

## GLOSSARY OF TECHNICAL AND ANATOMICAL TERMS

**Abdomen** – Posterior, externally segmented part of the crayfish body.

**Abdomen length** – Distance from hind margin of carapace to end of telson.

**Acumen** – The narrow, spine-like forward extension of the rostrum.

**Acute** – Structure has a more or less pointed apex.

**Annulus ventralis** – A pocket-like, raised structure located on the underside of female crayfish between the bases of the last two pair of walking legs. Also called sperm receptacle.

**Antennae** – The longer of two sets of paired, segmented appendages of the head.

**Antennal scales** – A pair of blade-like structures, each terminating in a spine, extending forward from beneath the eyes.

**Antennules** – The shorter of two sets of paired, segmented appendages of the head.

**Anterior** – Head end of the body or that part of a structure closest to the head of the body.  
Opposite of POSTERIOR

**Apex** – The distal end or tip to a structure.

**Appendage** – Any segmented projection from the head or body, such as the antennae or legs.

**Areola** – An hourglass-shaped area situated along the midline of the carapace between the cervical groove and abdomen. Its lateral margins are defined by a pair of shallow concave grooves. When these grooves touch for part of their length, the areola is said to be absent.

**Areola length** – Distance from cervical groove to hind margin of carapace at carapace midline.

**Areola width** – Distance across areola at its narrowest point.

**Basal** – The origin of a structure, generally closest to the point of attachment to the body.  
Opposite of DISTAL

**Body length** – Distance from tip of rostrum to end of telson.

**Carapace** – The dome-shaped, unsegmented shell covering the anterior half of the body.

**Carapace height** – The greatest vertical distance between upper margin and lower margin of carapace.

**Carapace length** – Distance from tip of acumen to posterior margin of carapace. Is the

common measurement for crayfish.

**Carapace width** – The distance across the carapace at its widest point.

**Carina** – A low ridge or raised area along the midline of the rostrum between the eyes.

**Cephalization** – Fusion of the head and thorax in crayfish; covered by the carapace.

**Cervical groove** – A shallow, transverse groove separating the head from the rest of the carapace.

**Cervical spine** – Spine located on lateral margin of the carapace along the cervical groove.

**Chelae** – The terminal end of the chelipeds; claw or pincer.

**Chelate** – Meaning “with claw.” For crayfish, refers to the first three pair of legs.

**Chelae length** – The distance from the posterior to the anterior margins of the chela.

**Chelae width** – The distance of the lateral margins of the chelae at its widest point, also called palm width.

**Chelipeds** – The most anterior and largest of the five pairs of legs extending from beneath the carapace. Each cheliped terminates in an enlarged claw or pincer called the chelae.

**Chitin** – The material comprising the rigid exoskeleton or shell of crayfish.

**Concave** – Structure is notched or hollowed out or has an inwardly curved margin (see emarginate). Opposite of CONVEX.

**Convex** – Structure is more or less evenly curved outward (see ROUNDED). Opposite of CONCAVE.

**Corneous** – With reference to the gonopod processes, having a yellowish translucent texture that contrasts with the whitish opaque appearance of the rest of the body.

**Dactyl** – The movable portion of the chela.

**Distal** – The part of the structure furthest from its point of attachment to the body. Opposite of BASAL.

**Dorsal** – The upper or top part of the body or structure. Opposite of VENTRAL

**Dorsoventrally flattened** – Body or structure that is flattened or depressed from top to bottom

and is generally wider (side to side) than it is thick (top to bottom).

**Epistome** – A small, tongue-like structure located ventrally on the head between the bases of the antennules.

**Exoskeleton** – The outer skin of crayfish and other arthropods; is an external skeleton. Composed primarily of chitin. Limits and controls growth in crayfish; shed by molting.

**Emarginate** – Structure is notched or hollowed out or has an inwardly curved margin (see CONCAVE).

**Fixed finger** – The finger that is fused immovably to the base of the chela.

**Form I male** – An adult male crayfish that is capable of breeding, as indicated by the presence of a corneous (yellowish translucent) tip on one or more of the gonopod processes.

**Form II male** – An adult male crayfish that is incapable of breeding, as indicated by absence of corneous (yellowish translucent) tips on any of the gonopod processes.

**Fossa** – A shallow depression on the ventral surface of the sperm receptacle in female crayfish.

**Gonopod length** – Distance from the base of gonopod to tip of the longest gonopod process.

**Gonopod processes** – The terminal elements of the male gonopod. Among Missouri species, the number of processes on the gonopod ranges from four in species of the genus *Procambarus*, to three in the genus *Cambarellus*, to two in the genera *Cambarus*, *Fallicambarus*, *Faxonella* and *Orconectes*.

**Gonopods** – A pair of structures extending forward between the bases of the walking legs from their point of attachment to the ventral surface of the first abdominal segment in male crayfish. The gonopods in adult males exhibit a cyclic dimorphism associated with reproduction. Breeding (Form I) males are distinguished by the presence of a corneous (yellowish translucent) tip on one or more of the gonopod processes. In non-breeding (Form II) males, the tips of the gonopod processes are blunter and are entirely of a whitish opaque texture.

**Head** – The first region of the body anterior to the cervical groove; fused with the thorax in crayfish.

**Hooks** – Refers to the extensions on the ischium (third segment) of the walking legs of Form I male crayfish. Used to help hold the female during mating. In Missouri crayfishes, males of the genus *Cambarellus* hooks are present on the bases of the first and second pairs of walking legs. Males of other Missouri crayfish never have hooks on the bases of the first pair of walking legs.

**Instar** – The life history stage of a crayfish between successive molts.

**Lateral** – The right or left side of the body or structure. Opposite of MESIAL.

**Laterally flattened** – Body or structure that is flattened or compressed from the sides and is generally thicker (top to bottom) than it is wide (side to side).

**Lateral spines** – Spines at the base of the acumen, setting it off from the rest of the rostrum.

**Mandibles** – A pair of appendages of the head used mainly for chewing.

**Maxillae** – Two pair of appendages of the head used for grasping food and baling water.

**Maxillipeds** – Three pair of appendages of the head used for feeding, cleaning antennae, and baling water.

**Medial** – The longitudinal midline of the body or structure.

**Mesial** – The side of the gonopod process facing the body midline. Opposite of LATERAL.

**Orbital ridge** – Portion of the carapace surrounding the eye; below the rostrum.

**Palm** – The basal part of the pincer.

**Pincer** – The terminal claw of the most anterior pair of legs extending from beneath the carapace; also called chelae.

**Pleopods** – The appendages on the first five segments on the abdomen of a crayfish. In males the first pair are modified into gonopods. In females, are where the eggs attach. Also called swimmerets.

**Posterior** – Tail end of the body or that part of a structure closest to the tail of the body. Opposite of ANTERIOR.

**Primary process** – In crayfish of the genera *Cambarus*, *Fallicambarus*, *Faxonella* and *Orconectes*, the larger of the two tips or points on the male gonopod. The primary process is composed partly of a corneous (yellowish translucent) material in Form I males.

**Primary process length** – The straightline distance from the base of the primary process to its tip.

**Processes** – Robust, often acute, unsocketed outgrowths or extensions of the exoskeleton (see spines).

**Proximal** – Toward the site of attachment of a structure. Opposite of DISTAL

**Ramus** – Inner and outer; the segments that compose the uropods.

**Rostrum** – A triangular-shaped anterior extension of the carapace, located dorsally between the eyes.

**Rostrum length** – Distance from the base of the rostrum to its tip.

**Rounded** – Structure is more or less evenly curved outward (see CONVEX).

**Saddle mark** – A dark transverse band present on the carapace in some crayfish. Typically, saddle marks occur near the cervical groove and near the junction of the carapace and abdomen.

**Secondary process** – In crayfish of the genera *Cambarus*, *Fallicambarus*, *Faxonella* and *Orconectes*, the smaller of the two tips or points on the male gonopod. In nearly all species, the secondary process is not composed of a corneous (yellowish translucent) material in Form I males.

**Setae** – Hairlike bristles, such as are evident on the pincers of some crayfish.

**Sperm plug** – A gummy material deposited by the male crayfish on the sperm receptacle of the female at the time of mating. Its function is to retain the sperm until fertilization, and perhaps to prevent mating with other males.

**Sperm receptacle** – A pocketlike, raised structure located on the underside of female crayfish between the bases of the last two pair of walking legs. Technically referred to as the annulus ventralis or fossa.

**Spines** – A hard, pointed outgrowth such as frequently occurs on the rostrum or lateral margin of the carapace.

**Swimmerets** – The appendages on the first five segments on the abdomen of a crayfish. In males the first pair are modified into gonopods. In females, are where the eggs attach. Technically called pleopods.

**Tail fan** – The flattened posterior section of the abdomen in crayfish, technically referred to as the telson.

**Telson** – The flattened posterior section of the abdomen in crayfish, also called the tail fan.

**Thorax** – The central part of the crayfish body between the cervical groove and the abdomen; fused with the head in crayfish.

**Truncate** – Structure is more or less square-shaped or has a blunt apex.

**Tubercle** – A low knob-like outgrowth such as may be present on the chela.

**Uropods** – The lateral segments of the telson. Composed of the inner and outer ramus.

**Ventral** – The lower or bottom part of the body or structure. Opposite of DORSAL

**Walking legs** – The four pairs of appendages extending laterally from beneath the carapace behind the chelipeds.