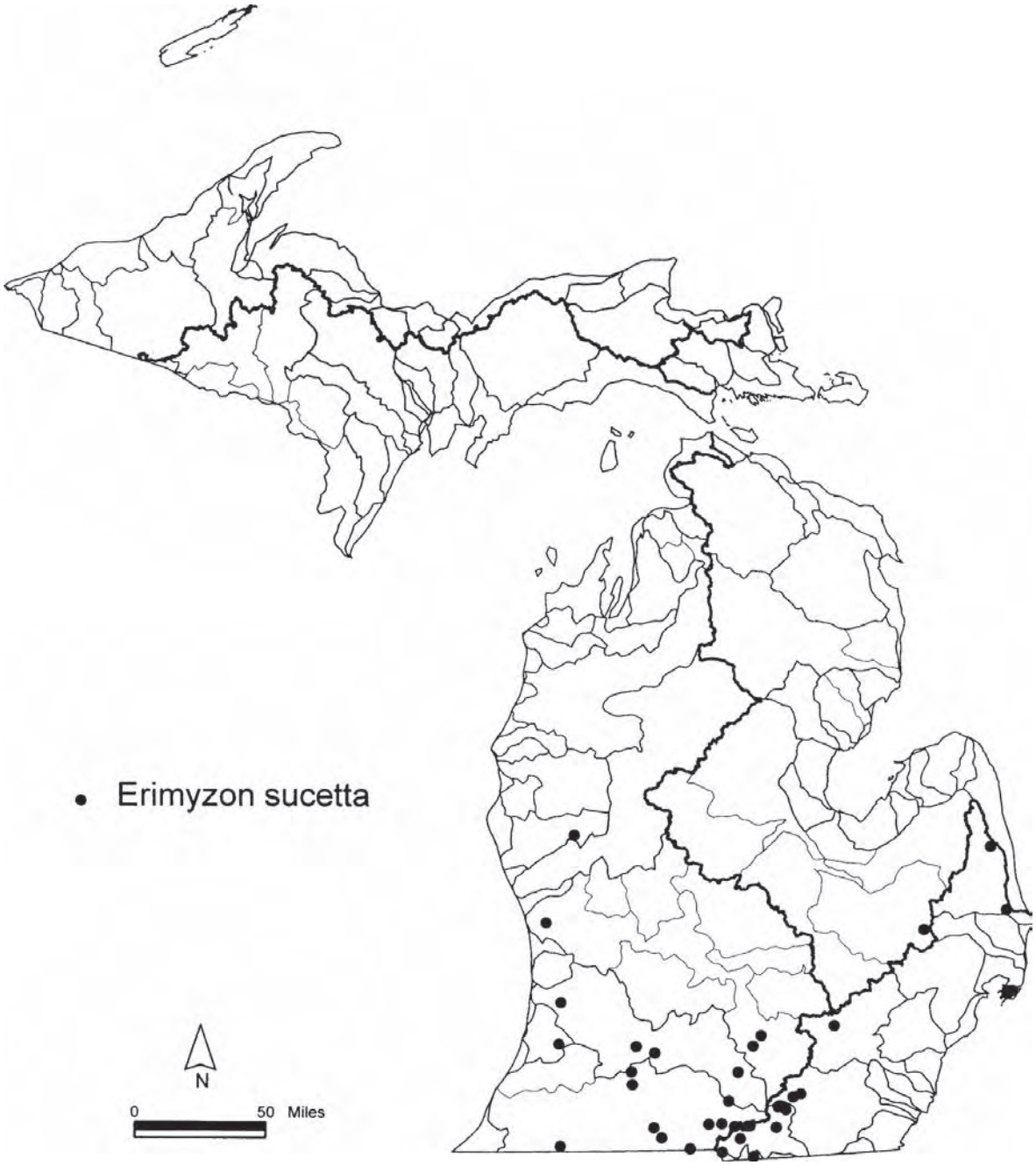

Rhinichthys cataractae
N
0
50 Miles

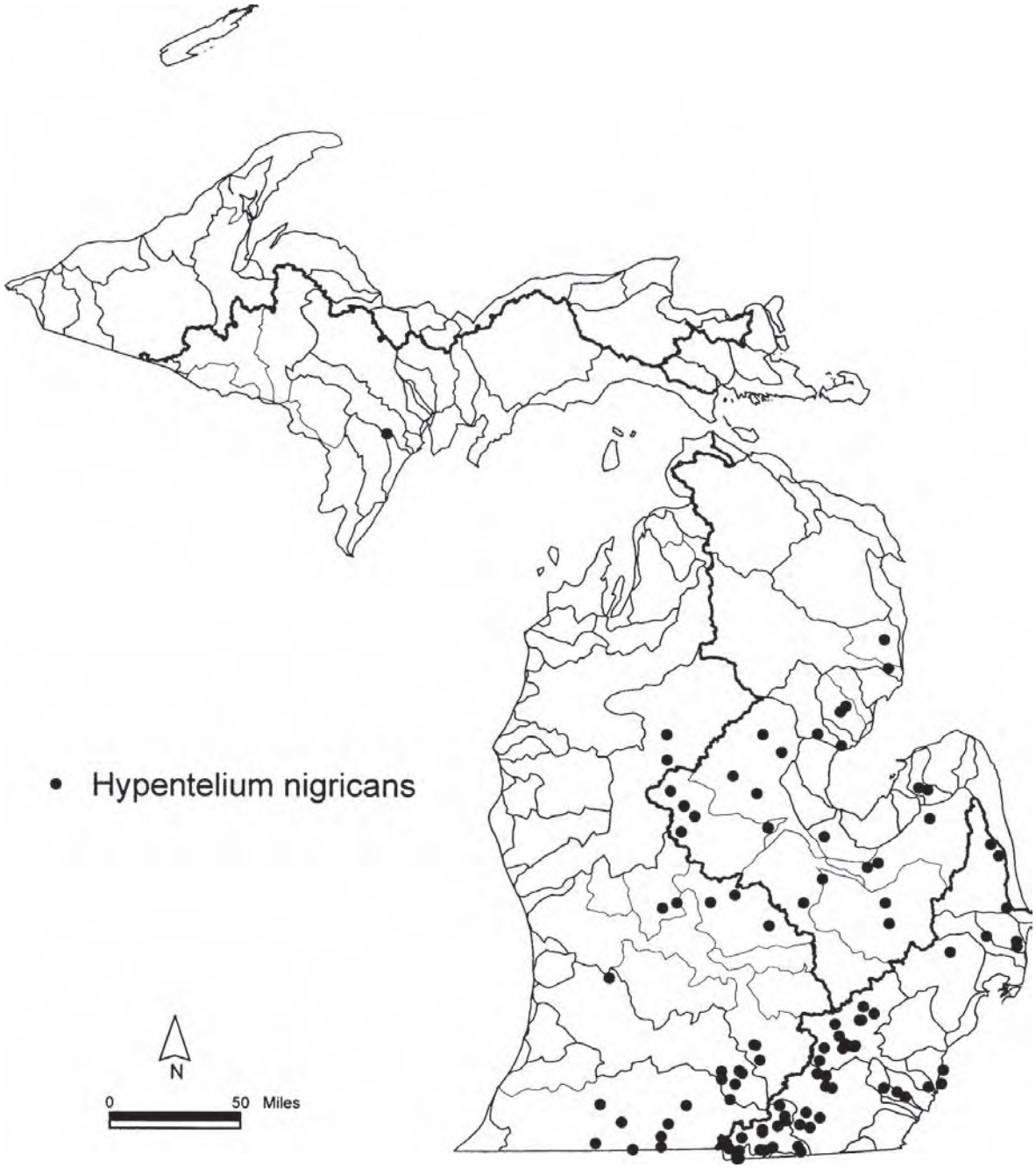

Rhinichthys obtusus
N
0
50 Miles

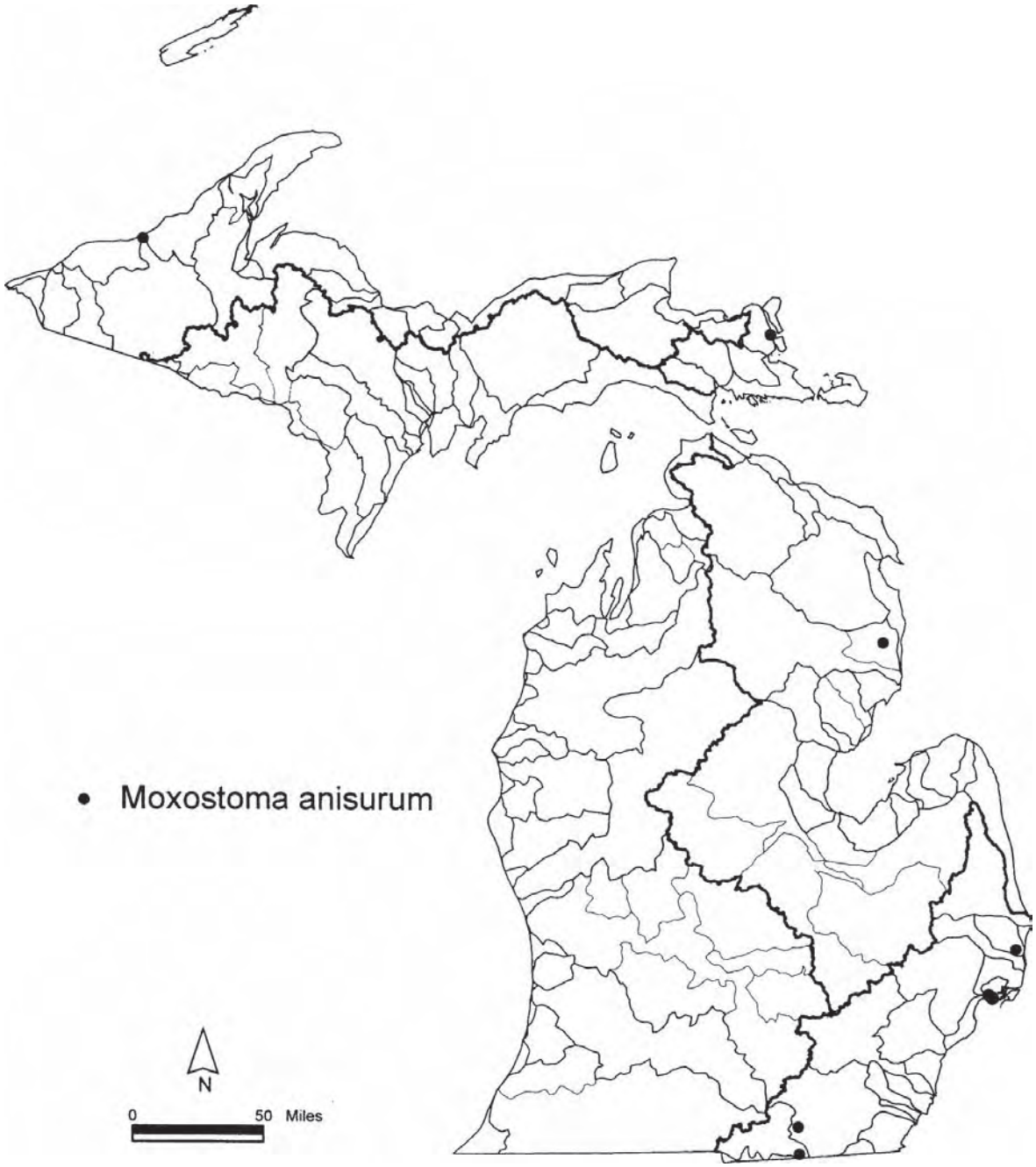

Semotilus atromaculatus
N
0
50 Miles

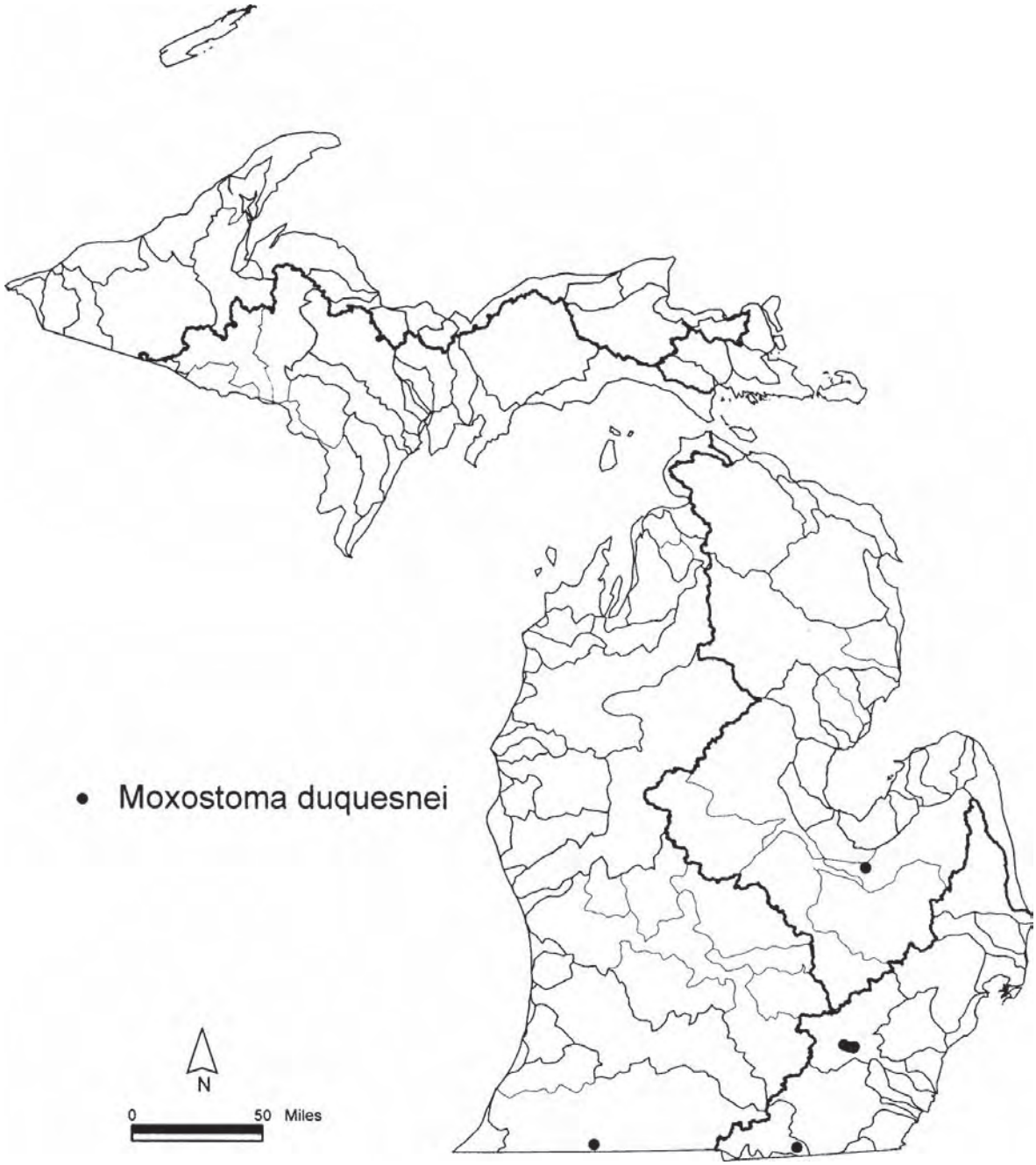

Carpiodes cyprinus
Minytrema melanops
N
0
50 Miles

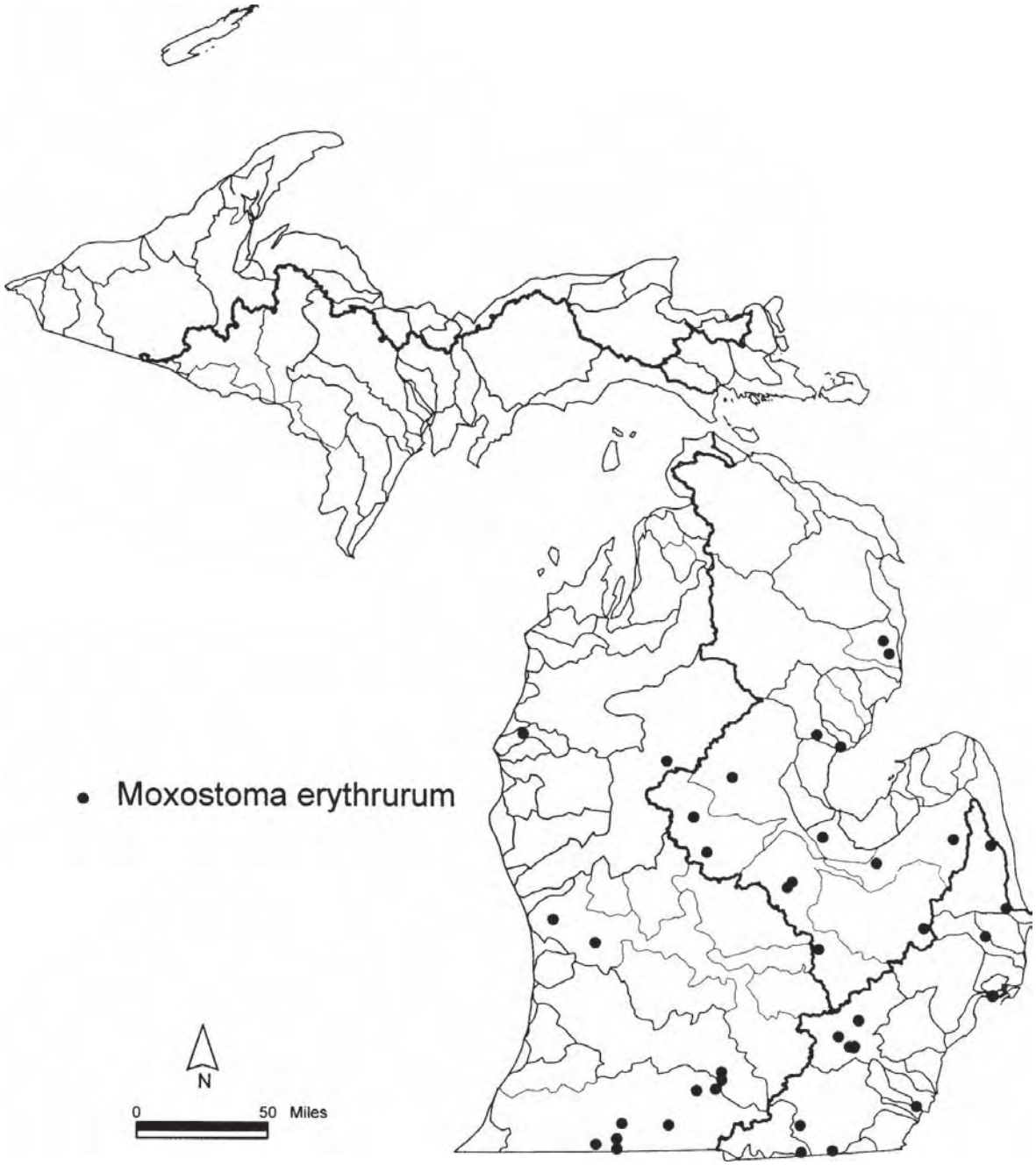

Catostomus commersonii
Catostomus catostomus
N
0
50 Miles


Erimyzon sucetta
N
0
50 Miles

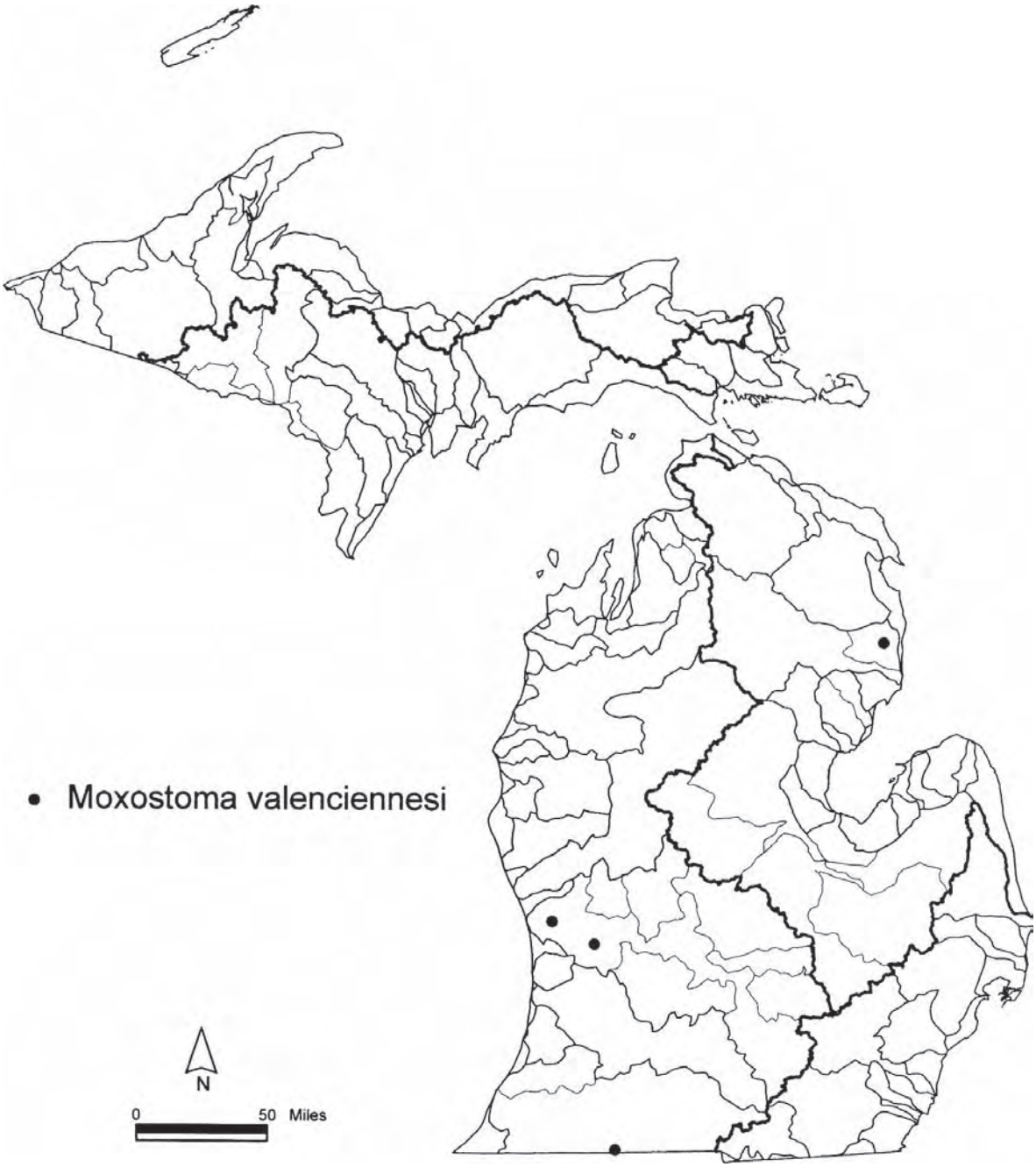

Hypentelium nigricans
N
0
50 Miles


Moxostoma anisurum
N
0
50 Miles


Moxostoma duquesnei
N
0
50 Miles


Moxostoma erythrurum
N
0
50 Miles

Moxostoma macrolepidotum
N
0
50 Miles

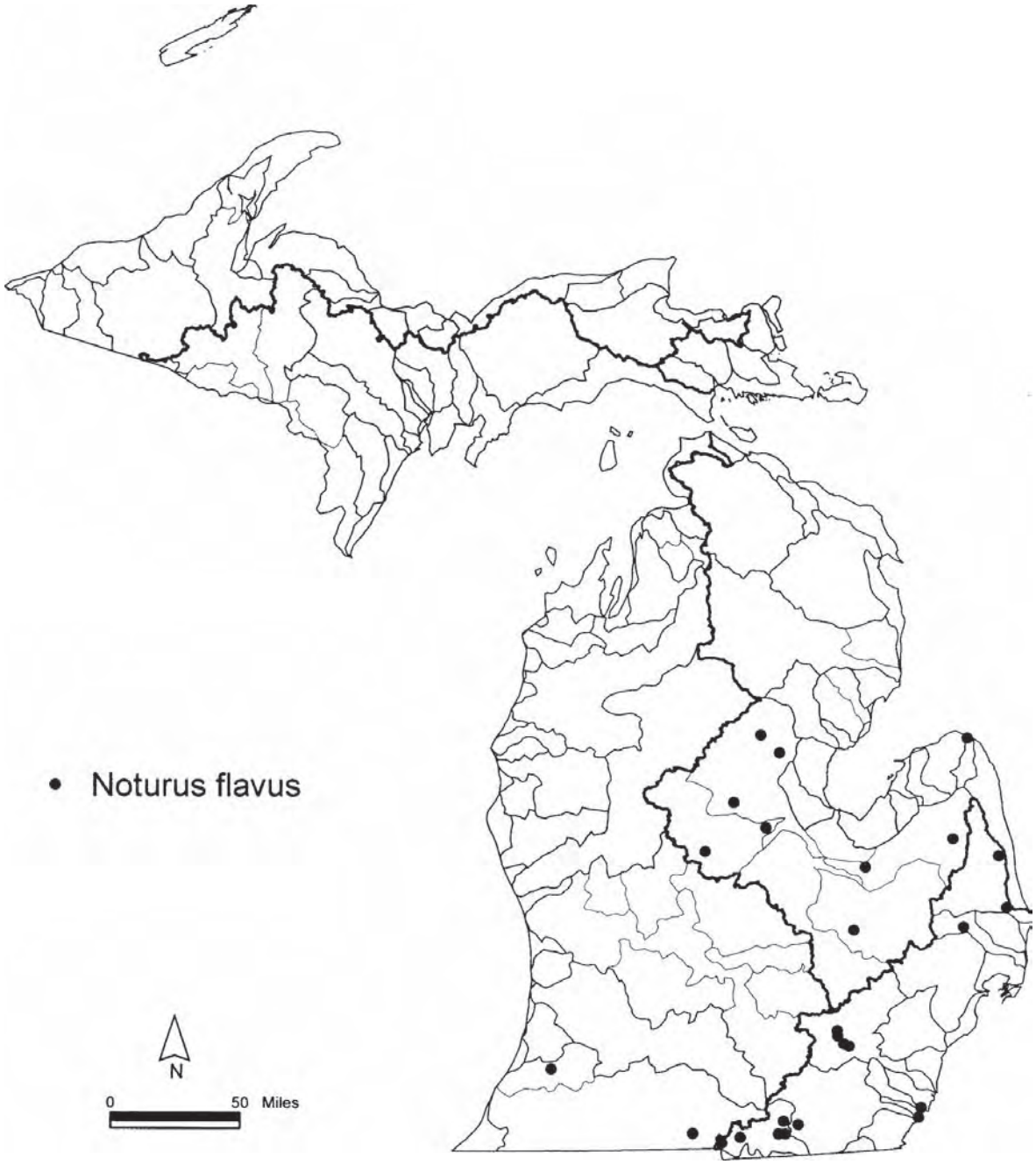

Moxostoma valenciennesi
N
0
50 Miles

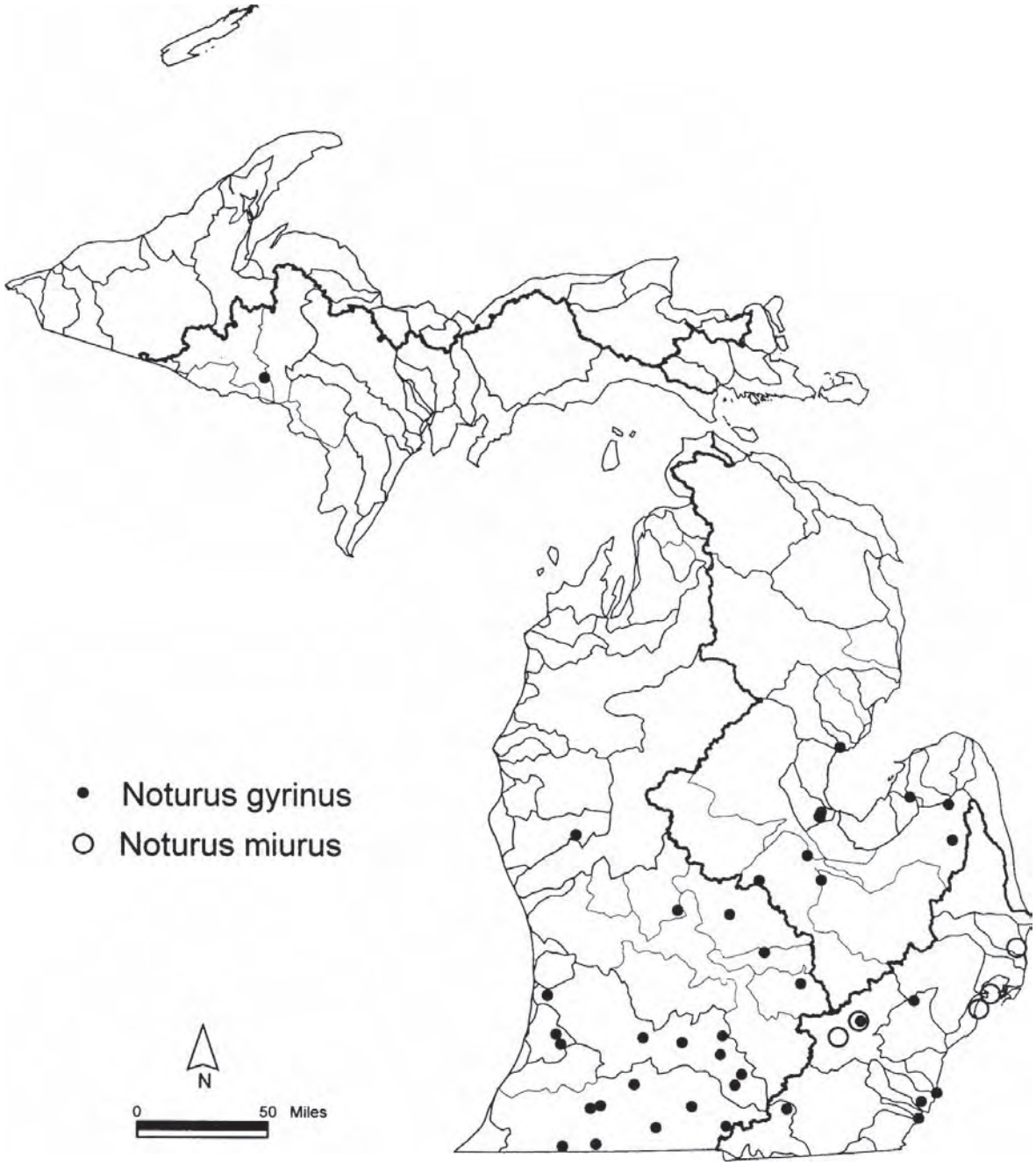
Ameiurus melas
N
0
50 Miles

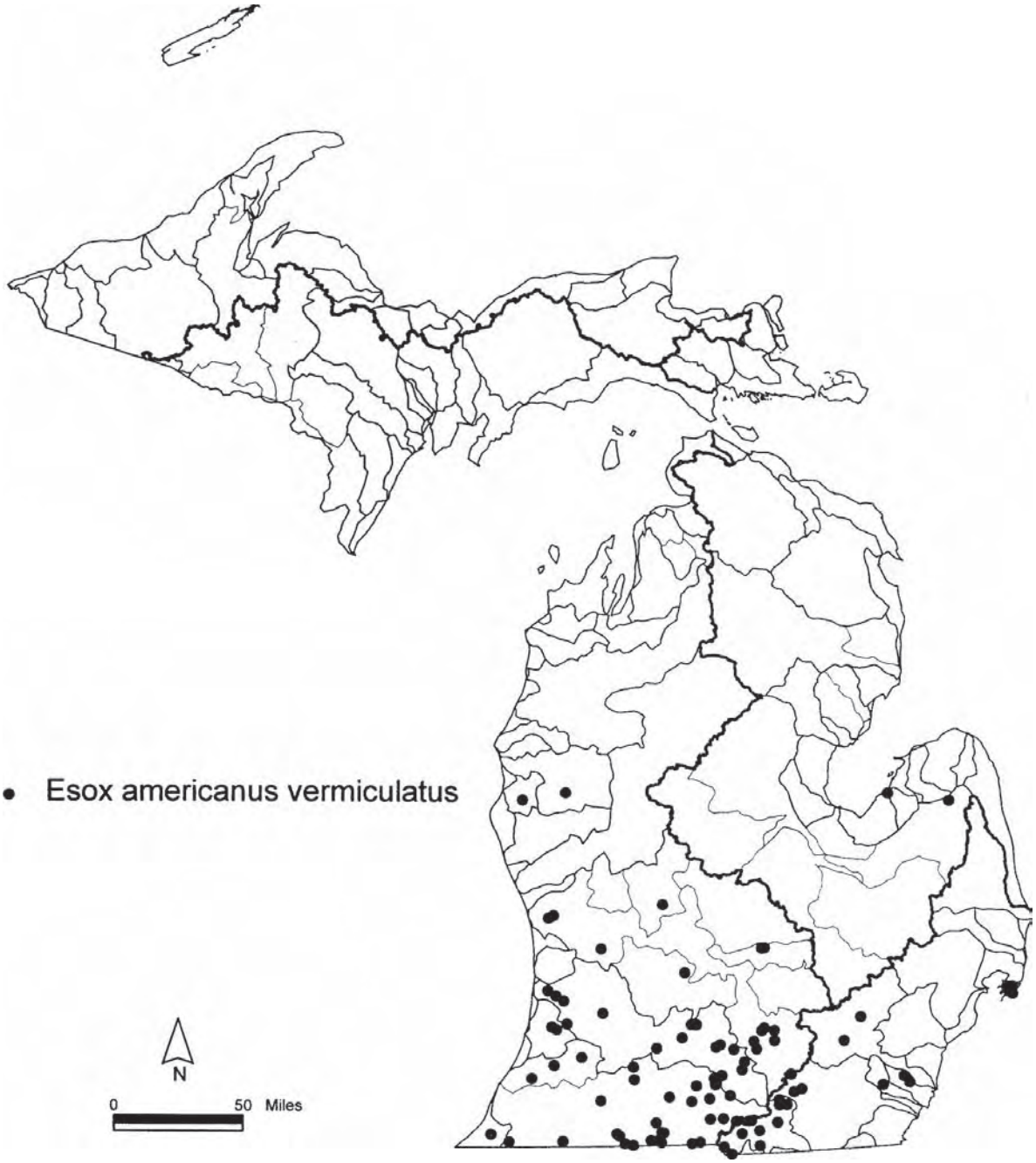
Ameiurus natalis
N
0
50 Miles

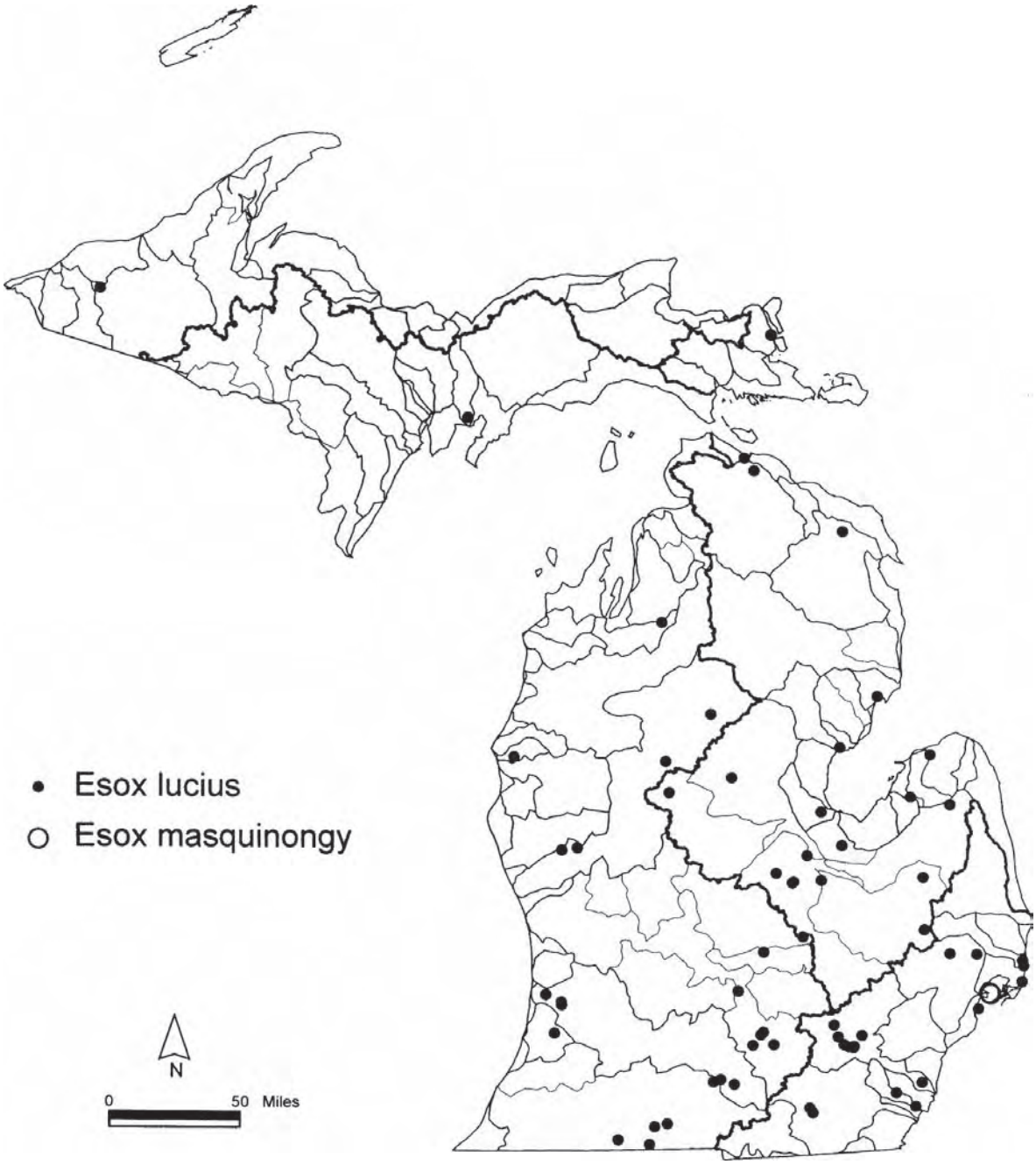
Ameiurus nebulosus
N
0
50 Miles

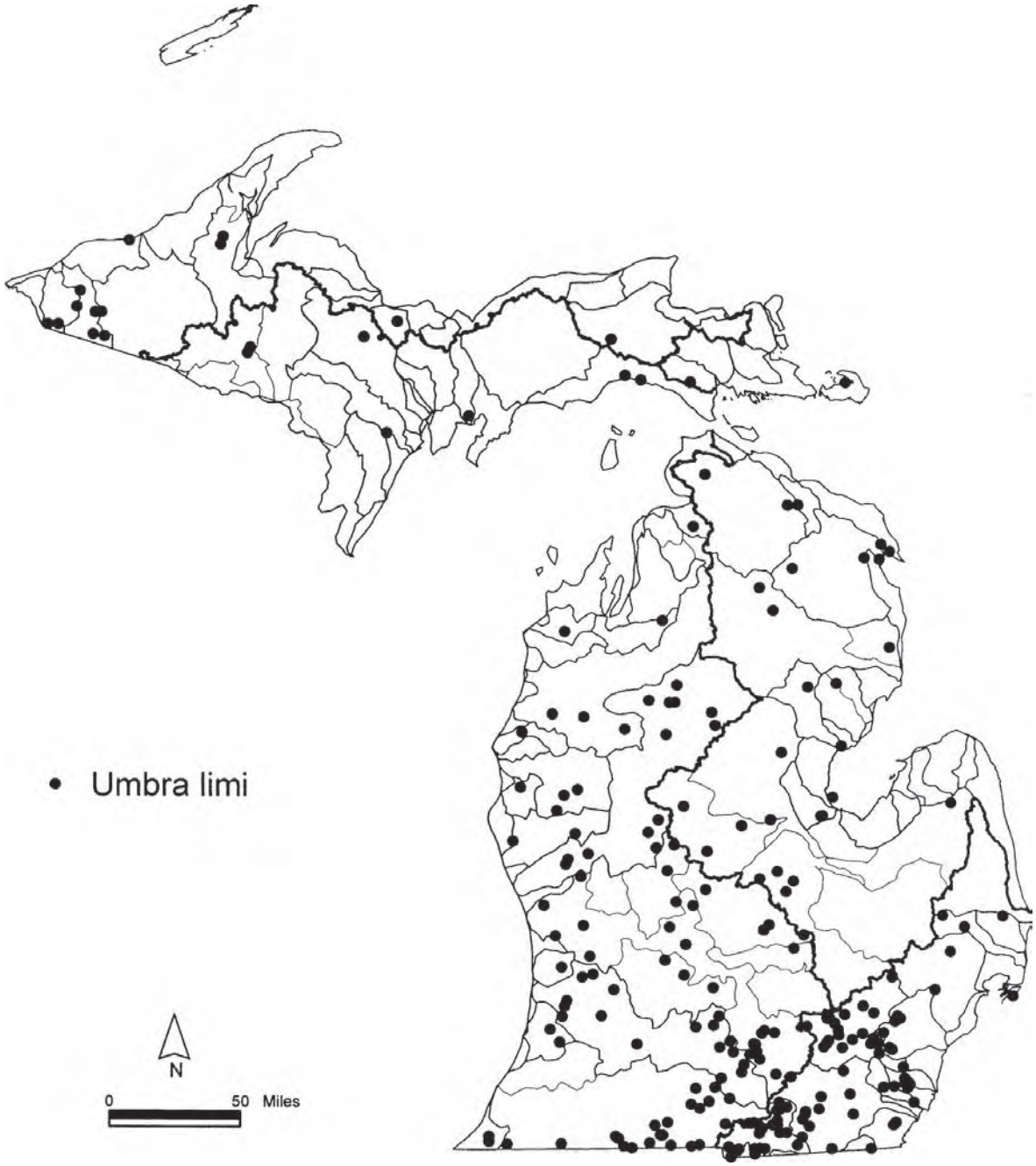
• Ictalurus punctatus
N
0
50 Miles


Noturus flavus
N
0
50 Miles

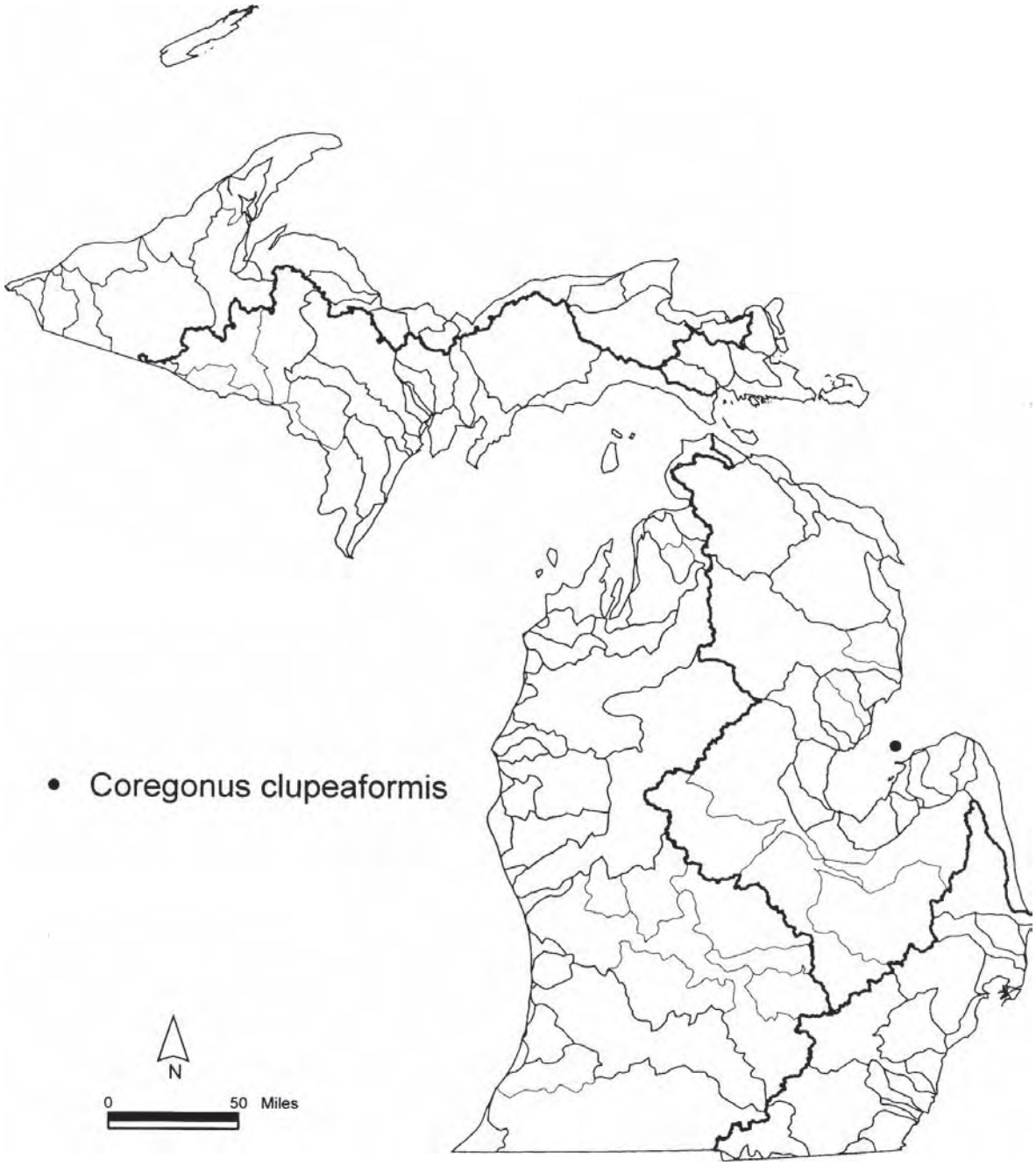

Noturus gyrinus
Noturus miurus
N
0
50 Miles

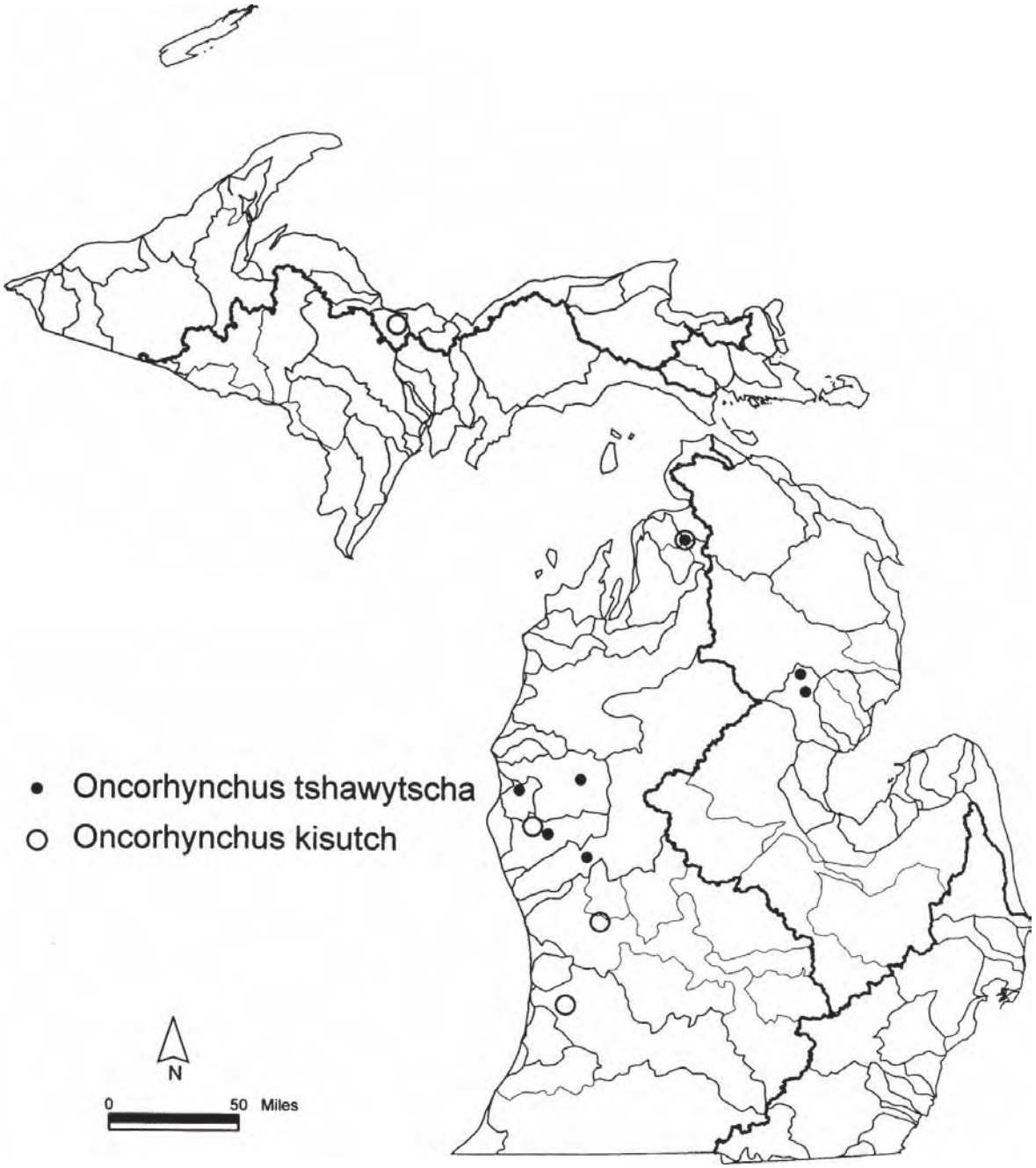

Esox americanus vermiculatus
N
0
50 Miles

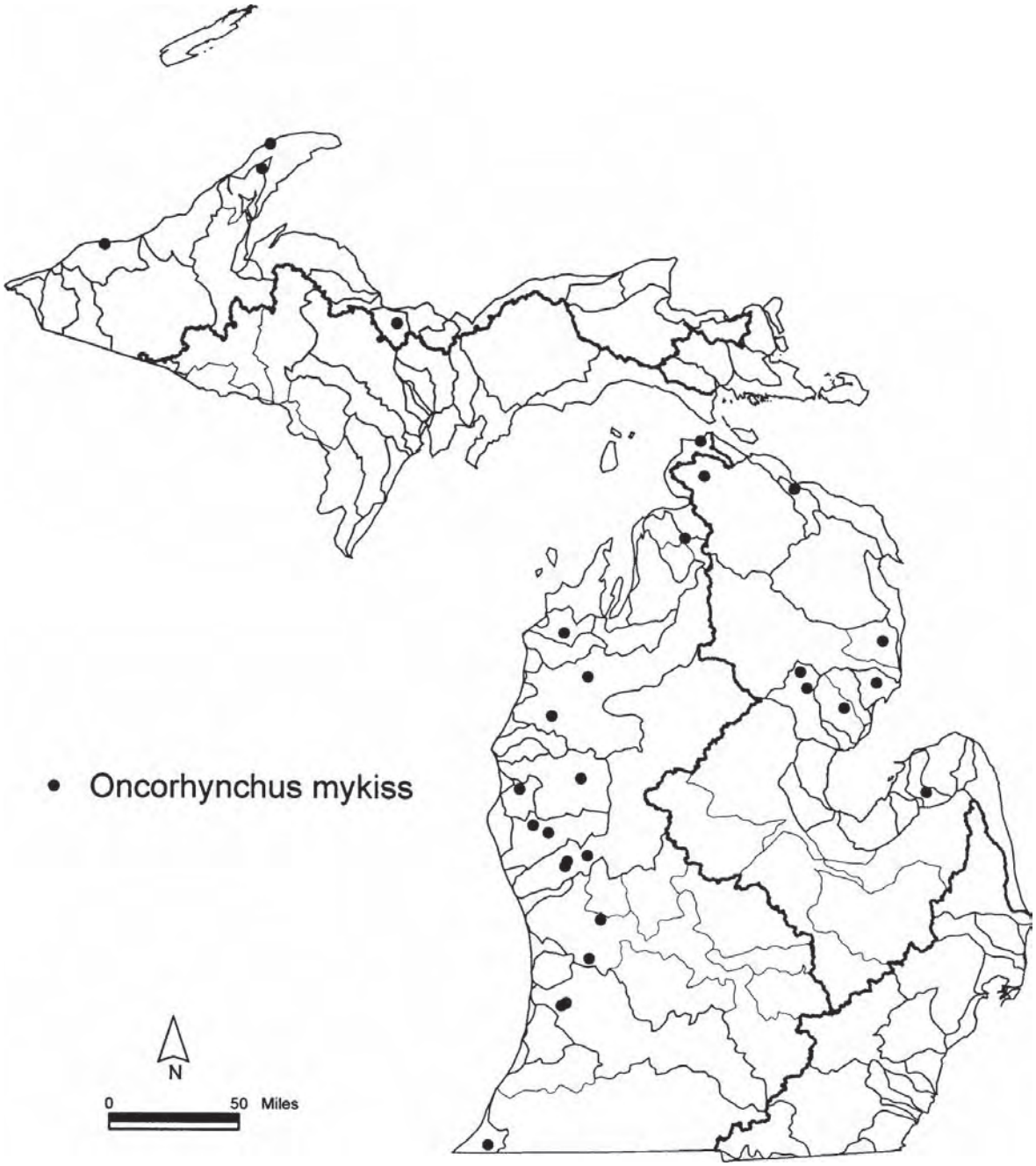

Esox lucius
Esox masquinongy
N
0
50 Miles

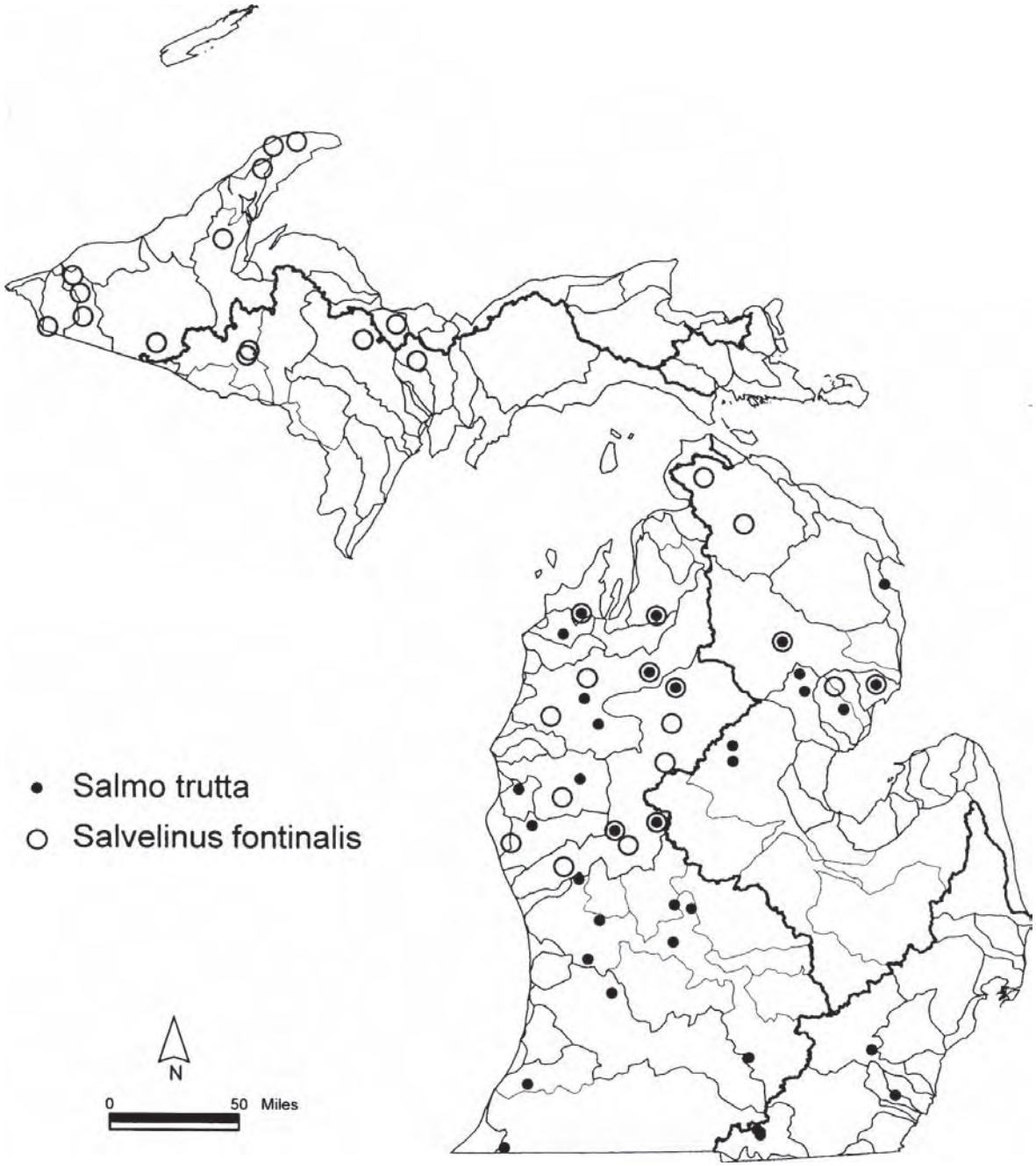

Umbra limi
N
0
50 Miles

Osmerus mordax
N
0
50 Miles

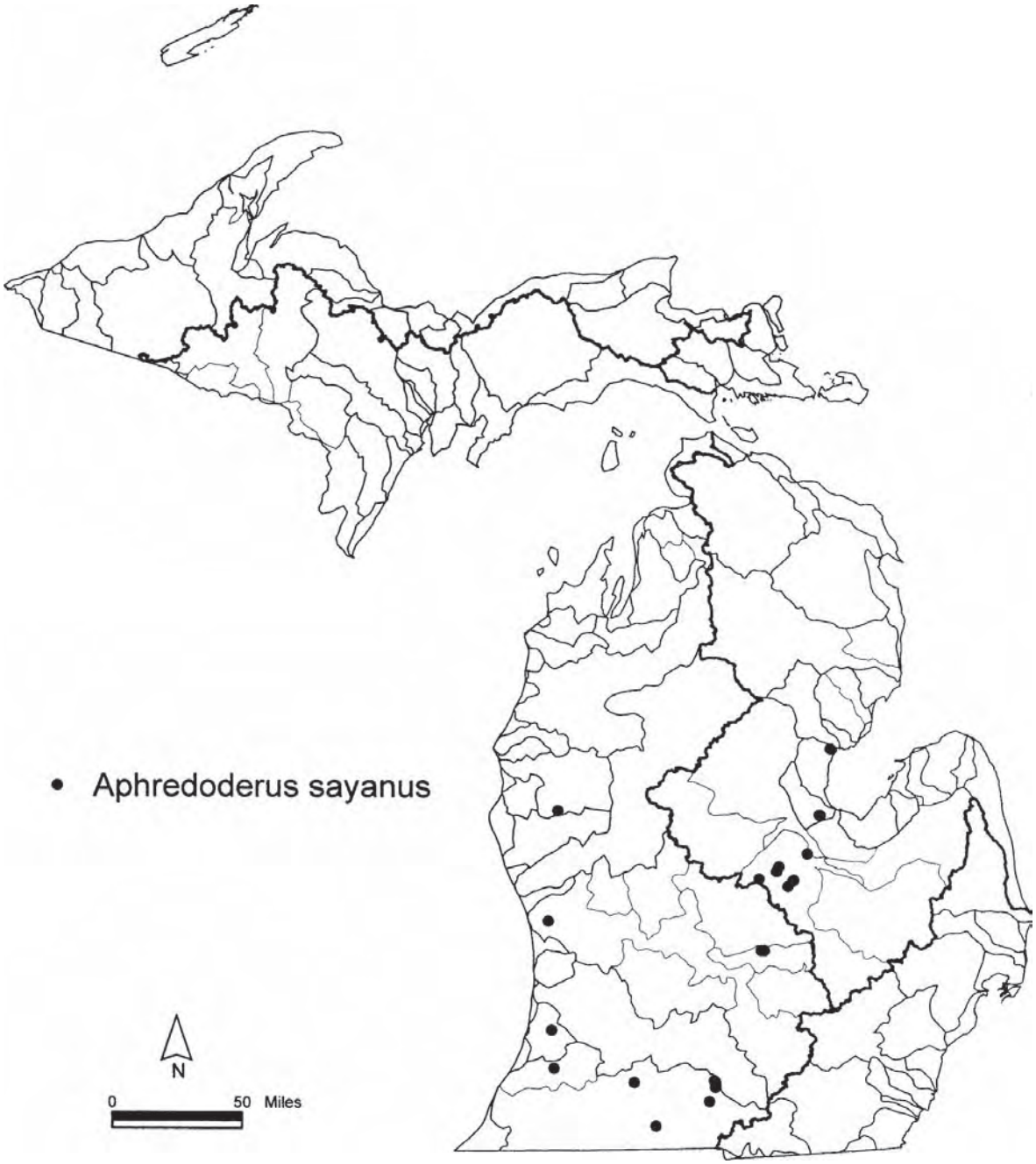

Coregonus clupeaformis
N
0
50 Miles


Oncorhynchus tshawytscha
Oncorhynchus kisutch
N
0
50 Miles

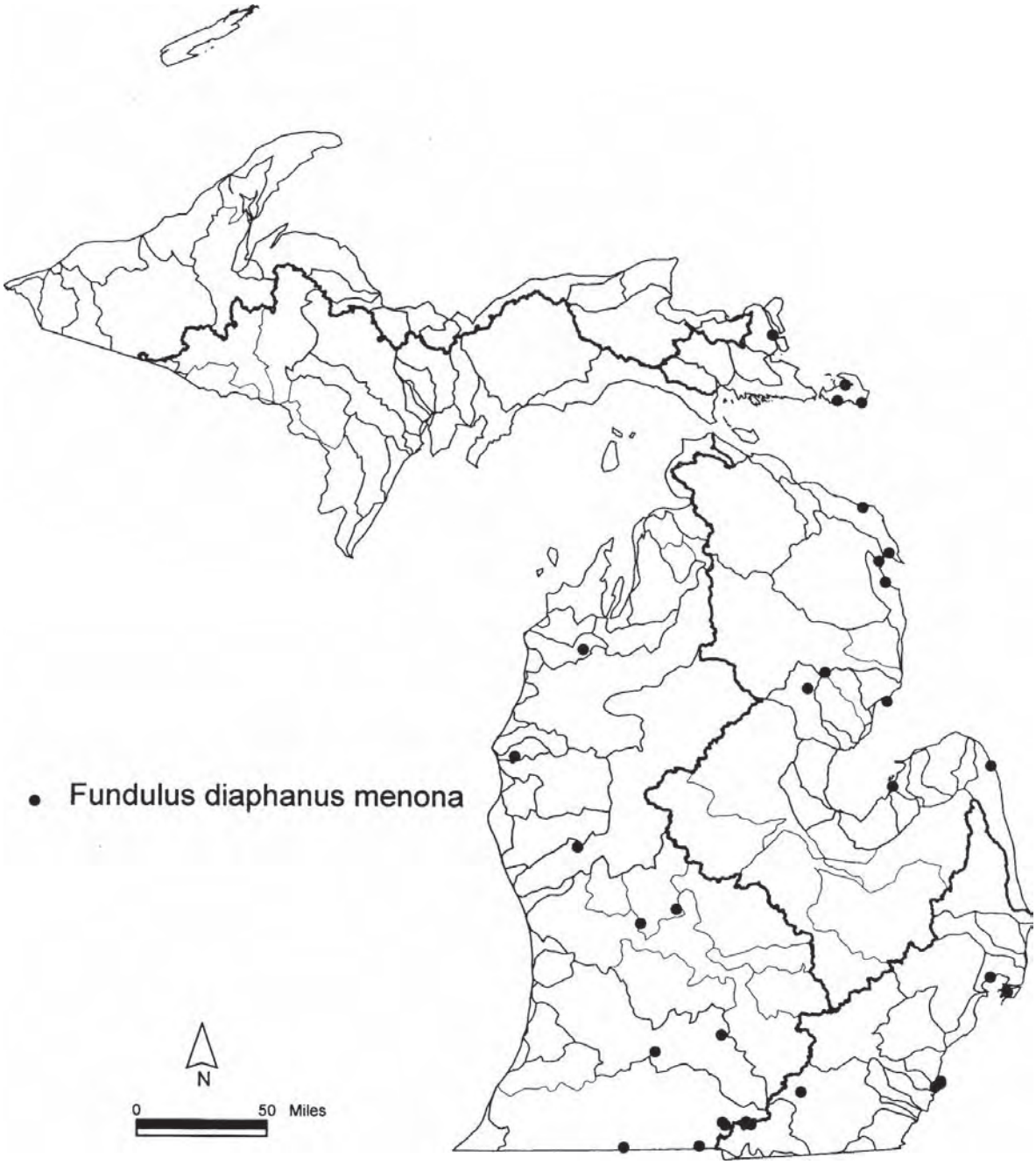

Oncorhynchus mykiss
N
0
50 Miles

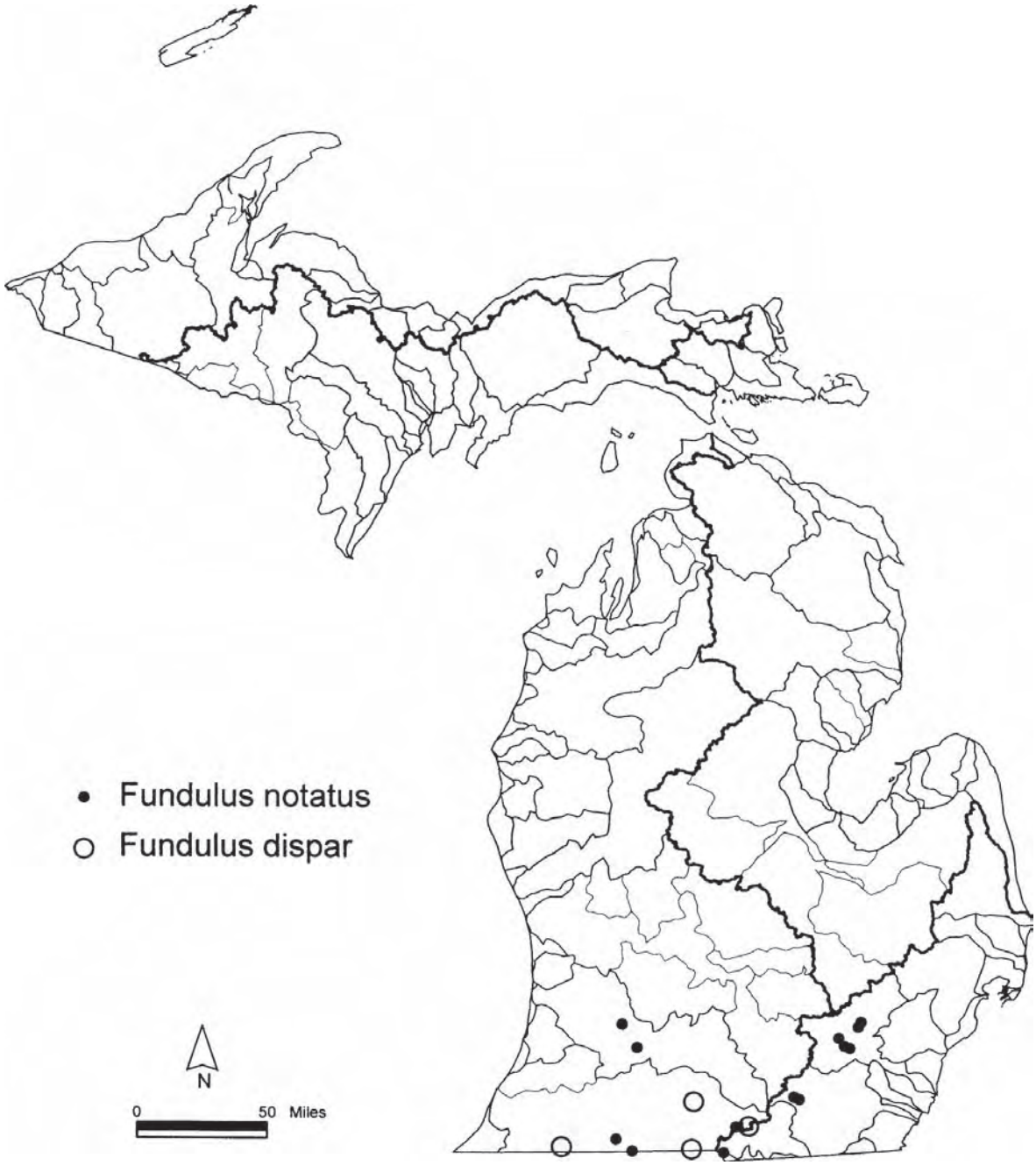

Salmo trutta
Salvelinus fontinalis
N
0
50 Miles

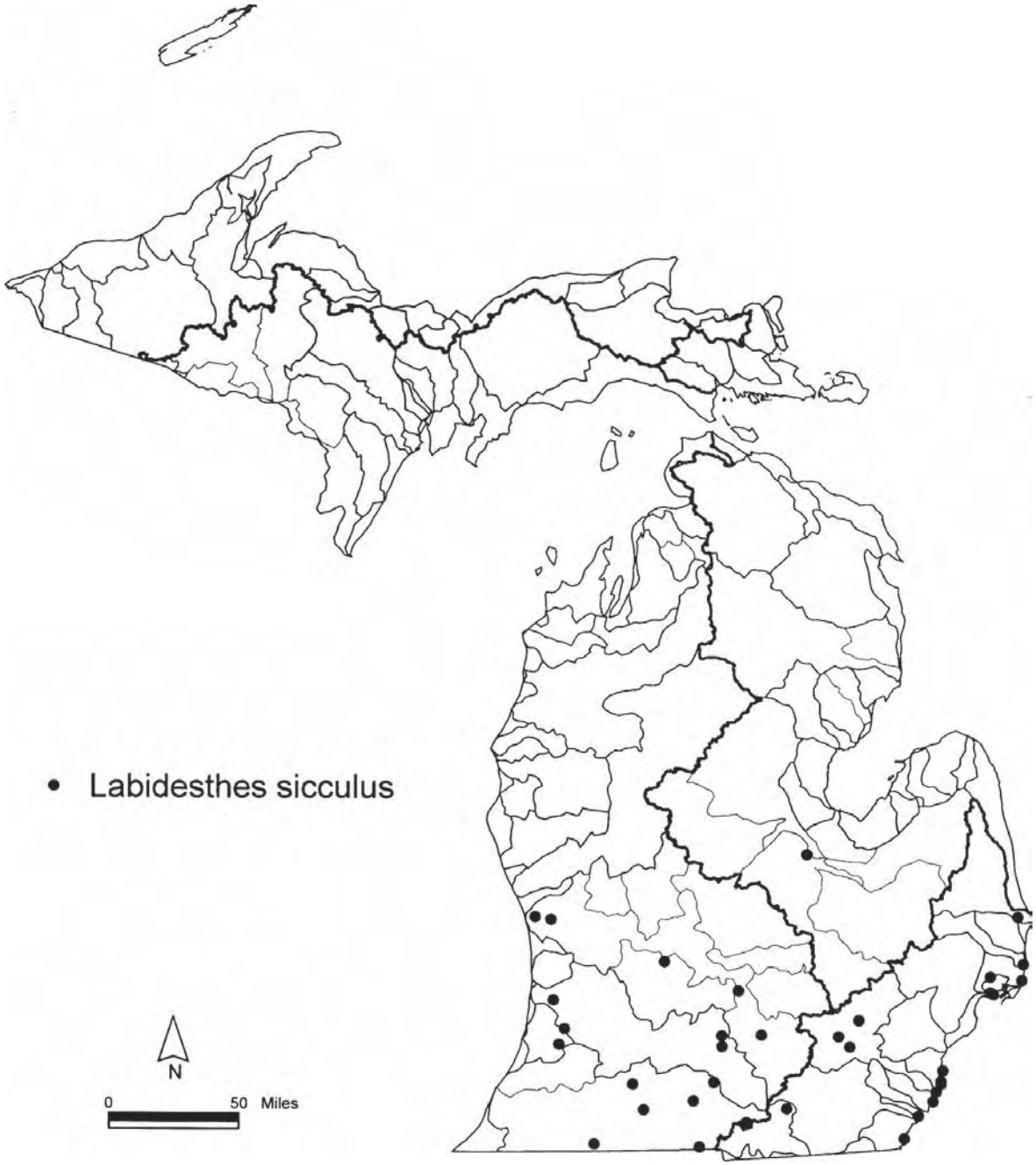
Percopsis omiscomaycus
N
0
50 Miles

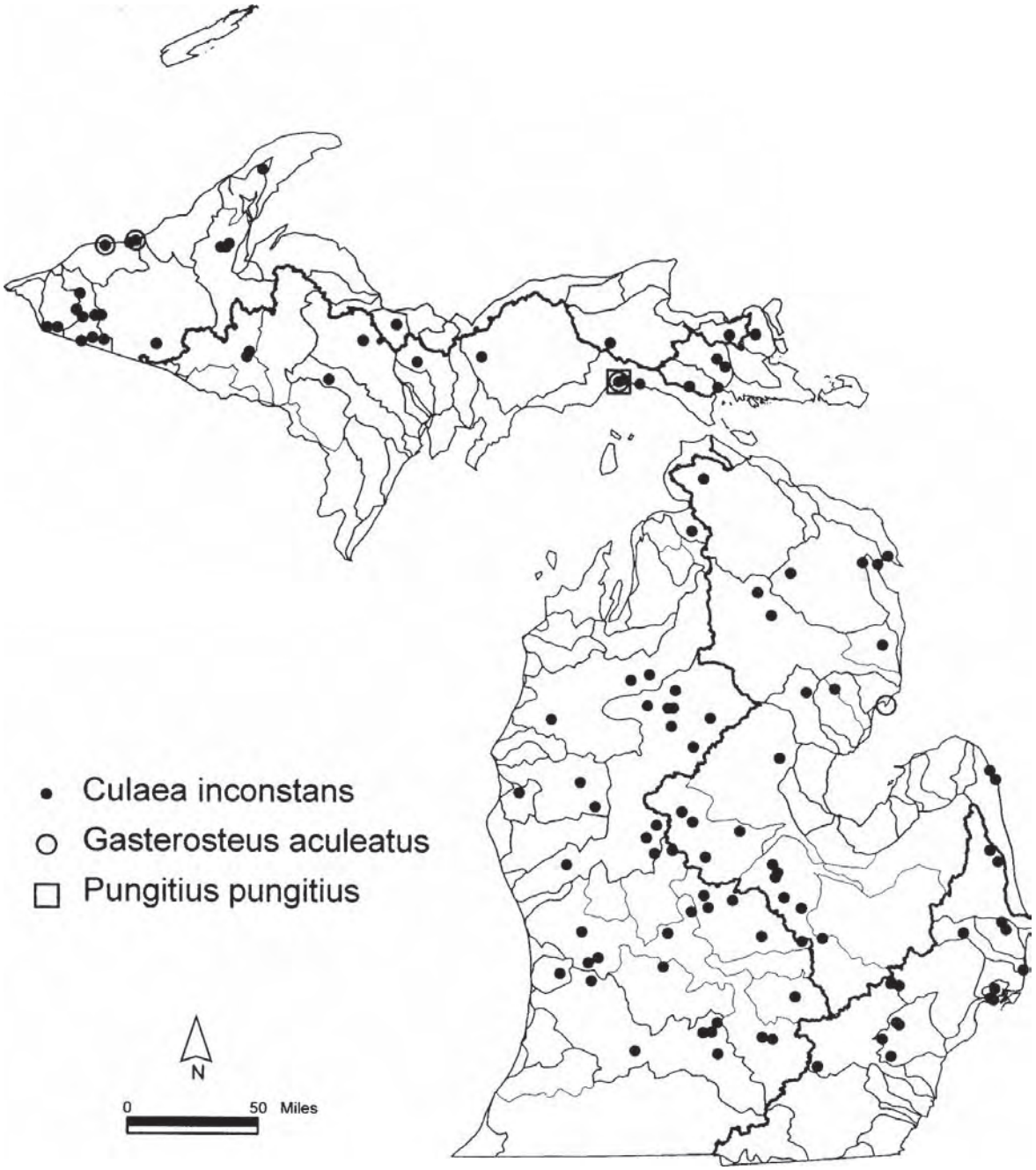

Aphredoderus sayanus
N
0
50 Miles

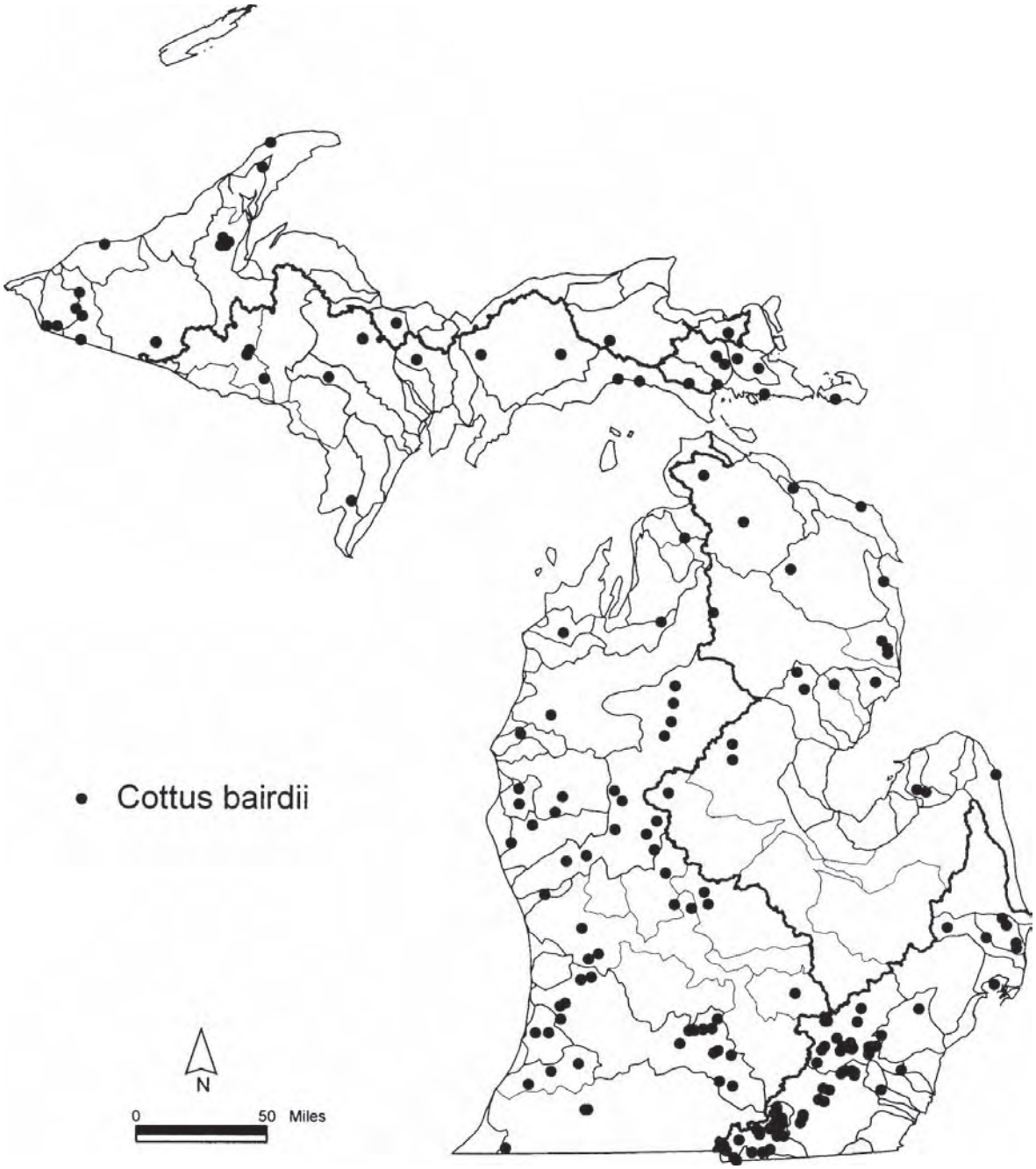
Lota lota
N
0
50 Miles


Fundulus diaphanus menona
N
0
50 Miles


Fundulus notatus
Fundulus dispar
N
0
50 Miles

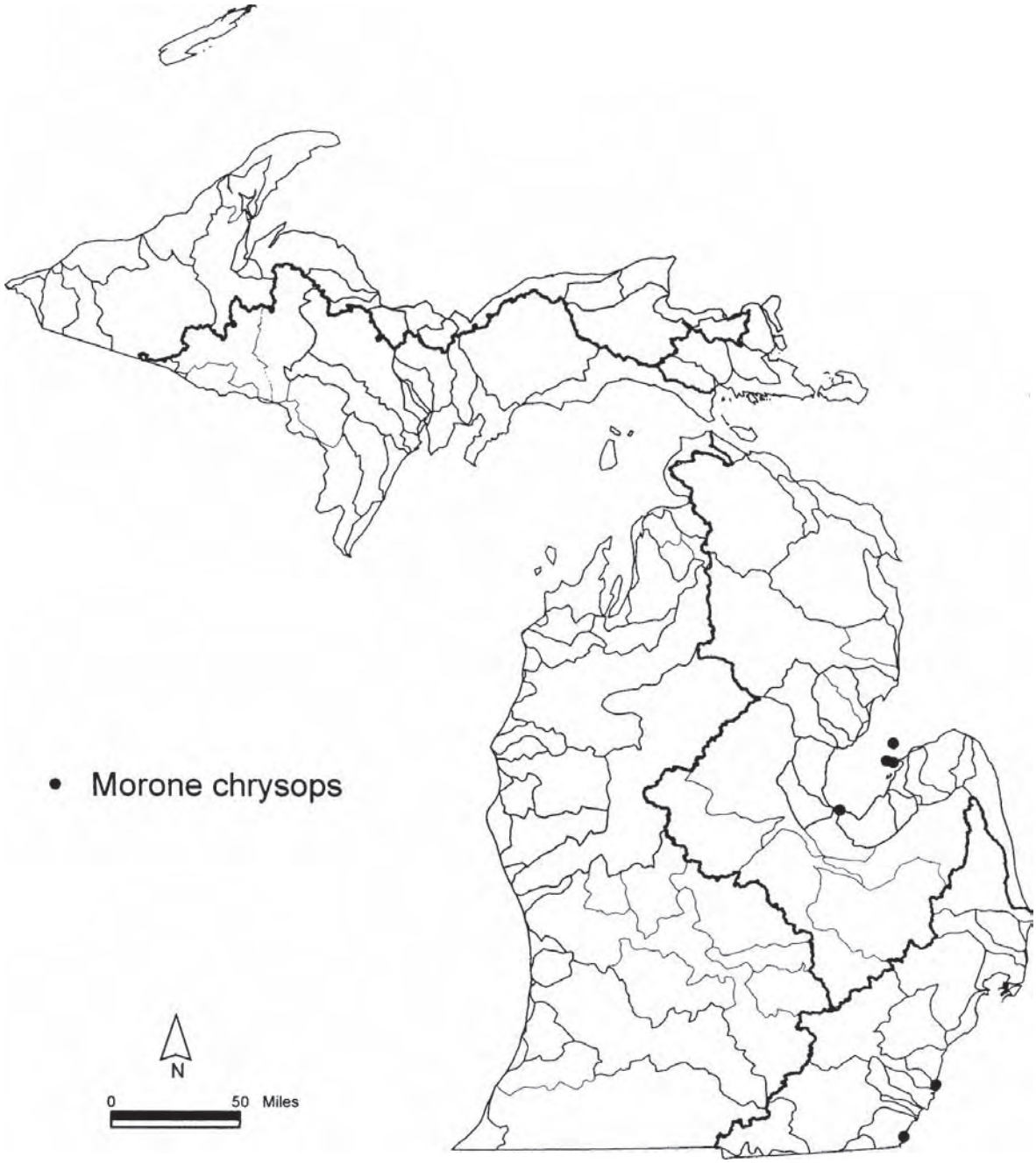

Labidesthes sicculus
N
0
50 Miles

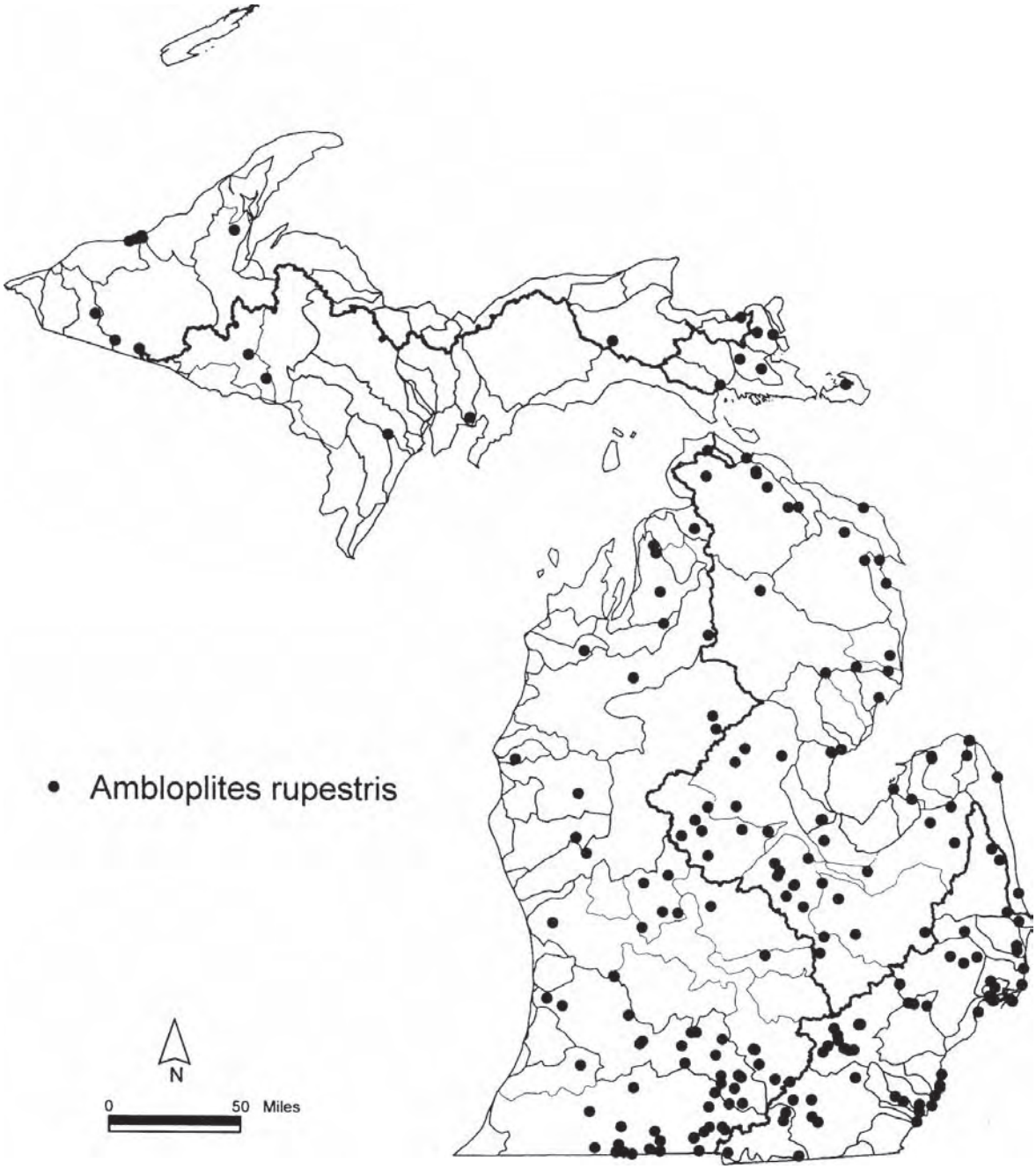

Culaea inconstans
Gasterosteus aculeatus
Pungitius pungitius
N
0
50 Miles

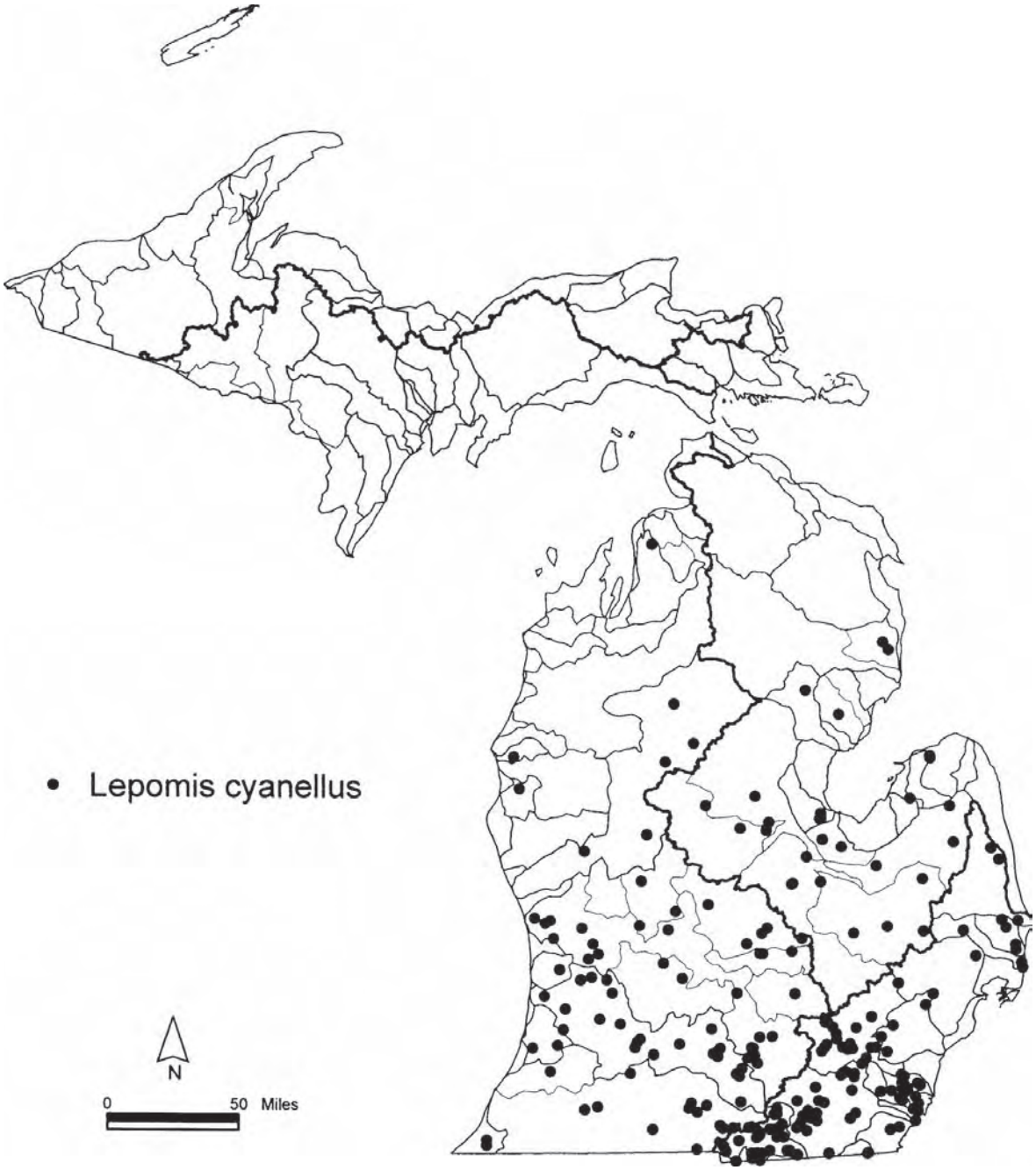

Cottus bairdii
N
0
50 Miles

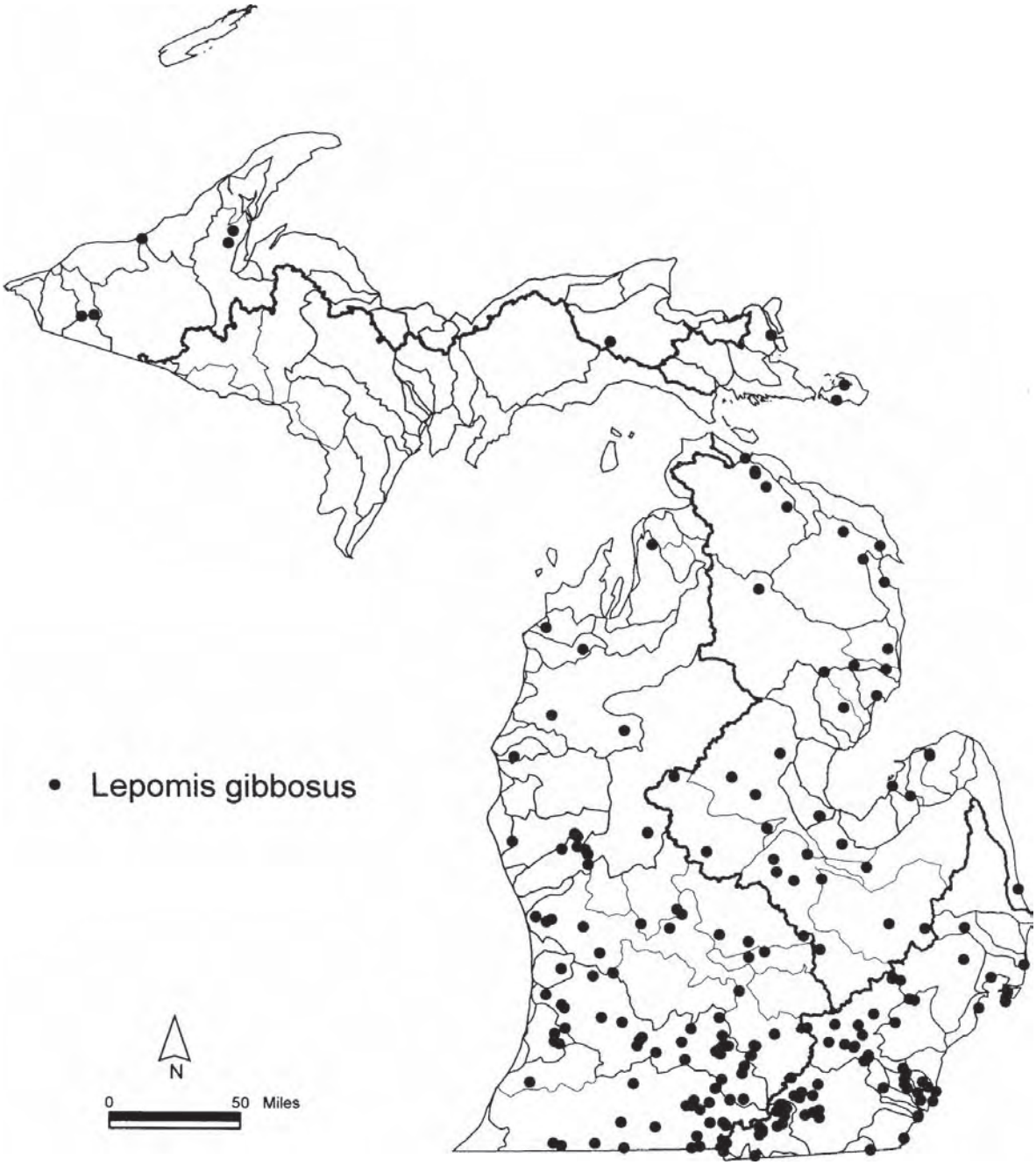
Cottus cognatus
N
0
50 Miles

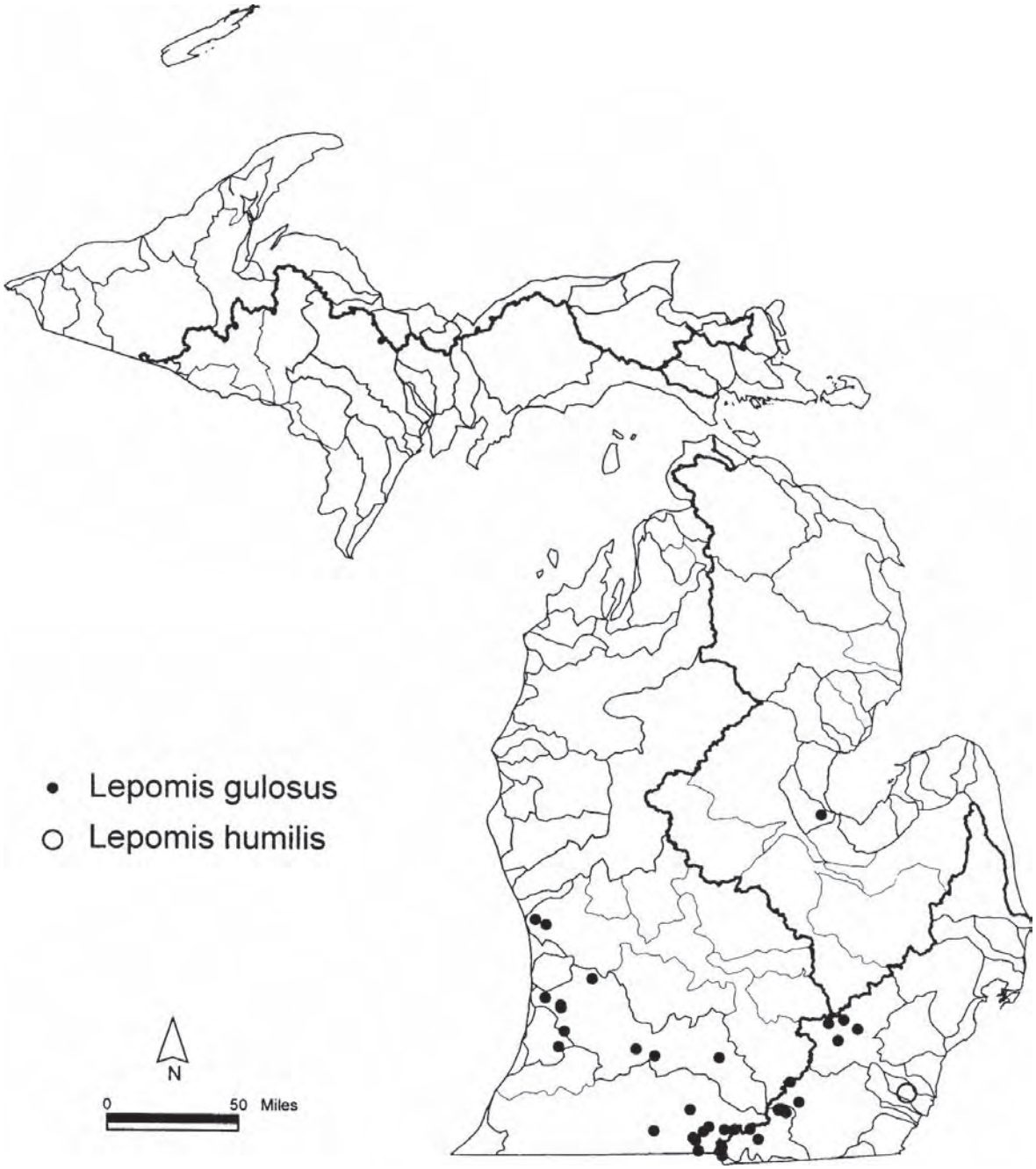
Morone americana
N
0
50 Miles

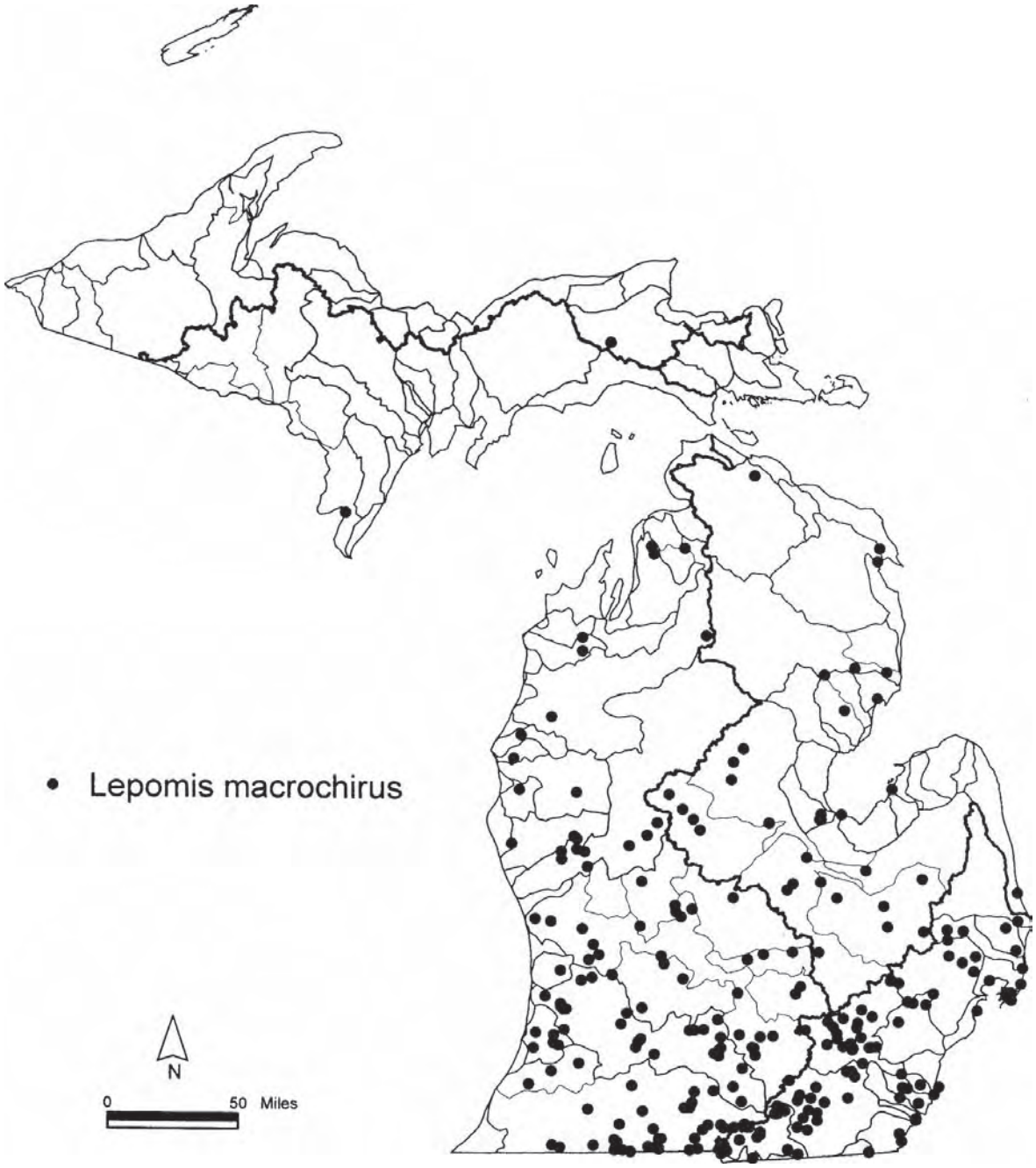

Morone chrysops
N
0
50 Miles

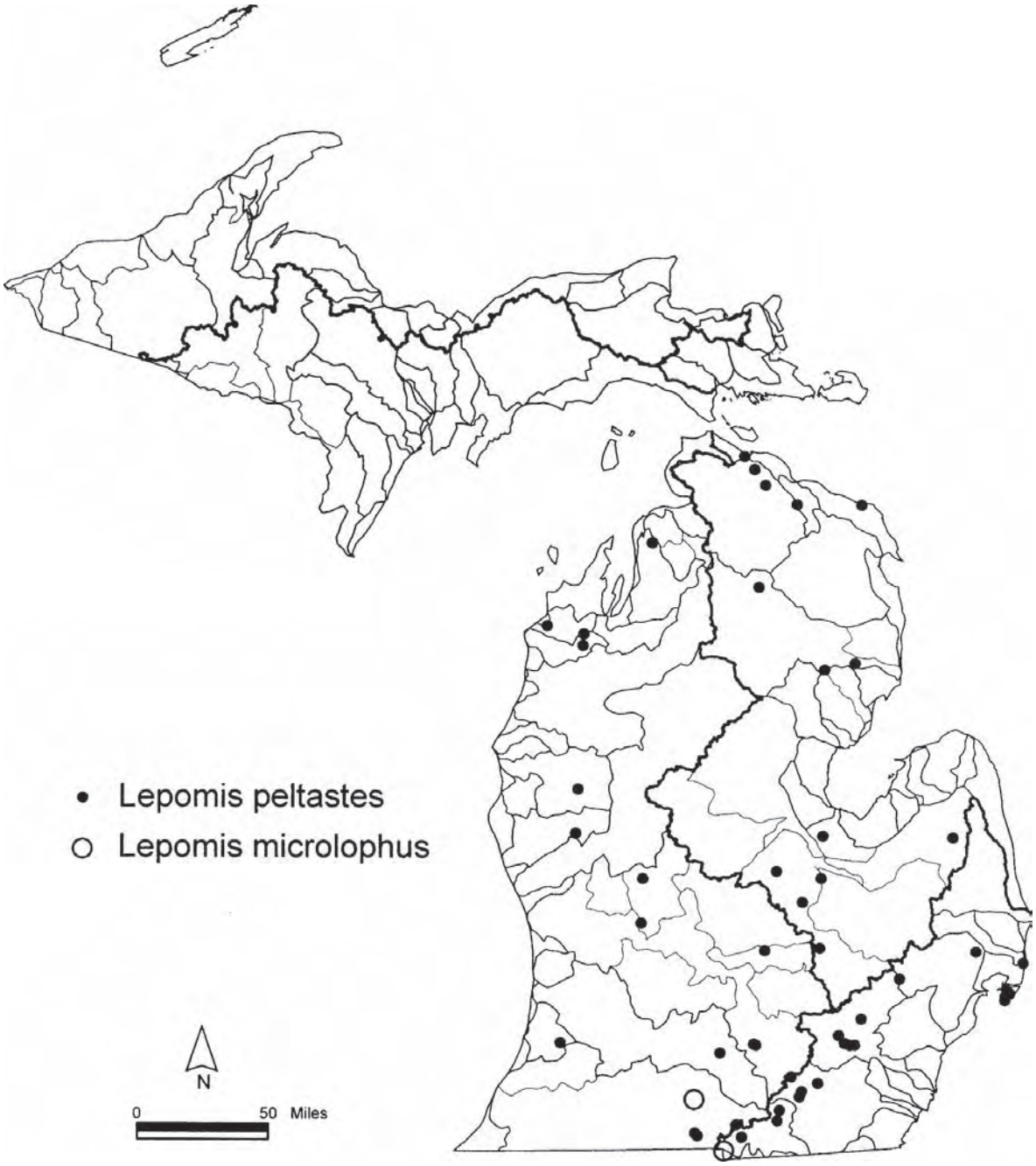

Ambloplites rupestris
N
0
50 Miles

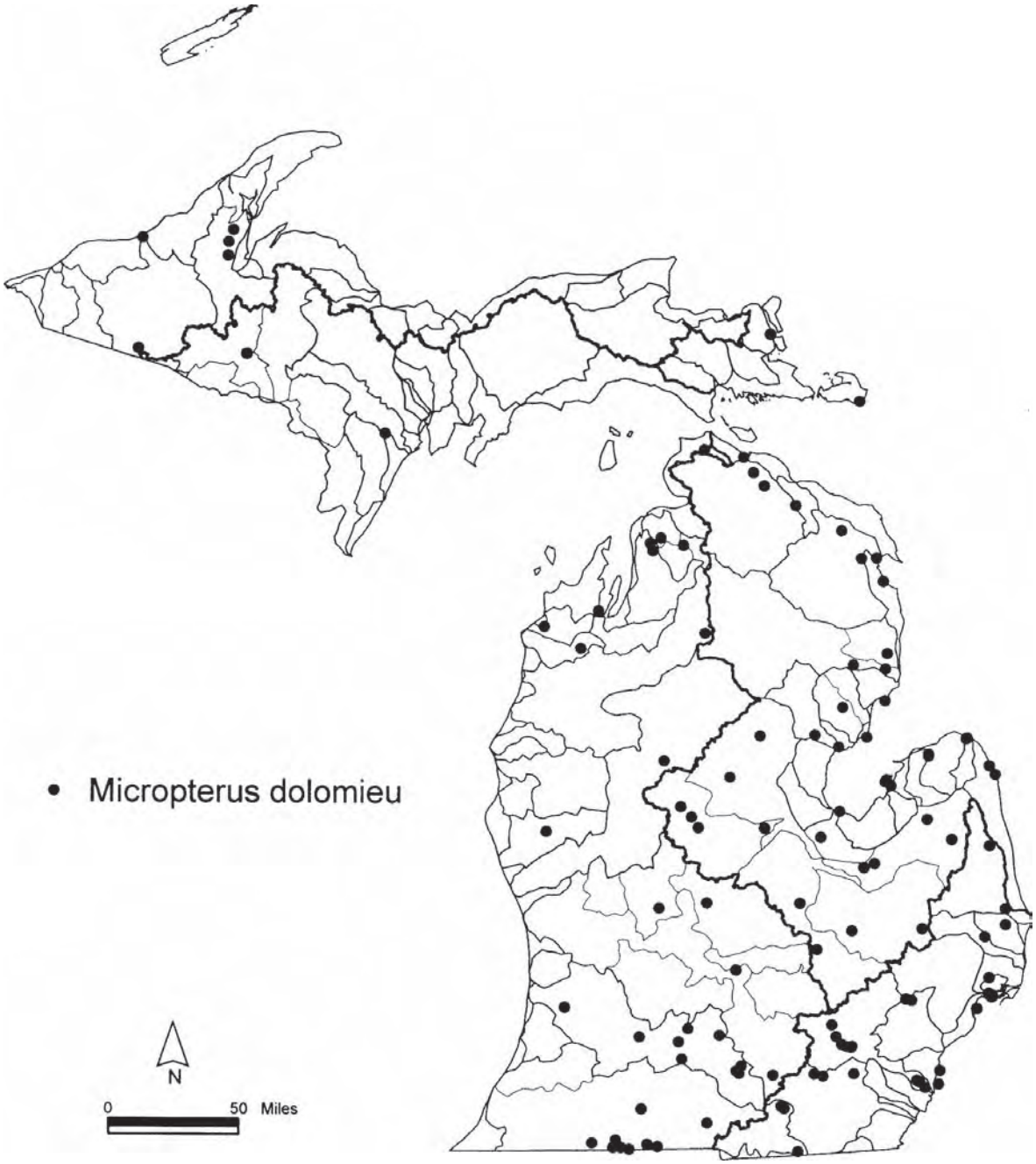

Lepomis cyanellus
N
0
50 Miles

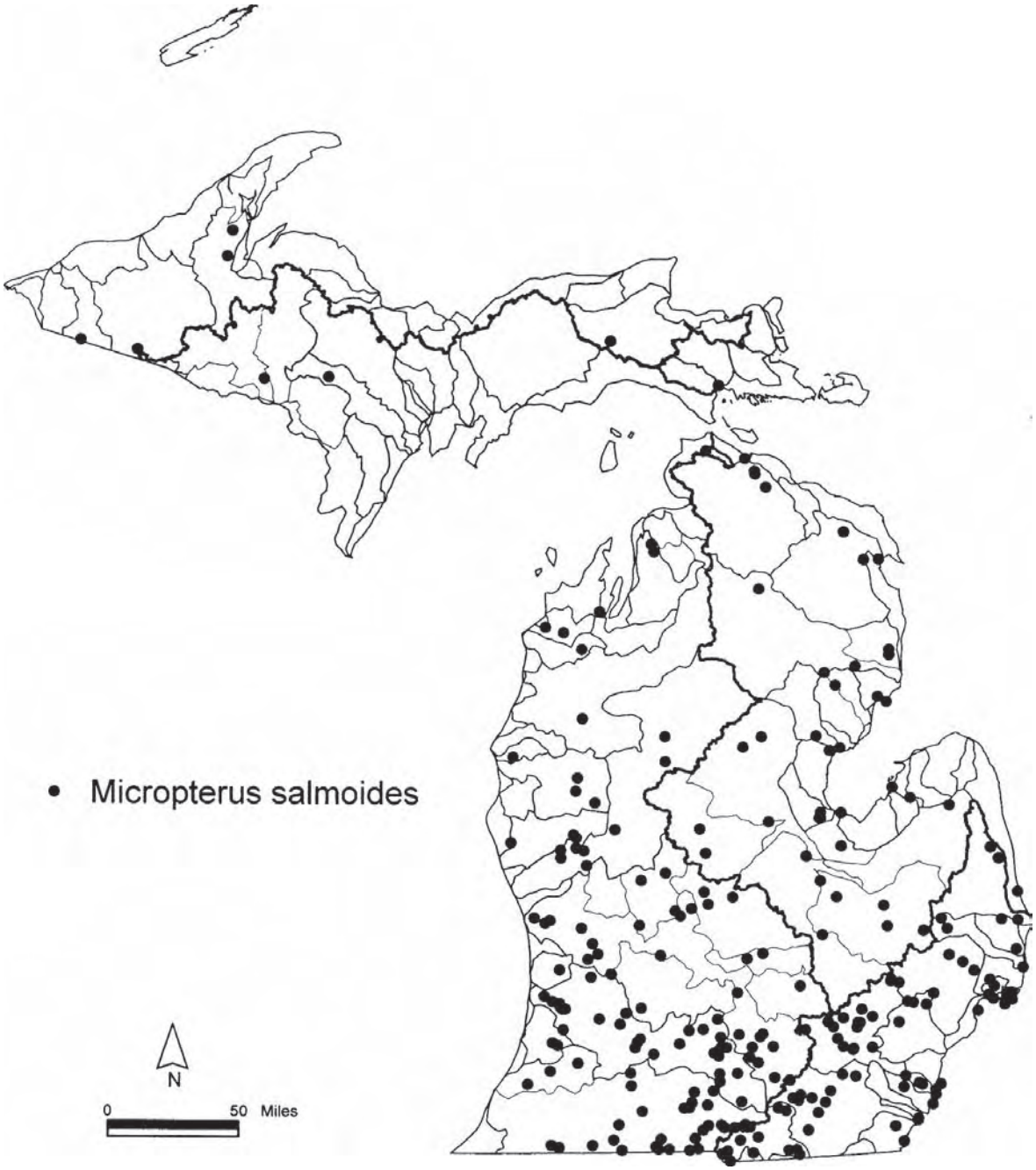

Lepomis gibbosus
N
0
50 Miles

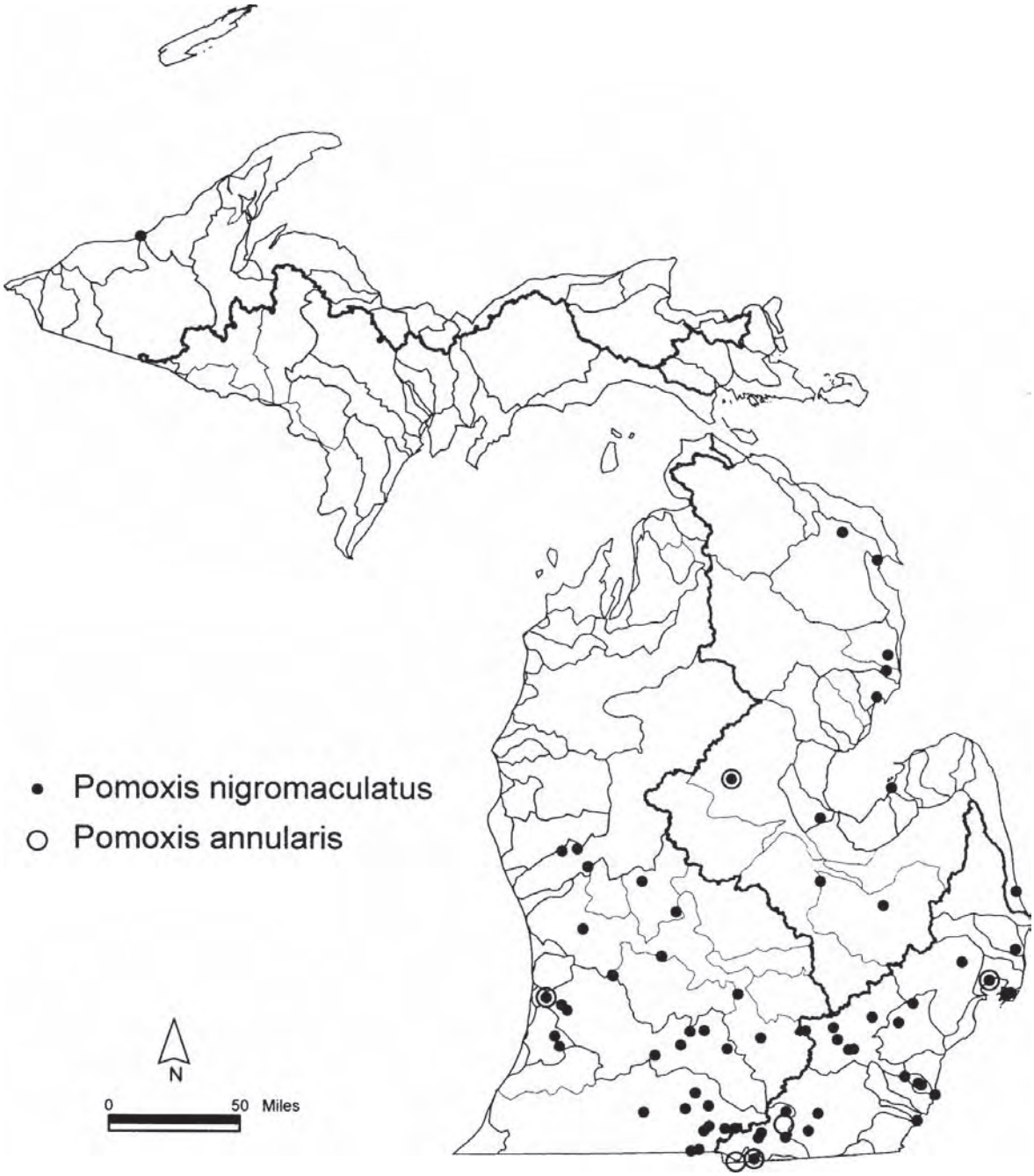

Lepomis gulosus
Lepomis humilis
N
0
50 Miles

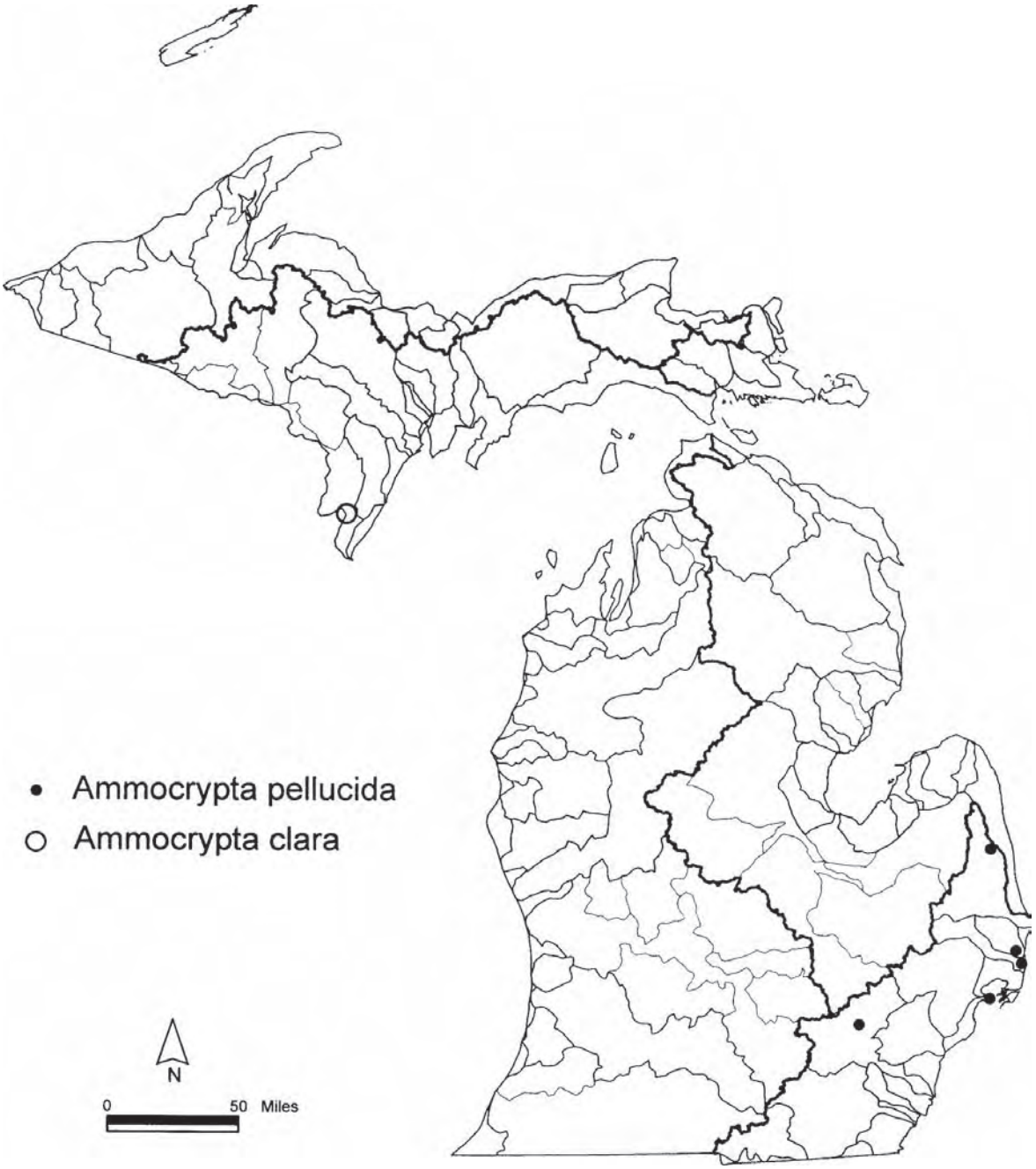

Lepomis macrochirus
N
0
50 Miles

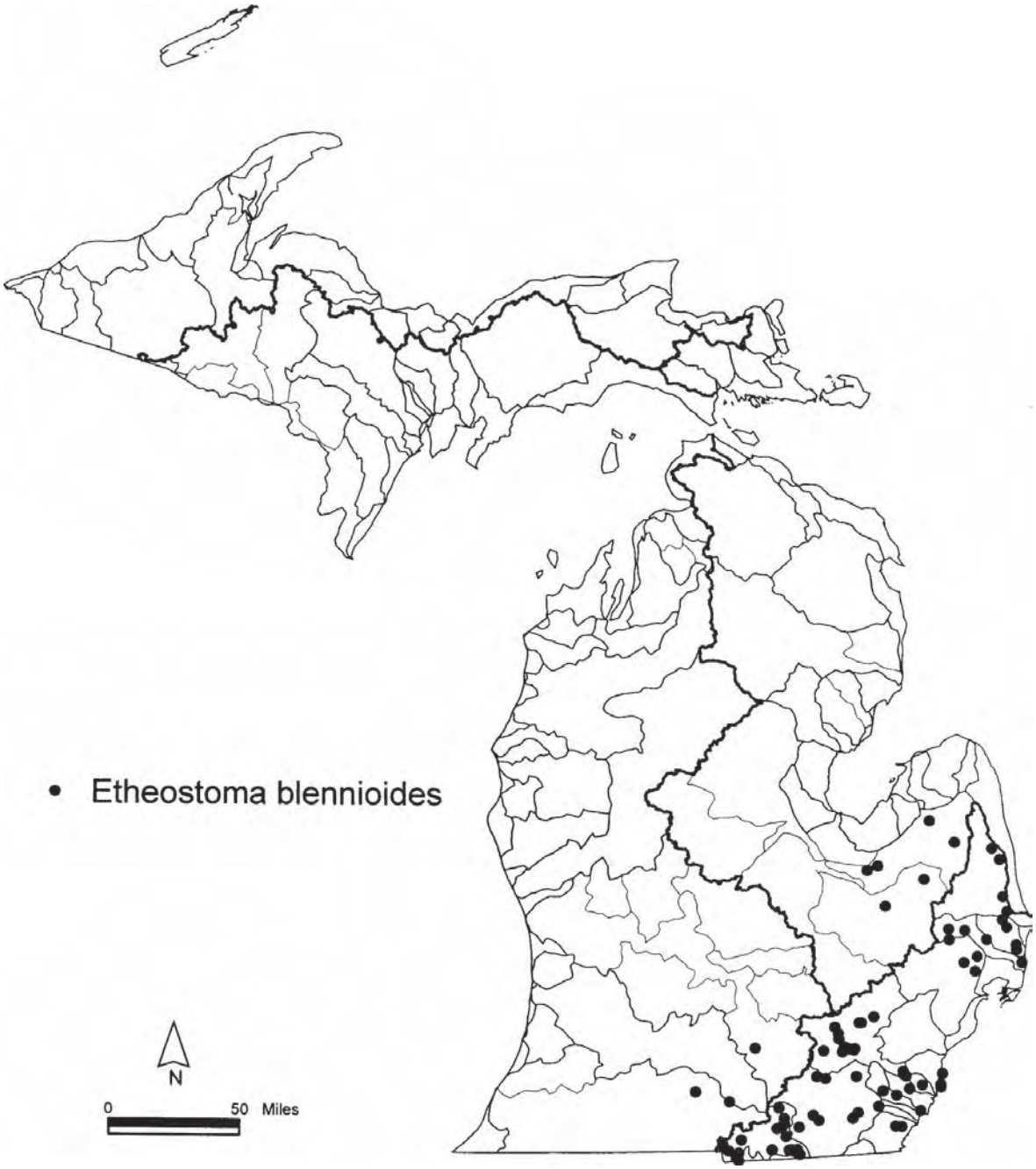

Lepomis peltastes
Lepomis microlophus
N
0
50 Miles

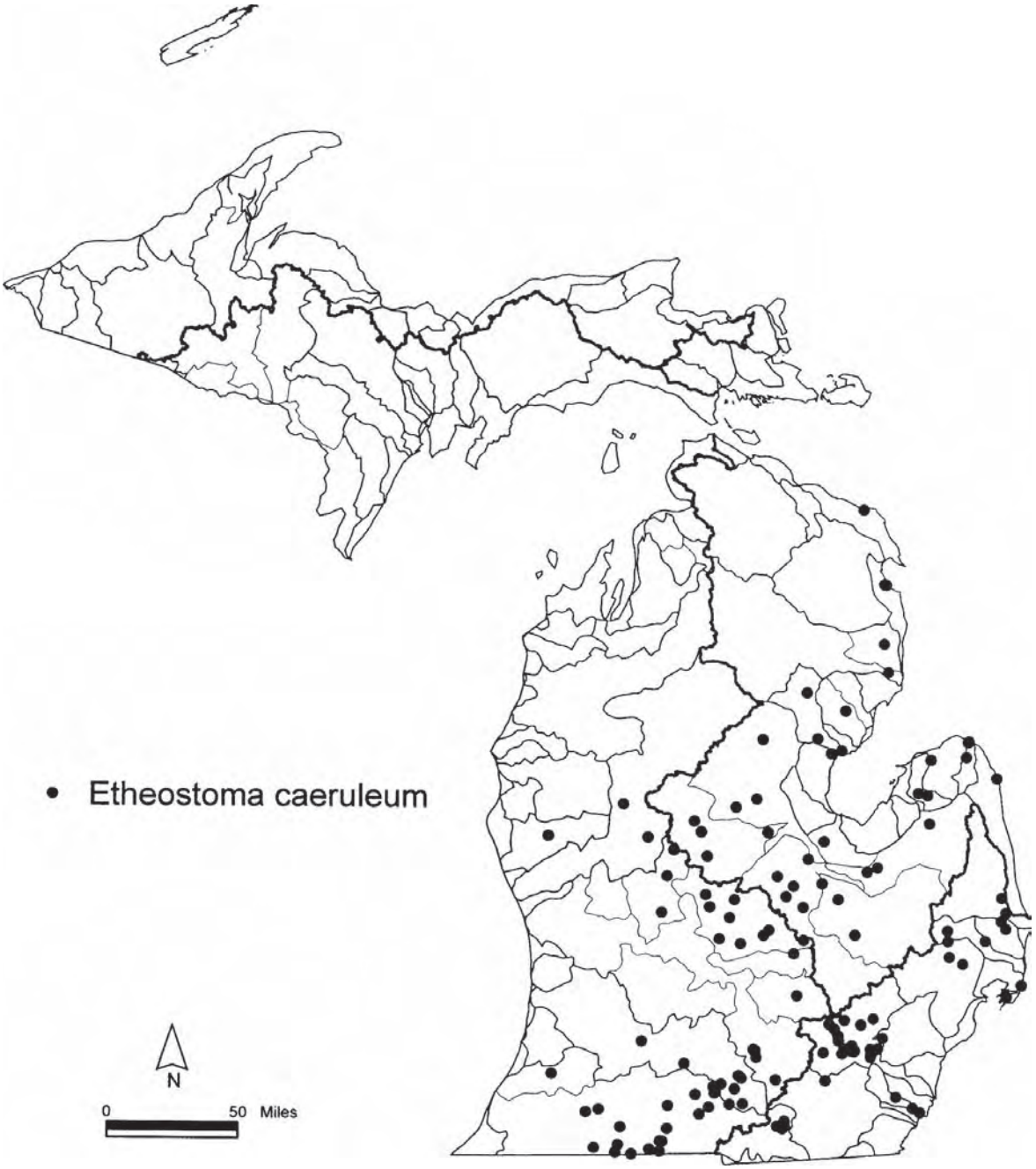

• Micropterus dolomieu
N
0
50 Miles

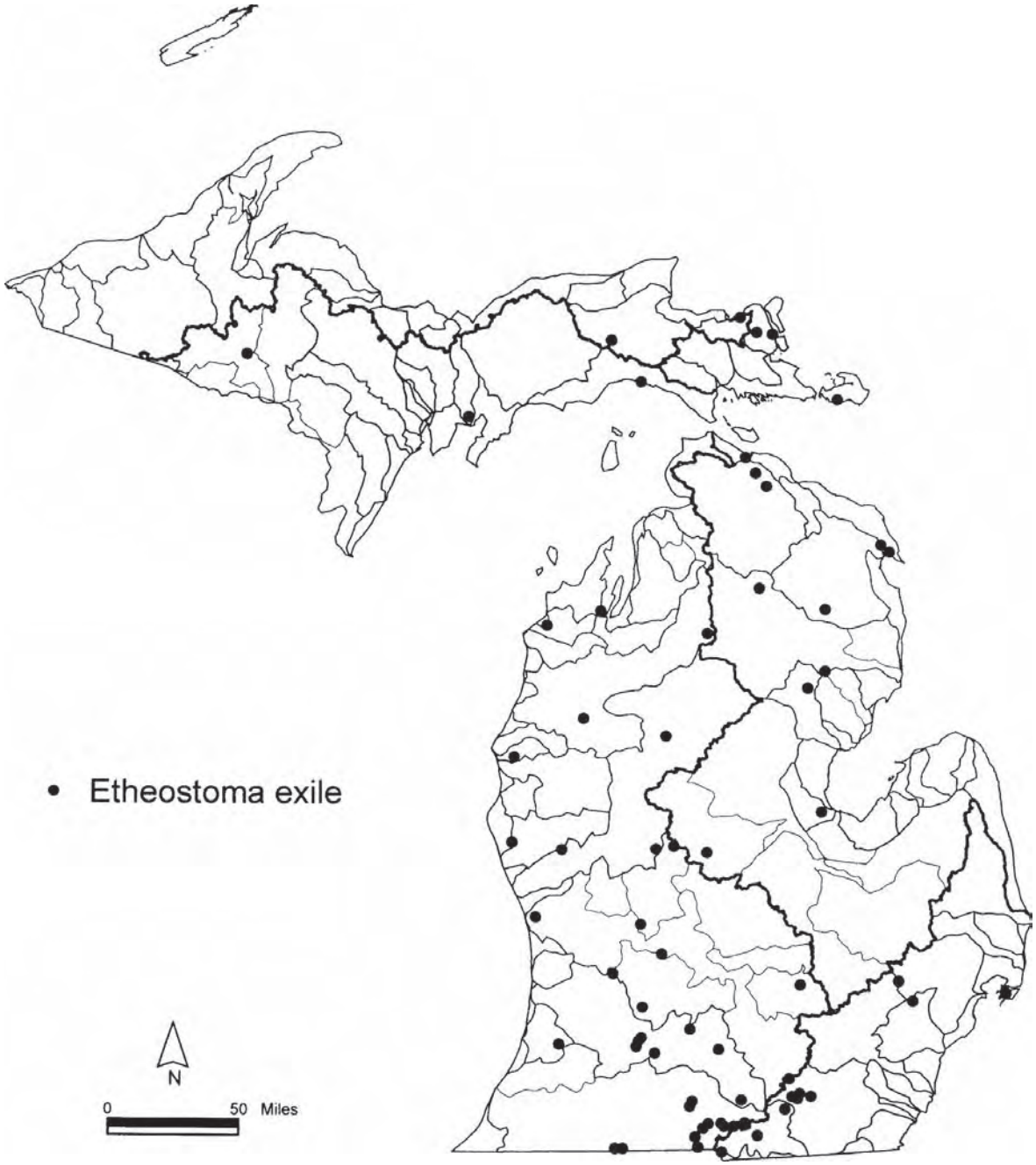

Micropterus salmoides
N
0
50 Miles

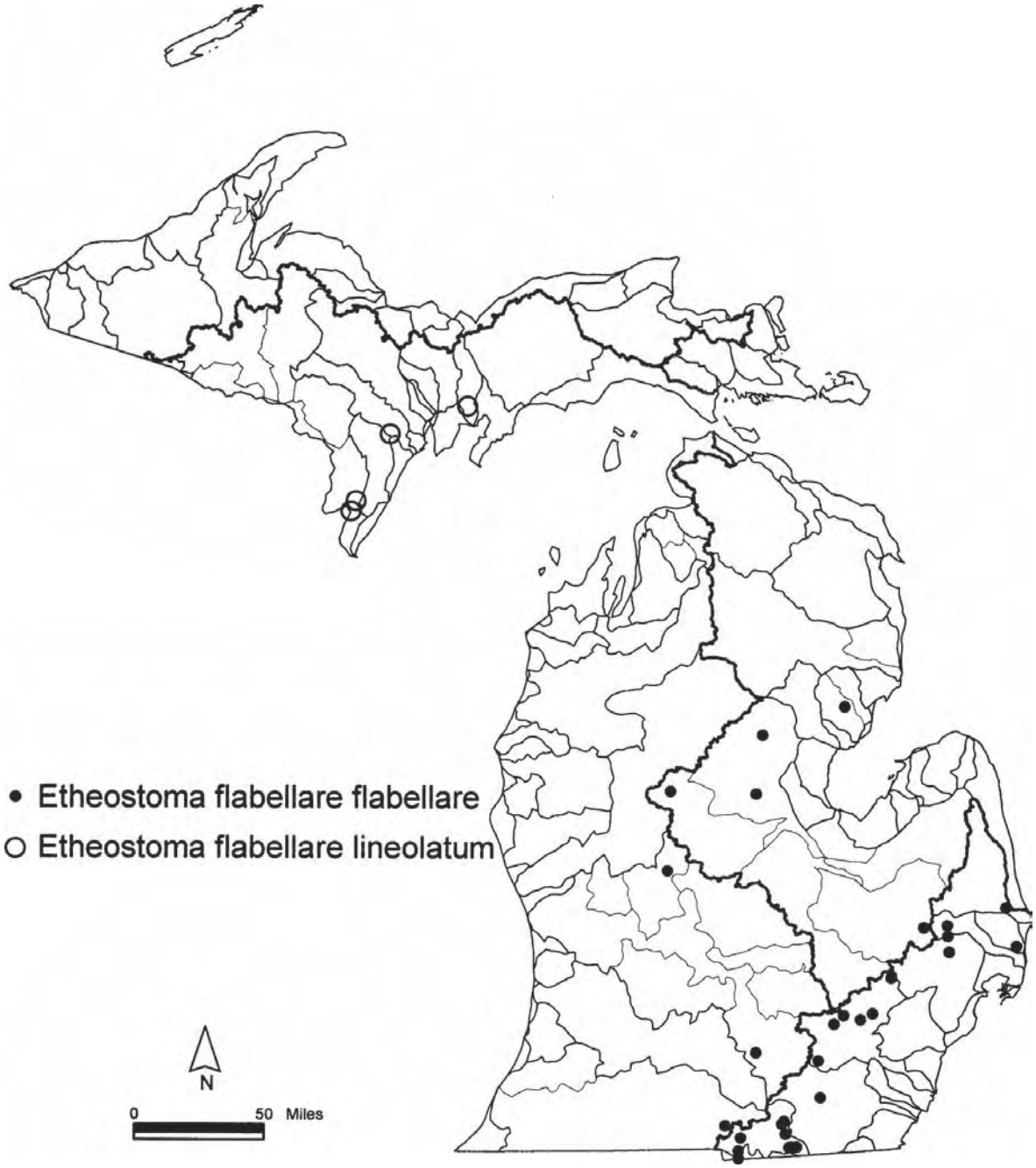

Pomoxis nigromaculatus
Pomoxis annularis
N
0
50 Miles

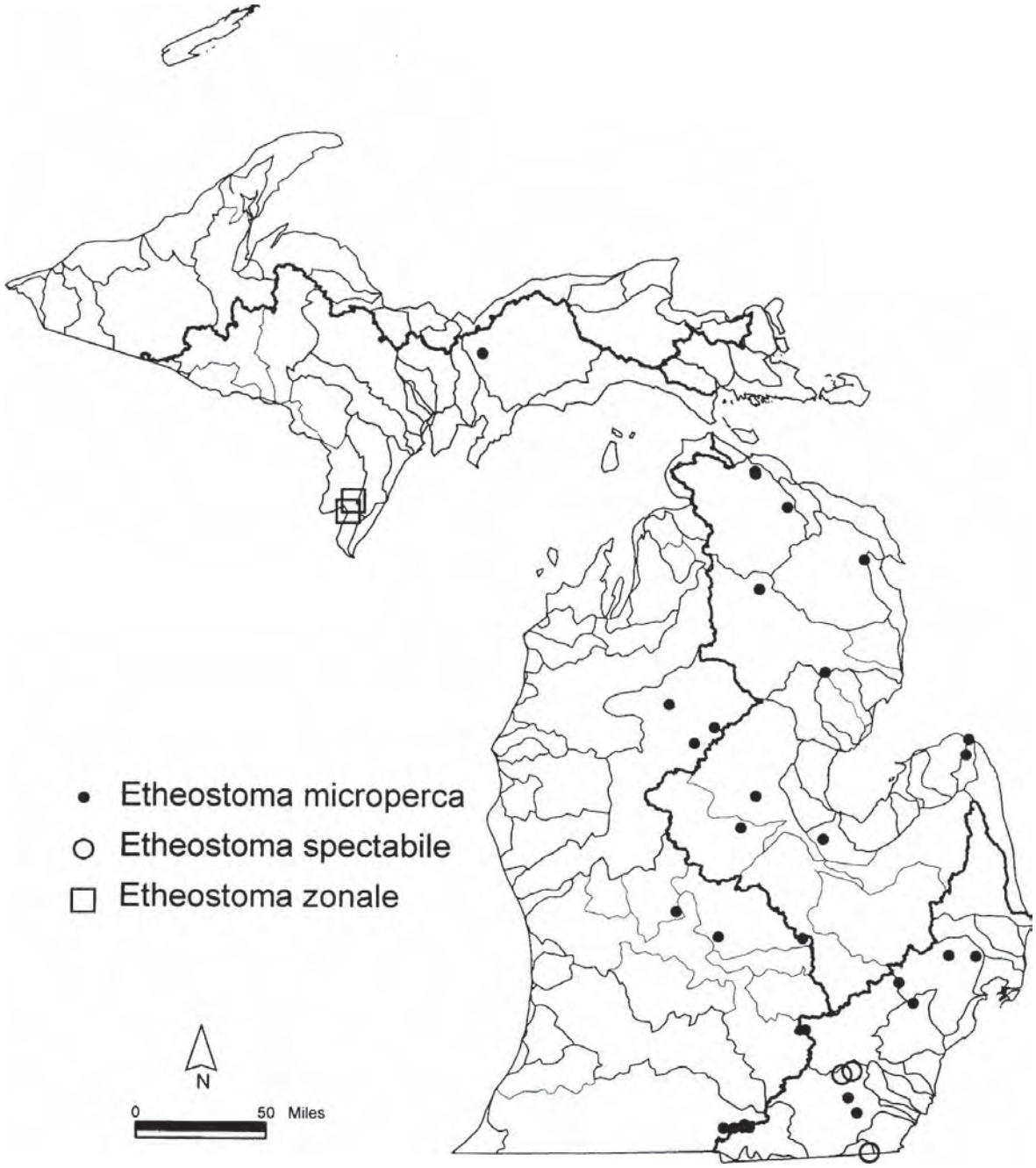

Ammocrypta pellucida
Ammocrypta clara
N
0
50 Miles

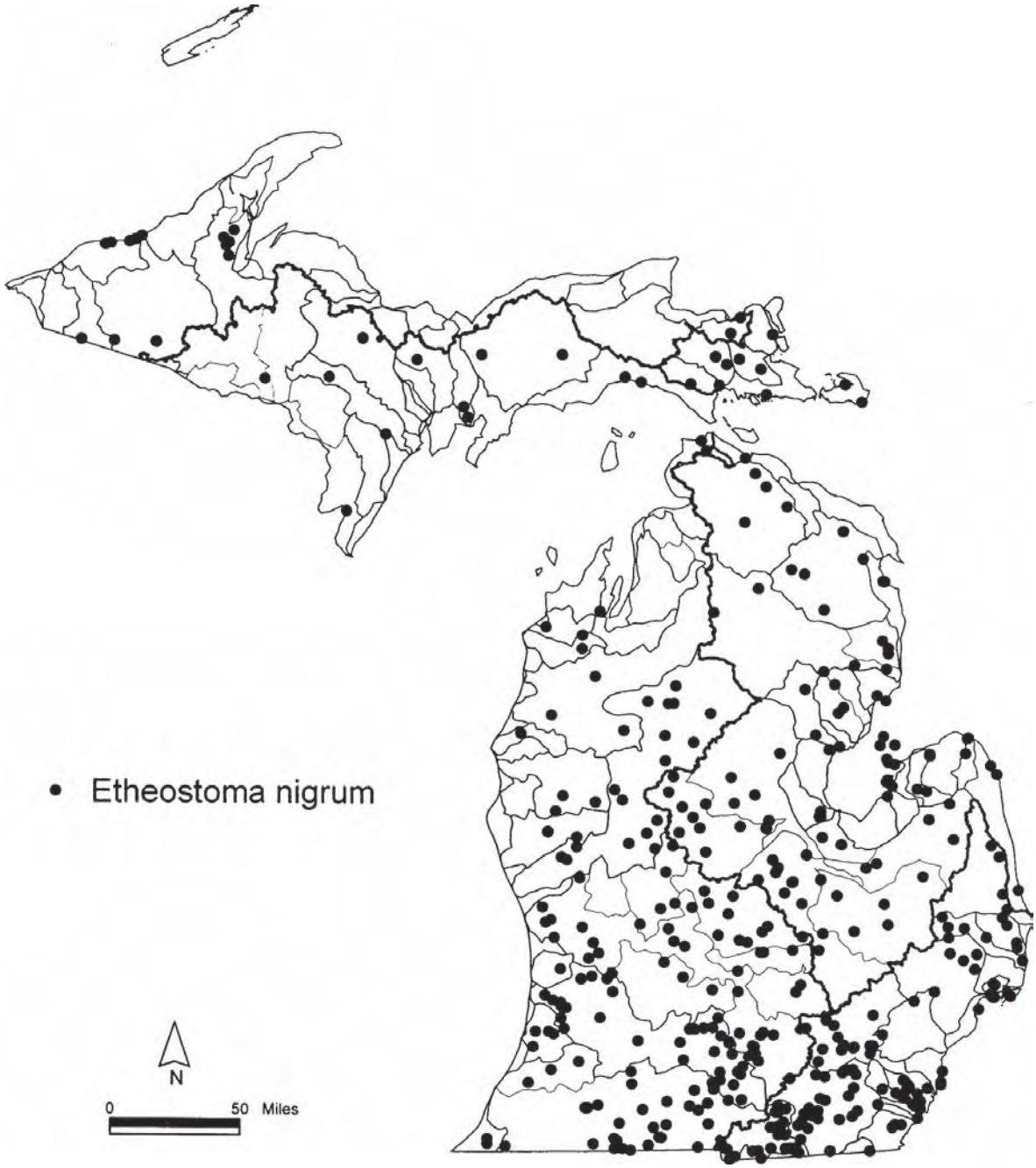

• Etheostoma blennioides
N
0
50 Miles

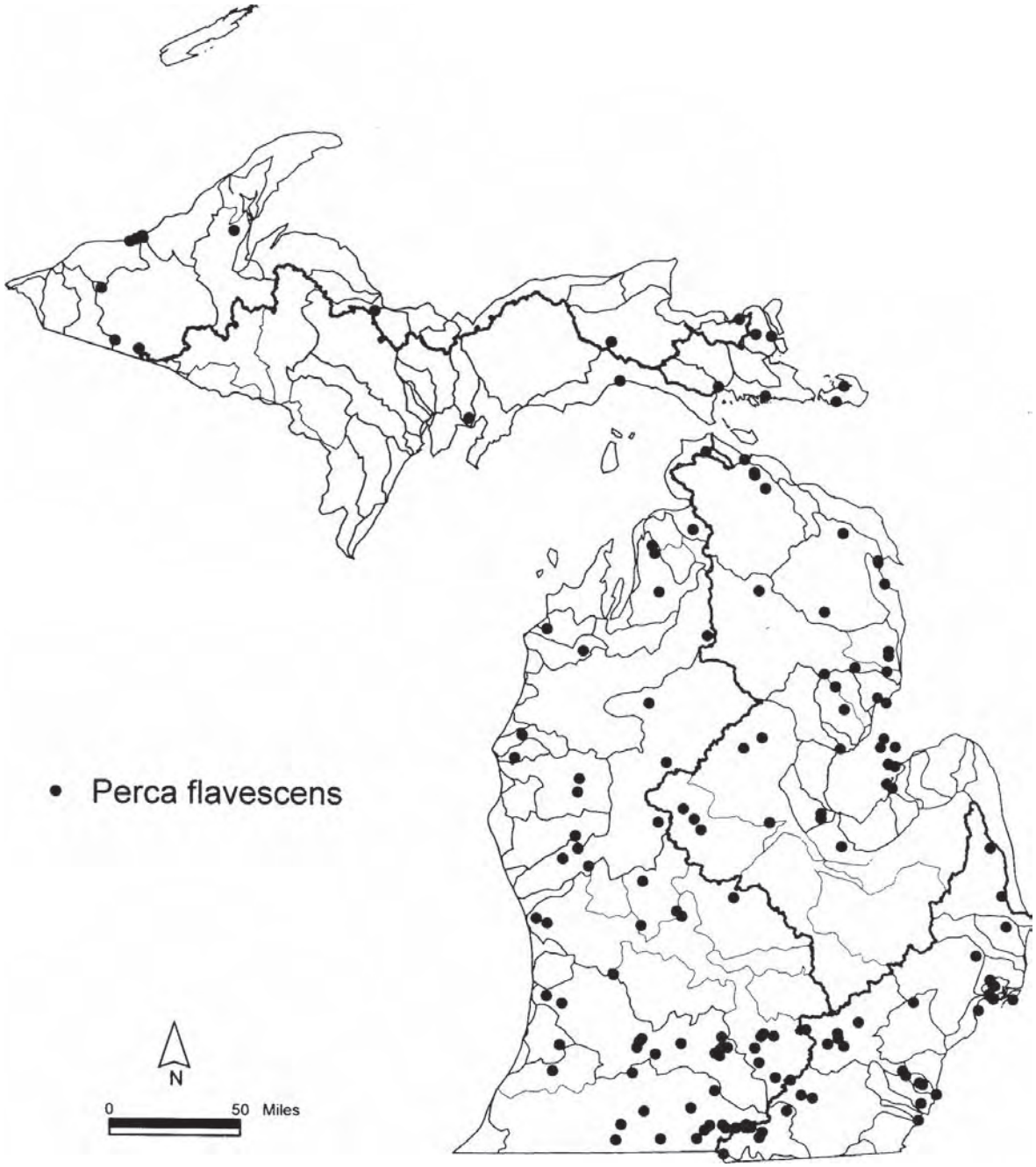

Etheostoma caeruleum
N
0
50 Miles

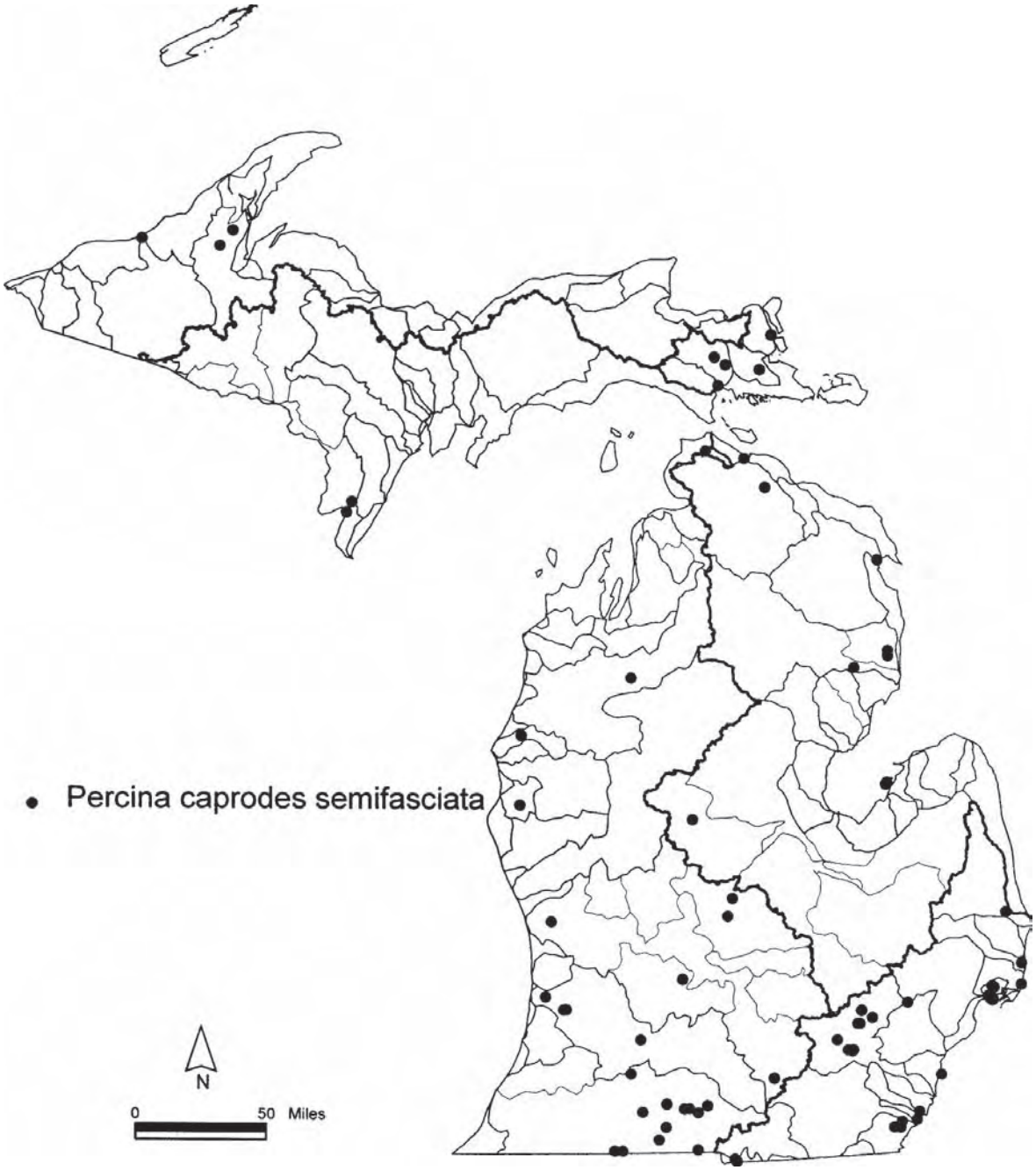

• Etheostoma exile
N
0
50 Miles

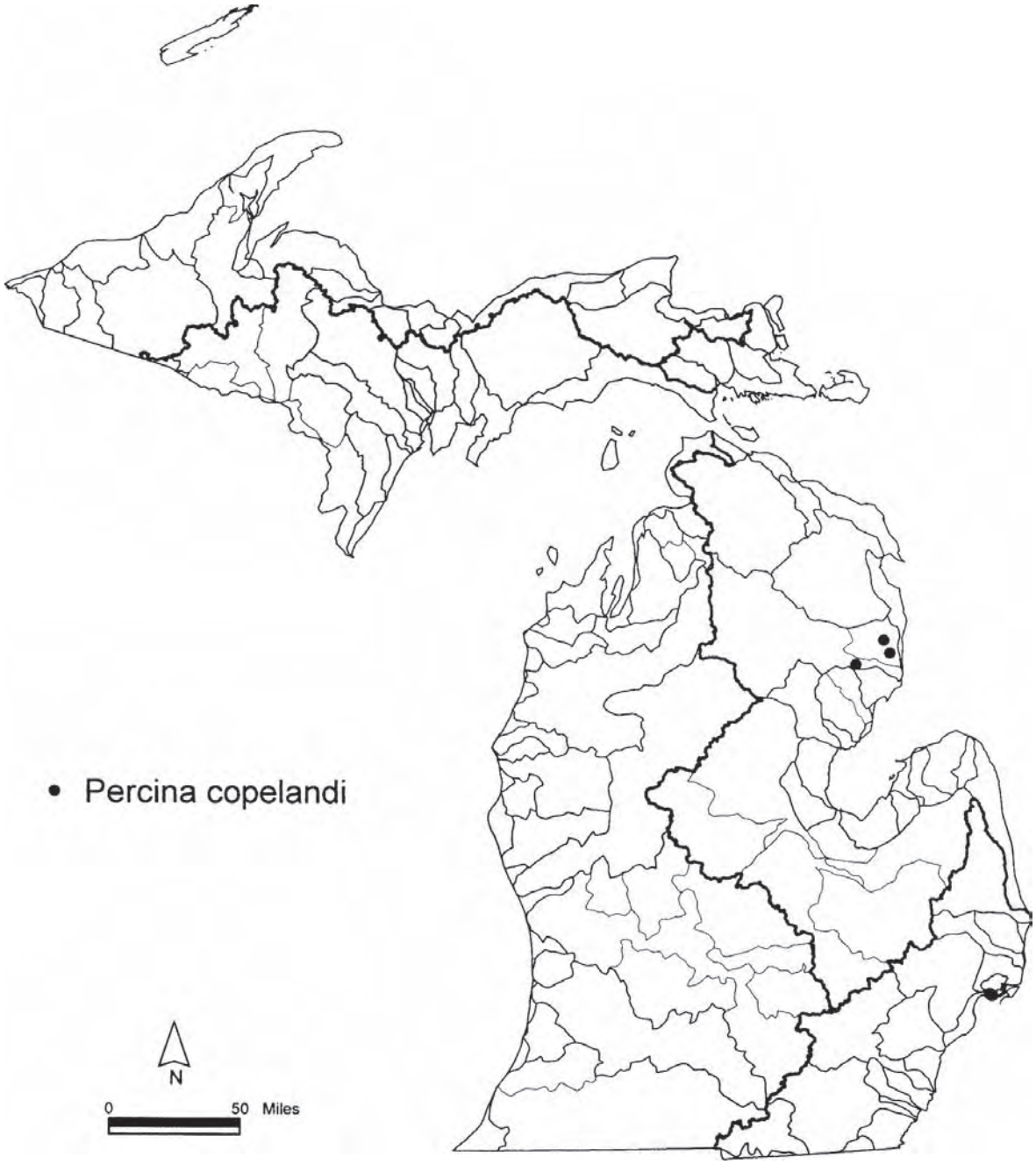

• Etheostoma flabellare flabellare
○ Etheostoma flabellare lineolatum
N
0
50 Miles

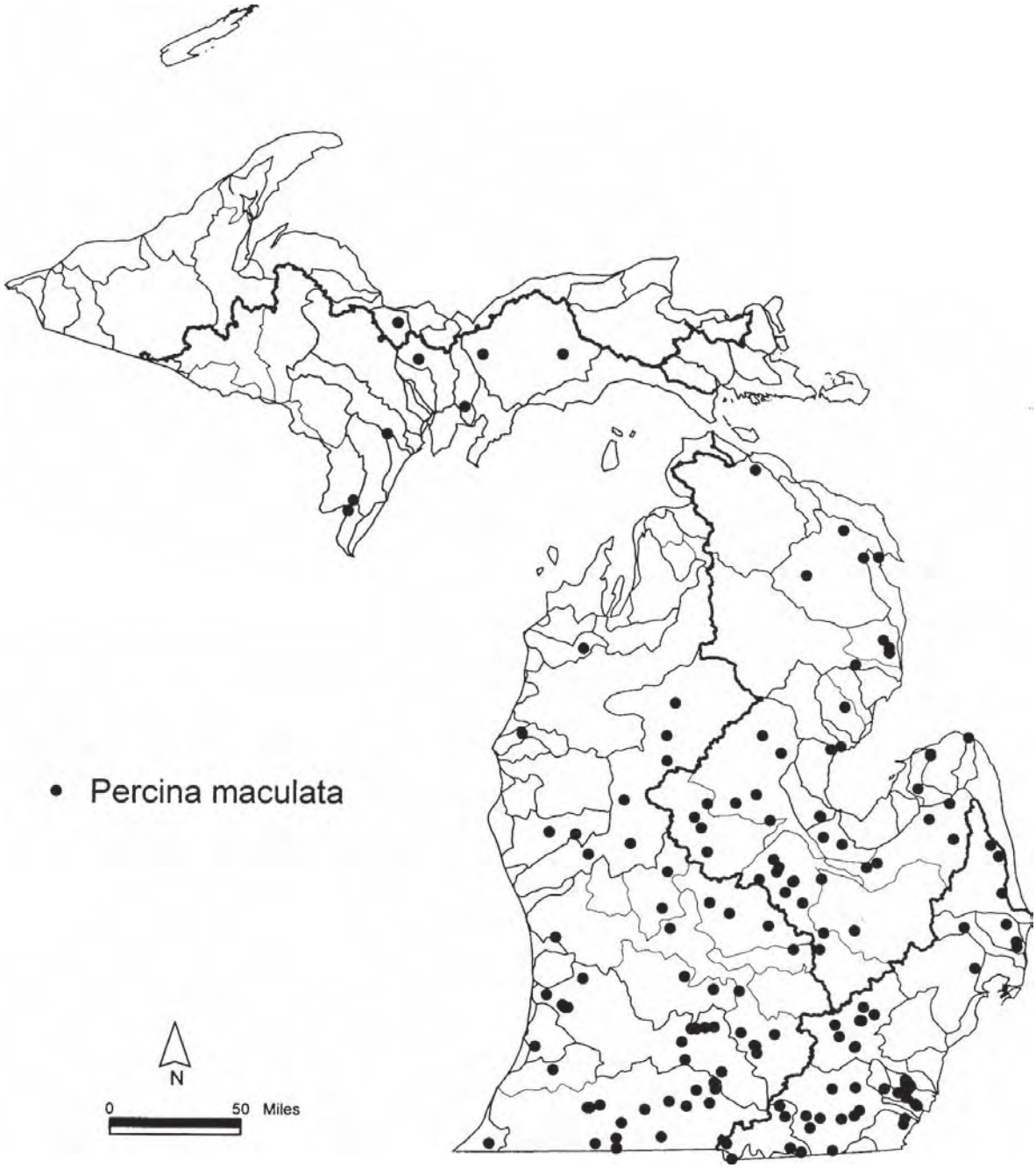

Etheostoma microperca
Etheostoma spectabile
Etheostoma zonale
N
0
50 Miles


Etheostoma nigrum
N
0
50 Miles


Perca flavescens
N
0
50 Miles

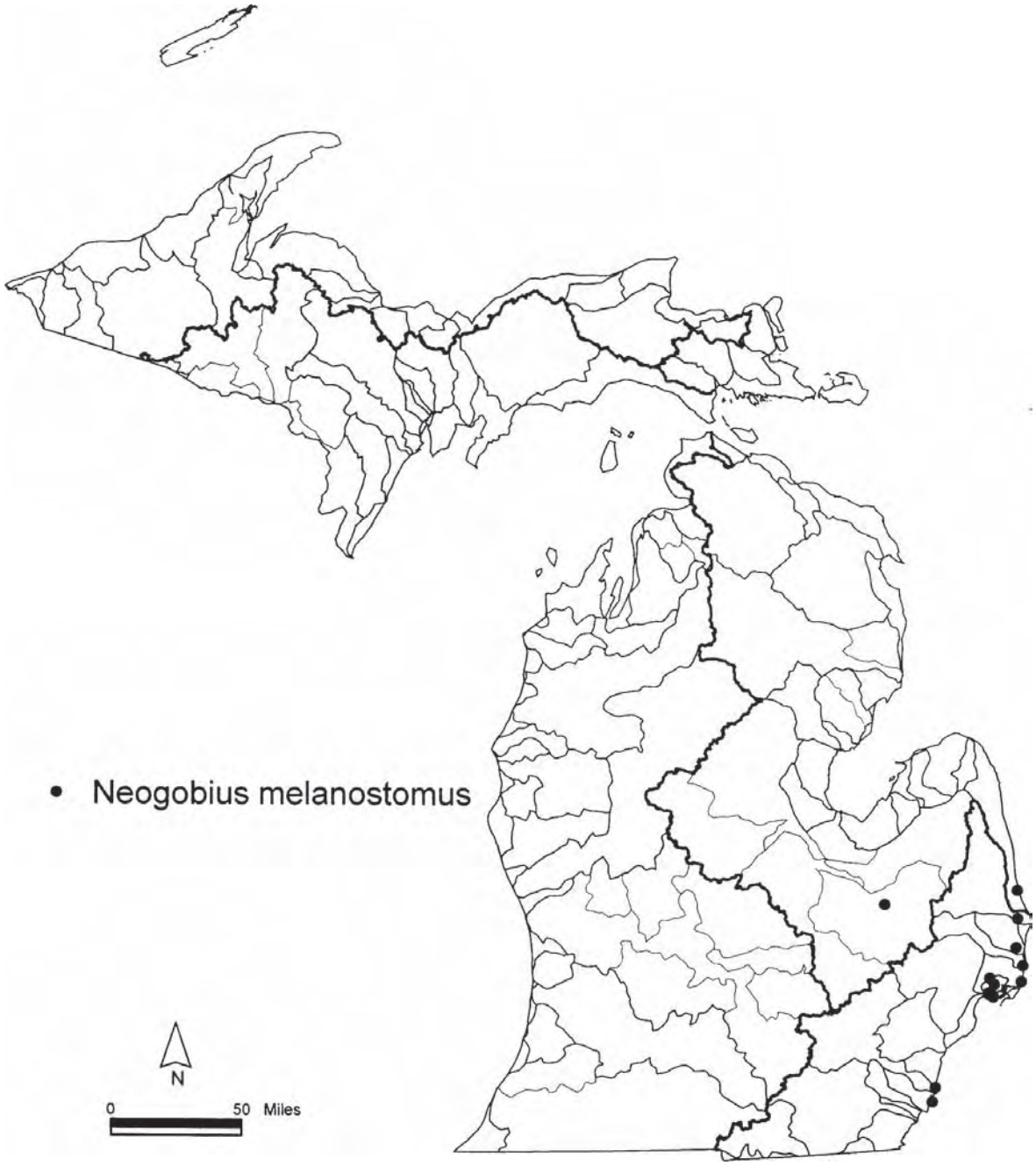

Percina caprodes semifasciata
N
0
50 Miles


• Percina copelandi
N
0
50 Miles


Percina maculata
N
0
50 Miles

Sander vitreus
N
0
50 Miles

Aplodinotus grunniens
N
0
50 Miles


Neogobius melanostomus
N
0
50 Miles

Proterorhinus marmoratus
N
0
50 Miles