

MILWAUKEE PUBLIC MUSEUM

# Contributions

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**Trophic Relationships of North American  
Freshwater Crayfishes and Shrimps**

**H. H. Hobbs III**

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***Milwaukee Public Museum Contributions in Biology and Geology***

**Rodney Watkins, Editor**

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## CONTENTS

Abstract .....	1
Acknowledgments .....	1
Introduction .....	2
Content and organization of the tables .....	2
Crayfishes as consumers .....	3
Crayfishes as predators .....	5
Crayfishes and shrimps as prey .....	5
Community effects .....	6
Troglobitic decapods .....	7
Summary .....	8
Table 1. Detrital and plant food of crayfishes and shrimps .....	9
Table 2. Animal food of crayfishes and shrimps .....	19
Table 3. Invertebrate predators of crayfishes and shrimps .....	31
Table 4. Fish predators of crayfishes and shrimps .....	32
Table 5. Amphibian predators of crayfishes and shrimps .....	55
Table 6. Reptilian predators of crayfishes and shrimps .....	60
Table 7. Bird predators of crayfishes and shrimps .....	69
Table 8. Mammalian predators of crayfishes and shrimps .....	78
Table 9. Crayfish and shrimp prey listed by predator species .....	81
Appendix I. List of abbreviations used in tables .....	86
Literature cited .....	87

## ABSTRACT

This report summarizes the literature on trophic relationships of North American freshwater decapod crustaceans. Families covered here include the Astacidae and Cambaridae (crayfishes) and the Atyidae, Palaemonidae, and Alpheidae (shrimps), with emphasis placed on the cambarids. These crustaceans have many significant roles in freshwater ecosystems, including the processing of organic detritus, cropping effects upon plants, and predation. In addition, crayfishes and shrimps are an important food source for many groups of invertebrate and vertebrate predators.

The bulk of this report consists of nine tables that summarize the literature pertaining to these trophic relationships. Tables 1 and 2 are arranged by food item used by the decapod, and Tables 3 through 8 are arranged by predators of freshwater crayfishes and shrimps. Included in each table are locality data to state or province and the bibliographic reference citing the feeding interaction. Table 9 is a summary of predators arranged by crayfish and shrimp species. A reference list containing 652 entries follows the tables.

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## INTRODUCTION

Within intermediate levels of production in freshwater ecosystems (lentic and lotic), arthropods, particularly crayfishes, play important roles in the transformation of energy. Not only have crayfishes successfully invaded a wide variety of habitats but they are the largest and longest-lived crustaceans in freshwater ecosystems of North America. Rather than being specialized strategists with respect to food habits, they are opportunistic generalists, feeding virtually at all trophic levels. They have been considered as semi- to non-selective omnivores, feeding on virtually any organic material, often relative to its abundance in the environment. In most productive aquatic ecosystems "food" is diverse and quickly replaced and may indeed represent a nearly inexhaustible resource for these trophic generalists (although Momot, 1984a, aptly notes a sharply pulsed cycle of food availability at high latitudes in contrast to a more continuous cycle occurring at low latitudes). Consequently crayfishes are actively involved in the complex processing of organic matter in flowing and standing water systems.

North America is home to a vast array of potential crayfish/shrimp predators, including 5000 to 6000 vertebrate species. In recent years especially, attention to potentially endangered species in the United States has fostered a nationwide renewal of research interest in surveying our native flora and fauna and their relationships with the environment. Although this publication represents an attempt to survey the enormous literature representing North America with its diverse plant and animal taxa as they relate to the placement of crayfishes and shrimps in the food web, no claim is made that this effort has been exhaustive. The systematic search of the literature was halted in late 1988, although some efforts continued into 1990. The data included in the following tables are considered to be a baseline effort to which additions are welcomed.

## CONTENT AND ORGANIZATION OF TABLES

Tables 1 and 2 are a compilation of food sources used by crayfishes and shrimps. Table 1 lists detrital and plant food sources, and Table 2 lists animal food sources. These tables are organized according to food item, crayfish/shrimp taxon, locality, and reference. The first level of arrangement in the tables is by phylogenetic rank of food items. In Table 1, for example, indeterminate detritus is listed first, followed by various types of algae, followed in turn by taxa of higher plants. For a given food item, the next level of table arrangement is the listing of crayfish followed by shrimp taxa. For a given food item plus decapod consumer, the next level of arrangement is by locality. General occurrences are listed first, followed by Canadian and Mexican occurrences, followed in turn by U.S. states in alphabetical order. Where more than one reference pertains to a given food item, decapod taxon, and locality, the references are listed in chronologic order.

Tables 3 through 8 are a compilation of predators of freshwater crayfishes and shrimps, including invertebrates (Table 3), fishes (Table 4), amphibians (Table 5), reptiles (Table 6), birds (Table 7), and mammals (Table 8). Within each of these tables, the first level of arrangement is by phylogenetic rank of predator taxon. Subsequent levels of arrangement by crayfish/shrimp taxon, locality, and date of reference are as those described above.

In all entries for Tables 1 through 8, the names of organisms have been presented exactly as cited by the original reference. This proved to be the most manageable way to construct the tables, although it has introduced some inconsistencies in spelling, and it avoids the problems of taxonomic revisions and synonymies.

Table 9 is a summary of crayfish and shrimp prey species and their various predator species without entries for locality or references. This table uses only specifically identified taxa. Its first level of arrangement is by crayfish species in alphabetical



order, followed by shrimp species in alphabetical order. For each decapod species, the second level of arrangement is by phylogenetic rank of predator species.

In none of the tables has an attempt been made to include records from outside North America. The reader is referred to the following references as an introduction to the literature treating non-North American crayfish and shrimp predator-prey interactions: Carbonnier (1869), Seligo (1895), Hale (1925), Roper (1936), Pieplow (1938), Poisson (1947), Kurenkov (1951), Budnikov and Tretyakou (1952), McNally (1957), Sakowicz and Kompowski (1962), Draganik (1962), Abrahamsson (1966), Gaevskaya (1969), Carrick (1969), Ride (1970), Kossakowski (1971), Svardson (1972), Paladino (1972), Moriaty (1973), Piesik (1974), Villamil and Clements (1976), Fryer (1977), Huner (1977), Gulbrandsen (1978), Wollard et al. (1978), Miller (1979), Faragher (1980), Hopson (1981), Dehli (1981), Hobbs and Hart (1982), Furst and Eriksson (1983), Johnson (1984), Scheich et al. (1986), Cherkashina (1986), and Hobbs (1987).

### CRAYFISHES AS CONSUMERS

Crayfishes feed and thus utilize energy stored at various trophic levels (polytrophs). At the first consumer level (herbivore) they can be placed conveniently into one of three functional groups: shredders, collectors, and scrapers. These categories are commonly used for insects (Cummins 1978; Cummins and Klug 1979), and crayfishes may also be functionally classified in this manner. As shredders, they convert leaves, sticks, and other coarse particulate organic matter (CPOM) into smaller fragments termed fine particulate organic matter (FPOM). For further discussions of categories of organic materials see Cummins (1974) and Cummins and Klug (1979). Crayfishes of different ages consume disparate proportions of various food types. Lorman (1975, 1980) and Lorman and Magnuson (1978) noted that males are more carnivorous than females and less carnivorous than juveniles. Likewise, Prins (1968), Mason (1974), and Momot et al. (1978) indicate that adult crayfishes generally feed more extensively on plant material than do juveniles, but all age classes tend to utilize vegetation. This shift from a predominantly animal diet to one dominated by vegetation has also been reported by Creaser (1934), Mason (1963), Abrahamsson (1966), and Vannote and Ball (1972) and may prove to be of significance as additional work is directed toward crayfish energetics. Budd et al. (1979) state that young individuals of *Orconectes propinquus* and *Cambarus robustus* function as "collectors" by filtration feeding on algae. (See Wallace et al. 1977 for further discussion concerning the role of filter feeders in lotic systems; see also Seepers 1977, Budd et al. 1978, Anderson and Sedell 1979, McCullough et al. 1979, Wallace and Merritt 1980, Kaplan and Bott 1982, and Wotton 1988.) In turn, crayfishes as collectors produce FPOM (as do shredders) in the form of fecal material, thereby increasing surface area of particulate organic matter for colonization by microbes (see below). This functional role is probably not restricted only to *O. propinquus* and *C. robustus*, and many species most likely are collectors during some period in their life history. At other times, crayfishes are "scrapers" ("grazers"), feeding upon aufwuchs (see Penn 1943, Momot 1965b, Flint and Goldman 1975a, and Momot et al. 1978). Minckley (1963:97) reported that *O. rusticus* and *C. bartoni* [sic] pick up and rapidly rotate the shells of snails (*Goniobasis*) and graze on the algae growing on the shell. Creaser (1931:274) stated that (*Palaemonetes exilipes* [= *P. kadiakensis*] use their "clawed feet" [pereiopods 1 and 2] ". . . to scrape the food from the surface of leaves." Nelson and Hooper (1982:183) state that the shrimp *P. kadiakensis* ". . . constitute[s] a significant component of the benthic-detritivore community in many lentic freshwater systems. They function as large particle 'shredders,' consuming both plant and animal matter."

As shredders or scrapers, these aquatic organisms actively graze and can significantly affect species diversity of aquatic vegetation. A variety of studies has shown that various crayfishes can control the growth of aquatic macrophytes:



*Cambarus bartonii* — New York (Embrey 1934); *Cambarus rusticus* (= *Orconectes rusticus*) — Ohio (Langlois 1935); *C. rusticus* (= *O. rusticus*) and *C. clarkii* [= *Procambarus clarkii*] (Martin and Uhler 1939); *Cambarus immunis* (*O. immunis*) — Michigan (Goellner 1943); *Astacus astacus* — Sweden (Abrahamsson 1966); *Pacifastacus leniusculus* — California-Nevada (Frantz and Cordone 1967); *O. causeyi* — New Mexico (Dean 1969); *C. d. diogenes* — Ohio (Taub 1972); crayfish — British Columbia (Williams 1973); *Pacifastacus trowbridgii* — British Columbia (Baille et al. 1973); *O. nais* — Kansas (Rickett 1974); and *O. rusticus* — Wisconsin (Magnuson et al. 1975, Lorman and Magnuson 1978, Lorman 1980, Lodge 1984, Magnuson and Beckel 1985, Lodge et al. 1986, Carpenter and Lodge 1986, Lodge and Lorman 1987). Flint and Goldman (1975a) found that *P. leniusculus* exerts a significant influence over the “entire benthic flora” by controlling primary production around the periphery of Lake Tahoe. Thus, crayfishes as herbivores can reduce the abundance of aquatic micro- and macrophytes, thereby affecting members of the community that utilize plants directly for food or shelter and by altering both qualitative and quantitative aspects of primary production. It is yet unclear what the nutritive value of aquatic and terrestrial vegetation is to crayfishes. Van Weel and Scheer (1970) cite several researchers who indicate that the enzyme cellulase is present in the gut of *Astacus astacus* and *P. clarkii*. Much additional research is required prior to an understanding of how widespread this enzyme is and how it may play a role in the digestion of decaying allochthonous material (wood, leaves, etc. - see below).

The scavenger role of crayfishes in recycling dead animal remains directly back into a stream or lake “food chain,” a process that excludes the primary level, is a highly important and efficient ecological short circuit. For example, Vannote and Ball (1972) stated that the short food chain from dead animal protein to crayfish (*O. propinquus*) to bass (*Micropterus dolomieu*) may have ecological efficiencies to the order of 10%.

Although the importance of detritus in the trophic dynamics of lakes and streams is not fully understood, it is obvious that the processing of organic debris provides energy to the trophic system and ultimately constitutes an important part in aquatic production (Hynes 1963, Mann 1969, Kauskik and Hynes 1971, Melchiorri-Santolini and Compton 1972, Fisher and Likens 1972, Wetzel et al. 1972, Cummins 1974, 1979, and Bowen 1987). Momot (1983:58) states that crayfishes utilize detrital carbon food webs that are governed by nutrient availability and energy distribution. Tack (1941), Norton (1942), Mason (1963), Prins (1968), Momot et al. (1978), Lorman and Magnuson (1978), and Lorman (1980) indicate that detritus and associated microbes are probably major food items for crayfishes. Rich and Wetzel (1978) discuss the role of detritus in lakes and state that the “detrital-dynamic structure” in lakes is not simply an alternative mode of support for biota, but is a major factor in the entrainment of abiotic substances subsidizing the biota. Little is known of rates and pathways of detrital processing by crayfishes (Momot et al. 1978); however, other detritivores have been studied and are considered to be extremely important components to the breakdown process (McDiffert 1970, Cummins et al. 1973, Peterson and Cummins 1974, Anderson and Sedell 1979, and Webster 1983).

Organic debris (CPOM, FPOM) is colonized successively by predominantly fungi and then bacteria, and when a macroorganism such as a crayfish feeds on this debris, the animal also ingests microorganisms from a number of trophic levels. FPOM is shredded during ingestion of CPOM and enters the detrital pool; the ingested detritus is converted into body tissue or fecal material. Thus, detritivores such as crayfishes also function as decomposers as they break down particulate matter into FPOM, alter the chemical composition of detritus, and release fecal material back into the system. “Egested materials from crayfish had the potential to support a significant percentage of the energy needs of fine particle feeders in this stream” (Rabeni 1983:63). Flint and Goldman (1975a) demonstrated that in Lake Tahoe, nutrients contributed



from feces of *Pacifastacus leniusculus* significantly stimulated algal primary productivity. Assimilated materials are isolated temporarily from the detrital pathway and are passed on to crayfish predators; thus crayfishes in many aquatic systems are key energy transformers between various trophic levels.

#### CRAYFISHES AS PREDATORS

As opportunists, crayfishes also utilize energy from higher trophic levels. That is, crayfishes are carnivores, predators of a variety of prey items and thus may dominate production of the benthic biomass (Momot 1967b). Paine (1966) discussed this concept and introduced (Paine 1969) the term "keystone predator." Hall et al. (1970) presented a discussion of the concept of a keystone predator, whose trophic position is sufficiently high to influence interactions among a number of trophically connected species. Community structure is thus modified by the species and those parameters that affect the population have an amplified effect on the entire community. Predation at one trophic level (e.g. - large dominant) elicits a complementary response by smaller species occupying generally lower trophic levels. Thus, species diversity and community stability (resistance to change in community structure) are intimately tied to the activity of the keystone predator. Many crayfishes prey upon organisms occupying various trophic levels and compete for resources both at the interspecific and intraspecific levels with virtually all members of the community. That is, they interact at all trophic levels and are situated high enough in the trophic structure to influence numerous interactions among a whole subweb of species. As population densities of various prey species fluctuate, the crayfish predator can be a significant factor in maintaining community stability by switching to the most abundant prey. This is unlike "traditional" predators that act, not by choosing foods proportional to their abundance, but rather by preying selectively on specific organisms or particular life stages (see Pulliam 1974, Westoby 1974, Stein et al. 1975, Griffiths 1975, and Stein 1977). Data are available (e.g., Capelli 1980) that indicate that the diet of crayfishes varies seasonally. This is not merely a function of variations in the availability of food items but also relates to selection in favor of some potential food items when they are present. Price (1981:92) reported that diversity in the diet of *O. neglectus chaenodactylus* increases as food abundance decreases during winter months. It becomes apparent then that community stability depends upon competition among the organisms present, with crayfishes potentially playing an important role.

When designing experiments involving consumption, Rundquist and Goldman (1983) stressed the need to consider potential cyclic feeding patterns, the nutritional state, and the high innate variability of crayfishes. For example, study of *O. neglectus chaenodactylus* demonstrates that peaks within the diel feeding cycle occur shortly after sunset (Price 1981).

#### CRAYFISHES AND SHRIMPS AS PREY

Numerous organisms rely on crayfishes and shrimps as a primary or secondary source of food and crayfishes may comprise up to 60% by weight of fish stomach contents (Penn 1950). However, data from Magnuson et al. (1975) and Stein and Murphy (1976) indicate that crayfishes may not be the ideal food source they intuitively appear to be. "Although crayfishes are large, only a small proportion of their biomass is available for digestion by fishes. Nearly 30-35 percent of their dry weight is inorganic salts (primarily  $\text{CaCO}_3$ ); another 10-15 percent is chitin, not digestible by fishes. Thus, approximately 50 percent of the dry weight of larger crayfish cannot be utilized by predators" (Magnuson et al. 1975:70; see also Godley 1980:419,420). Houp and Kuehne (1980:40) reported the calorie values of small, medium, and large *O. rusticus* from a central Kentucky stream were 3.8, 4.8, and 4.7 kcal/ ash-free gram dry weight, respectively. Rabeni (1984:61) noted that crayfish production approaches



10g/m<sup>2</sup>/yr (dry weight) in a stream in Missouri. Kushlan (1979:383) reported the calorie content of a "crayfish" preyed upon by the White Ibis in southern Florida to be 3.6 kcal/g. In addition, Magnuson et al. (1975) also indicated that crayfishes are not high energy foods, comparing particularly unfavorably with benthic insects (e.g., *O. immunis* at 3900 cal/g dry wt, the mayfly *Stenonema pulchellum* 5300-6000 cal/g dry wt). Dabrowski et al. (1966) presented nutritive values for *O. limosus*. Even though crayfishes are not particularly high energy foods, they supply adequate amounts to supplement the diets of many vertebrates and invertebrates (see Tables 3 - 8). Schmidt and Davis (1941:213) state that the Queen Snake, *Regina septemvittata*, has a "... diet consisting almost wholly of crayfish." Conant (1960) also indicated that crayfishes of the genus *Cambarus* are "...the principal food animal of *Natrix septemvittata* ..." (p. 29) and, in fact, noted a striking parallel in the distribution of the snake and the majority of species of the genus. Pearse (1921a:29) indicates that *Anguilla chrysypa* "... had eaten nothing but crayfishes." Godley (1980) reported the results of an excellent study concerning the foraging ecology of the Striped Swamp Snake *R. alleni* in southern Florida. He demonstrated that the water snake makes dramatic seasonal and ontogenetic shifts in food habits. Young snakes fed primarily on libellulid naiads but switched to the seasonally abundant shrimp (*Palaemonetes paludosus*) and crayfish (*Procambarus alleni*). Adult snakes (200-300mm SVL) shifted from odonates and shrimp to crayfish.

Effects of predation on a crayfish population depend upon several factors: "... the importance of the crustacean to the diet of the predator; the population dynamics of the prey species, especially its response to predation in terms of growth and recruitment, and the role of the prey species in the community. The impact of fish predation on crayfish and other crustaceans is related to the size distribution of the prey population in comparison to the prey size selected by the predator. In addition, it is related to the importance of the prey species' role in the community" (Momot et al. 1978: 27; see also Gowing and Momot 1974, 1979). Bovbjerg and Stephen (1975:430) stated that "benthic decapod crustaceans, which occupy crevices in a coarse substratum, tend to be solitary agonistic and defensive of crevices. These attributes are of survival value to the species; not only do crevices provide shelter from the pounding waves of the shore or from the torrential waters of streams, but crevices also provide a refuge which can be defended against both predators and competitors."

#### COMMUNITY EFFECTS

Predator-prey interactions (e.g., fish-crayfish) greatly affect the composition and structure of communities. Since most predators selectively consume food items, they are considered to be extremely important in maintaining the diversity and stability of aquatic as well as terrestrial systems. Predation pressure elicits prey behavior patterns (e.g., schooling, horizontal and vertical migration patterns); in turn, these anti-predatory behavior patterns act as selective forces on the predator, thus operating to modify predator strategies (Slobodkin 1974). These kinds of interactions have been demonstrated for Wisconsin *O. propinquus* by Stein and Magnuson (1976), and Stein (1977, 1979). For instance, juvenile crayfish are preferred prey of *Micropterus dolomieu* and are rarely found on open sandy substrates, whereas large (adult) individuals (least preferred prey) are abundant in these areas, demonstrating that preferred prey make distributional shifts to protective microhabitats, yet spatial utilization of nonpreferred prey is much less regulated by predators. Stein (1979:350) states that the microdistribution of crayfish (*O. propinquus*) results not from learning but that "... these patterns though reactive, tend to be innate. Juvenile crayfish tend to be hidden in the substrate whereas large adults tend to be exposed on top of the substrate. Natural selection has favored this microdistribution of juveniles; individuals which were not hidden were selectively eliminated, owing to their high vulnerability."

It should be noted that Loring and Hill (1978) demonstrated that in a thermal gradient, *O. causeyi* utilized shelter-cover synergistically with the preferred temperature range. Mather et al. (1981) reported that the thermal preference and avoidance responses of crayfishes are similar to those of their predators, largemouth and smallmouth bass.

Foraging of prey organisms is often carried out during those periods when predators are least efficient. Lorman (1975) showed that *O. rusticus* in a northern Wisconsin lake responded to inshore predatory fishes by actively foraging only at night. Stein and Magnuson (1976) showed experimentally that *O. propinquus* spent less time feeding and consumed less detritus when smallmouth bass were present.

These crustaceans also are well equipped to deter and to escape predation by fishes and other predators. Active (chela display—raising and spreading) and passive (concealment) defensive behavior patterns are employed. Magnuson et al. (1975:70) noted that individuals of *O. propinquus* having the same carapace length were selectively preyed upon; that is, those crayfish with the smallest chelae were fed upon first, with fish eating crayfish in ascending order of chela size. Stein (1976) demonstrated that females have smaller chelae than males and are preferred by fish predators. Thus, chelipeds are effective in reducing predation, particularly true of Form I males (Stein 1976).

Magnuson et al. (1975:70) state that "chelipeds may also function to decrease the probability of ingestion of crayfish following capture." They showed, in the laboratory, that smallmouth bass (*Micropterus dolomieu*) can ingest large crayfish only if the prey are seized by the posterior end (abdomen first); this was also illustrated by Franz (1977) for *Regina alleni* feeding on *Procambarus alleni* and *P. fallax*. Even then, the crayfish can be rejected if the chelae pinch the jaw or the interior of the mouth. The abdominal widths of crayfishes (related to swimming speed) and protective carapaces are other morphological traits that can reduce fish predation on individual crayfish (see Ware 1973, Stein et al. 1977, and Zaret 1980). Despite these apparent obstacles, crayfishes are preyed upon and are important components of the diets of numerous higher forms, particularly as young-of-year and during periods of molting.

Crayfishes also can have significant impacts on the structure and composition of aquatic communities. For example, Crowl and Covich (1990) recently demonstrated that the snail, *Physella v. virgata*, changes its life-history patterns according to the presence or absence of the crayfish, *O. virilis*. Snail populations in streams lacking crayfish populations demonstrated the typical life-history pattern of rapid shell length growth up to approximately 4mm, a size when growth rate decreased and reproduction was initiated; longevity ranged from 3 to 5 months. In snail populations where crayfish were present, juvenile pulmonate mortality was high and an increase in the age and size at maturity was observed, with egg production beginning at a size of 7 to 10mm; longevity ranged from 11 to 14 months. Their results suggest that snails are capable of detecting a "chemical cue" that results from crayfish actively foraging on snails and that in the presence of this cue, snail life-history patterns are altered with both the age and size of maturation being delayed. By delaying the onset of reproduction and by growing to a larger size, the snails apparently decrease mortality due to size-specific predation, thus demonstrating phenotypic plasticity as an anti-predation strategy.

#### TROGLOBITIC DECAPODS

Very little effort has been made to assess the trophic relationships and energy flow among troglobitic decapods. For accounts of cave crayfish and shrimp feeding strategies, trophic positions, energy value of various species, etc., the reader is referred to the following references: Banta (1907), Creaser (1936), Poulson (1964), Vandel (1965), Mohr and Poulson (1966), Barr (1967, 1968), Sutton and Relyea (1971), Hobbs III (1973),



Caine (1974, 1978), Peck (1974), Cooper (1975), Weingartner (1977), Holthuis (1977), and Hobbs et al. (1977).

#### **SUMMARY**

From this brief discussion it is apparent that without the various species of crayfishes "... much of the energy in the food cycle would be 'short-circuited' into dead ends leading to an overall decrease of energy cycling [= rate and efficiency of energy flow], community productivity and food availability to higher trophic levels in the system. The functional importance of crayfishes exceeds even their biomass dominance in the benthic community" (Momot et al. 1978:25). Crayfishes seemingly have a multiplicity of functional roles and occupy numerous trophic levels. They are capable of altering strategies to optimize foraging in response to specific spatial and temporal variations in environmental conditions, characteristics that have resulted in this group of crustaceans being highly "successful" in freshwater ecosystems. The scavenger role played by crayfishes in recycling dead animal matter directly back to aquatic systems is important and highly efficient. Additionally, crayfishes through egestion and excretion convert food materials into a form that may be more readily available to other members of the aquatic community and are themselves important food items for a variety of higher organisms. Shrimp also constitute important links in the trophic structure of aquatic systems, contributing substantially to the food intake of centrarchid fishes (Nielsen and Reynolds 1975).

**TABLE 1.**

DETRITAL AND PLANT FOOD OF CRAYFISHES AND SHRIMPS.

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Generalized Feeder (Food)	<i>O. virilis</i>	MB	McInnes 1974:144
Microbiota	Crayfish	GEN	Lorman and Magnuson 1978:9
Bacteria	Crayfish	GEN	Goddard 1988:150
Fungi	Crayfish	GEN	Goddard 1988:150
Benthos	Crayfish	GEN	Rickett 1974:207
Bottom Sediment	Crayfishes	ON	Crocker and Barr 1968:32
Bottom Sediment	<i>O. immunis</i>	ON	Crocker and Barr 1968:32
Allochthonous Detritus	Crayfish	MO	Rabeni 1984:60
Allochthonous and Autochthonous Debris	Crayfish	GEN	Butler and Stein 1985:172
Allochthonous and Autochthonous Debris	<i>C. bartoni</i>	KY	Minckley 1963:102
Allochthonous Food	<i>O. virilis</i>	MI	Hobbs and Jass 1988:88
Decaying Vegetation	<i>Palaemonetes kadiakensis</i>	OK	Creaser and Ortenburger 1933:45
Decaying Matter	<i>Palaemonetes kadiakensis</i>	OH	Pelton 1954:10
Decaying Plant Fragments	Crayfishes	VA/WV	Hobbs et al. 1967:14
Organic Debris	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Organic Debris	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Organic Debris	<i>O. immunis</i>	CAN	Bousfield 1979:292
Organic Detritus	<i>O. i. inermis</i>	IN	Hobbs et al. 1977:103
Organic Detritus	<i>C. bartoni</i>	KY	Minckley 1963:101
Organic Detritus	<i>O. rusticus</i>	KY	Minckley 1963:101
Organic Material	<i>O. pellucidus</i>	IN	Hobbs et al. 1977:112
Coarse Particulate Organic Matter	Crayfish	NC	Webster 1983:397
Inorganic Detritus	<i>C. bartoni</i>	KY	Minckley 1963:101
Inorganic Detritus	<i>O. rusticus</i>	KY	Minckley 1963:101
Detritus	Crawfishes	GEN	Baker 1916:322
Detritus	Crayfish	GEN	Lorman and Magnuson 1978:9; Butler and Stein 1985:172; Goddard 1988:145, 148,150
Detritus	Crayfish	KY	Minckley 1963:97
Detritus	Crayfish	NC	Webster 1983:389,390,397
Detritus	Crayfish	TN	Norton 1942:53
Detritus	Crayfishes	GEN	Welles 1982:99; Huner and Barr 1984:48
Detritus	<i>C. immunis</i>	NY	Tack 1941:437
Detritus	<i>C. latimanus</i>	GA	Boyce 1969:79,98,100

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Detritus	<i>C. tenebrosus</i>	KY	Minshall 1967:145-148; Prins 1968:708, 709; Momot et al. 1978:21
Detritus	<i>O. causeyi</i>	NM	Dean 1969:7; Williams 1973:1
Detritus	<i>O. immunis</i>	NY	Crocker and Barr 1968:32
Detritus	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Detritus	<i>O. incomptus</i>	TN	Hobbs et al. 1977:100
Detritus	<i>O. luteus</i>	MO	Rabeni 1983:63; 1984:61
Detritus	<i>O. neglectus chaenodactylus</i>	AR	Price 1981:91
Detritus	<i>O. propinquus</i>	MI	Vannote and Ball 1972:83,86,87
Detritus	<i>O. propinquus</i>	WI	Stein and Magnuson 1976:751; Capelli 1980:83,84
Detritus	<i>O. punctimanus</i>	MO	Rabeni 1984:61
Detritus	<i>O. rusticus</i>	KY	Minshall 1967:145-148
Detritus	<i>O. rusticus</i>	MI	Momot et al. 1978:21
Detritus	<i>O. r. rusticus</i>	ON	Crocker and Barr 1968:88
Detritus	<i>O. r. rusticus</i>	KY	Prins 1968:708,709
Detritus	<i>O. virilis</i>	MI	Momot et al. 1978:21
Detritus	<i>Pac. leniusculus</i>	CA	Flint and Goldman 1975b:793
Detritus	<i>P. clarkii</i>	LA	Mullener 1983:12; Huner and Barr 1984:93
Detritus	<i>P. spiculifer</i>	GA	Boyce 1969:79,98,100
Detritus	<i>Atya scabra</i>	TAM	Darnell 1956:135
Detritus	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60,61
Plant Detritus	<i>O. propinquus</i>	WI	Capelli 1975:164
Plant Detritus	<i>O. virilis</i>	MI	Momot et al. 1978:22
Plant Debris	<i>O. virilis</i>	MI	Momot et al. 1978:22
Plant Foods	Crayfish	GEN	Gaevskaya 1969
Plant Materials	Crayfishes	KY	Minckley 1963:97
Plant Remains	<i>Atya scabra</i>	TAM	Darnell 1956:135
Aufwuchs	<i>O. virilis</i>	MI	Momot 1967b:78; Hobbs and Jass 1988:93
Aufwuchs	<i>O. virilis</i>	GEN	Momot 1965b; 1967b
Aufwuchs	<i>Pac. leniusculus</i>	CA	Flint and Goldman 1975b:793
Periphyton	Crayfish	GEN	Lodge et al. 1985: 34,37
Periphyton	<i>Pac. leniusculus</i>	CA	Flint 1977:291
Algae	Crayfish	GEN	Lodge et al. 1985: 34,37; Goddard 1988:149,150
Algae	Crayfish	CAN	Budd et al. 1979:131
Algae	Crayfish	ON	Crocker and Barr 1968:32
Algae	Crayfish	MO	Rabeni 1984:60
Algae	Crayfishes	KY	Minckley 1963:97
Algae	Crayfishes	TN	Norton 1942:53
Algae	Crayfish	WI	Hinkelman 1970:3
Algae	<i>Pac. leniusculus</i>	OR	Miller and van Hyning 1970
Algae	<i>C. bartoni</i>	KY	Minckley 1963:97,101
Algae	<i>O. rusticus</i>	KY	Minckley 1963:97,101
Algae	<i>C. immunis</i>	OR	Tack 1941:435
Algae	<i>C. propinquus</i>	ON	Ricker 1934:52

FOOD ITEM	CRAYFISH/SHRIMP	LOCALITY	REFERENCE
Algae	<i>O. causeyi</i>	NM	Dean 1969:7,14; Williams 1973:1
Algae	<i>O. immunis</i>	NY	Crocker and Barr 1968:32
Algae	<i>O. luteus</i>	MO	Rabeni 1983:63; 1984:61
Algae	<i>O. propinquus</i>	WI	Stein and Magnuson 1976:751; Capelli 1975:164;1980:83, 84,85; Hobbs and Jass 1988:60
Algae	<i>O. punctimanus</i>	MO	Rabeni 1984:61
Algae	<i>O. virilis</i>	MI	Momot 1964; 1965b; Dean 1969:14; Hobbs and Jass 1988:93
Algae	<i>Palaemonetes exilipes</i>	LAB	Creaser 1933:261-262
Algae	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60,61
Non-filamentous Algae	<i>O. virilis</i>	MI	Momot et al. 1978:22
Blanket Algae	Crayfish	GEN	Martin and Uhler: 1939:139-140
Blanket Algae	<i>C. clarkii</i>	GEN	Penn 1943:3
Filamentous Algae	<i>Atya innocous</i>	GEN	Fryer 1977:96; Hobbs and Hart 1982:76
Filamentous Algae	<i>C. tenebrosus</i>	KY	Prins 1968:708,709; Momot et al. 1978:21
Filamentous Algae	<i>O. causeyi</i>	NM	Dean 1969:7
Filamentous Algae	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86; Momot et al. 1978:21
Filamentous Algae	<i>O. rusticus</i>	KY	Momot et al. 1978:23
Filamentous Algae	<i>O. r. rusticus</i>	KY	Prins 1968:708,709
Filamentous Algae	<i>O. virilis</i>	MI	Momot et al. 1978:22
Benthic Algae	Crayfish	GEN	Capelli 1980:82
Epiphytic Algae	<i>C. bartoni</i>	KY	Minckley 1963:102
Periphyton	<i>O. propinquus</i>	WI	Stein and Magnuson 1976:751
Blue-green Algae	<i>O. virilis</i>	MI	Momot et al. 1978:22,23
<i>Mougeotia</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Oscillatoria</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Oscillatoria prolifica</i>	Crayfish	TN	Norton 1942:52
<i>Spirulina major</i>	Crayfish	TN	Norton 1942:52
Green algae	<i>O. virilis</i>	MI	Momot 1965b:30; 1967b:77
<i>Euglena spehrenberg</i>	Crayfish	TN	Norton 1942:52
<i>Chlorococcum infusiorum</i>	Crayfish	TN	Norton 1942:52
<i>Coelastrum sphaericum</i>	Crayfish	TN	Norton 1942:52
<i>Protosiphon botryoides</i>	Crayfish	TN	Norton 1942:52
Desmid	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Closterium</i>	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
<i>Cosmarium</i>	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60



FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
<i>Cosmarium</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135,136
<i>Cosmarium botrytis</i>	Crayfish	TN	Norton 1942:52
<i>Desmidiium</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Hyalotheca</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Micrasterias</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Scenedesmus</i>	<i>Palaemonetes</i> <i>paludosus</i>	FL	Beck and Cowell 1976:60
<i>Scenedesmus</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Spirogyra</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Spirogyra crassa</i>	Crayfish	TN	Norton 1942:52
<i>Ulothrix</i> sp	Crayfish	TN	Norton 1942:52
<i>Vaucheria</i> spp	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Vaucheria</i> spp	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Nitella</i>	<i>O. rusticus</i>	WI	Lorman 1975:39; Magnuson et al. 1975:69
<i>Coleochaete scutta</i>	<i>O. virilis</i>	TN	Norton 1942:52
<i>Schizomeris</i> <i>leibleinii</i>	<i>O. virilis</i>	TN	Norton 1942:52
<i>Oedogonium</i> <i>crenulato-costatum</i>	<i>O. virilis</i>	TN	Norton 1942:52
<i>Chara</i>	<i>O. causeyi</i>	NM	Dean 1969:7,10; Williams 1973:1; Magnuson et al. 1975:69
<i>Chara</i> sp	<i>C. clarkii</i>	GEN	Martin and Uhler 1939:139, 140; Penn 1943:3
<i>Chara</i> sp	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Cladophora</i>	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
<i>Cladophora fracta</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Cladophora fracta</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
Diatoms	Crayfish	TN	Norton 1942:52
Diatoms	Crayfish	TN	Norton 1942:53
Diatoms	<i>Pacifastacus</i>	OR	Mason 1974:27
Diatoms	<i>Pac. leniusculus</i> <i>troubridgii</i>	GEN	Goddard 1988:149
Diatoms	<i>C. propinquus</i>	ON	Ricker 1934:52
Diatoms	<i>O. propinquus</i>	WI	Capelli 1980:83; Hobbs and Jass 1988:60
Diatoms	<i>O. virilis</i>	MI	Momot et al. 1978:22
Diatoms	<i>Atya scabra</i>	TAM	Darnell 1956:135
Diatoms	<i>Palaemonetes</i> <i>paludosus</i>	FL	Beck and Cowell 1976:60
<i>Asterionella</i> <i>gracillima</i>	Crayfish	TN	Norton 1942:52
<i>Cocconeis</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Cymbella</i>	<i>Pac. leniusculus</i>	CA	Flint and Goldman 1975a:937,938
<i>Cymbella</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Fragilaria</i>	<i>Palaemonetes</i> <i>paludosus</i>	FL	Beck and Cowell 1976:60
<i>Gomphonema</i>	<i>Pac. leniusculus</i>	CA	Flint and Goldman 1975a:937,938

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<i>Gomphonema</i>	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
<i>Gyrosigma</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Melosira</i>	<i>Pac. leniusculus</i>	CA	Flint and Goldman 1975a:937,938
<i>Meridion</i> (?) sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Navicula</i>	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
<i>Navicula</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135, 136
<i>Pinnularia</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Rhoicosphenia</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Stephanodiscus</i>	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
<i>Surirella</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
<i>Synedra</i>	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Plants	Crayfish	GEN	Fichter 1981:30
Plants	Crayfish	GEN	Welles 1982:99; Huner and Barr 1984:48; Lodge et al. 1985:35
Plant Fragments	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86
Plant Material	Crawfishes	GEN	Baker 1916:226
Plant Material	Crayfish	FL	Kushlan and Kushlan 1979:115
Plant Material	<i>O. i. inermis</i>	IN	Hobbs et al. 1977:104
Plant Material	<i>O. virilis</i>	MI	Jones 1976:15
Plant Material	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:148
Living Plant Material	Crayfish	GEN	Holdich and Reeve 1988:32
Dead Plant Material	Crayfish	GEN	Holdich and Reeve 1988:32
Dead Plant Material	<i>O. p. propinquus</i>	OH	Rhoades 1951c:2
Vegetable Matter	Crayfish	PA	Ortmann 1906:494,495
Vascular hydrophytes	<i>O. rusticus</i>	WI	Lorman 1975:39
Vegetation	Crayfish	GEN	Rickett 1974:207; Stamm 1977:40
Vegetation	Crayfish	LA	Mathies 1974:1.
Vegetation	Crayfish	TN	Norton 1942:53
Vegetation	Crayfishes	KY	Minckley 1963:97
Vegetation	<i>O. immunis</i>	NY	Crocker and Barr 1968:106
Vegetation	<i>O. propinquus</i>	MI	Vannote and Ball 1972:87
Vegetation	<i>O. r. rusticus</i>	ON	Crocker and Barr 1968:88
Vegetation	<i>O. virilis</i>	MI	Hazlett et al. 1974:317
Vegetation	<i>Pac. leniusculus</i>	CA	Abrahamsson and Goldman 1970:90; Williams 1973:2
Vegetation	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:148
Submerged Vegetation	Crayfish	GEN	Martin and Uhler 1939:139-140
Submerged Vegetation	<i>C. fodiens</i>	ON	Crocker and Barr 1968:132
Aquatic plants	<i>C. robustus</i>	NY	Creaser 1934:160
Aquatic plants	<i>O. rusticus</i>	WI	Hobbs and Jass 1988:73

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Aquatic plants	<i>O. virilis</i>	MI	Momot 1967b:77
Aquatic Vegetation	Crayfish	GEN	Goddard 1988:145
Aquatic Vegetation	Crayfish	NY	Creaser 1934:159
Aquatic Vegetation	<i>C. diogenes</i>	OH	Taub 1972:58
Aquatic Vegetation	<i>C. robustus</i>	NY	Creaser 1934:160
Aquatic Vegetation	<i>C. robustus</i>	NY	Crocker and Barr 1968:33
Aquatic Vegetation	<i>C. robustus</i>	ON	Crocker and Barr 1968:120
Aquatic Vegetation	<i>O. causeyi</i>	GEN	Pennak 1978:477
Aquatic Vegetation	<i>O. causeyi</i>	NM	Dean 1969:14
Aquatic Vegetation	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:46
Aquatic Vegetation	<i>O. virilis</i>	MI	Dean 1969:14
Aquatic Vegetation	<i>O. virilis</i>	WI	Hobbs and Jass 1988:89
Emergent Aquatic Vegetation	Crayfish	GEN	Goddard 1988:145
Semi-aquatic Vegetation	Crayfish	GEN	Goddard 1988:145
Submergent Aquatic Vegetation	Crayfish	GEN	Goddard 1988:147
Aquatic Macrophytes	Crayfish	GEN	Baille et al. 1973:6; Lodge and Lorman 1987:591
Aquatic Macrophytes	<i>P. leniusculus</i>	GEN	Lorman and Magnuson 1978:8
Aquatic Macrophytes	<i>P. trowbridgii</i>	BC	Baille et al. 1973:6
Aquatic Macrophytes	<i>C. diogenes</i>	GEN	Lorman and Magnuson 1978:8
Aquatic Macrophytes	<i>O. causeyi</i>	GEN	Lorman and Magnuson 1978:8
Aquatic Macrophytes	<i>O. immunis</i>	GEN	Lorman and Magnuson 1978:8
Aquatic Macrophytes	<i>O. nais</i>	GEN	Lorman and Magnuson 1978:8
Aquatic Macrophytes	<i>O. propinquus</i>	WI	Stein and Magnuson 1976:751
Aquatic Macrophytes	<i>O. rusticus</i>	GEN	Lorman and Magnuson 1978:8; Brown et al. 1989:60
Aquatic Macrophytes	<i>O. rusticus</i>	WI	Lodge et al. 1985:35; Butler and Stein 1985:172; Carpenter and Lodge 1986:354,360,361; Lodge et al. 1986:994; Feminella and Resh 1989:6,7; Olsen et al. 1989:125
Aquatic Macrophytes	<i>O. virilis</i>	NM	Hubert 1988:372
Aquatic Macrophytes	<i>O. virilis</i>	WI	Hobbs and Jass 1988:89
Waterweed	Crayfish	GEN	Abbott 1873:83; Martin and Uhler 1939:139-140
Weed Beds	<i>O. rusticus</i>	WI	Magnuson and Beckel 1985:10
Aquatic Liverwort	<i>Pacifastacus</i>	OR	Mason 1974:27
Aquatic Liverwort	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
<i>Fissidens fontanus</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708,710
<i>Fissidens fontanus</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
Vascular Plants	<i>C. d. diogenes</i>	ON	Crocker and Barr 1968:127
Vascular Plants	<i>C. propinquus</i>	ON	Ricker 1934:52
Vascular Plants	<i>C. tenebrosus</i>	KY	Momot et al. 1978:22
Vascular Plants	<i>O. immunis</i>	NY	Crocker and Barr 1968:32
Vascular Plants	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60,61

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Vascular Plant Material	<i>C. tenebrosus</i>	KY	Prins 1968:708,709
Vascular Plant Material	<i>O. r. rusticus</i>	KY	Prins 1968:708,709
Vascular Plant Material	<i>O. virilis</i>	MI	Momot et al. 1978:23; Boyd and Page 1978: 401,402
Vascular Plant Material	<i>C. immunis</i>	NY	Tack 1941:437
Vascular Plant Fragments	<i>O. causeyi</i>	NM	Dean 1969:7; Williams 1973:1
Aquatic Vascular Plants	Crayfish	ON	Crocker and Barr 1968:32
Aquatic Vascular Plants	<i>C. immunis</i>	NY	Tack 1941:435
Rooted Aquatic Plants	<i>O. immunis</i>	NY	Forney 1957:27
<i>Megalodonta beckii</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Cabomba</i>	Crayfish	TN	Norton 1942:51
<i>Cabomba caroliniana</i>	Crayfish	GEN	Whitten 1951:14
<i>Cabomba caroliniana</i>	Crayfish	TN	Norton 1942:52
Hornwort	Crayfish	TN	Norton 1942:51
<i>Ceratophyllum</i>	<i>O. immunis</i>	GEN	Seroll and Coler 1975:320
<i>Ceratophyllum</i>	<i>O. causeyi</i>	NM	Williams 1973:1; Magnuson et al. 1975:69
<i>Ceratophyllum</i>	<i>O. rusticus</i>	WI	Magnuson et al. 1975:69; Lodge et al. 1986:994
<i>Ceratophyllum demersum</i>	Crayfish	TN	Norton 1942:52,53
<i>Ceratophyllum demersum</i>	<i>Pac. troubridgii</i>	CAN	Williams 1973:12
<i>Ceratophyllum demersum</i>	<i>O. causeyi</i>	NM	Dean 1969:7,10
<i>Ceratophyllum demersum</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Myriophyllum</i>	<i>Pac. leniusculus</i>	CA	Flint and Goldman 1975a:937, 939,940,942,943; Lodge and Lorman 1987:595
<i>Myriophyllum</i>	<i>O. rusticus</i>	WI	Magnuson et al. 1975:69; Lodge et al. 1986:994
<i>Myriophyllum heterophyllum</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Myriophyllum heterophyllum</i>	<i>O. rusticus</i>	KY	Prins 1968:708
<i>Myriophyllum</i> sp.	<i>O. causeyi</i>	NM	Williams 1973:1
<i>Myriophyllum exalbescens</i>	<i>O. causeyi</i>	NM	Dean 1969:7,10; Magnuson et al. 1975:69
<i>Myriophyllum exalbescens</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Nasturtium officinale</i>	<i>C. bartoni</i>	KY	Minckley 1963:102
<i>Nasturtium officinale</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708,710

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
<i>Nasturtium officinale</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Bidens</i>	<i>O. rusticus</i>	WI	Lodge et al. 1986:994
<i>Fissidens fontanus</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708,710
<i>Fissidens fontanus</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Fissidens julianus</i>	<i>C. bartoni</i>	KY	Minckley 1963:102
<i>Myosotis scorpioides</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708,710
<i>Myosotis scorpioides</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
Willow Seeds	Crayfish	TN	Norton 1942:52
<i>Piaropus crassipes</i>	Crayfish	GEN	Neill 1951:766
<i>Piaropus crassipes</i>	<i>C. blandingii</i>	LA	Viosca 1949:68
<i>Piaropus crassipes</i>	<i>C. clarkii</i>	LA	Viosca 1949:68
<i>Megalodonte</i>	<i>O. rusticus</i>	WI	Magnuson et al. 1975:69
<i>Nuphar</i>	<i>O. rusticus</i>	WI	Magnuson et al. 1975:69
Water Hyacinth	<i>C. blandingii</i>	LA	Viosca 1949:68
Water Hyacinth	<i>C. clarkii</i>	LA	Viosca 1949:68
Duckweed	<i>C. clarkii</i>	TN	Norton 1942:51
<i>Wolffia columbiana</i>	<i>C. clarkii</i>	TN	Norton 1942:52
<i>Lemna minor</i>	<i>Pac. leniusculus</i>	WA	Anonymous 1972:5,6
<i>Carex</i>	<i>O. virilis</i>	MI	Momot et al. 1978:24
<i>Carex aquatilis</i> var <i>substricta</i>	<i>O. virilis</i>	MI	Momot et al. 1978:23
<i>Zizaniopsis miliacea</i>	Crayfish	TN	Norton 1942:52
<i>Vallisneria</i>	<i>C. diogenes</i>	OH	Magnuson et al. 1975:69
<i>Vallisneria</i>	<i>O. immunis</i>	GEN	Seroll and Coler 1975:320
<i>Vallisneria</i>	<i>O. rusticus</i>	WI	Magnuson et al. 1975:69; Lodge et al. 1986:994
<i>Vallisneria americana</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:594
<i>Elodea</i>	<i>C. virilis</i>	LAB	Roberts 1944:368,369
<i>Elodea</i>	<i>O. causeyi</i>	NM	Williams 1973:1; Magnuson et al. 1975:69
<i>Elodea</i>	<i>O. immunis</i>	GEN	Seroll and Coler 1975:320
<i>Elodea</i>	<i>O. rusticus</i>	GEN	Brown et al. 1989:60
<i>Elodea canadensis</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Elodea canadensis</i>	<i>O. causeyi</i>	NM	Dean 1969:7
<i>Elodea canadensis</i>	<i>P. acutus</i>	LAB	Covich 1977b:169-173
<i>Elodea canadensis</i>	<i>Pac. troubridgii</i>	LAB	Williams 1973:12
<i>Anacharis</i> sp	<i>C. clarkii</i>	GEN	Martin and Uhler 1939:139, 140; Penn 1943:3
<i>Anacharis</i> spp	Crayfish	LA	Gary 1975:131
<i>Juncus pelocarpus</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
Pond Weeds	Crayfish	GEN	Martin and Uhler 1939:139-140
<i>Sagittaria</i> spp	Crayfish	LA	Gary 1975:131
<i>Potamogeton</i>	<i>C. diogenes</i>	OH	Magnuson et al. 1975:69
<i>Potamogeton</i>	<i>O. causeyi</i>	NM	Williams 1973:1; Magnuson et al. 1975:69
<i>Potamogeton</i>	<i>O. rusticus</i>	GEN	Brown et al. 1989:60

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
<i>Potamogeton</i>	<i>O. rusticus</i>	WI	Magnuson et al. 1975:69; Lodge et al. 1986:994
<i>Potamogeton</i> spp	<i>C. clarkii</i>	GEN	Martin and Uhler 1939:139, 140; Penn 1943:3
<i>Potamogeton</i> spp	Crayfish	LA	Gary 1975:131
<i>Potamogeton</i> <i>pusillus</i>	<i>O. causeyi</i>	NM	Dean 1969:7,8,9
<i>Potamogeton</i> <i>natans</i>	<i>O. causeyi</i>	NM	Dean 1969:7,9
<i>Potamogeton</i> <i>filiosus</i>	<i>O. causeyi</i>	NM	Dean 1969:7
<i>Potamogeton</i> <i>amplifoliosus</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Potamogeton</i> <i>epihydus</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Potamogeton</i> <i>gramineus</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Potamogeton</i> <i>pectinatus</i>	<i>P. clarkii</i>	CA	Feminella and Resh 1986:101, 102; 1989:1-7
<i>Potamogeton</i> <i>pectinatus</i>	<i>Pacifastacus</i> <i>leniusculus</i>	WA	Anonymous 1972g:5,6
<i>Potamogeton</i> <i>richardsonii</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Potamogeton</i> <i>robinsii</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Ranunculus</i>	<i>O. causeyi</i>	NM	Williams 1973:1
<i>Ranunculus</i> <i>aquatilis</i>	<i>O. causeyi</i>	NM	Dean 1969:7; Magnuson et al. 1975:69
<i>Naias</i> spp	<i>C. clarkii</i>	GEN	Martin and Uhler 1939:139, 140; Penn 1943:3
Rice	<i>P. clarkii</i>	CA	Feminella and Resh 1981:1
Rice seedlings	<i>O. virilis</i>	CA	Grigarick and Way 1982:633-636
Rice seedlings	<i>P. clarki</i>	CA	Grigarick and Way 1982:633-636
<i>Gratiola lutea</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Polygonum</i>	<i>P. clarkii</i>	OK	Covich 1978b:70
<i>Polygonum</i> spp	Crayfish	LA	Gary 1975:131
<i>Alternanthera</i> <i>philoxeroides</i>	Crayfish	GEN	Whitten 1951:14
<i>Alternanthera</i> <i>philoxeroides</i>	Crayfish	LA	Gary 1975:131
Higher Plants	Crawfishes	GEN	Baker 1916:322
Higher Plants	<i>C. bartoni</i>	KY	Minckley 1963:101
Higher Plants	<i>O. rusticus</i>	KY	Minckley 1963:101
Pine Needles	Crayfish	GEN	Momot et al. 1978:23
Pine Pollen	<i>O. virilis</i>	MI	Momot et al. 1978:22
Terrestrial leaf Fragments	<i>O. rusticus</i>	WI	Lorman 1975:31
Leaf Litter	Crayfish	GEN	Goddard 1988:147
Leaf Litter	<i>C. bartonii</i>	NC	Huryn and Wallace 1987:277-285
Terrestrial Seedlings	Crayfishes	ON	Crocker and Barr 1968:32
Terrestrial Vegetation	Crayfish	ON	Crocker and Barr 1968:32



FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Terrestrial	<i>C. fodiens</i>	ON	Crocker and Barr 1968:132
Vegetation	Crayfish	LA	Gary 1975:131
<i>Tillandsia</i>			
<i>usenoides</i>			
Alder Leaves	<i>Pacifastacus</i>	OR	Mason 1974:13,28
<i>Crataegus</i>	<i>C. monongalensis</i>	PA	Ortmann 1906:495
Terrestrial Plants	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Terrestrial Plants	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Terrestrial Plants	<i>C. immunis</i>	NY	Tack 1941:435
Terrestrial Plants	<i>O. immunis</i>	CAN	Bousfield 1979:292
Seeds	<i>Pac. leniusculus</i>	GEN	Goddard 1988:149
	<i>troubridgii</i>		
Seed Pods	<i>Pac. leniusculus</i>	GEN	Goddard 1988:149
	<i>troubridgii</i>		
Grass	<i>C. immunis</i>	NY	Tack 1941:435
Grass	<i>C. tenebrosus</i>	KY	Prins 1968:708
Grass	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Bidens</i>	<i>O. rusticus</i>	WI	Lodge et al. 1986:994
Roots	Crayfish	ON	Crocker and Barr 1968:32
Roots	<i>O. rusticus</i>	MI	Momot et al. 1978:23
Bark	<i>O. rusticus</i>	MI	Momot et al. 1978:23
Stems	<i>O. rusticus</i>	MI	Momot et al. 1978:23
Leaves	<i>O. rusticus</i>	MI	Momot et al. 1978:23
Fallen Tree Leaves	<i>Pac. leniusculus</i>	GEN	Goddard 1988:148
	<i>troubridgii</i>		
<i>Rhododendron</i>	<i>C. bartonii</i>	NC	Huryn and Wallace 1987:277, 285
<i>Seneco glabelus</i>	<i>P. clarkii</i>	LA	Davis 1982:155

**TABLE 2.**

**ANIMAL FOOD OF CRAYFISHES AND SHRIMPS.**

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Carrion	Crawfishes	GEN	Baker 1916:226
Carrion	Crayfish	GEN	King 1883:981
Dead Animals	<i>Palaemonetes</i> <i>exilipes</i>	OK	Creaser and Ortenburger 1933:45
Dead Animals	<i>O. rusticus</i>	KY	Minckley 1963:97
Dead Animal Matter	Crayfish	GEN	Meredith and Schwartz 1962:1; Holdich and Reeve 1988:32
Animal Matter	Crawfishes	PA	Ortmann 1906:495
Animal Material	Crawfishes	GEN	Baker 1916:226
Animal Material	<i>C. tenebrosus</i>	KY	Momot et al. 1978:21; Huner and Barr 1984:48
Animal Material	<i>O. propinquus</i>	MI	Vannote and Ball 1972:87
Living Animal Material	Crayfish	GEN	Holdich and Reeve 1988:32
Animals	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86
Planktonic Organism	<i>Atya innocous</i>	PR	Hobbs and Hart 1982:76
Zooplankton	Crayfish	GEN	Goddard 1988:149
Invertebrates	Crayfish	GEN	Goddard 1988:148
Small Invertebrates	Crayfish	GEN	Goddard 1988:149
Aquatic Invertebrates	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Aquatic Invertebrates	<i>O. r. rusticus</i>	ON	Crocker and Barr 1968:88
Benthic Invertebrates	Crayfish	GEN	Butler and Stein 1985:172; Goddard 1988:145
Benthic Invertebrates	<i>C. bartoni</i>	KY	Minckley 1963:101
Benthic Invertebrates	<i>O. propinquus</i>	WI	Stein and Magnuson 1976:751
Benthic Invertebrates	<i>O. rusticus</i>	KY	Minckley 1963:101
Benthic Animals	<i>C. tenebrosus</i>	KY	Minshall 1967:146
Benthic Animals	<i>O. r. rusticus</i>	KY	Minshall 1967:146
<i>Euglypha</i> sp	<i>Atya scabra</i>	TAM	Darnell 1956:135
Protozoa	Crayfish	GEN	Goddard 1988:150
<i>Arcella vulgaris</i>	Crayfish	TN	Norton 1942:52
<i>Centropyxis</i> <i>aculeata</i>	Crayfish	TN	Norton 1942:52
<i>Cucurbitella</i> <i>mespiliformis</i>	Crayfish	TN	Norton 1942:52
<i>Eunapias fragilis</i>	<i>Orconectes</i> sp.	MA	Williamson 1979:245-246
<i>Spongilla lacustris</i>	<i>Orconectes</i> sp.	MA	Williamson 1979:245-2460
<i>Phagocata g.</i> <i>gracilis</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:144,145
<i>Craspedacusta</i> <i>sowerbyi</i>	<i>O. propinquus</i>	WI	Dodson and Cooper 1983:347,350
<i>Craspedacusta</i> <i>sowerbyi</i>	<i>O. rusticus</i>	WI	Dodson and Cooper 1983:347,350

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Nematodes	Crawfish	GEN	Huner and Barr 1984:49
Rotifers	<i>O. rusticus</i>	TN	Norton 1942:52
Rotifers	<i>O. virilis</i>	MI	Momot et al. 1978:22
Rotifera	<i>Pac. leniusculus</i> <i>troubridgii</i>	GEN	Goddard 1988:149
Rotifera	<i>Pacifastacus</i>	OR	Mason 1974:27
Rotifera	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
Rotifera	<i>O. virilis</i>	MI	Momot et al. 1978:22
Earthworms	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Earthworms	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Earthworms	<i>C. gracilis</i>	GEN	Hargitt 1890:113
Earthworms	<i>C. obesus</i>	GEN	Hargitt 1890:113
Earthworms	<i>O. immunis</i>	GEN	Bousfield 1979:292
Worms	Crawfish	GEN	Baker 1916: 322; LaCaze 1970:5
Worms	Crayfish	GEN	King 1883:981; Chidester 1912:288; Turner 1926:157; Walters 1939:162; Meredith and Schwartz 1962:1; Gary 1975:131; Fichter 1981:30; Welles 1982:99; Goddard 1988:148
Worms	Crayfish	LA	Mathies 1974:1
Worms	Crayfish	TN	Norton 1942:51
Worms	<i>C. bartonius</i> <i>bartoni</i>	LAB	Chidester 1908:712
Annelid Worms	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
Oligochaetes	Crawfish	GEN	Huner and Barr 1984:49
Oligochaeta	<i>O. nais</i>	KS	Rickett 1974:208
Leeches	<i>O. propinquus</i>	GEN	Lorman and Magnuson 1978:9
Leeches	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
Branchiobdellidae	<i>C. tenebrosus</i>	KY	Prins 1968:708
Branchiobdellidae	<i>O. r. rusticus</i>	KY	Prins 1968:708
<b>MOLLUSCA:</b>			
Molluscs	Crawfish	GEN	Huner and Barr 1984:49
Molluscs	Crayfish	GEN	Walters 1939:162; Gaevskaya 1969; Goddard 1988:148
Molluscs	<i>O. propinquus</i>	WI	Lorman and Magnuson 1978:9
Molluscs	<i>Bithynops luscus</i>	CHI	Hobbs et al. 1977:46
Mollusks	Crawfish	GEN	Baker 1916:226,245,246, Table No. 16,322; Huner and Barr 1984:49
Mollusks	<i>P. clarkii</i>	LA	Welles 1982:99
Small Mollusks	Crayfish	GEN	King 1883:9810
Small Mollusks	<i>O. propinquus</i>	TN	Norton 1942:51
Mollusca	Crawfishes	GEN	Forbes 1914:Plate I
<i>Corbicula fluminea</i>	<i>C. bartonii</i>	LAB	Covich et al. 1981:181-188
<i>Corbicula fluminea</i>	<i>P. clarkii</i>	LAB	Covich et al. 1981:181-188
Snails	Crawfishes	GEN	Baker 1916:226

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Snails	Crayfish	GEN	Meredith and Schwartz 1962:1; Stamm 1977:40; Lodge et al. 1987:73,77,78,81; Crawl and Covich 1990:949
Snails	<i>Cambarus</i>	GEN	Deschiens and Lamy 1954:201-203
Snails	<i>C. virilis</i>	LAB	Roberts 1944:368,369
Snails	<i>O. causeyi</i>	NM	Dean 1969:7
Snails	<i>Orconectes</i> spp	WI	Lodge et al. 1987:81
Snails	<i>O. rusticus</i>	WI	Lodge et al. 1985:35; Magnuson and Beckel 1985: 10; Olsen et al. 1989:125
Gastropods	<i>Cambarus</i>	GEN	Deschiens and Lamy 1955:201-203
Gastropods	<i>O. obscurus</i>	GEN	Snyder 1967:5-122
Gastropods	<i>O. propinquus</i>	TN	Lorman and Magnuson 1978:8
Gastropods	<i>O. rusticus</i>	GEN	Brown et al. 1989:60
Gastropods	<i>P. clarkii</i>	OK	Covich 1977a:895
<i>Ammnicola</i>	<i>O. rusticus</i>	WI	Lodge 1984:61; Lodge and Lorman 1987:595
<i>Goniobasis</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Goniobasis</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Gyraulus</i> sp	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Lymnaea emarginata</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Oxytrema silicula</i>	<i>Pacifastacus</i>	OR	Mason 1974:16,27
<i>Oxytrema silicula</i>	<i>Pac. leniusculus</i> <i>troubridgii</i>	GEN	Goddard 1988:149
<i>Physa</i>	<i>O. nais</i>	KS	Rickett 1974:208
<i>Physa</i>	<i>P. clarkii</i>	OK	Covich 1978a:13
<i>Physa</i> sp	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Physa gyrina</i>	<i>O. virilis</i>	OK	Covich 1981:1635
<i>Physa gyrina</i>	<i>P. acutus</i>	GEN	Covich 1976:5; Vermeij and Covich 1978:834
<i>Physa gyrina</i>	<i>P. acutus</i>	LAB	Covich 1977b:169-173
<i>Physa gyrina</i>	<i>P. clarkii</i>	GEN	Covich 1976:5; Vermeij and Covich 1978:834
<i>Physa gyrina</i>	<i>P. llamesi</i>	GEN	Covich 1976:5; Vermeij and Covich 1978:834
<i>Physella v. virgata</i>	<i>O. virilis</i>	OK	Crawl and Covich 1990:949,950
<i>Helisoma</i>	<i>P. clarkii</i>	OK	Covich 1978a:13
<i>Helisoma anceps</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Helisoma trivialis</i>	<i>P. acutus</i>	GEN	Covich 1976:5
<i>Helisoma trivialis</i>	<i>P. clarkii</i>	GEN	Covich 1976:5
<i>Helisoma trivialis</i>	<i>P. llamesi</i>	GEN	Covich 1976:5
<i>Helisoma trivolvis</i>	<i>O. virilis</i>	OK	Covich 1981:1635 0
<i>Helisoma trivolvis</i>	<i>O. rusticus</i>	WI	Lodge and Lorman 1987:595
<i>Planorbis</i>	<i>Cambarus</i>	LAB	Michelson 1957:418
<i>Planorbis adowensis</i>	<i>Cambarus</i>	GEN	Crocker and Barr 1968:33
<i>Planorbis adowensis</i>	<i>Cambarus</i>	LAB	Deschiens and Lamy 1954:810;
<i>Planorbis glabratus</i>	<i>C. affinis</i>	LAB	Deschiens and Lamy 1954:810
<i>Planorbis glabratus</i>	<i>O. affinis</i>	GEN	Crocker and Barr 1968:33
<i>Bulinus</i>	<i>Cambarus</i>	LAB	Michelson 1957:418

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
<i>Bulinus contortus</i>	<i>Cambarus</i>	GEN	Crocker and Barr 1968:33
<i>Bulinus contortus</i>	<i>C. affinis</i>	LAB	Deschiens and Lamy 1954:810
<i>Physopsis</i>	<i>Cambarus</i>	LAB	Michelson 1957:418
<i>Physopsis africana</i>	<i>Astacus</i>	GEN	Crocker and Barr 1968:33
<i>Physopsis africana</i>	<i>Cambarus</i>	GEN	Deschiens and Lamy 1954:810; Crocker and Barr 1968:33
Clams	Crawfishes	GEN	Baker 1916:226
Clams	<i>O. propinquus</i>	MI	Vannote and Ball 1972:83,86,87
<i>Campsilis ventricosa</i>	<i>O. propinquus</i>	MI	Vannote and Ball 1972:87
<b>ARTHROPODA:</b>			
Arthropod Fragments	<i>O. virilis</i>	MI	Momot et al. 1978:22
Arthropod Remains	<i>Atya scabra</i>	TAM	Darnell 1956:135
Chitin Fragments	<i>O. virilis</i>	MI	Momot et al. 1978:22
Miscellaneous Chitin	<i>C. tenebrosus</i>	KY	Prins 1968:708,709
Miscellaneous Chitin	<i>O. rusticus</i>	KY	Momot et al. 1978:23
Miscellaneous Chitin	<i>O. r. rusticus</i>	KY	Prins 1968:708,709
Mite	<i>C. tenebrosus</i>	KY	Prins 1968:708
Mite	<i>O. r. rusticus</i>	KY	Prins 1968:708
Hydracarina	Crayfish	TN	Norton 1942:52
Hydracarina	<i>Pacifastacus</i>	OR	Mason 1974:27
Hydracarina	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
Tardigrada	<i>Pacifastacus</i>	OR	Mason 1974:27
Tardigrada	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
<b>CRUSTACEA:</b>			
Crustacea	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
Small Crustaceans	Crayfish	GEN	Goddard 1988:148
Smaller Crustacea	Crayfish	GEN	Welles 1982:99
Crustaceans	Crayfish	GEN	Meredith and Schwartz 1962:1; Huner and Barr 1984:49
<i>Streptocephalus seali</i>	<i>Faxonella clypeata</i>	LAB	Moore and Faust 1972:314,315
Water Fleas	<i>P. clarkii</i>	LA	Huner and Barr 1984:93
Cladocerans	<i>O. rusticus</i>	WI	Lorman 1975:39; Magnuson et al. 1975:69
Cladocerans	<i>O. virilis</i>	MI	Momot et al. 1978:220
Cladocera	Crayfish	TN	Norton 1942:52
Cladocera	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
<i>Daphnia</i>	<i>C. immunis</i>	NY	Tack 1941:436,437
<i>Daphnia</i>	<i>O. immunis</i>	NY	Crocker and Barr 1968:32
<i>Enochius</i> Larvae	Crayfish	TN	Norton 1942:52
Seed Shrimp	<i>P. clarkii</i>	LA	Huner and Barr 1984:93
Ostracods	<i>O. virilis</i>	MI	Momot et al. 1978:22
Copepods	Crayfish	GEN	Magnuson et al. 1975:69
Copepods	<i>O. rusticus</i>	WI	Lorman 1975:39
Copepods	<i>P. clarkii</i>	LA	Huner and Barr 1984:93

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Copepoda	Crayfish	TN	Norton 1942:52
Copepoda	<i>Pacifastacus</i>	OR	Mason 1974:27
Copepoda	<i>Pac. leniusculus</i> <i>trowbridgii</i>	GEN	Goddard 1988:149
Copepoda	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
Isopods	Crayfishes	KY	Minckley 1963:97
Isopods	<i>C. tenebrosus</i>	KY	Prins 1968:709
Isopods	<i>O. i. inermis</i>	IN	Hobbs et al. 1977:104
Isopods	<i>O. r. rusticus</i>	KY	Prins 1968:709
Isopods	<i>O. immunis</i>	ON	Crocker and Barr 1968:32
Isopods	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
Isopods	<i>O. rusticus</i>	KY	Momot et al. 1978:23
Asellus	<i>C. immunis</i>	NY	Tack 1941:437
Asellus	<i>C. tenebrosus</i>	KY	Minshall 1967:145
Asellus	<i>O. r. rusticus</i>	KY	Minshall 1967:145
Asellus bivittatus	<i>C. bartoni</i>	KY	Minckley 1963:102
Asellus bivittatus	<i>C. tenebrosus</i>	KY	Prins 1968:708
Asellus bivittatus	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Lirceus fontinalis</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978: 402
Scuds	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86
Amphipods	Crayfish	GEN	Magnuson et al. 1975:69
Amphipods	<i>C. tenebrosus</i>	KY	Prins 1968:709
Amphipods	<i>O. i. inermis</i>	IN	Hobbs et al. 1977:104
Amphipods	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
Amphipods	<i>O. rusticus</i>	KY	Momot et al. 1978:23
Amphipods	<i>O. rusticus</i>	WI	Lorman 1975:39
Amphipoda	<i>O. propinquus</i>	WI	Capelli 1975:164; 1980:83
<i>Crangonyx</i>	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
<i>Gammarus</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:145
<i>Gammarus</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:145
<i>Gammarus</i> <i>bousfieldi</i>	<i>C. bartoni</i>	KY	Minkley 1963:102
<i>Gammarus</i> <i>bousfieldi</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Gammarus</i> <i>bousfieldi</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Gammarus minus</i>	<i>C. bartoni</i>	KY	Minckley 1963:102
<i>Gammarus minus</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:144,145; Prins 1968:708
<i>Gammarus minus</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
<i>Gammarus minus</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:144,145;0 Prins 1968:708
Crawfishes	Crawfishes	GEN	Baker 1916:322
Crawfish	<i>C. bartonius</i> <i>bartoni</i>	LAB	Chidester 1908:712
Crayfish	Crayfish	GEN	Chidester 1912:288; Turner 1926:157; Walters 1939:162, 163; Goddard 1988:148
Crayfish	<i>C. acuminatus</i>	GEN	Walters 1939:163
Crayfish	<i>C. extraneus</i>	GEN	Walters 1939:163
Crayfish	<i>C. forceps</i>	GEN	Walters 1939:163
Crayfish	<i>C. immunis</i>	NY	Tack 1941:435



FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Crayfish	<i>C. longulus</i>	GEN	Walters 1939:163
Crayfish	<i>C. spinosus</i>	GEN	Walters 1939:163
Crayfish	<i>C. tenebrosus</i>	KY	Momot et al. 1978:21
Crayfish	<i>O. causeyi</i>	NM	Dean 1969:7
Crayfish	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:401,402
Crayfish	<i>O. kentuckiensis</i>	PA	Ortmann 1906:495
Crayfish	<i>O. propinquus</i>	MI	Momot et al. 1978:21
Crayfish	<i>O. propinquus</i>	WI	Capelli 1980:83,84,85; Hobbs and Jass 1988:60
Crayfish	<i>O. rusticus</i>	WI	Lorman 1975:39; Hayes 1985:2
Crayfish	<i>O. virilis</i>	WI	Momot et al. 1978:24
Crayfish	<i>O. virilis</i>	MI	Momot 1965b:39; Momot et al. 1978:24; Hobbs and Jass 1988:88
Crayfishes	Crayfish	KY	Minckley 1963:97
Crayfishes	Crayfish	OH	Crocker and Barr 1968:33
Crayfish Fragments	<i>C. tenebrosus</i>	KY	Prins 1968:708,709
Crayfish Fragments	<i>O. r. rusticus</i>	KY	Prins 1968:708,709
<i>C. acuminatus</i>	<i>C. acuminatus</i>	GEN	Walters 1939:163
<i>C. carolinus</i>	<i>C. carolinus</i>	WV	Newcombe 1929:275
<i>C. dubius</i>	<i>C. dubius</i>		
<i>C. diogenes</i>	<i>C. diogenes</i>	GEN	Walters 1939:162
<i>C. extraneous</i>	<i>C. extraneous</i>	GEN	Walters 1939:163
<i>C. forceps</i>	<i>C. forceps</i>	GEN	Walters 1939:163
<i>C. longulus</i>	<i>C. longulus</i>	GEN	Walters 1939:163
<i>C. tenebrosus</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>C. tenebrosus</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>C. spinosus</i>	<i>C. spinosus</i>	GEN	Walters 1939:163
<i>O. propinquus</i>	<i>O. propinquus</i>	WI	Hinkelman 1970:32
<i>O. r. rusticus</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>O. r. rusticus</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>O. virilis</i>	<i>O. propinquus</i>	WI	Momot 1967a:207
<i>O. virilis</i>	<i>O. virilis</i>	MI	Momot 1967b:78,79; Dye and Jones 1975:532
<i>O. virilis</i>	<i>O. virilis</i>	WI	Hinkelman 1970:36
<i>T. maclanei</i>	<i>T. maclanei</i>	FL	Hobbs 1942:349
<i>Pacifastacus</i>	<i>Pacifastacus</i>	OR	Mason 1974:16
Atyid Shrimp	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
<i>Creaseria morleyi</i>	<i>Creaseria morleyi</i>	YUC	Hobbs et al. 1977:50
<b>INSECTA:</b>			
Insects	Crawfishes	GEN	Baker 1916:322
Insects	Crayfish	GEN	King 1883:981; Chidester 1912:288; Walters 1939:162 Fichter 1981:30; Welles 1982:99; Lodge et al. 1985:35
Insects	Crayfish	PA	Ortmann 1906:494
Insects	Crayfish	TN	Norton 1942:51,52,53
Insects	<i>C. immunis</i>	NY	Tack 1941:437
Insects	<i>O. rusticus</i>	WI	Magnuson and Beckel 1985:10

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Aquatic Insects	Crayfishes	GEN	Shelford 1913:362; Walters 1939:161; Huner and Barr 1984:49
Aquatic Insects	<i>C. tenebrosus</i>	KY	Prins 1968:708,709
Aquatic Insects	<i>O. rusticus</i>	KY	Momot et al. 1978:23
Aquatic Insects	<i>O. r. rusticus</i>	KY	Prins 1968:708,709
Aquatic Insects	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:148
Aquatic Insects	<i>Palaemonetes paldosus</i>	FL	Beck and Cowell 1976:60,61
Benthic Insects	<i>O. luteus</i>	MO	Rabeni 1984:60,61
Benthic Insects	<i>O. punctimanus</i>	MO	Rabeni 1984:60,61
Immature Benthic Insects	Crayfish	GEN	Lorman and Magnuson 1978:9
Larvae	Crasfish	GEN	Goddard 1988:149
Larvae	Crayfish	LA	Mathies 1974:1
Larvae	Crayfish	TN	Norton 1942:53
Insect Larvae	Crayfish	GEN	Chidester 1912:288; Turner 1926:157; Norton 1942:52; Meredith and Schwartz 1962:1; Lodge et al. 1985:33,37
Insect Larvae	Crayfish	WI	Hinkelman 1970:3
Insect Larvae	Crayfishes	VA/WV	Hobbs et al. 1967:14
Insect Larvae	<i>C. robustus</i>	ON	Crocker and Barr 1968:120
Insect Larvae	<i>O. rusticus</i>	WI	Magnuson and Beckel 1985:10
Aquatic Insect Larvae	Crayfish	GEN	Goddard 1988:148
Naiads	Crayfish	GEN	Martin and Uhler 1939:139-140
Insects Nymphs	<i>C. robustus</i>	ON	Crocker and Barr 1968:120
<i>Sialis</i>	<i>Pacifastacus</i>	OR	Mason 1974:27
Plecoptera	<i>Pacifastacus</i>	OR	Mason 1974:27
Plecoptera	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
Plecoptera	<i>O. rusticus</i>	WI	Lorman 1975:39
<i>Paragnetina media</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Paragnetina media</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
Caddisfly Larvae	Crayfish	NY	Creaser 1934:159,160
Caddisfly Larvae	<i>C. robustus</i>	NY	Crocker and Barr 1968:33
Trichoptera	<i>Pacifastacus</i>	OR	Mason 1974:270
Trichoptera	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
Trichoptera	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
<i>Agraylea multiplicata</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Agraylea multiplicata</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Neophylax autumnus</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:144,148
<i>Neophylax autumnus</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:144,148
<i>Glossosoma intermedium</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:144,148
<i>Glossosoma intermedium</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:145,148
<i>Glossosoma nigrior</i>	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Glossosoma nigrior</i>	<i>O. r. rusticus</i>	KY	Prins 1968:708

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
<i>Oecetis</i>	<i>O. rusticus</i>	WI	Lorman 1975:39
Mayflies	Crayfish	GEN	Magnuson et al. 1975:69
Mayflies	<i>O. rusticus</i>	WI	Gallep and Lorman 1980:18
Mayfly Nymphs	Crayfish	NY	Creaser 1934:159
Mayfly Nymphs	<i>C. robustus</i>	NY	Creaser 1934:160
Mayfly Nymphs	<i>C. robustus</i>	NY	Crocker and Barr 1968:33
Mayfly Nymphs	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86
Mayfly Nymphs	<i>O. propinquus</i>	WI	Hobbs and Jass 1988:60
Unknown	<i>Pac. leniusculus</i>	GEN	Goddard 1988:149
Ephemeroptera	<i>trowbridgii</i>		
Ephemeroptera	<i>Pacifastacus</i>	OR	Mason 1974:27
Ephemeroptera	<i>O. propinquus</i>	WI	Capelli 1975:198
<i>Ephemera</i>	<i>O. rusticus</i>	WI	Lorman 1975:39
<i>Ephemerella</i> spp	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Ephemerella</i> spp	<i>O. r. rusticus</i>	KY	Prins 1968:708
Baetidae	<i>Pacifastacus</i>	OR	Mason 1974:27
Baetidae	<i>Pac. leniusculus</i>	GEN	Goddard 1988:149
	<i>trowbridgii</i>		
Baetidae	<i>C. propinquus</i>	ON	Ricker 1934:52
Baetidae	<i>O. nais</i>	KS	Rickett 1974:208
Baetidae	<i>Palaemonetes</i>	FL	Beck and Cowell 1976:60
	<i>paludosus</i>		
<i>Baetis</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:148
<i>Baetis</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:148
<i>Baetis</i> spp	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Baetis</i> spp	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Centroptilum</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:144,145,148
<i>rufostrigatum</i>			
<i>Centroptilum</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:145,148
<i>Epeorus</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:148
<i>Epeorus</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:148
Heptageniidae	<i>Pacifastacus</i>	KY	Mason 1974:27
Heptageniidae	<i>Pac. leniusculus</i>	GEN	Goddard 1988:149
	<i>trowbridgii</i>		
Heptageniidae	<i>O. propinquus</i>	WI	Capelli 1975:164
<i>Hexagenia</i>	<i>O. nais</i>	KS	Rickett 1974:208
<i>Hexagenia</i>	<i>O. rusticus</i>	WI	Lorman 1975:39
Heptageniid Nymph	<i>O. propinquus</i>	WI	Capelli 1980:83,84
<i>Paraleptophlebia</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:148
<i>Paraleptophlebia</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:148
<i>Pseudocloeon</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:148
<i>Pseudocloeon</i>	<i>O. r. rusticus</i>	KY	Minshall 1967:148
<i>Stenonema</i>	<i>O. propinquus</i>	WI	Capelli 1975:164,170; 1980:83,85; Magnuson et al. 1975:69; Stein and Magnuson 1976:751
<i>Stenonema</i>	<i>O. rusticus</i>	WI	Lorman 1975:39
<i>Stenonema</i> spp	<i>C. tenebrosus</i>	KY	Prins 1968:708
<i>Stenonema</i> spp	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Caenis</i>	<i>O. rusticus</i>	WI	Lorman 1975:39
Corixidae	<i>C. tenebrosus</i>	KY	Prins 1968:708
Corixidae	<i>O. r. rusticus</i>	KY	Prins 1968:708

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
<i>Ramphocoriça acuminata</i>	Crayfish	KS	Griffith 1945:267
Megaloptera	<i>C. tenebrosus</i>	KY	Prins 1968:708
Megaloptera	<i>O. r. rusticus</i>	KY	Prins 1968:708
<i>Sialis</i>	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
Anisoptera Naiads	<i>O. virilis</i>	MI	Momot et al. 1978:22
Coleoptera	<i>Pacifastacus</i>	OR	Mason 1974:27
Coleoptera	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
Coleoptera	<i>O. rusticus</i>	WI	Lorman 1975:39
Elmidae	<i>C. tenebrosus</i>	KY	Prins 1968:708
Elmidae	<i>O. r. rusticus</i>	KY	Prins 1968:708
Psephenidae	<i>C. tenebrosus</i>	KY	Prins 1968:708
Psephenidae	<i>O. r. rusticus</i>	KY	Prins 1968:708
Lepidoptera	<i>C. tenebrosus</i>	KY	Prins 1968:708
Lepidoptera	<i>O. r. rusticus</i>	KY	Prins 1968:708
Lepidoptera	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Homoptera	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Midges	Crayfish	GEN	Magnuson et al. 1975:69
Midge Larvae	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86
Midge Larvae	<i>O. propinquus</i>	WI	Hobbs and Jass 1988:60
Ceratopogonidae	<i>O. nais</i>	KS	Rickett 1974:208
Chaoboridae	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Chironomids	<i>O. propinquus</i>	WI	Stein and Magnuson 1976:751
Chironomid Eggs	<i>O. virilis</i>	MI	Momot et al. 1978:22
Chironomid Larvae	Crayfish	NY	Creaser 1934:159
Chironomid Larvae	<i>C. robustus</i>	NY	Creaser 1934:160; Crocker and Barr 1968:33
Chironomid Larvae	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
Chironomid Larvae	<i>O. propinquus</i>	WI	Capelli 1980:83,84,85
Chironomid Larvae	<i>O. virilis</i>	MI	Momot et al. 1978:22
Chironomid Pupa	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
Chironomidae	<i>Pac. leniusculus trowbridgii</i>	GEN	Goddard 1988:149
Chironomidae	<i>O. nais</i>	KS	Rickett 1974:208
Chironomidae	<i>O. rusticus</i>	WI	Lorman 1975:39
Chironomidae	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Chironomus	<i>C. immunis</i>	KY	Tack 1941:437
Culicidae	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Heleidae	<i>Palaemonetes paludosus</i>	FL	Beck and Cowell 1976:60
Tendipedidae	<i>Pacifastacus</i>	OR	Mason 1974:27
Tendipedidae	<i>C. tenebrosus</i>	KY	Minshall 1967:145,148; Prins 1968:708
Tendipedidae	<i>O. propinquus</i>	WI	Capelli 1975:164

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Tendipedidae	<i>O. r. rusticus</i>	KY	Minshall 1967:145,148; Prins 1968:708
Tipulidae	<i>Pacifastacus</i>	OR	Mason 1974:27
Tipulidae	<i>Pac. leniusculus</i> <i>trowbridgii</i>	GEN	Goddard 1988:149
<i>Tipula nobilis?</i>	<i>C. bartonis</i>	KY	Minckley 1963:102
Simulidae	<i>Pacifastacus</i>	OR	Mason 1974:27
Simulidae	<i>Pac. leniusculus</i> <i>trowbridgii</i>	GEN	Goddard 1988:149
<i>Simulium</i>	<i>C. tenebrosus</i>	KY	Minshall 1967:148
<i>Simulium</i>	<i>O. r. rusticus</i> adults	KY	Minshall 1967:148
<b>PISCES:</b>			
Fish	Crayfish	GEN	Chidester 1912:288; Turner 1926:157; Meredith and Schwartz 1962:1; Fichter 1981:30; Butler and Stein 1985:172
Fish	Crayfish	MI	Salyer 1933:229
Fish	Crayfish	TN	Norton 1942:51
Fish	Crayfishes	VA/WV	Hobbs et al. 1967:14
Fish	<i>C. bartonius</i> <i>bartoni</i>	LAB	Chidester 1908:712
Fish	<i>C. immunis</i>	NY	Tack 1941:435
Fish	<i>O. causeyi</i>	NM	Dean 1969:7
Fish	<i>O. propinquus</i>	MI	Vannote and Ball 1972:86,87
Fish	<i>O. propinquus</i> adults	WI	Capelli 1980:83
Fishes	Crawfishes	GEN	Baker 1916:322
Fishes	<i>C. bartoni</i>	KY	Minckley 1963:101
Small Fish	Crayfish	GEN	King 1883:981; Walters 1939:162
Minnow	<i>C. propinquus</i>	IN	Evermann and Clark 1920:234
Fish Scales	<i>C. propinquus</i>	TN	Norton 1942:52
Fish Scales	<i>O. limosus</i>	GEN	Sakowicz and Kompowski 1962:5006
Dead Fish	<i>O. propinquus</i>	MI	Vannote and Ball 1972:83
Spawn of Fish	Crayfish	FL	Baynard 1912:167
Fish Eggs	Crayfish	IN	Evermann and Clark 1920:235
Fish Eggs	<i>O. propinquus</i>	WI	Magnuson et al. 1975:67
Fish Eggs	<i>O. rusticus</i>	WI	Magnuson et al. 1975:67; McBride 1983:45; Lodge et al. 1985:33,35; Magnuson and Beckel 1985:10
<i>Pimephales notatus</i> Eggs	Crayfish	GEN	Becker 1983:599
<i>Crisco</i> Eggs	<i>O. rusticus</i>	WI	McBride 1983:46
Walleye Eggs	<i>O. rusticus</i>	WI	Anonymous 1985:12D
<i>Micropterus</i> <i>dolomieu</i> Eggs	Crayfish	GEN	Buck and Thoits 1970:92; Magnuson et al. 1976:68
<i>Pomoxis annularis</i> Eggs	Crayfish	GEN	Buck and Thoits 1970:151; Magnuson et al. 1975:68



FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Fish Fry	<i>O. immunis</i>	ON	Crocker and Barr 1968:32
Fish Fry	<i>O. immunis</i>	LAB	Tack 1941:435
Fish Meat	Crayfish	TN	Norton 1942:52
Small Mouth Bass	<i>C. immunis</i>	MI	Lydell 1938:23
<i>Erimyzon succeta</i> Eggs	Crayfish	GEN	Buck and Thoits 1970:82; Magnuson et al. 1975:68
Cyprinoids	<i>C. affinis</i>	NJ	Abbott 1873:83
Cyprinoids	<i>C. bartonii</i>	NJ	Abbott 1873:83
Pike	<i>C. propinquus</i>	IN	Evermann and Clark 1920:234
<i>Esox niger</i> Eggs	Crayfish	GEN	Buck and Thoits 1970:82; Magnuson et al. 1975:68
<i>Coregonus</i> <i>clupeaformis</i> Eggs	<i>O. propinquus</i>	WI	McKnight 1969; Magnuson et al. 1975:67,68
<i>Boleosoma Olmstedii</i>	<i>Cambarus</i>	IN	Abbott 1873:83
<i>Catostomus</i> <i>commersoni</i>	<i>C. bartoni</i>	KY	Minckley and Craddock 1961:120,121
Trout	Crayfish	MI	Minckley and Craddock 1961:122
Trout Eggs	<i>O. rusticus</i>	WI	McBride 1983:46
<i>Salmo gairdneri</i>	Crayfish	WI	Becker 1983:301
<i>Salvelinus</i> <i>namaycush</i> Eggs	<i>O. propinquus</i>	WI	McKnight 1969; Magnuson et al. 1975:67
<i>Salvelinus</i> <i>namaycush</i>	<i>O. propinquus</i>	WI	Horns and Magnuson 1981:300-302
<i>Salvelinus</i> <i>namaycush</i>	<i>O. virilis</i>	LAB	Horns and Magnuson 1981:301,302
<i>Notemigonos</i> <i>crysoleucas</i>	<i>O. nais</i>	KS	Minckley and Craddock 1961:122
<i>Pimpephales promelas</i>	<i>O. nais</i>	KS	Minckley and Craddock 1961:122
<i>Notropis spilopterus</i> Eggs	Crayfish	PA	Gale and Gale 1977:176
<i>Labidesthes siculus</i>	Crayfish	WI	Becker 1983:773
<i>Labidesthes siculus</i>	<i>Cambarus</i> spp.	WI	Cahn 1927:84
<i>Noturus exilis</i>	<i>O. virilis</i>	IL	Mayden and Burr 1981:59,60,62
<i>Lepomis cyanellus</i>	<i>O. nais</i>	KS	Minckley and Craddock 1961:122
<i>Lepomis</i> <i>macrochirus</i> Eggs	<i>O. rusticus</i>	WI	Magnuson et al. 1975:68
<i>Pomoxis annularis</i>	<i>O. virilis</i>	IA	Phillips 1979:73
<i>Ictalurus melas</i>	<i>O. nais</i>	KS	Minckley and Craddock 1961:122
<i>Stizostedion</i> <i>vitreum</i> Eggs	Crayfish	WI	Magnuson et al. 1975:68
Percidae	<i>O. rusticus</i>	WI	Lorman 1975:39
<b>OTHER VERTEBRATES:</b>			
Tadpoles	Crawfishes	GEN	Baker 1916:322
Tadpoles	Crayfish	GEN	Meredith and Schwartz 1962:1; Lorman and Magnuson 1978:9; Fichter 1981:30
Tadpoles	<i>C. bartonis</i> <i>bartoni</i>	LAB	Chidester 1908:712, 713
Amphibian Tadpoles	Crayfish	GEN	Goddard 1988:148
Frog	Crawfishes	GEN	Baker 1916:322

FOOD ITEM	CRAYFISH/ SHRIMP	LOCALITY	REFERENCE
Frog	Crayfish	GEN	Chidester 1912:288; Shelford 1913:362; Walters 1939:161
Toad	Crayfish	GEN	Chidester 1912:288
Salamander	<i>C. tenebrosus</i>	KY	Prins 1968:708
Salamander	<i>O. r. rusticus</i>	KY	Prins 1968:708
Salamander Eggs	Crayfish	GEN	Chidester 1912:288
Young Queen Snake	Crayfish	KY	Branson and Baker 1974:168
Snakes	<i>C. d. diogenes</i>	MI	Carpenter 1953:74-80
<i>Thamnophis s. sirtalis</i>	<i>C. diogenes</i>	MI	Carpenter 1952:253
Drowned Rabbit	<i>Cambarus</i> (near <i>tenebrosus</i> )	AL	Cooper and Kuehne 1974:492

**TABLE 3.**

INVERTEBRATE PREDATORS OF CRAYFISHES AND SHRIMPS.

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

PREDATOR	PREY	LOCALITY	REFERENCE
Dragonfly Nymphs Odonata—Anisoptera	Crayfish	GEN	Huner and Barr 1984:49
Dragonfly Nymph	Crayfish	MI	Momot 1967a:207
<i>Aeshna</i> sp.	<i>O. virilis</i>	GEN	Hobbs and Jass 1988:89
<i>Aeshna</i> sp.	<i>O. virilis</i>	MI	Dye 1974:3; Dye and Jones 1975:532
<i>Anax</i> spp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:101
<i>Anax junius</i>	<i>P. clarkii</i>	LA	Witzig et al. 1983:269; Huner and Barr 1984:100
Dragonfly Naiads Odonata—Anisoptera	Crayfish	GEN	Barr and Huner 1977:11; Barr et al. 1978:683-698
Dragonfly Naiads Odonata—Anisoptera	Crayfish	GEN	Barr and Huner 1977:11
<i>Tramea junius</i> Odonata—Anisoptera	Crayfish	GEN	Barr and Huner 1977:17
<i>Pachydiplax</i> <i>longipennis</i>	<i>P. clarkii</i>	LA	Huner and Barr 1984:100
Giant Water Bugs Belostomatidae	Crayfish	GEN	Huner and Barr 1984:49
Hemiptera	Crayfish	GEN	Barr and Huner 1977:18
<i>Belostoma</i> sp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:99,100
<i>Lethocerus</i> sp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:99,100
<i>Lethocerus</i> (Hemiptera— Belostomatidae)	Crayfish	WI	Stamm 1977:38
<i>Ranatra</i> spp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:100
Backswimmers	Crayfish	GEN	Huner and Barr 1984:49
Notonectidae	<i>O. virilis</i>	MI	Dye and Jones 1975:532
<i>Notonecta</i> sp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:99,100
Diving Beetles Dytiscidae— Coleoptera	Crayfish	GEN	Barr and Huner 1977:11
Giant Predaceous Water Beetle	Crayfish	GEN	Huner and Barr 1984:49
<i>Cybister</i> sp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:99,101
Fisher Spider	Crayfish	GEN	Huner and Barr 1984:49
<i>Dolomedes</i> (Arachnida)	Crayfish	GEN	Barr and Huner 1977:11,18
<i>Dolomedes</i> spp.	<i>P. clarkii</i>	LA	Huner and Barr 1984:101
Crayfish	Crayfish	GEN	Huner and Barr 1984:49
<i>Macrobrachium</i> <i>carcinus</i>	<i>Atya scabra</i>	TAM	Darnell 1956:137
<i>Macrobrachium olfersi</i>	<i>P. kadiakensis</i>	LAB	Strenth 1976:20
Blue Crab	Crayfish	GEN	Huner and Barr 1984:49

TABLE 4.

## FISH PREDATORS OF CRAYFISHES AND SHRIMPS.

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

PREDATOR	PREY	LOCALITY	REFERENCE
Fish	Crayfish	GEN	Meredith and Schwartz 1962:1
Fish	Crayfish	OH	Feminella and Resh 1989:7
Fish	Crayfish	MO	Johnson 1978:5
Fish	Crayfish	WI	Sih 1987:210
Fish	Crawfishes	MI	Pearse 1910:13
Fish	Crayfishes	GEN	Ortmann 1906:495,496; Shelford 1913:362; Turner 1926:157; Roberts 1944:369; Welles 1982:99; Lodge et al. 1985:34,36
Fish	Crayfishes	LA	Mathies 1974:2
Fish	Crayfishes	MI	Momot et al. 1978:28
Fish	Crayfishes	NC	Gatz 1983:393
Fish	Crayfishes	WI	Pearse 1918:277, 279; 1922
Fish	<i>C. propinquus</i>	IN	Evermann and Clark 1920:234
Fish	<i>C. propinquus</i>	NY	Creaser 1934:158
Fish	<i>Orconectes</i>	WI	Stamm 1977:42
Fish	<i>O. immunis</i>	NY	Tack 1941; Phillips 1980:87
Fish	<i>O. propinquus</i>	WI	Stein 1977:1239-52; 1979:345
Fish	<i>O. r. rusticus</i>	OH	Rhoades 1952:4
Fish	<i>O. rusticus</i>	WI	Stein 1979:345; Hobbs and Jass 1988:73
Fish	<i>O. virilis</i>	MI	Hazlett et al. 1974:302
Fish	<i>O. virilis</i>	MB	McInnes 1974:144
Fish	<i>P. alleni</i>	FL	Bartram 1771:43; Kushlan and Kushlan 1979:118
Fish	<i>P. clarkii</i>	LA	Lorman and Magnuson 1978:10
Fish	<i>Palaemonetes exilipes</i>	GEN	Worth 1908:855-858; Creaser 1931:273; 1932:334
Fishes	Crayfish	MO	Berner 1951:8
Stream Fishes	<i>O. luteus</i>	MO	Rabeni 1983:63
<b>ACIPENSERIDAE:</b>			
	<i>Acipenser brevirostrum</i>	NY	Baker 1916:158
	<i>Acipenser fluvescens</i>	CAN	Scott 1954:7
	<i>Acipenser fluvescens</i>	KS	Cross 1967:33
	<i>Acipenser rubicundus</i>	IL	Forbes and Richardson 1908:25; Baker 1916:158
<b>LEPISOSTEIDAE:</b>			
Gar	Crayfish	GEN	Forbes 1888b:486
Gars	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Lepisosteus</i> spp.	Crayfish	MI	Lagler and Lagler 1944:296
<i>Lepisosteus osseus</i>	Crayfish	IA	Harlan and Speaker 1969:38
<i>Lepisosteus osseus</i>	Crayfish	TX	Bonham 1941:360,361
<i>Lepisosteus osseus</i>	<i>Cambarus</i> sp.	MI	Lagler and Hubbs 1940:240

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Lepisosteus osseus</i>	<i>Palaemonetes</i>	TX	Bonham 1941:360,361
<i>Lepisosteus osseus</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:240,298
<i>Lepisosteus osseus</i>	<i>C. virilis</i>	MI	Lagler and Hubbs 1940:240; Lagler and Lagler 1944:240, 294,298
<i>Lepisosteus platostomus</i>	Crayfish	IA	Harlan and Speaker 1969:37
<i>Lepisosteus platostomus</i>	Crayfish	LA	Gary 1975:131
<i>Lepisosteus platostomus</i>	Crayfishes	WI	Pearse 1921a:30, 35,51; Turner 1926:158; Walters 1939:168; Becker 1983:242
<i>Lepisosteus platystomus</i>	<i>Cambarus</i>	IL	Forbes 1888a:469; 1888b:526
<i>Lepisosteus platystomus</i>	<i>C. immunis</i>	IL	Forbes 1878:82
<i>Lepisosteus platystomus</i>	<i>C. virilis</i>	IA	Potter 1923:167; Lagler et al. 1943:120
<i>Lepisosteus productus</i>	Crayfish	IN	Lagler et al. 1943:122
<i>Lepisosteus productus</i>	Crayfish	TX	Bonham 1941:361; Lagler et al. 1943:122
<i>Lepisosteus productus</i>	<i>Cambarus</i> sp.	MI	Lagler et al. 1943:125
<i>Lepisosteus productus</i>	<i>C. virilis</i>	MI	Lagler et al. 1943:125; Lagler and Lagler 1944:294
<i>Lepisosteus productus</i>	<i>Palaemonetes</i>	IN	Lagler et al. 1943:122
<i>Lepisosteus productus</i>	<i>Palaemonetes</i>	TX	Bonham 1941:361; Lagler et al. 1943:122
<b>AMIIDAE:</b>			
Bowfin (= <i>Amia calva</i> )	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
Bowfins	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Amia calva</i>	Crawfish	GEN	Forbes 1888a:463; Baker 1916:158; Coker 1918:3
<i>Amia calva</i>	Crawfish	IL	Forbes and Richardson 1908:39; 1920:39
<i>Amia calva</i>	Crawfish	IN	Adams and Hankinson 1928:295
<i>Amia calva</i>	Crawfish	WI	Marshall and Gilbert 1905:516; Baker 1916:159
<i>Amia calva</i>	Crayfish	GEN	Reighard 1903:65; Adams and Hankinson 1928:295; Tack 1941:440
<i>Amia calva</i>	Crayfish	CAN	Scott 1954:11
<i>Amia calva</i>	Crayfish	ON	Bensley 1915:13
<i>Amia calva</i>	Crayfish	IN	Reighard 1903:65; Evermann and Clark 1920:293,317
<i>Amia calva</i>	Crayfish	IA	Harlan and Speaker 1969:39
<i>Amia calva</i>	Crayfish	LA	Gary 1975:131
<i>Amia calva</i>	Crayfish	TN	Norton 1942:53
<i>Amia calva</i>	Crayfish	WI	Adams and Hankinson 1928:295; Becker 1983:253
<i>Amia calva</i>	<i>Cambarus</i>	IL	Forbes 1888a:469; 1888b:526
<i>Amia calva</i>	<i>Cambarus</i> sp.	MI	Lagler and Hubbs 1940:241; Lagler and Applegate 1942: 190, 191



PREDATOR	PREY	LOCALITY	REFERENCE
<i>Amia calva</i>	<i>C. diogenes</i>	MI	Lagler and Applegate 1942:190, 191; Lagler and Lagler 1944:300
<i>Amia calva</i>	<i>C. immunis</i>	MI	Lagler and Hubbs 1940:241; Lagler and Applegate 1942:190, 191; Lagler and Lagler 1944:296
<i>Amia calva</i>	<i>C. obesus</i>	IL	Forbes 1888a:464; 1888b:527
<i>Amia calva</i>	<i>C. propinquus</i>	MI	Lagler and Hubbs 1940:241; Lagler and Applegate 1942:190, 191; Lagler and Lagler 1944:296,298
<i>Amia calva</i>	<i>C. robustus</i>	MI	Lagler and Hubbs 1940:241; Lagler and Lagler 1944:29
<i>Amia calva</i>	<i>C. virilis</i>	GEN	Forbes 1888b:526
<i>Amia calva</i>	<i>C. virilis</i>	IL	Forbes 1888a:464
<i>Amia calva</i>	<i>C. virilis</i>	MI	Lagler and Hubbs 1940:241; Lagler and Applegate 1942:190, 191; Lagler and Lagler 1944:295,296
<i>Amiatus calva</i>	Crayfishes	IL	Turner 1926:159; Walters 1939:169
<i>Amiatus calva</i>	Crayfishes	WI	Pearse 1918:254,255,278,286,289; Turner 1926:158; Cahn 1927:26; Walters 1939:168
<b>HIODONTIDAE:</b>			
<i>Amphiodon alosoides</i>	Crayfish	CAN	Scott 1954:13
<i>Hiodon tergisus</i>	Crayfish	CAN	Scott 1954:12; 1967; Scott and Crossmann 1973: 335
<b>ANGUILLIDAE:</b>			
Congo Eel	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Anguilla chrysypa</i>	Crayfishes	WI	Pearse 1921a:29,30,51; Turner 1926:158
<i>Anguilla gostonensis</i>	Crayfish	GEN	Tack 1941:440
<i>Anguilla rostrata</i>	Crawfish	GEN	Meek 1916:154,155; Adams and Hankinson 1928:408
<i>Anguilla rostrata</i>	Crayfish	GEN	Jordan 1905:147
<i>Anguilla rostrata</i>	Crayfish	WI	Becker 1983:260
<i>Anguilla rostrata</i>	Crayfishes	OH	Trautman 1957:448; 1981:194
<i>Anguilla rostrata</i>	<i>Cambarus</i>	NY	Adams and Hankinson 1928:411
<i>Anguilla rostrata</i>	<i>C. virilis</i>	GEN	Forbes 1888b:526
<i>Anguilla rostrata</i>	Shrimp	GEN	Jordan 1905:147
<b>SALMONIDAE:</b>			
Trout	Crawfish	GEN	Lyle 1938:75
Trout	Crayfish	MI	Momot et al. 1978: 30
Trout	Crayfishes	GEN	Forbes 1988b:486
Trout	Crayfishes	ON	Crocker and Barr 1968:33
Trout	<i>O. virilis</i>	MI	Momot 1967b:64
Lake Trout	<i>Pac. leniusculus</i> <i>leniusculus</i>	CA/NV	Frantz and Cordone 1967:714

PREDATOR	PREY	LOCALITY	REFERENCE
Brook Trout (= <i>Salvelinus fontinalis</i> )	Crayfish	MI	Metzelaar 1929:146; Lagler and Lagler 1944:295
Brook Trout	Crayfish	NY	Needham 1930:73-88; Creaser 1934:159
Brook Trout	<i>O. virilis</i>	MI	Gowing and Momot 1974: 1-70
<i>Salvelinus fontinalis</i>	Crawfish	NY	Bean 1912:203; Baker 1916:209; Kendall and Dence 1927:474
<i>Salvelinus fontinalis</i>	Crayfish	GEN	Tack 1941:440
<i>Salvelinus fontinalis</i>	Crayfish	ON	Ricker 1934:78,79,89,91,92; Fraser 1978:513,514;1980:498;1981:1680,1681,1682
<i>Salvelinus fontinalis</i>	Crayfish	IA	Harlan and Speaker 1969:46
<i>Salvelinus fontinalis</i>	Crayfish	MI	Ricker 1932a:82
<i>Salvelinus fontinalis</i>	Crayfishes	ON	Ricker 1930:65,68-72; Crocker and Barr 1968:31
<i>Salvelinus fontinalis</i>	<i>Cambarus</i>	ON	Ricker 1932b:121,122; 1934:79,80,82,84,98
<i>Salvelinus fontinalis</i>	<i>C. bartonii robustus</i>	ON	Ricker 1932a:85; 1934:97,106
<i>Salvelinus fontinalis</i>	<i>C. propinquus</i>	ON	Ricker 1932a:86; 1934:86
<i>Salvelinus fontinalis</i>	<i>O. virilis</i>	MI	Momot 1965a:189,190; Momot 1965b:8; 1967a: 202-209; Gowing and Momot 1979: 1191-1196; Hobbs and Jass 1988:88
<i>Salvelinus f. fontinalis</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
<i>Salvelinus namaycush</i>	Crayfish	ON	Fraser 1980:497-499
<i>S. fontinalis</i>			
Brown Trout (= <i>Salmo trutta</i> )	Crayfish	MI	Metzelaar 1929:146; Lagler and Lagler 1944:295
Brown Trout	Crayfish	WI	Brynildson and Kempinger 1973:2-20
<i>Salmo trutta</i>	Crayfish	GEN	Tack 1941:440
<i>Salmo trutta</i>	Crayfish	IA	Harlan and Speaker 1969:44
<i>Salmo trutta</i>	Crayfish	WI	Brynildson et al. 1963:4; Becker 1983:294
<i>Salmo trutta</i>	<i>Cambarus</i>	NY	Webster and Little 1942:192
<i>Salmo trutta</i>	Shrimp	WI	Brynildson et al. 1963:4
Rainbow Trout (= <i>Salmo gairdneri</i> )	Crayfish	MI	Metzelaar 1929:146; Lagler and Lagler 1944:295
Rainbow Trout	Crayfish	NY	Creaser 1934:159
Rainbow Trout	Crayfish	OH	Rhoades 1951b:13h
Rainbow Trout	Crayfish	WI	Nelson and Hasler 1942:147; Brynildson and Kempinger 1973:2-20
Rainbow Trout	<i>Cambarus</i>	VA	Surber 1933:256; 1936:197
Rainbow Trout	<i>C. diogenes</i>	MI	Creaser 1931:267
Rainbow Trout	<i>C. propinquus</i>	MI	Creaser 1931:267
Rainbow Trout	<i>O. propinquus</i>	MI	Dean 1969:15
Rainbow Trout	<i>O. virilis</i>	MI	Gowing and Momot 1974:1-70

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Salmo gairdneri</i>	Crayfishes	ON	Crocker and Barr 1968:31; Fraser 1978:513,514
<i>Salmo gairdneri</i>	Crayfish	WI	Becker 1983:301
<i>Salmo gairdnerii</i>	Crayfish	GEN	Tack 1941:440
<i>Salmo gairdnerii</i>	Crayfish	CAN	Scott 1954:29
<i>Salmo gairdnerii</i>	Crayfish	NY	Sibley and Rimsky-Korsakoff 1931:115
<i>Salmo gairdnerii</i> <i>irideus</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
<i>Salmo irideus</i>	<i>Cambarus</i>	ON	Ricker 1934:98
<i>Salmo clarkii</i>	<i>Pacifastacus</i>	OR	Mason 1974:16
<i>Salmo clarkii lewisi</i>	Fresh-water shrimp	CO	Beckman 1952:18
<i>Salmo fario</i>	Crawfish	NY	Greeley 1927:61; Sibley and Rimsky-Korsakoff 1931:112
Cisco ( <i>Coregonus artedii</i> )	Crayfish	WI	Nelson and Hasler 1942:147
<b>ESOCIDAE:</b>			
Pickereel	Crayfish	OH	Rhoades 1951b:13
Pickereel	<i>P. a. acutus</i>	NJ	Francois 1959:112
<i>Esox americanus</i>	Crayfishes	ON	Crocker and Barr 1968:30
<i>Esox americanus</i>	Crayfish	GA	Palmer and Wright 1920:365
<i>Esox americanus</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978: 402
<i>Esox a. vermiculatus</i>	Crayfish	CAN	Scott 1954:73; Crossman 1962:18,19; Kleinert and Mraz 1966:30
<i>Esox a. vermiculatus</i>	Crayfish	WI	Kleinert and Mraz 1966:29,31; Becker 1983:395
Eastern Chain Pickereel	Crayfish	NJ	Francois 1959:109
<i>Esox niger</i>	Crayfish	GEN	Tack 1941:440
<i>Esox niger</i>	Crayfish	NY	Raney 1942:62-66
<i>Esox niger</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Esox niger</i>	<i>C. bartoni</i> <i>robustus</i>	NY	Adams and Hankinson 1928:393
Northern Pike (= <i>Esox lucius</i> )	Crayfishes	NY	Creaser 1934:159
<i>Esox lucius</i>	Crawfish	IL	Forbes and Richardson 1908:208; Adams and Hankinson 1928:400
<i>Esox lucius</i>	Crawfish	WI	Marshall and Gilbert 1905:517
<i>Esox lucius</i>	Crayfish	GEN	Kendall 1917:20; Tack 1941:440
<i>Esox lucius</i>	Crayfish	CAN	Scott 1954:75
<i>Esox lucius</i>	Crayfish	IA	Harlan and Speaker 1969:53
<i>Esox lucius</i>	Crayfish	TN	Norton 1942:53
<i>Esox lucius</i>	Crayfish	WI	Marshall and Gilbert 1905:517; Nelson and Hasler 1942:147; Hunt 1965:95-97; Johnson 1969:8,12; Becker 1983:401
<i>Esox lucius</i>	Crayfishes	IL	Turner 1926:159

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Esox lucius</i>	<i>C. diogenes</i>	MI	Lagler and Lagler 1944:299,300
<i>Esox masquinongy</i>	Crayfish	IA	Harlan and Speaker 1969:55
<i>Esox masquinongy</i>	Crayfish	WI	Becker 1983:410
<i>Esox reticulatus</i>	<i>Cambarus</i>	NY	Baker 1916:201,202,301,319
<i>Esox reticulatus</i>	<i>C. bartoni</i> <i>robustus</i>	NY	Baker 1916:178,179,301
<i>Esox vermiculatus</i>	Crayfish	MI	Lagler and Lagler 1944:300
<i>Esox vermiculatus</i>	Crayfishes	ON	Crocker and Barr 1968:30
<i>Esox vermiculatus</i>	Crayfishes	OH	Turner 1926:159; Walters 1939:169
<b>CYPRINIDAE:</b>			
Gold-fish (= <i>Crassius auratus</i> )	<i>Cancer macrourus</i> ( <i>C. latimanus</i> )	GEN	Bartram 1771:43
<i>Cyprinus carpio</i>	Crayfish	GEN	Hunt 1912:190-191; Adams and Hankinson 1928:232; Tack 1941:440
<i>Cyprinus carpio</i>	Crayfish	WI	Adams and Hankinson 1928:324
<i>Cyprinus carpio</i>	Crayfish	MO	Berner 1951:10
<i>Cyprinus carpio</i>	Crayfishes	WI	Pearse 1921a:34,40,42; Becker 1983:422
<i>Ctenopharyngodon</i> <i>idella</i>	<i>P. clarkii</i>	LA	Forester et al. 1978:42-46
<i>Ctenopharyngodon</i> <i>idella</i>	<i>Macrobrachium</i> <i>ohione</i>	LA	Forester et al. 1978:42-46
<i>Exoglossum</i> <i>maxillingua</i>	Crawfish	NY	Adams and Hankinson 1928:360
<i>Exoglossum</i> <i>maxillingua</i>	<i>Cambarus</i>	NY	Adams and Hankinson 1928:61
<i>Hybopsis</i>	Crayfishes	GEN	Forbes 1888b:486
<i>Hybopsis biguttatus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Nocomis biguttatus</i>	Crayfish	GEN	Becker 1983:488
<i>Nocomis biguttatus</i>	Crayfish	CAN	Scott and Crossman 1973:429 Becker 1983:488
<i>Nocomis biguttatus</i>	Crayfish	NY	Becker 1983:488
<i>Hybopsis kentuckiensis</i>	Crayfish	IL	Forbes and Richardson 1908:169; 1920:169
Mohawk Chub	<i>Cambarus</i>	NY	Pate 1933:155
<i>Ptychocheilus</i> <i>oregonensis</i>	Crayfish	CRS	Li et al. 1987:199
<i>Semotilus</i>	Crayfishes	GEN	Forbes 1888b:486
<i>Semotilus bullaris</i>	<i>C. bartoni</i> <i>rusticus</i>	NY	Baker 1916:171
Horned Dace (= <i>Semo-</i> <i>ilus atromaculatus</i> )	Crayfishes	NY	Creaser 1934:159
Horned Dace	Crayfish	ON	Ricker 1934:99h
Fall Fish (= <i>S. atromaculatus</i> )	Crayfish	NY	Creaser 1934:159
<i>Semotilus</i> <i>atromaculatus</i>	Crawfish	PQ	Leonard 1927:39; Adams and Hankinson 1928:341

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Semotilus atromaculatus</i>	Crawfish	IL	Forbes and Richardson 1908:123; 1920:123; Baker 1916:171
<i>Semotilus atromaculatus</i>	Crawfish	NY	Greeley 1927:58; Dence 1928:193; Adams and Hankinson 1928:340,341
<i>Semotilus atromaculatus</i>	Crayfish	GEN	Tack 1941:440
<i>Semotilus atromaculatus</i>	Crayfish	IA	Larrabee 1927:24; Dinsmore 1962; Cross 1967:80
<i>Semotilus atromaculatus</i>	Crayfish	KY	Minckley 1963:100
<i>Semotilus atromaculatus</i>	Crayfish	KS	Cross and Collins 1975:46
<i>Semotilus atromaculatus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Semotilus atromaculatus</i>	<i>Cambarus</i>	ON	Ricker 1934:98
<i>Semotilus atromaculatus</i>	<i>Cambarus</i>	IL	Forbes 1888b:486,526
<i>Semotilus atromaculatus</i>	<i>Cambarus</i>	NY	Baker 1916:205,301
<i>Semotilus atromaculatus</i>	<i>C.b.robustus</i>	ON	Ricker 1934:106
<i>Semotilus atromaculatus</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
<i>Semotilus a. atromaculatus</i>	Crayfish	CO	Beckman 1952:47
<i>Semotilus a. atromaculatus</i>	Crayfish	NY	Sibley and Rimsky-Korsakoff 1931:116
<i>Leucosomus corporalis</i>	Crayfish	GEN	Tack 1941:440
<i>Leucosomus corporalis</i>	Crayfish	NY	Sibley and Rimsky-Korsakoff 1931:115,116
<i>Leucosomus corporalis</i>	<i>C. bartoni rusticus</i>	NY	Adams and Hankinson 1928:338
<i>Rhinichthys</i> spp.	<i>Cambarus</i>	ON	Ricker 1934:98
<i>Nocomis micropogon</i>	Crayfish	GEN	Tack 1941:440
<i>Nocomis asper</i>	Crayfish	KS	Cross and Collins 1975:50
<i>Nocomis biguttatus</i>	Crayfish	KS	Cross and Collins 1975:50
<b>CATOSTOMIDAE:</b>			
Catostomidae	<i>Cambarus</i>	IL	Forbes 1888a:471
<i>Carpiodes</i> spp.	Crayfish	MO	Berner 1951:10
Common Sucker	<i>Cambarus</i> sp.	NY	Sibley 1932:131
<i>Catostomus commersoni</i>	Crayfish	GEN	Tack 1941:440
<i>Catostomus commersoni</i>	Crayfish	ON	Rawson 1930:128
<i>Ictiobus bubalus</i>	Crayfish	IL	Forbes 1888a:450
<i>Ictiobus bubalus</i>	Crayfish	MO	Berner 1951:10
<i>Ictiobus cyprinellus</i>	Crayfish	IA	Harlan and Speaker 1969:60
<i>Ictiobus niger</i>	Crayfish	GEN	Becker 1983:623
<i>Ictiobus niger</i>	Crayfish	KS	Cross and Collins 1975:90



PREDATOR	PREY	LOCALITY	REFERENCE
<i>Ictiobus urus</i>	Crawfish	IL	Forbes 1888a:452; Forbes and Richardson 1920:72; Becker 1983:623
<i>Ictiobus urus</i>	<i>Cambarus</i>	IL	Forbes 1888a:471,
<i>Ictiobus urus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Megastomatobus cyprinella</i>	Crayfish	MO	Berner 1951:10
<b>ICTALURIDAE:</b>			
River Bullhead	Crayfishes	GEN	Forbes 1888b:486
Bullhead	Crayfishes	GEN	Shelford 1913:70; Engle 1926:99
Bullhead	Crayfish	IN	Cable 1928:28
Bullhead	Crayfish	SD	Cable 1928:38
Bullheads	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Ameiurus</i> spp.	Crayfish	MI	Lagler and Lagler 1944:300
<i>Ameiurus lacustris</i>	Crayfish	ON	Bensley 1915:14
<i>Ictalurus</i> spp.	Crayfish	LA	Gary 1975:131
<i>Ictalurus lacustris</i>	Crayfish	MO	Berner 1951:10
<i>Ictalurus lacustris punctatus</i>	Crayfish	IA	Bailey and Harrison 1945:127
<i>Ameiurus melas</i>	Crawfish	IL	Forbes and Richardson 1908:192; 1920:192
<i>Ameiurus melas</i>	Crawfish	TX	Cheatum et al. 1943:30
<i>Ameiurus melas</i>	Crayfish	CAN	Scott 1954:70
<i>Ameiurus melas</i>	Crayfishes	IL	Turner 1926:159; Walters 1939:169
<i>Ameiurus melas</i>	Crayfishes	WI	Pearse 1918:253,278,286; 1921a:30,40,51,52; Turner 1926:158; Cable 1928:28; Walters 1939:168
<i>Ameiurus melas</i>	<i>C. virilis</i>	WI	Pearse 1921a:41
<i>Ictalurus melas</i>	Crayfish	IA	Harlan and Speaker 1969:99
<i>Ictalurus melas</i>	Crayfish	WI	Becker 1983:699
<i>Ictalurus furcatus</i>	Crayfish	AL	Brown and Dendy 1962:220, 221; Cross 1967:212
<i>Ictalurus furcatus</i>	Crayfish	CO	Beckman 1952:65
<i>Ictalurus furcatus</i>	Crayfish	IA	Harlan and Speaker 1969:97
<i>Ictalurus furcatus</i>	<i>Palaemonetes</i> sp	AL	Brown and Dendy 1962:220
Yellow Bullhead	Crayfish	MI	Ball 1948:36,37
Yellow Catfish (= <i>Ictalurus natalis</i> )	Crayfish	MI	Hankinson 1908:249
<i>Ameiurus natalis</i>	Crawfish	GEN	Adams and Hankinson 1928:383
<i>Ameiurus natalis</i>	Crawfish	IL	Forbes and Richardson 1908:186; 1920:186; Adams and Hankinson 1928:383
<i>Ameiurus natalis</i>	Crawfish	IN	Evermann and Clark 1920:294,325; Adams and Hankinson 1928:383
<i>Ameiurus natalis</i>	Crawfish	MI	Hankinson 1908:208; Adams and Hankinson 1928:383

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Ameiurus natalis</i>	Crawfish	MN	Surber 1920:17; Adams and Hankinson 1928:383
<i>Ameiurus natalis</i>	Crawfish	NY	Adams and Hankinson 1928:383
<i>Ameiurus natalis</i>	Crawfish	WI	Pearse 1921b:263; Adams and Hankinson 1928:383
<i>Ameiurus natalis</i>	Crayfish	CAN	Scott 1954:65
<i>Ameiurus natalis</i>	Crayfish	WI	Pearse 1921a:30,32,51,52; 1924:256; Turner 1926:158; Walters 1939:168
<i>Ameiurus natalis</i>	<i>C. propinquus</i>	MI	Hankinson 1908:208
<i>Ameiurus natalis</i>	<i>Cambarus</i>	NY	Baker 1916:175
<i>Amiurus natalis</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Amiurus natalis</i>	<i>Cambarus</i>	IL	Forbes 1888a:473
<i>Amiurus natalis</i>	<i>C. propinquus</i>	LAB	Pearse 1924:256
<i>Amiurus natalis</i>	<i>C. virilis</i>	LAB	Pearse 1924:256
<i>Amiurus natalis</i>	<i>Palaemonetes exilipes</i>	GEN	Forbes 1888b:527
<i>Ictalurus natalis</i>	Crayfish	IA	Harlan and Speaker 1969:100
<i>Ictalurus natalis</i>	Crayfish	WI	Becker 1983:705
<i>Ictalurus natalis</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Ictalurus natalis</i>	<i>P. lucifugus</i>	FL	Relyea and Sutton 1974:31,32
<i>Ictalurus natalis</i>	<i>P.(Ortmannicus) l. alachua</i>	FL	Hobbs et al. 1977:132
<i>Ictalurus natalis</i>	<i>P.(Ortmannicus) pallidus</i>	FL	Hobbs et al. 1977:136
Pond Bullhead	Crayfishes	GEN	Forbes 1888b:486
Common Bullhead (= <i>Ictalurus nebulosus</i> )	<i>Cambarus</i>	NY	Sibley 1932:131,132; Pate 1933:153,155
<i>Ameiurus nebulosus</i>	Crawfish	GEN	Forbes 1888a:459,461; Baker 1916:177
<i>Ameiurus nebulosus</i>	Crawfish	IN	Evermann and Clark 1920:325; Adams and Hankinson 1928:375
<i>Ameiurus nebulosus</i>	Crawfish	MI	Baker 1916:177; Adams and Hankinson 1928:375
<i>Ameiurus nebulosus</i>	Crawfish	NY	Needham 1908:173,175; Baker 1916:206,207; Smallwood 1918:333; Sibley 1922:67,68; Adams and Hankinson 1928:375
<i>Ameiurus nebulosus</i>	Crayfish	CAN	Scott 1954:66
<i>Ameiurus nebulosus</i>	Crayfish	WI	Pearse 1921a:30,32,40,41; 1924:256; Turner 1926:158; Walters 1939:168
<i>Amiurus nebulosus</i>	Crayfish	MI	Hankinson 1908:246,249,250; Turner 1926:158; Walters 1939:168
<i>Amiurus nebulosus</i>	Crayfishes	GEN	Forbes 1888b:499
<i>Amiurus nebulosus</i>	<i>Cambarus</i>	IL	Forbes 1888a:473
<i>Amiurus nebulosus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Amiurus nebulosus</i>	<i>Cambarus</i> sp.	ON	Rawson 1930:128

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Amiurus nebulosus</i>	<i>C. propinquus</i>	LAB	Pearse 1924:256
<i>Amiurus nebulosus</i>	<i>C. virilis</i>	LAB	Pearse 1924:256
<i>Ictalurus nebulosus</i>	Crayfish	IL	Forbes 1888a:461
<i>Ictalurus nebulosus</i>	Crayfish	IA	Harlan and Speaker 1969:98
<i>Ictalurus australis</i>	<i>Atya scabra</i>	TAM	Darnell 1956:137
Channel Catfish (= <i>Ictalurus punctatus</i> )	Crawfish	TN	Dendy 1946:111,119
Channel Catfish	Crayfish	OH	Rhoades 1951b:13
Channel Catfish	Crayfish	WI	Finke 1964:19
Channel Catfish	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Ictalurus punctatus</i>	Crawfish	GEN	Jordan 1885:34; Henshall 1919:245; Adams and Hankinson 1928:370
<i>Ictalurus punctatus</i>	Crayfish	CAN	Scott 1954:67
<i>Ictalurus punctatus</i>	Crayfish	IA	Harlan and Speaker 1969:95
<i>Ictalurus punctatus</i>	Crayfish	KS	Cross and Collins 1975:107
<i>Ictalurus punctatus</i>	Crayfish	LA	Lewis 1976:177,178
<i>Ictalurus punctatus</i>	Crayfish	WV	Lewis 1976:177,178
<i>Ictalurus punctatus</i>	Crayfishes	WI	Pearse 1921a:30; Turner 1926:158; Walters 1939:168; Becker 1983:716
<i>Ictalurus punctatus</i>	<i>Cambarus</i>	IL	Forbes 1888a:526
<i>Ictalurus punctatus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:473
<i>Ictalurus furcatus</i>	Crayfish	KS	Cross and Collins 1975:108
<i>Noturus exilis</i>	<i>Orconectes</i>	IL	Mayden and Burr 1981:46,48, 50,51
<i>Noturus flavus</i>	Crayfish	IA	Harrison 1950; Becker 1983:727
<i>Pylodictis olivaris</i>	Crayfish	CO	Beckman 1952:69
<i>Pylodictis olivaris</i>	Crayfish	IA	Harlan and Speaker 1969:101
<i>Pylodictis olivaris</i>	Crayfish	KS	Minckley and Deacon 1959:347; Cross 1967:215; Becker 1983:731
<i>Pylodictis olivaris</i>	Crayfish	MO	Berner 1951:10
<i>Pylodictis olivaris</i>	<i>O. nais</i>	KS	Minckley and Deacon 1959:348-352
<i>Pylodictis olivaris</i>	<i>O. virilis</i>	WV	Edmundson 1974:20
<i>Pylodictis olivaris</i>	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
Albinistic Cat Fish	<i>Alpheopsis stygiicola</i>	OAX	Hobbs et al. 1977:67
<b>SILURIDAE:</b>			
Siluridae	<i>Cambarus</i>	IL	Forbes 1888a:473
<b>GADIDAE:</b>			
Burbot	Crayfishes	GEN	Forbes 1888b:486
Burbot	Crayfish	IL	Forbes 1888b:486
<i>Lota lota</i>	Crayfish	CAN	Scott and Crossman 1973:644
<i>Lota lota</i>	Crayfish	WI	Becker 1983:749
<i>Lota l. lacustris</i>	Crayfish	CAN	Scott 1954:119
<i>Lota maculosa</i>	Crawfish	GEN	Forbes 1888a:433; 1888b:478; Adams and Hankinson 1928:518



<b>PREDATOR</b>	<b>PREY</b>	<b>LOCALITY</b>	<b>REFERENCE</b>
<i>Lota maculosa</i>	Crawfish	IL	Forbes and Richardson 1908:332; 1920:332; Adams and Hankinson 1928:518
<i>Lota maculosa</i>	Crawfish	IN	Hay 1894:293; Adams and Hankinson 1928:518
<i>Lota maculosa</i>	Crayfish	ON	Tack 1941:440
<i>Lota maculosa</i>	Crayfish	ON	Bensley 1915:50
<i>Lota maculosa</i>	Crayfish	LM	VanOosten and Deason 1937:168,170,175
<i>Lota maculosa</i>	<i>Cambarus</i>	IL	Forbes 1888a:434; Baker 1916:199
<i>Lota maculosa</i>	<i>C. bartoni robustus</i>	NY	Baker 1916:199,301; Adams and Hankinson 1928:518
<i>Lota maculosa</i>	<i>C. propinquus</i>	GEN	Forbes 1888b:527
<i>Lota maculosa</i>	<i>C. propinquus</i>	IL	Forbes 1888a:434
<i>Lota maculosa</i>	<i>C. propinquus</i>	NY	Ortmann 1906:363; Baker 1916:199; Adams and Hankinson 1928:518
<i>Lota lota maculosa</i>	Crayfish	MI	Lagler and Lagler 1944:300
<i>Lota lota maculosa</i>	Crayfish	WI	Anonymous 1948:31
<b>SERRANIDAE (PERCICHTHYIDAE):</b>			
<i>Morone americana</i>	Crayfish	ME	Cooper 1941:126-130,132, Table XIII
<i>Morone americana</i>	<i>O. limosus</i>	ME	Reid 1972:608-612
<i>Lepibema chrysops</i>	Crawfish	GEN	Bean 1913:271; Adams and Hankinson 1928:422
<i>Lepibema chrysops</i>	Crayfish	CAN	Scott 1954:81
<i>Lepibema chrysops</i>	Crayfish	MI	Lagler and Lagler 1944:300
<i>Morone chrysops</i>	Crayfish	WI	Nelson and Hasler 1942:147; Becker 1983:792
<i>Roccus chrysops</i>	Crayfish	IA	Harlan and Speaker 1969:107
<i>Roccus chrysops</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Morone interrupta</i>	Crayfishes	WI	Pearse 1921a:31; Turner 1926:158; Walters 1939:168
<i>Roccus saxatilis</i>	<i>P. leniusculus</i>	CA	Thomas 1967:51-57,61; Crocker and Barr 1968:30
<b>AMBLYOPSIDAE:</b>			
<i>Amblyopsis spelaea</i>	<i>O. pellucidus</i>	GEN	Poulson 1963:264
<i>Amblyopsis spelaea</i>	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
<i>Typhlichthys subterraneus</i>	<i>O. pellucidus</i>	AL	Hobbs et al. 1977:29
<i>Typhlichthys subterraneus</i>	<i>Palaemonias alabamae</i>	AL	Cooper and Cooper 1974:48
<b>APHREDODERIDAE:</b>			
<i>Aphredoderus sayanus</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978: 402
<b>ATHERINIDAE:</b>			
<i>Labidesthes sicculus</i>	Crayfish spp.	WI	Adams and Hankinson 1926 (cited in Becker 1983:773)

PREDATOR	PREY	LOCALITY	REFERENCE
<b>CENTRARCHIDAE:</b>			
Centrarchidae	Crayfish	LA	Gary 1975:131
Centrarchidae	<i>O. luteus</i>	MO	Rabeni 1984:61
Centrarchidae	<i>O. punctimanus</i>	MO	Rabeni 1984:61
Crappie	Crawfish	GEN	Lyle 1938:75; Keating 1972:17
Crappie	Crayfish	OH	Rhoades 1951b:13
<i>Pomoxis</i> spp.	Crayfish	MI	Lagler and Lagler 1944:300
<i>Pomoxis annularis</i>	Crayfishes	OH	Turner 1926:159; Walters 1939:169
<i>Pomoxis sparoides</i>	<i>Palaemonetes</i> sp.	TN	McCormick 1940:66-68
Bass	Crawfish	GEN	Lyle 1938:75; Keating 1972:17
Bass	Crayfish	IN	Evermann and Clark 1920:235
Bass	Crayfish	ME	Packard 1957:76
Bass	Crayfish	OH	Rhoades 1951b:12
Bass	<i>Cambarellus shufeldtii</i>	LA	Penn 1942:644
Bass	<i>C. immunis</i>	CT	Webster 1944:126
Bass	<i>C. limosus</i>	CT	Webster 1944:126
Bass	<i>C. propinquus</i>	ON	Rawson 1930:39
Bass	<i>C. virilis</i>	ON	Rawson 1930:39
Bass	<i>O. limosus</i>	ME	Crocker 1958:63
Bass	<i>O. rusticus</i>	OH	Langlois 1935:189
Basses	Crayfishes	NY	Greeley 1927:49
Rock Bass (= <i>Ambloplites rupestris</i> )	Crayfishes	GEN	Forbes 1888b:486; Roberts 1944:369
Rock Bass	Crayfish	KY	Minckley 1963:100
Rock Bass	Crayfish	MI	Hankinson 1908:233,249,250
Rock Bass	Crayfish	NY	Creaser 1934:159
Rock Bass	Crayfish	OH	Rhoades 1951b:13
Rock Bass	Crayfish	WI	Nelson and Hasler 1942:147; Stein 1977:1247
Rock Bass	<i>Cambarus</i>	NY	Sibley 1932:132; Pate 1933:154,156
Rock Bass	<i>O. propinquus</i>	WI	Magnuson et al. 1975:70
Rock Bass	<i>O. rusticus</i>	WI	McBride 1983:42
<i>Ambloplites ariommus</i>	<i>Cambarus</i> sp.	MS	Viosca 1936:43
<i>Ambloplites rupestris</i>	Crawfish	GEN	Baker 1916:181
<i>Ambloplites rupestris</i>	Crawfish	ON	Adams and Hankinson 1928:500
<i>Ambloplites rupestris</i>	Crawfish	IL	Forbes 1880:47; Adams and Hankinson 1928:500
<i>Ambloplites rupestris</i>	Crawfish	IN	Evermann and Clark 1920:296,389
<i>Ambloplites rupestris</i>	Crawfish	MI	Hankinson 1908:210; Baker 1916:181
<i>Ambloplites rupestris</i>	Crawfish	NY	Bean 1903:469;1913:262; Sibley 1922:67,68; Adams and Hankinson 1928:500
<i>Ambloplites rupestris</i>	Crawfish	WI	Marshall and Gilbert 1905:518; Pearse 1921b:262
<i>Ambloplites rupestris</i>	Crawfishes	IL	Forbes 1880:47
<i>Ambloplites rupestris</i>	Crawfishes	NY	Baker 1916:181
<i>Ambloplites rupestris</i>	Crayfish	CAN	Scott 1954:101



PREDATOR	PREY	LOCALITY	REFERENCE
<i>Ambloplites rupestris</i>	Crayfish	KY	Minckley 1963:100; Lotrich 1973:383
<i>Ambloplites rupestris</i>	Crayfish	NY	Sibley and Rimsky-Korsakoff 1931:114
<i>Ambloplites rupestris</i>	Crayfish	WI	Couey 1935:135,150,157,165-168,170,171; Becker 1983:854,855
<i>Ambloplites rupestris</i>	Crayfishes	GEN	Tack 1941:440
<i>Ambloplites rupestris</i>	Crayfishes	ON	Rawson 1930:128
<i>Ambloplites rupestris</i>	Crayfishes	IL	Forbes 1888b:498
<i>Ambloplites rupestris</i>	Crayfishes	MI	Turner 1926:158,159; Walters 1939:168,169
<i>Ambloplites rupestris</i>	Crayfishes	WI	Pearse 1918:252,278,286,289; 1921a:39,40,45,46,51; 1924:256
<i>Ambloplites rupestris</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Ambloplites rupestris</i>	<i>Cambarus</i>	IL	Forbes 1880:49
<i>Ambloplites rupestris</i>	<i>Cambarus</i>	NY	Baker 1916:182,301
<i>Ambloplites rupestris</i>	<i>C. propinquus</i>	ON	Bensley 1915:39; Tester 1932:188,199
<i>Ambloplites rupestris</i>	<i>C. propinquus</i>	MI	Hankinson 1908:210
<i>Ambloplites rupestris</i>	<i>C. propinquus</i>	WI	Pearse 1918:252; 1924:256 (in lab); Turner 1926:158; Walters 1939:168
<i>Ambloplites rupestris</i>	<i>O. propinquus</i>	WI	Stein 1977:1246-1249; Zaret 1980:130
<i>Ambloplites rupestris</i>	<i>C. virilis</i>	MI	Reighard 1915:231,232; Adams and Hankinson 1928:500
<i>Ambloplites rupestris</i>	<i>C. virilis</i>	WI (LAB)	Pearse 1924:256; Turner 1926:158; Walters 1939:168
<i>Ambloplites r. rupestris</i>	Crayfish	CO	Beckman 1952:86
<i>Ambloplites r. rupestris</i>	Crayfish	IA	Harlan and Speaker 1969:125
<i>Ambloplites r. rupestris</i>	Crayfish	MI	Lagler and Lagler 1944:300
Smallmouth Bass (= <i>Micropterus dolomieu</i> )	Crayfish	WI	Nelson and Hasler 1942:147; Stein 1977:1247; Lodge et al. 1985:35
Smallmouth Bass	Crawfish	GEN	Dendy 1946:110
Smallmouth Bass	Crayfish	GEN	Hubbs and Bailey 1938:55,56; Tack 1941:440; Vannote and Ball 1972:81
Small-mouth Bass	Crayfish	OH	Turner and Kraatz 1920:379
Smallmouthed Bass	Crayfish	NY	Creaser 1934:159
Small-mouthed Bass	<i>Cambarus</i>	NY	Sibley 1932:131,132; Pate 1933:152,154,156
Small-mouthed Black Bass	Crayfish	GEN	Roberts 1944:369
Small-mouthed Black Bass	Crayfish	MI	Reighard 1915:245; Penn 1950:653
Small-mouthed Black Bass	Crayfish	ME	Cooper 1941:25,155, 157,159,161,233; 1942:112

PREDATOR	PREY	LOCALITY	REFERENCE
Small-mouthed Black Bass	<i>Cambarus</i>	ME	Cooper 1941:233; 1942:101
Small-mouthed Black Bass	<i>C. immunitis</i>	NY	Tack 1941:434,435
Smallmouth Bass	<i>C. virilis</i>	MI	Lydell 1938:23; Lagler and Lagler 1944:295
Smallmouth Bass	<i>O. propinquus</i>	WI	Magnuson et al. 1975:70,71; Stein 1979:346
Smallmouth Bass	<i>O. rusticus</i>	WI	McBride 1983:42; Hubbs and Bailey 1938
<i>Micropterus dolomieu</i>	Crawfish	GEN	Baker 1916:189; Sibley 1932; Penn 1950:653
<i>Micropterus dolomieu</i>	Crawfish	IL	Forbes 1880:46; Forbes and Richardson 1908:265; 1920:265; Adams and Hankinson 1928:472; Tester 1932:175
<i>Micropterus dolomieu</i>	Crawfish	NY	Baker 1918:194 Sibley 1922:66-68; Adams and Hankinson 1928:467
<i>Micropterus dolomieu</i>	Crayfish	GEN	Doan 1940:264
<i>Micropterus dolomieu</i>	Crayfish	CAN	Scott 1954:100
<i>Micropterus dolomieu</i>	Crayfish	ON	Bensley 1915:42; Tester 1932:173,175, 177,194,195,197,198; Doan 1940:254,256-258; Surber 1941:312
<i>Micropterus dolomieu</i>	Crayfish	IL	Buck and Thoits 1970:94,95
<i>Micropterus dolomieu</i>	Crayfish	MI	Reighard 1915:234,235; 1929:596,610; Pearse 1918:266; Tester 1932:175; Walters 1939:169
<i>Micropterus dolomieu</i>	Crayfish	NY	Greeley 1927:52,63; Sibley and Rimsky-Korsakoff 1931:114; Tester 1932:176
<i>Micropterus dolomieu</i>	Crayfish	OH	Wickliff 1920:369,370,371; Langlois 1937:275-276; Doan 1940:254,255; Penn 1950:653
<i>Micropterus dolomieu</i>	Crayfish	RI	Pearse 1918:266
<i>Micropterus dolomieu</i>	Crayfish	TN	Norton 1942:53
<i>Micropterus dolomieu</i>	Crayfish	VA	Surber 1941:316
<i>Micropterus dolomieu</i>	Crayfish	WV	Surber 1941:316
<i>Micropterus dolomieu</i>	Crayfish	WI	Marshall and Gilbert 1905:519; Pearse 1921:30,36,42,47; Tester 1932:175; Couey 1935:159,160; Stamm 1977:80,82; Becker 1983:805
<i>Micropterus dolomieu</i>	Crayfishes	IL	Pearse 1918:266; Turner 1926:159; Walters 1939:169
<i>Micropterus dolomieu</i>	<i>Cambarus</i>	IL	Forbes 1880:46

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Micropterus dolomieu</i>	<i>Cambarus</i>	ON	Rawson 1930:128; Tester 1932:187-189
<i>Micropterus dolomieu</i>	<i>Cambarus</i>	VA	Surber 1941:315,317,320,322
<i>Micropterus dolomieu</i>	<i>Cambarus</i>	WV	Surber 1941:315,317,320,322
<i>Micropterus dolomieu</i>	<i>Cambarus</i>	NY	Lachner 1950:51
<i>Micropterus dolomieu</i>	<i>C. bartonii</i>	ON	Tester 1932:187-189,191,192
<i>Micropterus dolomieu</i>	<i>C. immunis</i>	CT	Webster 1944:126
<i>Micropterus dolomieu</i>	<i>C. limosus</i>	CT	Webster 1944:126
<i>Micropterus dolomieu</i>	<i>C. propinquus</i>	GEN	Forbes 1888b:527
<i>Micropterus dolomieu</i>	<i>C. propinquus</i>	ON	Tester 1932:171,183, 184,186-192,201
<i>Micropterus dolomieu</i>	<i>C. virilis?</i>	ON	Tester 1932:187-189,191,192
<i>Micropterus dolomieu</i>	<i>C. virilis</i>	MI/ CAN	Reighard 1915:235
<i>Micropterus dolomieu</i>	<i>P. blandingi</i>	GEN	Lewis and Helms 1963:316
<i>Micropterus dolomieu</i>	Crayfish	AR	Kilambi et al. 1977:64,65
<i>Micropterus dolomieu</i>	Crayfish	IA	Harlan and Speaker 1969:112
<i>Micropterus dolomieu</i>	Crayfish	KY	Lotrich 1973:383
<i>Micropterus dolomieu</i>	<i>Cambarus</i>	MI	Clady 1974:457,458
<i>Micropterus dolomieu</i>	<i>Cambarus</i> sp.	MB	Fedoruk 1966:941-943
<i>Micropterus dolomieu</i>	<i>O. obscurus</i>	MD/ PA	Mather et al. 1982:549
<i>Micropterus dolomieu</i>	<i>O. propinquus</i>	MI	Vannote and Ball 1972:82, 123,144-146,148,149
<i>Micropterus dolomieu</i>	<i>O. propinquus</i>	WI	Capelli 1975:130; Stein 1977:1246-1252; 1979: 346; Stein and Magnuson 1976:752-759; Zaret 1980:130
<i>Micropterus dolomieu</i>	<i>O. rusticus</i>	WI	Stein and Magnuson 1976:759
<i>Micropterus d. dolomieu</i>	<i>Cambarus</i>	NY	Lachner 1950:52,53,55
<i>Micropterus d. dolomieu</i>	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
<i>Micropterus d. dolomieu</i>	<i>O. juvenilis</i>	KY	Rhoades 1944:111
<i>Micropterus d. dolomieu</i>	Crayfish	CO	Beckman 1952:78
Spotted Bass	<i>P. clarkii</i>	LA	Davis 1982:155
<i>Micropterus punctulatus</i>	Crayfish	OK	Scalet 1977:494-496,498,500
<i>Micropterus p. punctulatus</i>	<i>O. juvenilis</i>	KY	Rhoades 1944:112
Black Bass	Crayfish	MI	Hankinson 1908:233,249,250
Black Bass	Crayfish	GEN	Chidester 1912:288; Shelford 1913:70; Engle 1926:99
Black Bass (= <i>Micropterus salmoides</i> )	Crayfishes	GEN	Forbes 1888b:486
Black Bass	<i>C. propinquus</i>	IN	Evermann and Clark 1920:234
Black Bass	<i>O. p. sanborni</i>	KY	Rhoades 1944:111
Black Bass	<i>O. r. rusticus</i>	KY	Rhoades 1944:111
Large-mouth Black Bass	Crayfish	OH	Turner and Kraatz 1920:374,375

PREDATOR	PREY	LOCALITY	REFERENCE
Large-mouth Black Bass	Crayfishes	GEN	Roberts 1944:369
Large-mouth Black Bass	<i>C. immunis</i>	NY	Tack 1941:434,435
Largemouth Bass (= <i>Micropterus salmoides</i> )	Crayfish	GEN	Tester 1932:200; Lewis et al. 1961:277-280
Largemouth Bass	Crawfish	GEN	Dendy 1946:109
Largemouth Bass	Crayfish	GEN	Tack 1941:440; Rickett 1974:210
Largemouth Bass	Crayfish	MI	Ball 1948:35,36
Largemouth Bass	Crayfish	WI	Nelson and Hasler 1942:147; Snow 1966:7
Largemouth Bass	<i>C. virilis</i>	MI	Lagler and Lagler 1944:295
Largemouth Bass	<i>O. rusticus</i>	WI	McBride 1983:42
Largemouth Bass	<i>P. clarkii</i>	LA	Huner and Barr 1984:49; Davis 1982:155
<i>Aplites salmoides</i>	Crawfish	NY	Greeley 1927:64
<i>Aplites salmoides</i>	Crayfish	NY	Sibley and Rimsky-Korsakoff 1931:120
<i>Aplites salmoides</i>	Crayfish	MI	Cooper 1936:253,259,263
<i>Huro floridana</i>	Crayfish	WI	Couey 1935:136,160,167,169,170
<i>Huro salmoides</i>	Crawfish	TX	Cheatum et al. 1943:20
<i>Huro salmoides</i>	Crayfish	FL	Hubbs and Allen 1943:125
<i>Huro salmoides</i>	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
<i>Huro salmoides</i>	<i>Palaemonetes</i> sp.	TN	McCormick 1940:68-71
<i>Huro salmoides</i>	<i>Palaemonetes paludosa</i>	FL	Hubbs and Allen 1943:125
<i>Micropterus pallidus</i>	<i>Cambarus</i>	IL	Forbes 1880:46
<i>Micropterus pallidus</i>	<i>C. immunis</i>	IL	Forbes 1880:43
<i>Micropterus salmoides</i>	Crawfish	IL	Adams and Hankinson 1928:482
<i>Micropterus salmoides</i>	Crawfish	IL	Forbes and Richardson 1908:268; 1920:268
<i>Micropterus salmoides</i>	Crawfish	IN	Evermann and Clark 1920:299
<i>Micropterus salmoides</i>	Crawfish	MI	Hankinson 1908:214
<i>Micropterus salmoides</i>	Crawfish	NY	Bean 1903:492; Adams and Hankinson 1928:481
<i>Micropterus salmoides</i>	Crayfish	GEN	Hobbs et al. 1976:1
<i>Micropterus salmoides</i>	Crayfish	CAN	Scott 1954:98
<i>Micropterus salmoides</i>	Crayfish	ON	Bensley 1915:41; Hamilton and Powles 1983:47,50-55
<i>Micropterus salmoides</i>	Crayfish	AL	Swingle 1956:309
<i>Micropterus salmoides</i>	Crayfish	AZ	Saika and Tash 1978:116,118-120,123
<i>Micropterus salmoides</i>	Crayfish	IA	Paragamian 1978:31-33
<i>Micropterus salmoides</i>	Crayfish	KS	Cross and Collins 1975:132
<i>Micropterus salmoides</i>	Crayfish	OK	Scalet 1977:497,498,499; Cowl 1984:98
<i>Micropterus salmoides</i>	Crayfish	RI	Tracy 1910:120; Pearse 1918:267
<i>Micropterus salmoides</i>	Crayfish	TN	Norton 1942:53

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Micropterus salmoides</i>	Crayfish	WV	Woodrum and Schoumacher 1975:197,202
<i>Micropterus salmoides</i>	Crayfish	WI	Marshall and Gilbert 1905:519; Pearse 1918:266, 267,278,286,289; 1921a:31, 36,45,47; 1924:256; Turner 1926:158; Walters 1939:168; Mraz et al. 1961:3; Snow 1971:6,10,11,13,15-24; Becker 1983:813,815
<i>Micropterus salmoides</i>	Crayfishes	IL	Pearse 1918:267; Turner 1926:159; Walters 1939:169
<i>Micropterus salmoides</i>	Crayfishes	MI	Pearse 1918:267; Turner 1926:158,159; Walters 1939:168,169; Hodgson and Kitchell 1987:327,331,332,
<i>Micropterus salmoides</i>	Crayfishes	OH	Turner 1926:159; Walters 1939:169
<i>Micropterus salmoides</i>	<i>Cambarus</i>	IL	Forbes 1880:43; Baker 1916:189
<i>Micropterus salmoides</i>	<i>C. diogenes</i>	OH	Rickett 1974:209; Taub 1972:55-58
<i>Micropterus salmoides</i>	<i>C. immunis</i>	GEN	Forbes 1888b:527
<i>Micropterus salmoides</i>	<i>C. propinquus</i>	IL	Forbes 1880:45,46
<i>Micropterus salmoides</i>	<i>C. propinquus</i>	MI	Hankinson 1908:214
<i>Micropterus salmoides</i>	<i>C. propinquus</i>	LAB	Pearse 1924:256
<i>Micropterus salmoides</i>	<i>C. virilis</i>	LAB	Pearse 1924:256
<i>Micropterus salmoides</i>	<i>O. immunis</i>	LAB	Lewis et al. 1961:277-279
<i>Micropterus salmoides</i>	<i>O. nias</i>	KS	Rickett 1974:209,210
<i>Micropterus salmoides</i>	<i>O. obscurus</i>	MD/ PA	Mather et al. 1982:549
<i>Micropterus salmoides</i>	<i>O. obscurus</i>	WV	Woodrum and Schoumacher 1975:200
<i>Micropterus salmoides</i>	<i>O. virilis</i>	WI	Larimore 1957:12
<i>Micropterus salmoides</i>	<i>P. blandingi</i>	LAB	Lewis and Helms 1963:316
<i>Micropterus salmoides</i>	<i>P. b. acutus</i>	WI	Larimore 1957:12
<i>Micropterus salmoides</i>	<i>P. spiculifer</i>	AL	Yarborough 1973:24
<i>Micropterus salmoides</i>	Shrimp	AZ	Saika and Tash 1978:120
<i>Micropterus s. salmoides</i>	Crayfish	CO	Beckman 1952:79
<i>Micropterus s. salmoides</i>	Crayfish	IA	Harlan and Speaker 1969:115
<i>Micropterus salmoides floridanus</i>	Crawfishes	FL	Neill 1951:764
<i>Micropterus salmoides floridanus</i>	Crayfish	FL	McLane 1948:116
<i>Micropterus salmoides floridanus</i>	<i>Procambarus</i> sp.	FL	McLane 1948:126
<i>Micropterus salmoides floridanus</i>	<i>P. fallax</i>	FL	McLane 1948:116,120, 126,130,134
<i>Micropterus salmoides floridanus</i>	<i>P. paeninsulanus</i>	FL	McLane 1948:120,126



PREDATOR	PREY	LOCALITY	REFERENCE
<i>Micropterus salmoides floridanus</i>	<i>Palaemonetes carolinus</i>	FL	McLane 1948:126
<i>Micropterus salmoides floridanus</i>	<i>Palaemonetes paludosa</i>	FL	McLane 1948:111,116,121,126,130,134
<i>Micropterus punctulatus</i>	Crayfish	KS	Cross and Collins 1975:130
<i>Micropterus treculi</i>	Crayfish	TX	Boyer et al. 1977:362
Sunfish (= <i>Lepomis</i> spp.)	<i>Cambarellus shufeldtii</i>	LA	Penn 1942:644
<i>Lepomis</i> spp.	Crayfish	MI	Lagler and Lagler 1944:300
Common Sunfish (= <i>Lepomis gibbosus</i> ?)	Crayfish	MI	Hankinson 1908:247,249,250
Common Sunfish	Crayfish	GEN	Roberts 1944:369
Bluespotted Sunfish (= <i>Enneacanthus gloriosus</i> ?)	Crayfish	MI	Hankinson 1908:247,249
Blue Spotted Sunfish	Crayfish	GEN	Roberts 1944:369
Blue Spotted Sunfish	Crayfish	MI	Hankinson 1908:247,248
<i>Enneacanthus simulans</i>	Crayfish	DE	Abbott 1883:1256
Green Sunfish (= <i>Lepomis cyanellus</i> )	Crayfish	OH	Rhoades 1951b:13
Green Sunfish	Crawfish	GEN	LaCaze 1970:6
Green Sunfish	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Apomotis cyanellus</i>	Crawfishes	IL	Forbes 1880:51,56
<i>Apomotis cyanellus</i>	<i>Palaemonetes</i>	IL	Forbes 1880:51,56
<i>Lepomis cyanellus</i>	Crawfish	IL	Forbes and Richardson 1908:250; 1920:250; Becker 1983:825
<i>Lepomis cyanellus</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Lepomis cyanellus</i>	Crayfish	CO	Beckman 1952:82
<i>Lepomis cyanellus</i>	Crayfish	IL	Becker 1983:825
<i>Lepomis cyanellus</i>	Crayfish	KY	Minckley 1963:100
<i>Lepomis cyanellus</i>	Crayfishes	MI	Turner 1926:158; Walters 1939:168
<i>Lepomis cyanellus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Lepomis cyanellus</i>	<i>C. propinquus</i>	MI	Hankinson 1908:211
<i>Lepomis cyanellus</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
<i>Lepomis cyanellus</i>	<i>Palaemonetes exilipes</i>	GEN	Forbes 1888b:527
<i>Eupomotis gibbosus</i>	Crawfish	IN	Evermann and Clark 1920:407; Adams and Hankinson 1928:496
<i>Eupomotis gibbosus</i>	Crawfish	MI	Hankinson 1908:213,245-250; Baker 1916:185
<i>Eupomotis gibbosus</i>	Crawfish	NY	Adams and Hankinson 1928:494
<i>Eupomotis gibbosus</i>	Crayfish	GEN	Tack 1941:440
<i>Eupomotis gibbosus</i>	Crayfish	WI	Pearse 1924:256; Turner 1926:158; Walters 1939:168
<i>Eupomotis gibbosus</i>	Crayfishes	MI	Turner 1926:158; Walters 1939:168
<i>Eupomotis gibbosus</i>	<i>C. propinquus</i>	MI	Hankinson 1908:213
<i>Eupomotis gibbosus</i>	<i>C. propinquus</i>	LAB	Pearse 1924:256
<i>Eupomotis gibbosus</i>	<i>C. virilis</i>	LAB	Pearse 1924:256

PREDATOR	PREY	LOCALITY	REFERENCE
Warmouth Bass	Crayfish	GEN	Roberts 1944:369
Warmouth Bass	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
<i>Chaenobryttus gulosus</i>	Crawfish	TX	Cheatum et al. 1943:24
<i>Chaenobryttus gulosus</i>	Crayfish	GA	Palmer and Wright 1920:368; Boyce 1969:82,93
<i>Chaenobryttus gulosus</i>	Crayfish	MI	Lagler and Lagler 1944:300
<i>Chaenobryttus gulosus</i>	Crayfish	TN	McCormick 1940:73,74
<i>Chaenobryttus gulosus</i>	<i>O. p. propinquus</i>	IL	Larimore 1957:12
<i>Chaenobryttus gulosus</i>	<i>O. virilis</i>	IL	Larimore 1957:12
<i>Chaenobryttus gulosus</i>	<i>P. b. acutus</i>	IL	Larimore 1957:12
<i>Chaenobryttus gulosus</i>	Shrimp	TN	McCormick 1940:73,74
<i>Lepomis gulosus</i>	Crayfish	KS	Cross and Collins 1975:133
<i>Lepomis gulosus</i>	Crayfish	WI	Becker 1983:820
<i>Lepiopomus pallidus</i>	Crawfishes	IL	Forbes 1880:49,54
<i>Lepiopomus pallidus</i>	<i>Cambarus</i>	IL	Forbes 1880:56
<i>Lepomis pallidus</i>	Crawfishes	IL	Baker 1916:182
<i>Lepomis pallidus</i>	Crawfish	MI	Hankinson 1908:212
<i>Lepomis pallidus</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Lepomis pallidus</i>	<i>C. propinquus</i>	MI	Hankinson 1908:212
Bluegill (= <i>Lepomis macrochirus</i> )	Crayfish	MI	Hankinson 1908:246,247
Bluegill	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
Bluegill	<i>Palaemonetes kadiakensis</i>	MO	Nielsen and Reynolds 1975:6; 1977:45,55
<i>Helioperca macrochira</i>	Crayfish	GEN	Tack 1941:440
<i>Lepomis macrochirus</i>	Crayfish	CAN	Scott 1954:102
<i>Lepomis macrochirus</i>	Crayfish	IA	Harlan and Speaker 1969:121
<i>Lepomis macrochirus</i>	Crayfish	TX	Sarker 1977:600
<i>Lepomis macrochirus</i>	Crayfish	WI	Becker 1983:847
<i>Lepomis macrochirus</i>	Shrimp	GEN	Nielsen and Reynolds 1977:44
<i>Lepomis macrochirus</i>	Fresh-water	IA	Harlan and Speaker Shrimp 1969:121
<i>Lepomis auritus</i>	Crawfish	NY	Sibley 1922:66,68
<i>Lepomis megalotis</i>	Crayfish	KY	Minckley 1963:100; Lotrich 1973:383
<i>Lepomis incisor</i>	Crawfish	IL	Forbes 1880:53; Adams and Hankinson 1928:487
<i>Lepomis incisor</i>	Crayfishes	MI	Turner 1926:158; Walters 1939:168
<i>Lepomis incisor</i>	Crayfishes	WI	Pearse 1921a; 1921b:264; Turner 1926:158; Adams and Hankinson 1928:488; Walters 1939:168
<i>Lepomis punctatus</i>	<i>Procamburus</i> sp.	LA	Desselle et al. 1978:716
<b>PERCIDAE:</b>			
Perch	Crawfish	GEN	Lyle 1938:75
Perch	Crayfish	MI	Hankinson 1908:233,250
Perch	Crayfish	OH	Rhoades 1951b:13
Perch	Crayfishes	GEN	Forbes 1888b:486; Tester 1932:200; Roberts 1944:369
Perch	Crayfishes	IL	Forbes 1888b:486

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Perca americana</i>	<i>Cambarus</i>	IL	Forbes 1880:32,39
<i>Perca americana</i>	<i>Cambarus virilis</i>	IL	Forbes 1880:33,39
<i>Perca americana</i>	<i>Palaemonetes exilipes</i>	IL	Forbes 1880:32,39
<i>Perca lutea</i>	<i>Cambarus</i>	GEN	Forbes 1888b:526
<i>Perca lutea</i>	<i>C. virilis</i>	GEN	Forbes 1888b:526
<i>Perca lutea</i>	<i>Palaemonetes exilipes</i>	GEN	Forbes 1888b:527
Yellow Perch (= <i>Perca flavescens</i> )	Crayfish	OH	Paxton and Stevenson 1978:270,272,273
Yellow Perch	Crayfish	WI	Nelson and Hasler 1942:147
Yellow Perch	<i>Cambarus</i>	NY	Sibley 1932:131; Pate 1933:154,155
Yellow Perch	<i>O. propinquus</i>	WI	Stein 1977:1247
<i>Perca flavescens</i>	Crawfish	GEN	Baker 1916:155
<i>Perca flavescens</i>	Crawfish	IL	Forbes 1880:29; Baker 1916:190,193
<i>Perca flavescens</i>	Crawfish	IN	Evermann and Clark 1920:427; Adams and Hankinson 1928:431
<i>Perca flavescens</i>	Crawfish	MI	Hankinson 1908:245-251; Baker 1916:191
<i>Perca flavescens</i>	Crawfish	NY	Baker 1916:192,194; Sibley 1922:66,68; Adams and Hankinson 1928:430,431
<i>Perca flavescens</i>	Crawfish	WI	Marshall and Gilbert 1905:520, 521; Baker 1916:191; Adams and Hankinson 1928:432,434
<i>Perca flavescens</i>	Crawfishes	IL	Forbes and Richardson 1908: 277; Forbes 1880:29
<i>Perca flavescens</i>	Crayfish	GEN	Tack 1941:440
<i>Perca flavescens</i>	Crayfish	ON	Bensley 1915:46; Rawson 1930: 128; Fraser 1978:514-516
<i>Perca flavescens</i>	Crayfish	CO	Beckman 1952:91
<i>Perca flavescens</i>	Crayfish	IA	Harlan and Speaker 1969:133
<i>Perca flavescens</i>	Crayfish	MI	Reighard 1915:236-237; Turner 1926:158; Walters 1939:168, 169; Lagler and Lagler 1944: 300; Wells 1980:6-8,12
<i>Perca flavescens</i>	Crayfish	TN	Norton 1942:53
<i>Perca flavescens</i>	Crayfishes	IL	Pearse 1918:270; Turner 1926:159; Walters 1939:16
<i>Perca flavescens</i>	Crayfishes	OH	Turner 1926:159; Walters 1939:169
<i>Perca flavescens</i>	Crayfishes	WI	Pearse and Achtenberg 1920: 300,304,306,316,317,319,338, 349,350,352,354,355,356; Pearse 1921a:40,44,45,48; Turner 1926:158,159; Couey 1935:134,155,156,165,166,168, 170,171; Walters 1939:168; Becker 1983:890

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Perca flavescens</i>	<i>Cambarus</i>	GEN	Adams and Hankinson 1928:432
<i>Perca flavescens</i>	<i>Cambarus</i>	IL	Forbes 1880:28-31
<i>Perca flavescens</i>	<i>Cambarus</i>	IN	DeRyke 1922:32; Adams and Hankinson 1928:433
<i>Perca flavescens</i>	<i>Cambarus</i>	NY	Baker 1916:193,301,320; Moore 1922:53; Adams and Hankinson 1928:433
<i>Perca flavescens</i>	<i>Cambarus</i>	OH	Turner 1920:148; Adams and Hankinson 1928:433
<i>Perca flavescens</i>	<i>Cambarus</i>	WI	Pearse and Achtenberg 1920:311; Pearse 1921b:266; Adams and Hankinson 1928:431,433
<i>Perca flavescens</i>	<i>C. propinquus</i>	MI	Hankinson 1908:215
<i>Perca flavescens</i>	<i>C. propinquus</i>	WI	Pearse and Achtenberg 1920:312
<i>Perca flavescens</i>	<i>C. virilis</i>	ON	Clemens et al. 1924:139
<i>Perca flavescens</i>	<i>C. virilis</i>	LM	Forbes 1880:28-31 Baker 1916:190
<i>Perca flavescens</i>	<i>C. virilis</i>	MI	Reighard 1915:236,237; Adams and Hankinson 1928:432
<i>Perca flavescens</i>	<i>C. virilis</i>	WI	Pearse and Achtenberg 1920:312
<i>Perca flavescens</i>	<i>Orconectes</i> sp.	MB	Kelso and Ward 1977:1660,1661
<i>Perca flavescens</i>	<i>Orconectes</i> sp.	MI	Hauer 1975:60
<i>Perca flavescens</i>	<i>O. propinquus</i>	MI	Wells 1980:6
<i>Perca flavescens</i>	<i>O. propinquus</i>	WI	Stein 1977:1246-1249; Zaret 1980:130; Searns and Hoff 1984:7,10,11,18,19
<i>Perca flavescens</i>	<i>O. virilis</i>	MB	Kelso and Ward 1977:1661
<i>Perca flavescens</i>	<i>Palaemonetes</i>	GEN	Adams and Hankinson 1928:432
<i>Perca flavescens</i>	<i>Palaemonetes</i>	IL	Forbes and Richardson 1908:277; 1920:277; Forbes 1880:28-31
<i>Perca lutea</i>	<i>Cambarus</i>	IL	Forbes 1888b:526
<i>Perca lutea</i>	<i>C. virilis</i>	IL	Forbes 1888b:527
<i>Perca lutea</i>	<i>Palaemonetes exilipes</i>	IL	Forbes 1890b:527
<i>Percina caprodes</i>	Crayfish	ON	Bensley 1915:47
<i>Percina macrocephala</i>	<i>Orconectes</i>	KY	Page 1978:663
<i>Percina caprodes</i>	Crayfish	ON	Bensley 1915:47
<i>Percina caprodes</i>	<i>Cambarus</i>	NY	Baker 1916:195,301
Walleye	Crayfish	IN	Evermann and Clark 1920:235
Walleye	Crayfish	OH	Paxton and Stevenson 1978:274
Walleye	<i>O. rusticus</i>	WI	McBride 1983:42
<i>Stizostedion</i> spp.	Crayfish	MI	Lagler and Lagler 1944:300
<i>S. canadense</i>	Crayfish	IA	Harlan and Speaker 1969:130
<i>Stizostedion vitreum</i>	Crawfishes	GEN	Forbes and Richardson 1908:273; Adams and Hankinson 1928:448

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Stizostedion vitreum</i>	Crawfish	ON	Adams and Hankinson 1928:448
<i>Stizostedion vitreum</i>	Crawfish	OH	Leach 1927:4; Adams and Hankinson 1928:447
<i>Stizostedion vitreum</i>	Crayfish	ON	Bensley 1915:45
<i>Stizostedion vitreum</i>	Crayfish	TN	Norton 1942:53
<i>Stizostedion vitreum</i>	Crayfish	WI	Couey 1935:172
<i>Stizostedion vitreum</i>	Crayfishes	IL	Turner 1926:159; Walters 1939:169
<i>Stizostedion vitreum</i>	<i>C. propinquus</i>	ON	Tester 1932:199
<i>Stizostedion vitreum</i>	<i>O. propinquus</i>	WI	Stein 1977:1246-1249
<i>Stizostedion vitreum</i>	<i>O. rusticus</i>	WI	Capelli 1982:744
<i>S. v. vitreum</i>	Crayfish	CO	Beckman 1952:89
<i>S. v. vitreum</i>	Crayfish	IA	Harlan and Speaker 1969:131
<i>S. v. vitreum</i>	Crayfish	MI	Raney and Lachner 1942b:11
<i>S. v. vitreum</i>	Crayfishes	NY	Raney and Lachner 1942b:10
<i>S. v. vitreum</i>	Crayfish	WI	Becker 1983:876
<i>S. v. vitreum</i>	<i>Cambarus</i> sp.	MB	Fedoruk 1966:941,942
<i>S. v. vitreum</i>	<i>O. virilis</i>	MB	Kelso and Ward 1977:1665,1667
<i>Poecilichthys c. caeruleus</i>	Crayfish	MI	Lagler and Lagler 1944:300
<i>Etheostoma caeruleum</i>	Crayfish	OH	Turner 1921:52,53; 1926:159; Walters 1939:169
<i>Etheostoma caeruleum</i>	Crayfish	WI	Becker 1983:935
<i>Etheostoma sagitta</i>	Crayfish	KY	Lotrich 1973:382
<i>Etheostoma squamiceps</i>	<i>O. kentuckiensis</i>	IL	Boyd and Page 1978:402
<i>Etheostoma squamiceps</i>	<i>O. placidus</i>	IL	Boyd and Page 1978:402
<i>Etheostoma flabellare</i>	Crayfish	WI	Becker 1983:949
<b>SCIAENIDAE:</b>			
Freshwater Drum	Crayfish	WI	Wirth 1958:31
<i>Aplodinotus grunniens</i>	Crayfish	CAN	Scott 1954:109
<i>Aplodinotus grunniens</i>	Crayfish	CO	Beckman 1952:97
<i>Aplodinotus grunniens</i>	Crawfish	IL	Forbes and Richardson 1908:324; 1920:324
<i>Aplodinotus grunniens</i>	Crayfish	MO	Berner 1951:10
<i>Aplodinotus grunniens</i>	Crayfish	WI	Becker 1983:960
<i>Aplodinotes grunniens</i>	Crayfishes	OH	Daiber 1952:35-46; Trautman 1957:607
<b>CICHLIDAE:</b>			
<i>Cichlasoma steindachneri</i>	<i>Atya scabra</i>	TAM	Darnell 1956:137
<b>ELEOTRIDAE:</b>			
<i>Gobiomorus dormitor</i>	<i>Atya scabra</i>	TAM	Darnell 1956:137
<b>COTTIDAE:</b>			
<i>Cottus</i> spp.	Crayfish	NY	Koster 1936:374
<i>Cottus bairdii</i>	Crayfish	ON	Ricker 1934:75
<i>Cottus bairdi</i>	<i>O. putnami</i>	APP	McNeely 1984:155
<i>Cottus b. bairdi</i>	<i>Orconectes</i> sp.	NY	Daiber 1956:146
<i>Cottus caroliniae</i>	Crayfish	KY	Minckley 1963:101



<b>PREDATOR</b>	<b>PREY</b>	<b>LOCALITY</b>	<b>REFERENCE</b>
<i>Cottus carolinae</i>	<i>C. bartoni</i>	KY	Minckley 1963:102; Minckley et al. 1963:230
<i>Cottus carolinae</i>	<i>O. rusticus</i>	KY	Minckley et al. 1963:230
<i>Cottus carolinae</i>	<i>O. pellucidus</i>	KY	Minckley et al. 1963:230
<i>Cottus ictalops</i>	<i>C. propinquus</i>	MI	Reighard 1915:242

TABLE 5.

AMPHIBIAN PREDATORS OF CRAYFISHES AND SHRIMPS.

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

PREDATOR	PREY	LOCALITY	REFERENCE
Amphibian	<i>C. diogenes</i>	ON	Crocker and Barr 1968:30
Amphibian	<i>C. robustus</i>	ON	Crocker and Barr 1968:30
Amphibian	<i>O. immunis</i>	ON	Crocker and Barr 1968:30
Amphibian	<i>O. propinquus</i>	ON	Crocker and Barr 1968:30
Amphibian	<i>O. virilis</i>	ON	Crocker and Barr 1968:30
Amphibians	<i>O. virilis</i>	MB	McInnes 1974:144
<b>ANURA:</b>			
Toads	Crayfish	GEN	Lagler and Lagler 1944:297
Toads	<i>C. immunis</i>	NY	Tack 1941:440
Toads	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Toads	<i>O. immunis</i>	NY	Phillips 1980:87
<b>BUFONIDAE:</b>			
<i>Bufo americanus</i>	Crayfishes	ON	Crocker and Barr 1968:30
<i>Bufo americanus</i>	Crayfish	GEN	Tack 1941:440
<i>Bufo americanus</i>	<i>C. immunis</i>	NY	Tack 1941:440
Frog	<i>O. virilis</i>	MI	Momot 1967a:207
Frogs	Crayfish	GEN	Shelford 1913:362; Turner 1926:157; Lagler and Lagler 1944:297; Roberts 1944:369
Frogs	Crayfishes	MO	Johnson 1978:5
Frogs	<i>C. clarkii</i>	LA	Roberts 1944:369
Frogs	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Frogs	<i>O. immunis</i>	NY	Phillips 1980:87
Frog Embryo	<i>Macrobrachium nattereri</i> juvs	Brazil	Kensley and Walker 1982:25
<b>HYLIDAE:</b>			
<i>Acris crepitans blanchardi</i>	Crayfish	KS	Hartman 1906:58
<i>Acris gryllus</i>	Crayfish	KS	Pope 1944:89
<b>RANIDAE:</b>			
<i>Rana</i> spp	Crayfish	LA	Gary 1975:131
<i>Rana areolata</i>	Crayfish	KS	Hartman 1906:89,229
Leopard Frog (= <i>Rana pipiens</i> )	Crayfish	FL	Kilby 1945:73
Leopard Frog	Crayfish	OK	Force 1925:25-27
<i>Rana pipiens</i>	Crayfish	GEN	Tack 1941:440; Lagler and Lagler 1944:301
<i>Rana pipiens sphenocephala</i>	<i>Cambarus</i> sp	FL	Kilby 1945:84
<i>Rana pipiens sphenocephala</i>	<i>C. fallax</i>	FL	Kilby 1945:84
<i>Rana pipiens sphenocephala</i>	<i>C. pubescens</i>	FL	Kilby 1945:84

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Rana pipiens</i>	<i>C. troglodytes</i>	FL	Kilby 1945:84
<i>sphenocephala</i>			
<i>Rana palustris</i>	Crayfish	GEN	Tack 1941:440; Lagler and Lagler 1944:301
<i>Rana palustris</i>	Crayfish	CT	Babbitt 1937:41
Bull Frogs (= <i>Rana catesbeiana</i> )	Crawfish	GEN	LaCaze 1970:6; Keating 1972:17
Bull Frogs	Crayfish	LA	Mathies 1974:2
Bull Frogs	<i>P. clarkii</i>	LA	Huner and Barr 1984:49
Bull Frogs	Crawfish	OH	Rhoades 1951b:13
<i>Rana catesbiana</i>	Crawfish	GEN	Baker 1916:228
<i>Rana catesbeiana</i>	Crawfish	IL	Cagle 1942:183; Pope 1944:118
<i>Rana catesbeiana</i>	Crawfish	IN	Hay 1892:479
<i>Rana catesbeiana</i>	Crayfish	GEN	Tack 1941:440; Lagler and Lagler 1944:301
<i>Rana catesbeiana</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Rana catesbeiana</i>	Crayfish	FL	Carr 1940:65
<i>Rana catesbeiana</i>	Crayfish	KS	Korschgen and Moyle 1955:332
<i>Rana catesbeiana</i>	Crayfish	KY	Bush 1959:74
<i>Rana catesbeiana</i>	Crayfish	MN	Breckenridge 1944:76
<i>Rana catesbeiana</i>	Crayfish	MO	Korschgen and Moyle 1955:334; Korschgen and Baskett 1963:91
<i>Rana catesbeiana</i>	Crayfish	NC/SC	Martof et al. 1980:129
<i>Rana catesbeiana</i>	Crayfish	PA	Surface 1913:141; Frost 1935:16
<i>Rana catesbeiana</i>	Crayfish	TX	Korschgen and Moyle 1955:333
<i>Rana catesbeiana</i>	Crayfish	VA	Martof et al. 1980:129
<i>Rana catesbeiana</i>	Crayfish	WI	Vogt 1981:7
<i>Rana catesbeiana</i>	<i>Cambarus</i>	AR	McKamie and Heidt 1974:108
<i>Rana catesbeiana</i>	<i>Cambarus</i> sp	MO	Korschgan and Moyle 1955:335, 336; Korschgen and Baskett 1963:91,94,96
<i>Rana catesbeiana</i>	<i>Cambarus</i> sp	NY	Needham 1905:13
<i>Rana catesbeiana</i>	<i>Cambarus</i> sp	OK	Tyler and Hostenbach 1979:33-36
<i>Rana catesbeiana</i>	<i>Cambarus</i> sp	PA	Surface 1913:141
<i>Rana catesbeiana</i>	<i>Orconectes</i> sp	MO	Korschgen and Baskett 1963:91, 94,96
<i>Rana catesbeiana</i>	<i>Procambarus</i> sp	MO	Korschgen and Baskett 1963:91,94
<i>Rana catesbeiana</i>	<i>P. lucifugus</i>	FL	Lee 1969:211
Green Frog (= <i>Rana clamitans</i> )	Crawfish	OH	Rhoades 1951b:13
<i>Rana clamitans</i>	Crawfishes	GEN	Neill 1951:764
<i>Rana clamitans</i>	Crayfish	GEN	Tack 1941:440; Lagler and Lagler 1944:301
<i>Rana clamitans</i>	Crayfish	CT	Babbitt 1937:44
<i>Rana clamitans</i>	Crayfish	NY	Hamilton 1948:205,206; Whitaker 1961:175; Vogt 1981:78
<i>Rana clamitans</i>	<i>Cambarus</i>	KY	Barbour 1953:88
<i>Rana clamitans</i>	<i>O. virilis</i>	MI	Momot 1967a:207
<i>Rana clamitans melanota</i>	Crawfish	KY	Bush 1959:74

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Rana climatans</i>	Crayfish	PA	Surface 1913:141
<i>Rana climatans</i>	<i>Cambarus</i> sp	PA	Surface 1913:141
<i>Rana grylio</i>	Crayfish	FL	Carr 1940:67
<i>Rana grylio</i>	<i>P. alleni</i>	FL	Duellman and Schwartz 1958: 255,256; Ligas 1960:78,79; Ligas nd:12; Kushlan and Kushlan 1979:118
<i>Rana grylio</i>	<i>P. paeninsulanus</i>	GA	Lamb 1984:314,315
<b>CAUDATA:</b>			
Salamanders	Crayfish	GEN	Turner 1926:157; Meredith and Schwartz 1962:1
Salamanders	Crayfishes	MO	Johnson 1978:5
Salamanders	Crawfishes	MI	Pearse 1910:13
Salamanders	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Salamanders	<i>O. immunis</i>	NY	Phillips 1980:87
<b>CRYPTOBRANCHIDAE:</b>			
<i>Memopoma</i>	Crawfish	OH	Smith 1882:635
<i>alleganiensis</i>			
Hellbender (= <i>Cryptobranchus alleganiensis</i> )	Crawfish	OH	Rhoades 1951b:13
<i>Cryptobranchus</i>	Crayfish	GEN	Zahl 1972:106,107
<i>Cryptobranchus</i>	Crawfishes	GEN	Penn 1950:653; Neill 1951:764
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	GEN	Chidester 1912:288; Tack 1941:440
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	NC/ SC/ VA	Martof et al. 1980:43
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	PA	Swanson 1948:363,364
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	TN	Parker 1937:61
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	KS	Collins 1974:21
<i>a. alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	VA	Tobey 1979:389
<i>a. alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	WV	Green 1935:36
<i>a. alleganiensis</i>			
<i>Cryptobranchus</i>	<i>O. neglectus</i>	MO	Nickerson and Mays 1973:15
<i>alleganiensis bishopi</i>			
<i>Cryptobranchus</i>	<i>O. propinquus</i>	MO	Nickerson and Mays 1973:15
<i>alleganiensis bishopi</i>			
<i>Cryptobranchus</i>	Crawfish	GEN	Smith 1907:12; Baker 1916:229
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	Crayfish	PA	Ortmann 1906:495; Surface 1913:85,134; Baker 1916: 229; Netting 1929:24; Walters 1939:161
<i>alleganiensis</i>			
<i>Cryptobranchus</i>	<i>Cambarus</i> sp	PA	Surface 1913:134
<i>alleganiensis</i>			

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Memopoma alleganiensis</i>	Crawfish	OH	Smith 1882:635
<b>PROTEIDAE:</b>			
Mudpuppies (= <i>Necturus maculosus</i> )	Crayfish	GEN	Lagler and Lagler 1944:297
Mud Puppy	Crawfish	OH	Rhoades 1951b:13
<i>Necturus maculosus</i>	Crayfish	GEN	Chidester 1912:288; Pearse 1921c:Fig. 1;5; Bishop 1926: 9; Tack 1941:440
<i>Necturus maculosus</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Necturus maculosus</i>	Crayfish	KS	Collins 1974:40
<i>Necturus maculosus</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Necturus maculosus</i>	Crayfish	PA	Ortmann 1906:495; Surface 1913:134
<i>Necturus maculosus</i>	Crayfish	NC/ SC/ VA	Martof et al. 1980:50
<i>Necturus maculosus</i>	Crayfish	WI	Pearse 1921c:5,6
<i>Necturus maculosus</i>	<i>Cambarus</i>	GEN	Hamilton 1932:84
<i>Necturus maculosus</i>	<i>C. propinquus</i>	MI	Lagler and Goellner 1941:97; Lagler and Lagler 1944:298
<i>Necturus maculosus</i>	<i>C. propinquus</i>	WI	Pearse 1921c:5,6
<i>Necturus m. maculosus</i>	Crawfishes	GEN	Neill 1951:764
<i>Necturus m. maculosus</i>	Crayfish	WI	Knudsen 1959:37
<i>Necturus m. maculosus</i>	<i>Cambarus</i>	WI	Vogt 1981:58
<i>Necturus punctatus</i>	Crayfish	SC	Meffe and Sheldon 1987:494
<b>AMBYSTOMIDAE:</b>			
<i>Ambystoma tigrinum</i>	Crayfish	WI	Knudsen 1958:37
<i>Ambystoma tigrinum</i>	<i>Palaemonetes</i>	LAB	Carr 1940:47
<b>AMPHIUMIDAE:</b>			
<i>Amphiura</i> spp	Crayfish	LA	Gary 1975:131
<i>Amphiura means</i>	Crayfish	GEN	Davison 1895:393
<i>Amphiura means</i>	Crayfish	FL	Duellman and Schwartz 1958:229
<i>Amphiura means</i>	Crayfish (soft)	FL	Carr 1940:44
<i>Amphiura means</i>	Crayfish	NC	Brimley 1920:6
<i>Amphiura means</i>	Crayfish	NC/ SC/ VA	Martof et al. 1980:53
<i>Amphiura means</i>	<i>C. blandingi</i>	NC	Brimley 1939:7
<i>Amphiura means</i>	<i>Palaemonetes</i>	FL	Carr 1940:43
<i>Amphiura m. means</i>	Crawfishes	GEN	Neill 1951:764
<i>Amphiura means tridactylum</i>	Crawfishes	GEN	Neill 1951:764
<i>Amphiura means tridactylum</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Amphiura means tridactylum</i>	Crayfish	LA	Gary 1975:131
<i>Amphiura tridactylum</i>	Crayfish	LAB	Baker 1937:210,212,214
<i>Amphiura tridactylum</i>	Crayfishes	TN	Parker 1937:61
<i>Amphiura tridactylum</i>	Crawfish	LA	Chaney 1951:46-49
<i>Amphiura tridactylum</i>	Crawfishes	GEN	Penn 1950:653

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Amphiuma tridactylum</i>	<i>Cambarus blandingii</i>	LA	Chaney 1951:46
<i>Amphiuma tridactylum</i>	<i>Cambarus ludovicianus</i>	LA	Chaney 1951:46
<i>Amphiuma tridactylum</i>	<i>Cambarus spiculifer</i>	FL	Carr 1940:44
<b>SIRENIDAE:</b>			
<i>Siren lacertina</i>	Crayfish	GEN	Ultsch 1973:305
<i>Siren lacertina</i>	Crayfish	AL	Hanlin 1978:359
<i>Siren lacertina</i>	Crayfish	FL	Carr 1940:52; Duellman and Schwartz 1958:225; Hanlin 1978:358
<i>Siren lacertina</i>	<i>Palaemonetes</i>	FL	Carr 1940:52



**TABLE 6.**

REPTILIAN PREDATORS OF CRAYFISHES AND SHRIMPS.

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

PREDATOR	PREY	LOCALITY	REFERENCE
Reptiles	<i>O. virilis</i>	MB	McInnes 1974:144
<b>TESTUDINES:</b>			
Turtles	Crawfishes	MI	Pearse 1910:13
Turtles	Crayfish	GEN	Turner 1926:157; Roberts 1944:369; Meredith and Schwartz 1962:1; Welles 1982:99
Turtles	Crayfish	MO	Johnson 1978:5
Turtles	Crayfish	PA	Surface 1908:184,185
Turtles	<i>C. immunis</i>	MI	Lagler and Lagler 1944:296
Turtles	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Turtles	<i>O. immunis</i>	NY	Tack 1941:420-466; Phillips 1980:87
<b>CHELYDRIDAE:</b>			
Snapping Turtle (= <i>Chelydra serpentina</i> )	Crawfish	OH	Rhoades 1951b:13
Snapping Turtle	Crayfish	MI	Minyard 1947:2
Snapping Turtles	Crayfish	PA	Surface 1908:180
Snapping Turtle	<i>C. virilis</i>	GEN	Roberts 1944:369
Snapping Turtle	<i>C. virilis</i>	MI	Lagler and Lagler 1944:295
<i>Chelydra serpentina</i>	Crayfish	GEN	Tack 1941:440; Ernst and Barbour 1972:24
<i>Chelydra serpentina</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Chelydra serpentina</i>	Crayfish	CT	Alexander 1943:280-282
<i>Chelydra serpentina</i>	Crayfish	IL	Cahn 1937:40,43
<i>Chelydra serpentina</i>	Crayfish	IN	Hay 1892:558
<i>Chelydra serpentina</i>	Crayfish	MA/NY	Pell 1940:131
<i>Chelydra serpentina</i>	Crayfish	MI	Lagler 1940:42; 1943:268,269,273-275,279,308
<i>Chelydra serpentina</i>	Crayfish	MN	Breckenridge 1944:164
<i>Chelydra serpentina</i>	Crayfish	OH	Conant 1938:127
<i>Chelydra serpentina</i>	Crayfish	PA	Surface 1908:130,131
<i>Chelydra serpentina</i>	Crayfish	WI	Knudsen 1956a:37
<i>Chelydra serpentina</i>	<i>Cambarus</i>	PA	Surface 1908:191
<i>Chelydra s. serpentina</i>	<i>Cambarus</i>	KY	Barbour 1950:107
<i>Chelydra s. serpentina</i>	Crayfishes	IL	Pope 1944:237
<i>Chelydra s. serpentina</i>	Crayfish	WI	Vogt 1981:91
<i>Chelydra serpentina</i>	<i>Cambarus</i> sp	MI	Lagler 1943:276
<i>Chelydra serpentina</i>	<i>C. diogenes</i>	MI	Lagler 1943:276
<i>Chelydra serpentina</i>	<i>C. diogenes</i>	MI	Lagler and Lagler 1944:300
<i>Chelydra serpentina</i>	<i>C. immunis</i>	MI	Lagler 1943:276; Lagler and Lagler 1944:297
<i>Chelydra serpentina</i>	<i>C. propinquus</i>	MI	Lagler 1943:276; Lagler and Lagler 1944:298

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Chelydra serpentina</i>	<i>C. robustus</i>	MI	Lagler 1943:276; Lagler and Lagler 1944:299
<i>Chelydra serpentina</i>	<i>C. virilis</i>	MI	Lagler 1943:276
<i>Chelydra serpentina osceola</i>	Crayfish	GEN	Carr 1966:72
<i>Chelydra osceola</i>	Crayfish	FL	Ernst and Barbour 1972:28
<b>KINOSTERNIDAE:</b>			
<i>Macroclermys temminckii</i>	Crayfish	GEN	Ernst and Barbour 1972:31
<i>Kinosternon subrubrum steindachneri</i>	Crayfish	FL	Carr 1966:110
Musk Turtle (= <i>Stenotherus</i> )	Crayfish	MI	Lagler 1943:307
Musk Turtle	<i>C. virilis</i>	MI	Lagler and Lagler 1944:295
<i>Sternotherus odoratus</i>	Crayfish	GEN	Ernst and Barbour 1972:40
<i>Sternotherus odoratus</i>	Crayfish	IL	Cahn 1937:55; Cagle 1942:194
<i>Sternotherus odoratus</i>	Crayfish	MI	Lagler 1940:42; 1943:262-264; Lagler and Lagler 1944:298; Carr 1966:88
<i>Sternotherus odoratus</i>	Crayfish	OH	Conant 1938:123
<i>Sternotherus odoratus</i>	Crayfish	WI	Vogt 1981:94
<i>Sternotherus odoratus</i>	Crayfishes	IL	Pope 1944:233
<i>Sternotherus odoratus</i>	<i>Cambarus</i> sp	MI	Lagler 1943:263
<i>Sternotherus odoratus</i>	<i>C. virilis</i>	MI	Lagler 1943:263
<i>Sternotherus minor</i>	Crayfish	FL	Carr 1940:97 (dead)
<i>Sternotherus minor depressus</i>	Crayfish	GEN	Ernst and Barbour 1972:48
<i>Sternotherus minor peltifer</i>	Crayfish	SW	Folkerts 1968:171
<b>EMYDIDAE:</b>			
<i>Clemmys guttata</i>	Crayfish	GEN	Ernst and Barbour 1972:75
<i>Clemmys guttata</i>	Crayfish	OH	Conant 1938:131
<i>Clemmys guttata</i>	Crayfish	IL	Cahn 1937:74
<i>Clemmys guttata</i>	<i>Cambarus</i>	PA	Surface 1908:166,191
<i>Clemmys insculptus</i>	<i>Cambarus</i> sp	PA	Surface 1908:163,191
Blandings Turtle	Crayfish	MI	Minyard 1947:2
Blandings Turtle (= <i>Emydoidea blandingii</i> )	<i>C. virilis</i>	MI	Lagler and Lagler 1944:295
<i>Emydoidea blandingii</i>	Crayfish	GEN	Ernst and Barbour 1972:182
<i>Emydoidea blandingii</i>	Crayfish	WI	Vogt 1981:98
<i>Emys blandingii</i>	Crayfish	IL	Cahn 1937:83
<i>Emys blandingii</i>	Crayfish	MI	Lagler 1940:42; 1943:285-287, 289,307,308
<i>Emys blandingii</i>	Crayfish	OH	Conant 1938:135
<i>Emys blandingii</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Emys blandingii</i>	Crayfishes	IL	Pope 1944:243
<i>Emys blandingii</i>	<i>C. propinquus</i>	MI	Lagler 1943:288
<i>Emys blandingii</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
<i>Emys blandingii</i>	<i>C. virilis</i>	MI	Lagler 1943:287,288
<i>Emys blandingii</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:298
Common Box Turtle	Crayfish	GEN	Chidester 1912:289

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Terrapene carolina</i>	Crayfish	GEN	Ernst and Barbour 1972:93
<i>Terrapene carolina</i>	Crayfish	IL	Cagle 1942:198
<i>Terrapene carolina</i>	Crayfish	MI	Lagler 1943:290
<i>Terrapene carolina</i>	Crayfish	OH	Conant 1938:139
<i>Terrapene carolina</i>	<i>Cambarus</i>	PA	Surface 1908:176,191
<i>Terrapene carolina carolina</i>	<i>Cambarus</i>	KY	Barbour 1950:107
Painted Turtle (= <i>Chrysemys picta marginata</i> )	<i>C. virilis</i>	MI	Lagler and Lagler 1944:295
<i>Chrysemys picta</i>	Crayfish	GEN	Tack 1941:440
<i>Chrysemys picta</i>	<i>Cambarus</i>	GEN	Ernst and Barbour 1972:145
<i>Chrysemys picta</i>	Crayfish	WI	Vogt 1981:10
<i>Chrysemys picta marginata</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Chrysemys picta marginata</i>	Crayfish	IL	Cahn 1937:137
<i>Chrysemys picta marginata</i>	Crayfishes	IL	Pope 1944:258
<i>Chrysemys picta marginata</i>	Crayfishes	MI	Lagler 1940:42
<i>Chrysemys picta marginata</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
<i>Chrysemys picta marginata</i>	Crayfish	NY	Raney and Lachner 1942a:84,85
<i>Chrysemys belli marginata</i>	Crayfish	OH	Conant 1938:150
<i>Chrysemys belli marginata</i>	Crayfish	WI	Knudsen 1956c:31
<i>Chrysemys marginata</i>	Crayfishes	OH	Lagler 1943:299
<i>Chrysemys marginata</i>	<i>Cambarus</i> sp	OH	Lagler 1943:300
<i>Chrysemys marginata</i>	<i>C. propinquus</i>	OH	Lagler 1943:300
<i>Chrysemys marginata</i>	<i>C. virilis</i>	OH	Lagler 1943:300
<i>Chrysemys picta dorsalis</i>	Crayfish	FL	Carr 1966:228
<i>Chrysemys picta dorsalis</i>	Crayfish	IL	Cahn 1937:152
<i>Chrysemys picta dorsalis</i>	Crayfish	TN	Marchand 1942:70; Anderson 1965:51
<i>Chrysemys picta:belli</i> x <i>marginata</i>	<i>Cambarus</i> sp	MI	Lagler 1943:294
<i>Chrysemys picta:belli</i> X <i>marginata</i>	<i>C. diogenes</i>	MI	Lagler 1943:294; Lagler and Lagler 1944:300
<i>Chrysemys picta:belli</i> x <i>marginata</i>	<i>C. propinquus</i>	MI	Lagler 1943:294
<i>Chrysemys picta:belli</i> x <i>marginata</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:294
<i>Chrysemys scripta</i>	Crayfish	GEN	Ernst and Barbour 1972:153
<i>Chrysemys rubriventris</i>	Crayfish	GEN	Ernst and Barbour 1972:167
<i>Chrysemys rubriventris</i>	Crayfish	MA	Graham 1971:354; Parmenter 1980:511
<i>Graptemys pseudogeographica</i>	Crayfish	GEN	Ernst and Barbour 1972:125

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Graptemys pseudogeographica ouachitensis</i>	Crayfish	TN	Moll 1976:479
<i>Graptemys p. pseudogeographica</i>	Crayfish	GEN	Carr 1966:207
<i>Graptemys p. pseudogeographica</i>	Crayfish	WI	Vogt 1981:111
<i>Malaclemys pseudogeographica</i>	Crayfish	IN	Hay 1892:574
<i>Malacoclemmys lesueuri</i>	Crayfish	GEN	Garman 1890:82
<i>Malaclemys geographica</i>	Crayfish	GEN	Hay 1892:576
Map Turtle	Crayfishes	MI	Minyard 1947:2
<i>Graptemys geographica</i>	Crayfish	GEN	Carr 1966:199; Ernst and Barbour 1972:112
<i>Graptemys geographica</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Graptemys geographica</i>	Crayfish	IL	Pope 1944:254
<i>Graptemys geographica</i>	Crayfish	MI	Lagler 1940:42; 1943:291,293,308; Lagler and Lagler 1944:295,298; Carr 1966:20
<i>Graptemys geographica</i>	Crayfish	MN	Breckenridge 1944:176
<i>Graptemys geographica</i>	Crayfish	MO	Anderson 1965:38
<i>Graptemys geographica</i>	Crayfish	OH	Conant 1938:144
<i>Graptemys geographica</i>	Crayfish	VA	Martof et al. 1980:159
<i>Graptemys geographica</i>	Crayfish	WI	Knudsen 1956b:36; Dickinson 1965:32; Vogt 1981:106
<i>Graptemys geographica</i>	Crayfishes	NEG	Babcock 1938:34
<i>Graptemys geographica</i>	<i>Cambarus</i> sp	PA	Surface 1908:191
<i>Graptemys geographica</i>	<i>Cambarus</i> sp	MI	Lagler 1943:292
<i>Graptemys geographica</i>	<i>C. immunis</i>	MI	Lagler 1943:292
<i>Graptemys geographica</i>	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
<i>Graptemys geographicus</i>	Crayfishes	IN	Surface 1908:142
<i>Graptemys geographicus</i>	Crayfishes	PA	Surface 1908:141
<i>Graptemys barbouri</i>	Crayfishes	GEN	Wahlquist 1970:12
<i>Graptemys barbouri</i>	Crayfishes	GEN	Ernst and Barbour 1972:115
<i>Pseudemys concinna</i>	Crayfish	IL	Cahn 1937:158
<i>Pseudemys concinna hierglyphica</i>	Crayfish	IN	Minton 1944:442
<i>Pseudemys rubriventris bangsi</i>	Crayfish	GEN	Carr 1966:274
<i>Pseudemys rubriventris bangsi</i>	Crayfishes	NEG	Babcock 1938:39
<i>Pseudemys scripta</i>	Crayfish	LA	Gary 1975:131
<i>Pseudemys scripta elegans</i>	Crayfish	GEN	Carr 1966:257
<i>Pseudemys scripta elegans</i>	Crayfish	IL	Pope 1944:262
<i>Pseudemys s. scripta</i>	Crayfish	FL	Marchand 1942:45
<i>Pseudemys s. scripta</i>	Crayfish	OH	Conant 1938:153
<i>Pseudemys s. scripta Palaemonetes paludosa</i>		FL	Carr 1966:248 Marchand 1942:45; Carr 1966:248

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Pseudemys s. troostii</i>	Crawfishes	GEN	Minyard 1947:3; Neill 1951:764
<i>Pseudemys s. troostii</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Pseudemys s. troostii</i>	Crawfish	LA	Minyard 1947:12,13,27, Tables 1,2
<i>Pseudemys troostii</i>	Crawfish	IL	Minyard 1947:3
<i>Pseudemys troostii</i>	Crawfish	OH	Minyard 1947:3
<i>Pseudemys troostii</i>	Crayfish	IL	Cahn 1937:168
<i>Pseudemys troostii</i>	<i>Palaemonetes paludosa</i>	FL	Marchand 1942:46
<i>Pseudemys troostii</i>	<i>Procambarus paeninsulanus</i>	FL	Marchand 1942:46
<i>Deirochelys reticularia</i>	Crayfish	GEN	Carr 1966:319
<i>Deirochelys reticularia</i>	Crayfish	GEN	Ernst and Barbour 1972:178
<b>TRIONYCHIDAE:</b>			
Soft-shelled Turtle (= <i>Trionyx</i> )	Crayfish	IN	Evermann and Clark 1920:235
Soft-shelled Turtle	Crayfishes	MI	Minyard 1947:2
<i>Amyda spinifera</i>	Crayfish	MN	Breckenridge 1944:186
<i>Amyda spinifera</i>	Crayfish	OH	Conant 1938:160
<i>Amyda spinifera</i>	<i>Cambarus</i> sp	IL	Cahn 1937:193
<i>Aspidonectes spinifer</i>	Crayfish	PA	Lagler 1943:303,305,308; Surface 1908:123
<i>Aspidonectes spinifer</i>	Crayfish	IN	Newman 1906:131
<i>Aspidonectes spinifer</i>	<i>Cambarus</i> sp	IN	Surface 1908:191
<i>Trionyx spiniferus</i>	Crayfish	GEN	Ernst and Barbour 1972:265
<i>Trionyx spiniferus</i>	Crayfish	CO	Rodeck 1950:8
<i>Trionyx spiniferus</i>	Crayfish	IN	Minton 1944:446
<i>Trionyx spiniferus</i>	Crayfish	MN	Breckenridge 1944:186; Ernst and Barbour 1972:265
<i>Trionyx spiniferus</i>	Crayfish	MO	Anderson 1965:69; Ernst and Barbour 1972:265
<i>Trionyx spiniferus</i>	Crayfish	WI	Vogt 1981:115
<i>Trionyx spinifer hartwegi</i>	<i>Cambarus</i> sp.	MO	Anderson 1965:69
<i>Amyda ferox agassizii</i>	Crawfishes	GA	Neill 1951:765
<i>Amyda ferox spinifera</i>	Crawfishes	GEN	Carr 1966:430
<i>Trionyx ferox spinifera</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Trionyx ferox spinifera</i>	Crayfish	WI	Dickinson 1965:34
<i>Trionyx ferox</i>	Crayfish	GEN	Ernst and Barbour 1972:268
<i>Trionyx ferox</i>	Crayfish	SC	Martof et al. 1980:171
<i>Amyda ferox</i>	<i>Procambarus paeninsulanus</i>	FL	Marchand 1942:46
<i>Amyda s. spinifera</i>	Crayfish	MI	Lagler 1940:42; 1943:303, 305,308
<i>Amyda s. spinifera</i>	Crayfishes	IL	Pope 1944:265
<i>Amyda s. spinifera</i>	<i>Cambarus</i> sp	IL	Lagler 1943:304
<i>Amyda s. spinifera</i>	<i>C. robustus</i>	IL	Lagler 1943:304
<i>Amyda s. spinifera</i>	<i>C. robustus</i>	IL	Lagler and Lagler 1944:299
<i>Amyda s. spinifera</i>	<i>C. immunis</i>	IL	Lagler 1943:304
<i>Amyda s. spinifera</i>	<i>C. immunis</i>	IL	Lagler and Lagler 1944:297
<i>Amyda s. spinifera</i>	<i>C. propinquus</i>	IL	Lagler 1943:304

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Amyda s. spinifera</i>	<i>C. propinquus</i>	IL	Lagler and Lagler 1944:298
<i>Amyda s. spinifera</i>	<i>C. virilis</i>	IL	Lagler 1943:304
<i>Amyda s. spinifera</i>	<i>C. virilis</i>	IL	Lagler and Lagler 1944:295
<i>Amyda mudica</i>	Crayfish	IL	Cahn 1937:183
<i>Amyda mutica</i>	Crayfish	GEN	Carr 1966:439
<i>Amyda mutica</i>	Crayfish	OH	Conant 1938:156
<i>Trionyx m. mutica</i>	<i>Cambarus</i> sp	MO	Anderson 1965:70
<i>Trionyx muticus</i>	Crayfish	GEN	Ernst and Barbour 1972:259
<i>Gopherus berlandieri</i>	Crayfish	GEN	Ernst and Barbour 1972:197
<b>CROCODILIA—Alligatoridae:</b>			
Alligator	Crayfish	SUS	Rhoades 1951b:13
Alligator	Crawfishes	GEN	Lyle 1938:75; Penn 1950:653
Alligator	<i>Cambarus</i>	FL	Giles and Childs 1949:21
Alligators	<i>C. clarkii</i>	LA	Viosca 1931:17
American Alligator	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Alligator mississippiensis</i>	Crayfishes	FL	Fogarty and Albury 1968:220-222
<i>Alligator mississippiensis</i>	Crayfishes	GEN	Crocker and Barr 1968:31
<i>Alligator mississippiensis</i>	<i>Cambarus</i>	GEN	Kellogg 1929:22
<i>Alligator mississippiensis</i>	<i>P. alleni</i>	FL	Kushlan and Kushlan 1979:118
<i>Alligator mississippiensis</i>	Crayfish	LA	Gary 1975:131
<b>SERPENTES:</b>			
Snakes	Crayfish	GEN	Turner 1926:157; Penn 1950:653; Welles 1982:99
Snakes	Crayfish	MS	Cook 1943
Snakes	Crayfish	MO	Johnson 1978:5
Snakes	Crawfishes	MI	Pearse 1910:13
Snakes	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Snakes	<i>O. immunis</i>	NY	Tack 1941; Phillips 1980:87
<b>COLUBRIDAE:</b>			
Water Snake	Crayfish	GEN	Meredith and Schwartz 1962:1
Water Snake	Crawfish	OH	Rhoades 1951b:13
Water Snake	<i>O. immunis</i>	MI	Momot 1967a:207
Water Snake	<i>O. immunis</i>	MO	Johnson 1978:5
<i>Liodytes alleni</i>	Crayfish	FL	Van Hying 1932:37
<i>Liodytes alleni</i>	Crayfishes	ON	Crocker and Barr 1968:31
<i>Liodytes alleni</i>	<i>C. fallax</i>	FL	Carr 1940:92
<i>Regina alleni</i>	Crayfish	GEN	Rossmann 1963:13,16,20
<i>Regina alleni</i>	Crayfish	FL	Franz 1977:91
<i>Regina alleni</i>	<i>P. alleni</i>	FL	Franz 1977:91-93; Godley 1980:416,417
<i>Regina alleni</i>	<i>P. fallax</i>	FL	Franz 1977:91-93; Godley 1980:417
<i>Regina alleni</i>	<i>Palaemonetes paludosus</i>	FL	Godley 1980:416,417,421



PREDATOR	PREY	LOCALITY	REFERENCE
<i>Regina alleni</i>	<i>Palaemonetes paludosus</i>	GA	Godley 1980:421
<i>Natrix e. erythrogaster</i>	Crawfishes	GEN	Neill 1951:764
<i>Natrix e. erythrogaster</i>	Crayfish	IL	Cagle 1942:190
<i>Nerodia erythrogaster</i>	Crayfish	TX	Mushinsky and Hebrard 1977:165
<i>Natrix e. flavigaster</i>	Crayfish	IL	Smith 1961:247
<i>Natrix e. transversa</i>	Crayfish	MO	Anderson 1965:136
<i>Natrix e. transversa</i>	Crayfish	OK	Carpenter 1958:113
Grahams Water Snake	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Nerodia grahami</i>	Crayfish	LA	Kofron 1978:543
<i>Regina grahami</i>	Crayfish	GEN	Godley et al. 1984:82,84-86
<i>Regina grahami</i>	Crayfish	IA	Godley et al. 1984:83
<i>Regina grahami</i>	Crayfish	KS	Hall 1969:157,158
<i>Regina grahami</i>	Crayfish	LA	Mushinsky and Hebrard 1977:162,163,164; Kofron 1978:545,546,550; Godley et al. 1984:83
<i>Regina grahami</i>	<i>O. nais</i>	KS	Hall 1969:157
<i>Regina grahami</i>	<i>O. palmeri</i>	LA	Godley et al. 1984:83
<i>Regina grahami</i>	<i>P. clarkii</i>	LA	Godley et al. 1984:83
<i>Regina grahami</i>	<i>P. vioscai</i>	LA	Godley et al. 1984:83
<i>Regina grahami</i>	<i>P. fallax</i>	FL	Godley et al. 1984:84
<i>Natrix grahami</i>	Crayfish	GEN	Nakamura and Smith 1960:104; Rossman 1963:20
<i>Natrix grahami</i>	Crayfish	LAB	Burghardt 1968:735
<i>Natrix grahami</i>	Crayfish	IL	Pope 1944:189; Smith 1961:250
<i>Natrix grahami</i>	Crayfish	MO	Anderson 1965:125
<i>Natrix grahami</i>	Crayfish	TX	Strecker 1927:7; Curtis 1949:9
<i>Nerodia cyclopion</i>	Crayfish	LA	Kofron 1978:545
<i>Nerodia cyclopion</i>	<i>P. clarki</i>	LA	Kofron 1978:545
<i>Nerodia fasciata</i>	Crayfish	LA	Mushinsky and Hebrard 1977:163
<i>Nerodia rhombifera</i>	Crayfish	LA	Kofron 1978:549
<i>Nerodia rhombifera</i>	<i>P. clarkii</i>	LA	Kofron 1978:545
<i>Nerodia rhombifera</i>	Shrimp	LA	Kofron 1978:549
<i>Nerodia rhombifera</i>	<i>P. paludosus</i>	LA	Kofron 1978:545
<i>Natrix rhombifera</i>	Crayfish	IN	Minton 1944:446
<i>Natrix r. rhombifera</i>	Crawfishes	GEN	Neill 1951:764
<i>Natrix r. rhombifera</i>	Crayfish	TX	Curtis 1949:10
<i>Nerodia rigida</i>	Crayfish	LA	Kofron 1978:543
<i>Natrix rigida</i>	Crayfish	GEN	Huheey 1959:310; Nakamura and Smith 1960:104
<i>Natrix rigida</i>	Crayfish	NC	Schwartz and Etheridge 1954:170
<i>Natrix rigida</i>	Crawfishes	GA	Neill 1951:764
<i>Natrix rigida</i>	Crayfish	LA	Tinkle 1959:199
<i>Regina rigida</i>	Crayfish	GEN	Rossman 1963:16,20
<i>Regina rigida</i>	Crayfish	LA	Kofron 1978:545,546,548,550
<i>Regina rigida</i>	Crayfish	NC/ SC/ VA	Martof et al. 1980:227
Queen Snake (= <i>Regina septemvitatta</i> )	Crayfish	NY	Raney and Roecker 1947:172, 173,176
Queen Snake	Crayfish	OH	Butler and Hinko 1978:574
Queen Snake	<i>Cambarus</i> sp	NY	Raney and Roecker 1947:172

PREDATOR	PREY	LOCALITY	REFERENCE
Queen Snake	<i>O. obscurus</i>	NY/ PA / VA	Branson and Baker 1974:159
<i>Natrix septemvittata</i>	Crayfish	GEN	Schmidt and Davis 1941:213; McCauley 1945:106; Neill 1951: 764; Nakamura and Smith 1960: 104; Conant 1960:32; Rossman 1963:20
<i>Natrix septemvittata</i>	Crayfish	ON	Crocker and Barr 1968:31
<i>Natrix septemvittata</i>	Crayfish	LAB	Burghardt 1968:735
<i>Natrix septemvittata</i>	Crayfish	IL	Smith 1961:257
<i>Natrix septemvittata</i>	Crayfish	IN	Minton 1944:467
<i>Natrix septemvittata</i>	Crayfish	MD	McCauley 1945:105
<i>Natrix septemvittata</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Natrix septemvittata</i>	Crayfish	OH	Conant 1938:81; Wood 1949:746-748
<i>Natrix septemvittata</i>	Crayfishes	IL	Pope 1944:193
<i>Natrix septemvittata</i>	Crayfishes	VA	Uhler et al. 1939:622
<i>Natrix leberis</i>	Crayfish	GEN	Chidester 1912:288
<i>Natrix liberis</i>	Crayfish	PA	Atkinson 1901:149; Ortmann 1906:495
<i>Natrix leberis</i>	<i>C. obscurus</i>	GEN	Ortmann 1906:495; Walters 1939:161
<i>Regina leberis</i>	<i>C. obscurus</i>	PA	Surface 1906:151,152,198
<i>Regina septemvittata</i>	Crayfish	GEN	Godley et al. 1984:82,85,86
<i>Regina septemvittata</i>	Crayfish	NY	Brown 1979:114
<i>Regina septemvittata</i>	Crayfish	NC	Brown 1979:113,115
<i>Regina septemvittata</i>	Crayfish	NC/ SC / VA	Martof et al. 1980:228
<i>Regina septemvittata</i>	Crayfish	OH	Brown 1979:115; Godley et al. 1984:83,84
<i>Regina septemvittata</i>	Crayfish	WI	Vogt 1981:162
<i>Regina septemvittata</i>	<i>Cambarus</i>	KY	Branson and Baker 1974:154, 157-159
<i>Regina septemvittata</i>	<i>Cambarus</i>	WI	Vogt 1981:161
<i>Regina septemvittata</i>	<i>C. diogenes</i>	OH	Godley et al.1984:84,85
<i>Regina septemvittata</i>	<i>O. juvenilis</i>	KY	Branson and Baker 1974:153, 157-159,169
<i>Natrix sipedon</i>	Crawfishes	GEN	Tack 1941:440
<i>Natrix sipedon</i>	Crayfish	GEN	Chidester 1912:288
<i>Natrix sipedon</i>	Crayfish	NY	Raney and Roecker 1947:173
<i>Natrix sipedon</i>	Crayfish	PA	Ortmann 1906:495
<i>Natrix s. sipedon</i>	Crayfish	IN	Minton 1944:465
<i>Natrix s. sipedon</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Natrix s. sipedon</i>	Crayfish	OH	Conant 1938:86
<i>Natrix s. sipedon</i>	Crawfishes	NC	Neill 1951:764
<i>Natrix s. sipedon</i>	<i>Cambarus</i>	GEN	Burghardt 1968:733,734
<i>Natrix s. sipedon</i>	<i>Cambarus</i>	KY	Barbour 1950:105
<i>Natrix s. confluens</i>	Crayfish	MO	Hurter 1911:59; Anderson 1965:151
<i>Natrix s. pleuralis</i>	Crawfishes	GA	Neill 1951:764
<i>Natrix s. pleuralis</i>	<i>Cambarus</i> sp	MO	Anderson 1965:148

<b>PREDATOR</b>	<b>PREY</b>	<b>LOCALITY</b>	<b>REFERENCE</b>
<i>Tropidonotus faciatus</i> <i>sipedon</i>	Crawfish	GEN	Ditmars 1912:217
<b>VIPERIDAE:</b>			
<i>Sistrurus c. catenatus</i>	Crawfish	GEN	Klauber 1956:587
<i>S. c. catenatus</i>	Crayfishes	GEN	Maple 1968:37

**TABLE 7.**

**BIRD PREDATORS OF CRAYFISHES AND SHRIMPS.**

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

<b>PREDATOR</b>	<b>PREY</b>	<b>LOCALITY</b>	<b>REFERENCE</b>
Birds	Crayfish	GEN	King 1883:981; Turner 1926:157; Roberts 1944:369; Meredith and Schwartz 1962:1; Welles 1982:99; Lodge et al. 1985:34
Birds	Crawfish	OH	Rhoades 1951b:13
Birds	Crawfishes	MI	Pearse 1910:13
Birds	<i>C. clarkii</i>	LA	Penn 1943:5
Birds	<i>C. virilis</i>	GEN	Roberts 1944:369
Birds	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464
Birds	<i>O. immunis</i>	NY	Tack 1941; Phillips 1980:87
Birds	<i>O. virilis</i>	MB	McInnes 1974:144
<b>PODICIPEDIFORMES:</b>			
Pied-billed grebe (= <i>Podilymbus podiceps</i> )	Crayfishes	MI	Crocker and Barr 1968:30
<i>Podilymbus podiceps</i>	<i>Cambarus</i>	GEN	Wetmore 1924:21
<i>Podilymbus podiceps</i>	<i>P. alleni</i>	FL	Kushlan and Kushlan 1979:118
<i>Podilymbus podiceps</i>	<i>Potamobius</i>	GEN	Wetmore 1924:21
<i>Podilymbus podiceps</i>	<i>Palaemonetes</i>	GEN	Wetmore 1924:21
<i>Podilymbus p. podiceps</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Podilymbus p. podiceps</i>	Crawfish	MN	Roberts 1932a:158
<i>Podiceps grisegena</i>	Crayfish	MI	Chamberlin 1977:42,45
Horned Grebe	Crayfish	GEN	Roberts 1944:370
<i>Colymbus auritus</i>	Crawfish	GEN	McAtee and Beal 1912:17,19; Baker 1916:235; Wetmore 1924:12
<i>Colymbus auritus</i>	<i>Cambarus</i>	GEN	Wetmore 1924:12
<i>Colymbus grisegena holboelli</i>	Crawfish	MN	Roberts 1932a:148
<i>Colymbus holboelli</i>	Crawfishes	MB	Bent 1919:14
<i>Colymbus holboelli</i>	<i>Cambarus</i>	PA	Wetmore 1924:9
<i>Colymbus holboelli</i>	<i>Potamobius</i>	BC	Wetmore 1924:9
<b>PELECANIFORMES:</b>			
Pelican	<i>C. couesi</i>	ND	Streets 1877:804; Walters 1939:170
<i>Pelicanus erythrorhynchos</i>	Crawfish	MN	Roberts 1932a:163
<i>Pelicanus erythrorhynchos</i>	<i>C. couesi</i>	MN	Coues 1878:654
<b>ANSERIFORMES:</b>			
Geese	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Wading Birds	Crayfish	GEN	Turner 1926:157; Lyle 1938:75
Wading Birds	Crayfish	LA	Mathies 1974:1,2
Wading Birds	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297

PREDATOR	PREY	LOCALITY	REFERENCE
Marsh Birds	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
Ducks	Crayfish	GEN	Lyle 1938:75
Ducks	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Surface-feeding Ducks	Crayfish	MI	Crocker and Barr 1968:30
<i>Anas rubripes</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Anas acuta tztzihoa</i>	Crayfish	MI	Lagler and Lagler 1944:301
Common Mallard	Crayfish	GEN	Roberts 1944:370
Diving Ducks	Crayfishes	MI	Crocker and Barr 1968:30
<i>Aythya affinis</i>	Crayfish	IL	Rogers and Korschgen 1966: 259,261
<i>Aythya affinis</i>	Crayfish	LA	Rogers and Korschgen 1966: 259,262; Bellrose 1976:354
<i>Aythya affinis</i>	<i>Palaemonetes</i> sp	LA	Rogers and Korschgen 1966:262
<i>Nyroca affinis</i>	Crawfish	MN	Roberts 1932a:263
<i>Nyroca affinis</i>	Crawfishes	NA	Cottam 1939:45
<i>Nyroca affinis</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Nyroca affinis</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:195
<i>Nyroca collaris</i>	Crawfish	MN	Roberts 1932a:255
<i>Nyroca marila</i>	Crawfish	NA	Cottam 1939:37
<i>Spatula clypeata</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:185
<i>Spatula clypeata</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Dafila acuta tztzihoa</i>	Crawfish	MN	Roberts 1932a:236
<i>Anas discors</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Anas discors</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:184
Lesser Scaup	Crayfish	GEN	Roberts 1944:370
American Goldeneye	Crayfish	GEN	Roberts 1944:370
<i>Glaucionetta clangula americana</i>	Crawfish	MN	Roberts 1932a:266
<i>Glaucionetta clangula americana</i>	<i>Astacus</i>	NA	Cottam 1939:59
<i>Glaucionetta clangula americana</i>	<i>Cambarus</i>	NA	Cottam 1939:59
<i>Bucephala islandica</i>	Crayfish	BC	Bellrose 1976:426
<i>Glaucionetta islandica</i>	<i>Astacus</i>	NA	Cottam 1939:67
<i>Bucephala clangula americana</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298;299
<i>Bucephala clangula americana</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:196
<i>Bucephala clangula americana</i>	<i>C. virilis</i>	OH	Lagler and Lagler 1944:296,299
Bufflehead	Crayfish	GEN	Roberts 1944:370
<i>Bucephala albeola</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Bucephala albeola</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:198
<i>Charitonetta albeola</i>	Crawfishes	NA	Cottam 1939:71
<i>Clangula hymenalis</i>	Crayfish	LM	Bellrose 1976:393
<i>Clangula hymenalis</i>	Crayfish	MI	Ellarson 1956:205,210,211
<i>Clangula hymenalis</i>	Crayfish	MI	Lagler and Lagler 1944:3010
<i>Clangula hymenalis</i>	<i>Cambarus</i>	NA	Cottam 1939:76
<i>Clangula hymenalis</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:198
<i>Oidemia americana</i>	Crawfish	MN	Roberts 1932a:277
White Winged Scoter	Crayfish	GEN	Roberts 1944:370
<i>Melanitta deglandi</i>	Crawfish	MN	Roberts 1932a:275

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Melanitta deglandi</i>	Crawfishes	NA	Cottam 1939:118
<i>Melanitta fusca deglandi</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Melanitta perspicillata</i>	Crawfish	MN	Roberts 1932a:276
Ruddy Duck (= <i>Oxyura jamaicensis rubida</i> )	Crayfish	MI	Crocker and Barr 1968:30
<i>Oxyura jamaicensis rubida</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Oxyura jamaicensis rubida</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:203
Merganser	Crayfish	MI	Crocker and Barr 1968:30
Mergansers	Crayfish	MI	Salyer and Lagler 1940:192, 199,200,203-205,208-210,217
Mergansers	Crayfish	MI	Crocker and Barr 1968:30
American Merganser	Crayfish	GEN	Roberts 1944:370
American Merganser	<i>Cambarus</i> sp.	MI	Salyer and Lagler 1940:197, 206,211
American Merganser	<i>Cambarus</i> spp.	MI	Salyer and Lagler 1940:202
American Merganser	<i>C. propinquus</i>	MI	Salyer and Lagler 1940:206, 211,214
American Merganser	<i>C. virilis</i>	MI	Salyer and Lagler 1940:197, 206,211,214
<i>Mergus merganser americanus</i>	Crayfishes	MI	Lagler and Lagler 1944:296
<i>Mergus merganser americanus</i>	Crawfish	MN	Roberts 1932a:287
<i>Mergus merganser americanus</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
<i>Mergus merganser americanus</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296
<i>Mergus serrator</i>	Crayfish	MI	Lagler and Lagler 1944:301; Lingle and Schupbach 1977:97
<i>Mergus serrator</i>	Crawfish	MN	Roberts 1932a:290
Hooded Merganser	Crayfish	GEN	Roberts 1944:370
Hooded Merganser	<i>C. virilis</i>	MI	Beard 1953:425
<i>Mergus cucullatus</i>	Crayfish	GEN	Salyer and Lagler 1940:186-219; Bellrose 1976:446
<i>Lophodytes cucullatus</i>	Crawfish	MN	Roberts 1932a:283
<i>Lophodytes cucullatus</i>	Crayfish	MI	Lagler and Lagler 1944:296
<i>Lophodytes cucullatus</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:298
<i>Lophodytes cucullatus</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296,298
<b>FALCONIFORMES:</b>			
Hawks	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Marsh Hawk (= <i>Circus cyaneus hudsonius</i> )	Crayfish	MI	Crocker and Barr 1968:30
<i>Circus cyaneus hudsonius</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Circus cyaneus hudsonius</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:219
Buteos (Hawk)	Crayfishes	MI	Crocker and Barr 1968:30
<i>Buteo borealis</i>	Crawfish	GEN	Fisher 1893:48,50



PREDATOR	PREY	LOCALITY	REFERENCE
<i>Buteo borealis</i>	Crawfish	IN	Fisher 1893:59
<i>Buteo borealis</i>	Crawfish	LA	Fisher 1893:58
<i>Buteo borealis</i>	Crawfish	MD	Fisher 1893:54,57
<i>Buteo borealis</i>	Crawfish	NY	Fisher 1893:58
<i>Buteo borealis</i>	Crawfish	OH	Fisher 1893:59
<i>Buteo borealis</i>	Crawfish	WI	Fisher 1893:53
<i>Buteo lagopus s.-johannis</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Buteo jamaicensis borealis</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Buteo jamaicensis borealis</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:212
<i>Buteo latissimus</i>	Crayfish	NC	Fisher 1893:82
<i>Buteo latissimus</i>	Crayfish	PA	Fisher 1893:80,82,83
Red-shouldered Hawk	Crawfish	GEN	Fisher 1893:62,63,66; 1907:8
Red-shouldered Hawk	Crayfish	WI	Hammerstrom 1972:19
<i>Buteo lineatus</i>	Crawfish	ON	Fisher 1893:70
<i>Buteo lineatus</i>	Crawfish	AL	Fisher 1893:68
<i>Buteo lineatus</i>	Crawfish	MD	Fisher 1893:70
<i>Buteo lineatus</i>	Crawfish	NY	Fisher 1893:66
<i>Buteo lineatus</i>	Crawfish	DC	Fisher 1893:67
<i>Buteo l. lineatus</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Buteo l. lineatus</i>	Crawfish	MN	Roberts 1932a:315
Broadwinged Hawk	Crayfish	GEN	Roberts 1944:370
Broadwinged Hawk	Crayfish	WI	Hammerstrom 1972:21
<i>Buteo p. platypterus</i>	Crayfish	MI	Lagler and Lagler 1944:301
Pigeon Hawk (= <i>Falco</i> )	Crayfishes	MI	Crocker and Barr 1968:30
<i>Falco c. columbarius</i>	Crawfishes	GEN	Bent 1938:75
<i>Falco c. columbarius</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Falco s. sparverius</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:223
Eagle	Crayfish	GEN	Chidester 1912:289
<i>Haliaeetus leucocephalus</i>	<i>Cambarus</i> sp	MN	Dunstan and Harper 1975:141; Grubb and Coffey 1982:85
<i>Polyborus cheriway auduboni</i>	Crayfish	GEN	Bent 1938:132
<b>GALLIFORMES:</b>			
Turkey	Crayfish	GEN	Chidester 1912:289
Domesticated Turkey	<i>C. carolinus</i>	PA	Ortmann 1906:495
<b>CICONIIFORMES:</b>			
Egret	Crayfish	FL	Baynard 1912:169
Egret	<i>P. clarkii</i>	LA	Mullener 1983:7; Huner and Barr 1984:50
Great Egret	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Casmerodius albus</i>	Crayfish	OH	Hoffman 1978:365,367
<i>Casmerodius albus</i>	Astacidae	OH	Hoffman 1978:366
<i>Casmerodius albus egretta</i>	Crayfish	MI	Lagler and Lagler 1944:3010
<i>Casmerodius albus egretta</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:163
Snowy Egret	Crayfish	FL	Baynard 1912:169

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Egretta thula</i>	<i>Cambarellus shufeldti</i>	TX	Telfair 1981:37-40
<i>Egretta thula</i>	<i>P. a. acutus</i>	TX	Telfair 1981:37-40
<i>Egretta thula</i>	<i>P. curdi</i>	TX	Telfair 1981:37-40
<i>Egretta thula</i>	<i>P. s. simulans</i>	TX	Telfair 1981:37-40
<i>Leucophoyx t. thula</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Leucophoyx t. thula</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:164
Hérons	Crayfishes	GEN	King 1883:981; Meredith and Schwartz 1962:1
Hérons	Crayfishes	MI	Crocker and Barr 1968:30
Hérons	Crayfishes	MO	Johnson 1978:5
Hérons	Crayfish	TN	Norton 1942:53
Hérons	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Hérons	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Hérons	<i>O. immunitis</i>	CAN	Bousfield 1979:292
Hérons	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Great Blue Heron	Crayfish	GEN	Roberts 1944:370
<i>Ardea herodias</i>	Crayfish	GEN	Tack 1941:440
<i>Ardea herodias</i>	Crayfish	OH	Hoffman 1978:365,367
<i>Ardea herodias</i>	Astacidae	OH	Hoffman 1978:366
<i>Ardea h. herodias</i>	<i>C. immunitis</i>	MI	Lagler and Lagler 1944:297
<i>Ardea h. herodias</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:299
<i>Ardea h. herodias</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:161
<i>Ardea h. herodias</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296
<i>Ardea h. herodias</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:299
Louisiana Heron (= <i>Hydranassa tricolor</i> )	Crayfish	FL	Baynard 1912:169
Little Blue Heron	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Florida caerulea</i>	Crawfish	LA	Huner 1976:46
<i>Florida c. caerulea</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Florida c. caerulea</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:165
<i>Hydranassa caerulea</i>	<i>Cambarellus shufeldti</i>	TX	Telfair 1981:37-40
<i>Hydranassa caerulea</i>	<i>P. a. acutus</i>	TX	Telfair 1981:37-40
<i>Hydranassa caerulea</i>	<i>P. curdi</i>	TX	Telfair 1981:37-40
<i>Hydranassa caerulea</i>	<i>P. s. simulans</i>	TX	Telfair 1981:37-40
<i>Butorides striatus</i>	<i>O. luteus</i>	MO	Niethammer et al. 1983:120
<i>Butorides striatus</i>	<i>O. punctimanus</i>	MO	Niethammer et al. 1983:117, 119,120,122-126
Green Heron (= <i>Butorides v. virescens</i> )	Crayfish	FL	Baynard 1912:168
<i>Butorides virescens</i>	Crayfish	GEN	Tack 1941:440
<i>Butorides v. virescens</i>	Crawfish	MN	Roberts 1932a:181
<i>Butorides v. virescens</i>	<i>C. diogenes</i>	MI	Lagler and Lagler 1944:300
<i>Butorides v. virescens</i>	<i>C. immunitis</i>	MI	Lagler and Lagler 1944:297
<i>Butorides v. virescens</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:299
<i>Butorides v. virescens</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:1660
<i>Butorides v. virescens</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296,299
Black Crowned Night Heron	Crayfish	GEN	Roberts 1944:370

PREDATOR	PREY	LOCALITY	REFERENCE
Yellow Crowned Night Heron	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Night Heron	Crayfish	FL	Baynard 1912:169
<i>Nycticorax nycticorax</i>	Crayfish	GEN	Tack 1941:440
<i>Nycticorax nycticorax</i>	Crayfish	OH	Hoffman 1978:365,362
<i>Nycticorax nycticorax</i>	Astacidae	OH	Hoffman 1978:366
<i>Nycticorax nycticorax hoactli</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Nycticorax nycticorax hoactli</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:167
<i>Nyctanassa violacea</i>	Crawfish	LA	Huner 1976:46
American Bittern	Crayfish	GEN	Roberts 1944:370
<i>Botaurus lentiginosus</i>	Crawfish	MN	Roberts 1932a:188
<i>Botaurus lentiginosus</i>	<i>P. alleni</i>	FL	Kushlan and Kushlan 1979:118
<i>Botaurus l. lentiginosus</i>	<i>C. diogenes</i>	MI	Lagler and Lagler 1944:300
<i>Botaurus l. lentiginosus</i>	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
<i>Botaurus l. lentiginosus</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:299b
<i>Botaurus l. lentiginosus</i>	<i>C. p. sanbornii</i>	OH	Trautman 1940:168
<i>Botaurus l. lentiginosus</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296
<i>Botaurus l. lentiginosus</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:299
<i>Icobrychus e. exilis</i>	Crawfish	MN	Roberts 1932a:192
Ibis	Crayfishes	FL	Baynard 1912:167; Walters 1939:170
Ibises	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Wild Ibis	Crayfish	GEN	Chidester 1912:289
Glossy Ibis (= <i>Plegadis falcinellus</i> )	Crayfish	FL	Baynard 1912:168
<i>Plegadis</i> spp	Crayfish	LA	Gary 1975:131
<i>Plegadis guarana</i>	Crawfish	MN	Roberts 1932a:196
White Ibis	Crawfish	GEN	Rhoades 1951a:5; 1951b:13
White Ibis	Crayfish	FL	Baynard 1912:169; Kushlan 1979:379-383,385,386,388; Godley 1980:432
White Ibis	<i>C. carolinus</i>	PA	Ortmann 1906:495
White Ibis	<i>C. diogenes</i>	GEN	Shufeldt 1897:58
White Ibis	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Guara alba</i>	Crayfish	GEN	Audubon 1839:pl.72 1941:pl.222
<i>Eudocimus albus</i>	Crawfishes	LA	Huner 1976:46
<i>Eudocimus albus</i>	Crayfish	LA	Gary 1975:131
<i>Eudocimus albus</i>	<i>P. alleni</i>	FL	Kushlan and Kushlan 1975:31-38; 1979:118
Dark Ibis	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<b>GRUIFORMES:</b>			
Sandhill Crane (= <i>Grus canadensis</i> )	Crayfishes	MI	Crocker and Barr 1968:30

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Grus canadensis tabida</i>	Crayfish	MI	Lagler and Lagler 1944:301
Rails	Crayfish	MI	Crocker and Barr 1968:30
<i>Rallus e. elegans</i>	Crayfish	MI	Lagler and Lagler 1944:3010
<i>Rallus e. elegans</i>	Crawfish	MN	Roberts 1932a:440
<i>Rallus l. limicola</i>	Crayfish	MI	Lagler and Lagler 1944:301
<b>CHARADRIIFORMES:</b>			
Killdeer	Crayfish	MI	Crocker and Barr 1968:30
<i>Oxyechus vociferus</i>	Crawfish	GEN	McAtee and Beal 1912:16
<i>Charadius v. vociferus</i>	Crayfish	MI	Lagler and Lagler 1944:301
Ring-billed Gull (= <i>Larus delawarensis</i> )	Crayfishes	MI	Crocker and Barr 1968:30
<i>Larus delawarensis</i>	Crayfish	MI	Lagler and Lagler 1944:301
Black Bellied Plover	Crayfish	GEN	Roberts 1944:370
<i>Numenius a. americanus</i>	Crawfish	MN	Roberts 1932a:482
<i>Actitis macularia</i>	Crawfish	NM	Bailey 1928:265
Willet	Crayfish	GEN	Roberts 1944:370
<i>Sterna h. hirundo</i>	Crawfish	MN	Roberts 1932a:560
<i>Hydrachelidon nigra surinamensis</i>	Crawfishes	GEN	McAtee and Beal 1912:22
<i>Chlidonias nigra surinamensis</i>	Crawfish	MN	Roberts 1932a:567
<b>STRIGIFORMES:</b>			
Owls	Crayfish	MI	Crocker and Barr 1968:30
<i>Megascops asio</i>	Crawfish	GEN	Fisher 1893:164,173
<i>Megascops asio</i>	Crawfish	ON	Fisher 1893:172
<i>Megascops asio</i>	Crawfish	CO	Fisher 1893:171
<i>Megascops asio</i>	Crawfish	IN	Fisher 1893:170
<i>Megascops asio</i>	Crawfish	NJ	Fisher 1893:172
<i>Megascops asio</i>	Crawfish	NY	Fisher 1893:169
<i>Megascops asio</i>	Crawfish	DC	Fisher 1893:170
<i>Otus asio</i>	Crawfish	GEN	Fisher 1907:12
<i>Otus asio</i>	Crawfish	GEN	VanCamp and Henny 1976:9
<i>Otus asio</i>	Crawfish	MI	Wilson 1938:190,195
<i>Otus asio</i>	Crayfish	NY	Allen 1924:5,6,7,15
<i>Otus asio</i>	Crayfish	OH	VanCamp and Henny 1976:15; Duley 1979:58
<i>Otus asio</i>	Crayfish	TN	Duley 1979:47,49,50,54,55,57, 58,60,64,79
<i>Otus asio</i>	Crayfish	WI	Errington 1932:177,178; Duley 1979:64
<i>Otus asio</i>	<i>Cambarus</i>	OH	VanCamp and Henny 1976:13
<i>Otus asio</i>	<i>Cambarus</i> sp	TN	Duley 1979:44
<i>Otus asio</i>	<i>Orconectes</i> sp	TN	Duley 1979:42,43,44
<i>Otus asio</i>	<i>Cambarus</i>	WI	Errington 1932:177
<i>Otus asio cineraceus</i>	Crawfish	NM	Bent 1938:275
<i>Otus asio naevius</i>	Crayfish	GEN	Bent 1938:250,251; Lagler and Lagler 1944:301
<i>Otus asio naevius</i>	Crawfish	MN	Roberts 1932a:602
Great Horned Owl	Crawfish	GEN	Fisher 1907:16
<i>Bubo virginianus</i>	Crawfish	GEN	Fisher 1893:177

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Bubo v. virginianus</i>	Crayfish	GEN	Bent 1938:309; Lagler and Lagler 1944:301
<i>Tyto alba pratincola</i>	Crayfish	GEN	Lagler and Lagler 1944:3010
<i>Speotyto cunicularia floridana</i>	Crayfish	GEN	Rhoads 1892:8; Bent 1938:400
Barred Owl	Crawfish	GEN	Fisher 1907:12
Barred Owl	Crayfish	GEN	Roberts 1944:370
Barred Owl	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Syrnium nebulosum</i>	Crawfish	FL	Fisher 1893:154
<i>Syrnium nebulosum</i>	Crawfish	MD	Fisher 1893:154
<i>Syrnium nebulosum</i>	Crawfish	NJ	Fisher 1893:155
<i>Syrnium nebulosum</i>	Crawfish	NY	Fisher 1893:155
<i>Syrnium nebulosum</i>	Crawfish	VA	Fisher 1893:155
<i>Strix varia</i>	Crayfish	WI	Errington 1932:180,181,184
<i>Strix v. varia</i>	Crawfish	GEN	Bent 1938:189
<i>Strix v. varia</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Strix v. varia</i>	Crawfish	MN	Roberts 1932a:622
<i>Strix v. alleni</i>	Crawfishes	FL	Bent 1938:200
<i>Strix v. alleni</i>	Crayfishes	GEN	Bent 1938:199
<b>CORACIIFORMES:</b>			
Kingfishers	Crayfish	GEN	Chidester 1912:289; Turner 1926:157; Meredith and Schwartz 1962:1
Kingfishers	<i>Cambarus</i> spp	NY	Crocker and Barr 1968:31
Kingfishers	<i>C. carolinus</i>	PA	Ortmann 1906:495
Kingfishers	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Kingfishers	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Kingfishers	<i>O. immunis</i>	CAN	Bousfield 1979:292
Belted Kingfisher	Crayfish	GEN	Roberts 1944:370
<i>Streptoceryle alcyon</i>	Crayfish	GEN	Tack 1941:440
Eastern Belted Kingfisher (= <i>Megaceryle a. alcyon</i> )	Crayfish	MI	Crocker and Barr 1968:30
<i>Megaceryle a. alcyon</i>	<i>Cambarus</i> spp	NY	Eipper 1956:179-183
<i>Megaceryle a. alcyon</i>	<i>C. diogenes</i>	MI	Lagler and Lagler 1944:300
<i>Megaceryle a. alcyon</i>	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
<i>Megaceryle a. alcyon</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:299
<i>Megaceryle a. alcyon</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296
<i>Megaceryle a. alcyon</i>	Crawfish	MN	Roberts 1932a:659
<i>Megaceryle a. alcyon</i>	Crawfish	NY	Eipper 1956:179-183
<b>PASSERIFORMES:</b>			
Crow ( <i>Corvus brachyrhynchos</i> )	Crayfishes	NY	Crocker and Barr 1968:31
Crow	Crayfish	MI	Weed 1884:832
Crows	<i>P. clarkii</i>	LA	Huner and Barr 1084:50
<i>Corvus brachyrhynchos</i>	Crayfish	GEN	Tack 1941:440
<i>Corvus brachyrhynchos</i>	<i>Cambarus</i> sp	IA	Hodges 1951:526
<i>Corvus b. brachyrhynchos</i>	Crawfish	MN	Roberts 1932b:70
Grackles ( <i>Quiscalus quiscula</i> )	Crayfish	LA	Mathies 1974:2
Grackles	Crawfish	GEN	LaCaze 1970:6

PREDATOR	PREY	LOCALITY	REFERENCE
Grackles	<i>P. clarkii</i>	LA	Huner and Barr 1984:500
<i>Quiscalus quiscula</i>	<i>Cambarus</i> spp	WI	Snelling 1968:569
<i>Quiscalus quiscula</i>	<i>O. rusticus</i>	ON	Berrill and Arsenault 1984: 336,337
<i>Quiscalus quiscula</i>	Crayfish	IA	Hodges 1951:526
<i>Quiscalus q. aeneus</i>	Crayfish	GEN	Tack 1941:440
<i>Quiscalus q. aeneus</i>	Crawfish	MN	Roberts 1932b:319-320
Bronzed Grackel	Crayfishes	NY	Crocker and Barr 1968:31
Starling	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Red-Wing Black Bird	<i>P. clarkii</i>	LA	Huner and Barr 1984:50



TABLE 8.

MAMMALIAN PREDATORS OF CRAYFISHES AND SHRIMPS.

See text for explanation of table arrangement and see Appendix 1 for explanation of locality abbreviations. *C* = *Cambarus*; *O* = *Orconectes*; *P* = *Procambarus*; *Pac.* = *Pacifastacus*; *T.* = *Troglocambarus*.

PREDATOR	PREY	LOCALITY	REFERENCE
Mammals	Crayfishes	GEN	Lodge et al. 1985:34
Mammals	Crayfishes	MI	Pearse 1910:13
Mammals	<i>O. virilis</i>	MB	McInnes 1974:144
Mammals	<i>P. clarkii</i>	LA	Davis 1982:155
Aquatic Mammals	Crayfish	GEN	Meredith and Schwartz 1962:1
<b>MARSUPIALIA:</b>			
Opossums	Crayfishes	ON	Crocker and Barr 1968:32
Opossum	Crawfish	GEN	Lyle 1938:75
possum	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Didelphis virginiana</i>	Crawfish	MI	Dearborn 1932:17
<i>Didelphis virginiana</i>	Crayfish	OH	Gottschang 1981:15
<i>Didelphis v. virginiana</i>	Crawfish	MI	Lagler and Lagler 1944:296,301
<i>Didelphis marsupialis virginiana</i>	Crawfish	WI	Jackson 1961:24
<b>RODENTIA:</b>			
Field Mice	Crayfish	GEN	Brooks 1931:3
<i>Microtus ochrogaster</i>	Crayfish	MO	Schwartz and Schwartz 1981:222
Cave Rat	<i>O. pellucidus</i>	KY	Hobbs et al. 1977:112
<i>Hydromys chrysogaster</i>	Crayfish	Australia	Ride 1970:138
Water Rat (= <i>Hydromys chrysogaster</i> )	<i>Cherax destructor</i>	Australia	Wollard et al. 1978; Johnson 1984:435
Muskrat (= <i>Ondatra zibethicus</i> )	Crayfishes	ON	Crocker and Barr 1968:32
Muskrat	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Muskrat	Crayfish	MO	Johnson 1978:5
Muskrat	<i>Cambarus</i> sp	IA	Errington 1941:76
Muskrats	Crayfish	IA	Errington 1941:78
<i>Ondatra zibethica</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Ondatra z. zibethica</i>	Crayfish	WI	Jackson 1961:250
<i>Ondatra z. macrodon</i>	Crayfish	MD	Paradiso 1969:111
<b>CARNIVORA:</b>			
Foxes (= <i>Lutra</i> sp)	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Foxes	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Foxes	<i>O. immunis</i>	CAN	Bousfield 1979:292
<i>Vulpes vulpes</i>	Crayfish	CAN	Banfield 1974:300
Bear	Crawfish	GEN	Lyle 1938:75
<i>Ursus americanus</i>	<i>Pacifastacus</i> sp	CA	Grenfell and Brody 1983:139
Raccoon (= <i>Procyon lotor</i> )	Crawfish	GEN	Lyle 1938:75; LaCaze 1970:6;0 Keating 1972:18,19
Raccoons	Crawfish	OH	Rhoades 1951a:5; 1951b:13
Raccoons	Crayfish	GEN	Brooks 1931:3

PREDATOR	PREY	LOCALITY	REFERENCE
Raccoons	Crayfish	GEN	Turner 1926:157; Brooks 1931:3; Roberts 1944:369,370; Meredith and Schwartz 1962:1; Welles 1982:99
Raccoons	Crayfish	LA	Mathies 1974:1,2
Raccoons	Crayfish	MI	Stuewer 1943:205,219
Raccoons	Crayfish	MO	Johnson 1978:5
Raccoons	Crayfish	PA	Ortmann 1906:495
Raccoons	Crayfishes	ON	Crocker and Barr 1968:32
Raccoons	<i>C. acutus</i>	IN	Williamson 1907:750
Raccoons	<i>C. diogenes</i>	CAN	Bousfield 1979:292
Raccoons	<i>C. diogenes</i>	IA	Phillips 1980:86
Raccoons	<i>C. fodiens</i>	CAN	Bousfield 1979:292
Raccoons	<i>O. immunis</i>	CAN	Bousfield 1979:292
Raccoons	<i>O. immunis</i>	IA	Caldwell and Bovbjerg 1969:464; Phillips 1980:86,87
Raccoons	<i>O. rusticus</i>	WI	McBride 1983:42
Raccoon	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Procyon lotor</i>	Crawfish	MI	Dearborne 1932:19,20,51
<i>Procyon lotor</i>	Crayfish	CAN	Banfield 1974:315
<i>Procyon lotor</i>	Crayfish	GEN	Kaufmann 1982:574
<i>Procyon lotor</i>	Crayfish	CO	Rodeck 1952:60
<i>Procyon lotor</i>	Crayfish	GLR	Burt 1957:59
<i>Procyon lotor</i>	Crayfish	OH	Gottschang 1981:129
<i>Procyon lotor</i>	Crayfish	MI	Kaufmann 1982
<i>Procyon lotor</i>	Crayfish	OH	Brayton 1882:67
<i>Procyon lotor</i>	Crayfish	WI	Kaufmann 1982
<i>Procyon lotor</i>	<i>Astacus</i>	NA	Kaufmann 1982:574
<i>Procyon lotor</i>	<i>Cambarus</i>	NA	Kaufmann 1982:574
<i>Procyon lotor</i>	<i>Cambarus</i>	WI	Dorney 1954:220
<i>Procyon lotor</i>	<i>Orconectes</i>	KY	Minckley 1963:95
<i>Procyon lotor</i>	<i>P. alleni</i>	FL	Kushlan and Kushlan 1979:118
<i>Procyon lotor</i>	<i>P. clarkii</i>	CA	Feminella and Resh 1989:2
<i>Procyon lotor hirtus</i>	Crayfish	WI	Jackson 1961:326
<i>Procyon lotor lotor</i>	Crayfish	GEN	Tack 1941:440
<i>Procyon lotor lotor</i>	Crayfish	MD	Paradiso 1969:145
<i>Procyon lotor lotor</i>	Crayfish	MI	Lagler and Lagler 1944:296,301
Mink	Crayfish	GEN	Welles 1982:99
Mink	Crawfish	GEN	Lyle 1938:75; LaCaze 1970:6
Mink	Crawfish	LA	Mathies 1974:2
Mink	Crawfish	MO	Johnson 1978:5
Mink	Crayfishes	ON	Crocker and Barr 1968:32
Mink	<i>C. bartoni</i>	PQ	Burgess and Bider 1980:878
Mink	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
<i>Lutreola vision</i>	Crayfish	NY	Hamilton 1936:169
<i>Lutreola vision</i>	Crayfish	MI	Lagler and Lagler 1944:296,301
<i>Lutreola vision</i>	Crayfish	MO	Korschgen 1958:522,526,527
<i>Mustela vison</i>	Crayfish	PQ	Burgess and Bider 1980:879
<i>Mustela vison</i>	Crayfish	NY	Korschgen 1958:5210
<i>Mustela vison</i>	Crayfish	OH	Gottschang 1981:137
<i>Mustela vison</i>	Crayfish	PA	Guilday 1949:12,32
<i>Mustela vison</i>	Crawfish	MI	Dearborn 1932:31,32,33,51

PREDATOR	PREY	LOCALITY	REFERENCE
<i>Mustela vison</i>	<i>Cambarus</i>	IA	Errington 1954:379
<i>Mustela vison</i>	<i>Cambarus</i> sp	MO	Korschgen 1958:523,524
<i>Mustela vison</i>	<i>C. bartoni</i>	PQ	Burgess and Bider 1980:871, 878,879
<i>Mustela vison</i>	<i>Cambarus</i> sp	WI	Stollberg and Hine 1952:19
<i>Mustela vison energumenos</i>	Crayfish	CO	Rodeck 1952:55
<i>Mustela vison letifera</i>	<i>Cambarus</i> sp	WI	Jackson 1961:356
<i>Putorius vison</i>	Crawfish	GEN	Coues 1877:177; Baker 1916:237
<i>Putorius vison</i>	Crawfish	CAN	Baker 1916:237
<i>Putorius vison</i>	Crawfish	MB	Seton 1909:884
<i>Putorius vison</i>	Crawfish	NY	Merriam 1886:64; Baker 1916:237
Skunk	Crayfish	MO	Johnson 1978:5
<i>Mephitis mephitis</i>	Crayfish	CAN	Banfield 1974:339
Otter (= <i>Lutra canadensis</i> )	Crayfish	GEN	Liers 1953:105
Otter	Crayfish	MO	Johnson 1978:5
Otter	Crayfish	NJ	Rhoads 1903:158
Otter	Crayfish	OH	Rhoades 1951b:13
Otter	Crayfish	PA	Rhoads 1903:158
Otter	Crayfish	ON	Crocker and Barr 1968:32
Otter	<i>P. clarkii</i>	LA	Huner and Barr 1984:50
Otter	Shrimp	NJ	Rhodes 1903:158
Otter	Shrimp	PA	Rhodes 1903:158
<i>Lutra canadensis</i>	Crawfish	CAN	Baker 1916:237
<i>Lutra canadensis</i>	Crawfish	MB	Seton 1909:835
<i>Lutra canadensis</i>	Crayfish	CO	Rodeck 1952:56
<i>Lutra canadensis</i>	Crayfish	NJ	Baker 1916:237
<i>Lutra canadensis</i>	Crayfish	PA	Baker 1916:237
<i>Lutra canadensis</i>	<i>P. alleni</i>	FL	Kushlan and Kushlan 1979:118
<i>Lutra canadensis</i>	Shrimp	MT	Greer 1955:305
<i>Lutra canadensis</i>	Shrimp	NJ	Baker 1916:237
<i>Lutra canadensis</i>	Shrimp	PA	Baker 1916:237
<i>Lutra c. canadensis</i>	Crayfish	MI	Lagler and Ostenson 1942:246, 250,252
<i>Lutra c. canadensis</i>	Crayfish	MI	Lagler and Lagler 1944:301
<i>Lutra c. canadensis</i>	Crayfish	WI	Jackson 1961:388
<i>Lutra c. canadensis</i>	<i>Cambarus</i> spp	MI	Lagler and Ostenson 1942:254
<i>Lutra c. canadensis</i>	<i>C. diogenes</i>	MI	Lagler and Lagler 1944:300
<i>Lutra c. canadensis</i>	<i>C. immunis</i>	MI	Lagler and Lagler 1944:297
<i>Lutra c. canadensis</i>	<i>C. propinquus</i>	MI	Lagler and Lagler 1944:299
<i>Lutra c. canadensis</i>	<i>C. virilis</i>	MI	Lagler and Lagler 1944:296
<i>Lutra c. lataxina</i>	Crayfish	MN	Liers 1951:1,2
<i>Lontra canadensis</i>	Crayfish	CAN	Banfield 1974:343

**TABLE 9.**

**CRAYFISH AND SHRIMP PREY, LISTED BY PREDATOR SPECIES.**

Table arranged phylogenetically and / or alphabetically by prey species (crayfish then shrimp), by predator species (invertebrate then vertebrate; invertebrate predators followed by order name, vertebrate predators followed by family name). Restricted primarily to those species identified by scientific name in original publication.

<b>CRAYFISH/ SHRIMP PREY SPECIES</b>	<b>PREDATOR SPECIES</b>
<i>Pacifastacus leniusculus</i>	<i>Roccus saxatilis</i> / Serranidae
<i>Cambarellus shufeldtii</i>	<i>Lepomis</i> spp./ Centrarchidae
	<i>Egretta thula</i> / Ardeidae
	<i>Hydranassa caerulea</i> / Ardeidae
<i>Cambarus bartonii</i>	<i>Micropterus dolomieu</i> / Centrarchidae
	<i>Cottus caroliniae</i> / Cottidae
	<i>Mustela vison</i> / Mustelidae
<i>Cambarus bartonii robustus</i>	<i>Salvelinus fontinalis</i> / Salmonidae
	<i>Semotilus atromaculatus</i> / Cyprinidae
<i>Cambarus carolinus</i>	<i>Meleagris gallopavo</i> / Phasianidae
	<i>Eudocimus albus</i> / Plataleidae
<i>Cambarus diogenes</i>	<i>Amia calva</i> / Amiidae
	<i>Esox lucius</i> / Esocidae
	<i>Micropterus salmoides</i> / Centrarchidae
	<i>Chelydra serpentina</i> / Chelydridae
	<i>Chrysemys picta:belli xmarginata</i> / Emydidae
	<i>Regina septemvittata</i> / Colubridae
	<i>Butorides v. virescens</i> / Ardeidae
	<i>Botaurus l. lentiginosus</i> / Ardeidae
	<i>Eudocimus albus</i> / Plataleidae
	<i>Megaceryle a. alcyon</i> / Halcyonidae Canidae
	<i>Procyon lotor</i> / Procyonidae
	<i>Lutra c. canadensis</i> / Mustelidae
<i>Cambarus diogenes ludovicianus</i>	<i>Amphiuma tridactylum</i> / Amphiumidae
<i>Cambarus robustus</i>	<i>Amia calva</i> / Amiidae
	<i>Chelydra serpentina</i> / Chelydridae
	<i>Amyda s. spinifera</i> / Trionychidae
<i>Fallicambarus fodiens</i>	Canidae
	<i>Procyon lotor</i> / Procyonidae
<i>Orconectes immunis</i>	<i>Lepidosteus platystomus</i> / Lepisosteidae
	<i>Amia calva</i> / Amiidae
	<i>Micropterus dolomieu</i> / Centrarchidae
	<i>Micropterus d. dolomieu</i> / Centrarchidae
	<i>Micropterus pallidus</i> / Centrarchidae
	<i>Micropterus salmoides</i> / Centrarchidae
	<i>Bufo americanus</i> / Bufonidae
	<i>Chelydra serpentina</i> / Chelydridae
	<i>Graptemys geographica</i> / Emydidae
	<i>Amyda s. spinifera</i> / Trionychidae
	<i>Ardea h. herodias</i> / Ardeidae
	<i>Butorides v. virescens</i> / Ardeidae
	<i>Botaurus l. lentiginosus</i> / Ardeidae
	<i>Megaceryle a. alcyon</i> / Halcyonidae
	<i>Procyon lotor</i> / Procyonidae
	<i>Lutra c. canadensis</i> / Mustelidae

CRAYFISH/ SHRIMP PREY SPECIES	PREDATOR SPECIES
<i>Orconectes juvenilis</i>	<i>Micropterus d. dolomieu</i> / Centrarchidae <i>Micropterus p. punctulatus</i> / Centrarchidae <i>Regina septemvittata</i> / Colubridae
<i>Orconectes kentuckiensis</i>	<i>Esox americanus</i> / Esocidae <i>Semotilus atromaculatus</i> / Cyprinidae <i>Aphredoderus sayanus</i> / Aphredoderidae <i>Lepomis cyanellus</i> / Centrarchidae <i>Etheostoma squamiceps</i> / Percidae <i>Morone americana</i> / Serranidae <i>Micropterus dolomieu</i> / Centrarchidae Centrarchidae <i>Butorides striatus</i> / Ardeidae <i>Pygodictis olivaris</i> / Ictaluridae <i>Micropterus salmoides</i> / Centrarchidae <i>Regina grahami</i> / Colubridae
<i>Orconectes limosus</i>	<i>Cryptobranchus alleganiensis bishopi</i> / Cryptobranchidae
<i>Orconectes neglectus</i>	<i>Micropterus dolomieu</i> / Centrarchidae <i>Micropterus salmoides</i> / Centrarchidae <i>Regina septemvittata</i> / Colubridae <i>Regina grahami</i> / Colubridae <i>Cottus carolinae</i> / Cottidae <i>Etheostoma squamiceps</i> / Percidae <i>Lepisosteus osseus oxyllurus</i> / Lepisosteidae <i>Amia calva</i> / Amiidae <i>Salvelinus fontinalis</i> / Salmonidae <i>Salmo gairdnerii irideus</i> / Salmonidae <i>Ameiurus natalis</i> / Ictaluridae <i>Amiurus nebulosus</i> / Ictaluridae <i>Lota maculosa</i> / Gadidae <i>Ambloplites rupestris</i> / Centrarchidae <i>Micropterus dolomieu</i> / Centrarchidae <i>Micropterus salmoides</i> / Centrarchidae <i>Eupomotis gibbosus</i> / Centrarchidae <i>Lepomis cyanellus</i> / Centrarchidae <i>Chaenobryttus gulosus</i> / Centrarchidae <i>Lepomis pallidus</i> / Centrarchidae <i>Perca flavescens</i> / Percidae <i>Stizostedion vitreum</i> / Percidae <i>Cottus ictalops</i> / Cottidae <i>Cryptobranchus alleganiensis bishopi</i> / Cryptobranchidae <i>Necturus maculosus</i> / Proteidae <i>Chelydra serpentina</i> / Chelydridae <i>Emys blandingii</i> / Emydidae <i>Chrysemys picta marginata</i> / Emydidae <i>Chrysemys picta:belli x marginata</i> / Emydidae <i>Amyda s. spinifera</i> / Trionychidae <i>Bucephala clangula americana</i> / Anatidae <i>Mergus merganser americanus</i> / Anatidae <i>Lophodytes cucullatus</i> / Anatidae
<i>Orconectes obscurus</i>	
<i>Orconectes palmeri</i>	
<i>Orconectes pellucidus</i>	
<i>Orconectes placidus</i>	
<i>Orconectes propinquus</i>	

(continued)

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**CRAYFISH/ SHRIMP PREY SPECIES**

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**PREDATOR SPECIES**

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*Orconectes propinquus* (continued)

*Ardea h. herodias*/ Ardeidae  
*Butorides v. virescens*/ Ardeidae  
*Botaurus l. lentiginosus*/ Ardeidae  
*Megaceryle a. alcyon*/ Halcyonidae  
*Lutra c. canadensis*/ Mustelidae

*Orconectes punctimanus*

Centrarchidae  
*Butorides striatus*/ Ardeidae  
*Cottus bairdi*/ Cottidae  
*Micropterus dolomieu*/ Centrarchidae  
*Stizostedion vitreum*/ Percidae

*Orconectes putnami*

*Cottus carolinae*/ Cottidae

*Orconectes rusticus*

*Quiscalus quiscula*/ Icteridae

*Procyon lotor*/ Procyonidae

*Orconectes s. sanbornii*

*Anas discors*/ Anatidae

*Nyroca affinis*/ Anatidae

*Spatula clypeata*/ Anatidae

*Bucephala clangula americana*/ Anatidae

*Bucephala albeola*/ Anatidae

*Oxyura jamaicensis rubida*/ Anatidae

*Circus cyaneus hudsonius*/ Accipitridae

*Buteo jamaicensis borealis*/ Accipitridae

*Falco s. sparverius*/ Falconidae

*Casmerodius albus egretta*/ Ardeidae

*Leucophoyx t. thula*/ Ardeidae

*Ardea h. herodias*/ Ardeidae

*Florida c. caerulaea*/ Ardeidae

*Butorides v. virescens*/ Ardeidae

*Nycticorax nycticorax hoactli*/ Ardeidae

*Botaurus l. lentiginosus*/ Ardeidae

*Orconectes virilis*

*Aeshna* sp./ Odonata

Notonectidae/ Hemiptera

*Lepisosteus osseus oxylurus*/ Lepisosteidae

*Lepisosteus platystomus*/ Lepisosteidae

*Lepisosteus productus*/ Lepisosteidae

*Amia calva*/ Amiidae

*Anguilla rostrata*/ Anguillidae

*Salvelinus fontinalis*/ Salmonidae

*Ameiurus melas*/ Ictaluridae

*Amiurus natalis*/ Ictaluridae

*Amiurus nebulosus*/ Ictaluridae

*Pylodictis olivaris*/ Ictaluridae

*Ambloplites rupestris*/ Centrarchidae

*Micropterus dolomieu*/ Centrarchidae

*Micropterus salmoides*/ Centrarchidae

*Eupomotis gibbosus*/ Centrarchidae

*Chaenobryttus gulosus*/ Centrarchidae

*Perca flavescens*/ Percidae

*Rana clamitans*/ Ranidae

*Chelydra serpentina*/ Chelydridae

*Stenotherus odoratus*/ Kinosternidae

*Chrysemys picta marginata*/ Emydidae

(continued)



CRAYFISH/ SHRIMP PREY SPECIES	PREDATOR SPECIES
<i>Orconectes virilis</i> (continued)	<i>Amyda s. spinifera</i> / Trionychidae <i>Pelecanus erythrorhynchos</i> / Pelecanidae <i>Bucephala clangula americana</i> / Anatidae <i>Mergus merganser americanus</i> / Anatidae <i>Lophodytes cucullatus</i> / Anatidae <i>Ardea h. herodias</i> / Ardeidae <i>Butorides v. virescens</i> / Ardeidae <i>Botaurus l. lentiginosus</i> / Ardeidae <i>Megaceryle a. alcyon</i> / Halcyonidae <i>Lutra c. canadensis</i> / Mustelidae
<i>Procambarus a. acutus</i>	<i>Micropterus salmoides</i> / Centrarchidae <i>Chaenobryttus gulosus</i> / Centrarchidae <i>Egretta thula</i> / Ardeidae <i>Hydranassa caerulea</i> / Ardeidae <i>Procyon lotor</i> / Procyonidae
<i>Procambarus alleni</i>	<i>Rana grylio</i> / Ranidae <i>Alligator mississippiensis</i> / Alligatoridae <i>Regina alleni</i> / Colubridae <i>Podilymbus podiceps</i> / Podicipedidae <i>Botaurus lentiginosus</i> / Ardeidae <i>Eudocimus albus</i> / Plataleidae <i>Procyon lotor</i> / Procyonidae <i>Lutra canadensis</i> / Mustelidae
<i>Procambarus blandingii</i>	<i>Micropterus dolomieu</i> / Centrarchidae <i>Micropterus salmoides</i> / Centrarchidae <i>Amphiuma means</i> / Amphiumidae <i>Amphiuma tridactylum</i> / Amphiumidae
<i>Procambarus clarkii</i>	<i>Anax junius</i> / Odonata <i>Pachydiplax longipennis</i> / Odonata <i>Belostoma</i> sp./ Hemiptera <i>Lethocerus</i> sp./ Hemiptera <i>Ranatra</i> spp./ Hemiptera <i>Notonecta</i> sp./ Hemiptera <i>Cybister</i> sp./ Hemiptera <i>Dolomedes</i> spp./ Araneae <i>Ctenopharyngodon idella</i> / Cyprinidae <i>Pyloodictis olivaris</i> / Ictaluridae <i>Lepomis cyanellus</i> / Centrarchidae <i>Lepomis gulosus</i> / Centrarchidae <i>Lepomis macrochirus</i> / Centrarchidae <i>Rana catesbeiana</i> / Ranidae <i>Alligator</i> sp./ Alligatoridae <i>Regina grahami</i> / Colubridae <i>Nerodia cyclopion</i> / Colubridae <i>Nerodia rhombifera</i> / Colubridae <i>Eudocimus albus</i> / Plataleidae <i>Strix varia</i> / Strigidae <i>Sturnus vulgaris</i> / Sturnidae <i>Agelaius phoeniceus</i> / Icteridae <i>Didelphis marsupialis</i> / Didelphidae <i>Ondatra zibethicus</i> / Cricetidae

(continued)

CRAYFISH/ SHRIMP PREY SPECIES	PREDATOR SPECIES
<i>Procambarus clarkii</i> (continued)	<i>Procyon lotor</i> / Procyonidae <i>Mustela vison</i> / Mustelidae <i>Lutra canadensis</i> / Mustelidae
<i>Procambarus curdi</i>	<i>Egretta thula</i> / Ardeidae <i>Hydranassa caerulea</i> / Ardeidae
<i>Procambarus fallax</i>	<i>Micropterus salmoides floridanus</i> / Centrarchidae <i>Rana pipiens sphenoccephala</i> / Ranidae <i>Regina alleni</i> / Colubridae <i>Regina grahami</i> / Colubridae
<i>Procambarus lucifugus</i>	<i>Ictalurus natalis</i> / Ictaluridae <i>Rana catesbeiana</i> / Ranidae
<i>Procambarus paeninsulanus</i>	<i>Micropterus salmoides floridanus</i> / Centrarchidae <i>Rana grylio</i> / Ranidae
<i>Procambarus pubescens</i>	<i>Rana pipiens sphenoccephala</i> / Ranidae
<i>Procambarus s. simulans</i>	<i>Egretta thula</i> / Ardeidae <i>Hydranassa caerulea</i> / Ardeidae
<i>Procambarus spiculifer</i>	<i>Micropterus salmoides</i> / Centrarchidae
<i>Procambarus troglodytes</i>	<i>Rana pipiens sphenoccephala</i> / Ranidae
<i>Procambarus vioscai</i>	<i>Regina grahami</i> / Colubridae
<i>Atya scabra</i>	<i>Macrobrachium carcinus</i> / Decapoda <i>Cichlasoma steindachneri</i> / Cichlidae <i>Gobiomorus dormitor</i> / Eleotridae
<i>Macrobrachium ohione</i>	<i>Ctenopharyngodon idella</i> / Cyprinidae <i>Micropterus salmoides floridanus</i> / Centrarchidae
<i>Palaemonetes carolinus</i>	<i>Micropterus salmoides floridanus</i> / Centrarchidae
<i>Palaemonetes exilipes</i>	<i>Amiurus natalis</i> / Ictaluridae <i>Lepomis cyanellus</i> / Centrarchidae <i>Perca flavescens</i> / Centrarchidae
<i>Palaemonetes paludosus</i>	<i>Huro salmoides</i> / Centrarchidae <i>Micropterus salmoides floridanus</i> / Centrarchidae <i>Pseudemys s. scripta</i> / Emydidae <i>Regina alleni</i> / Colubridae <i>Nerodia rhombifera</i> / Colubridae

## APPENDIX I.

### List of abbreviations used in Tables.

AL - Alabama	MS - Mississippi
APP - Appalachians, USA	NA - North America
AR - Arkansas	NC - North Carolina
AZ - Arizona	ND - North Dakota
BC - British Columbia	NEG - New England
CA - California	NJ - New Jersey
CAN - Canada	NM - New Mexico
CO - Colorado	NV - Nevada
CRS - Columbia River System	NY - New York
CT - Connecticut	OAX - Oaxaca, Mexico
DC - District of Columbia	OH - Ohio
DE - Delaware	OK - Oklahoma
FL - Florida	ON - Ontario
GA - Georgia	OR - Oregon
GEN - General	PA - Pennsylvania
GLR - Great Lakes Region	PQ - Quebec
IA - Iowa	RI - Rhode Island
IL - Illinois	SC - South Carolina
IN - Indiana	SD - South Dakota
KS - Kansas	SUS - South, USA
KY - Kentucky	SW - Southwest, USA
LA - Louisiana	TAM - Tamaulipas, Mexico
LAB - Laboratory	TN - Tennessee
LM - Lake Michigan	TX - Texas
MA - Massachusetts	USA - United States of America
MB - Manitoba	VA - Virginia
MD - Maryland	WA - Washington
ME - Maine	WI - Wisconsin
MI - Michigan	WV - West Virginia
MN - Minnesota	YUC - Yucatan, Mexico
MO - Missouri	

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