KEY TO THE FORM I MALE CRAYFISHES OF WEST VIRGINIA

1a Rostral margins with spines; first pleopods with 2 straight or gently curving terminal elements; post-orbital and cervical spines always present; suborbital angle always acute……..…….. **2**

1b Rostral margins without spines; first pleopods with 2 short terminal elements bent at approximately 90 degrees to main shaft; post-orbital and cervical spines present or absent; suborbital angle acute to absent……..**7**

2a First pleopod total length greater than 35% of total carapace length…….**3**

2b First pleopod total length less than 35% of total carapace length……..**4**

3a First pleopod elements straight; cephalic base of central projection with a right angle shoulder; rostrum with carina……...***Orconectes cristivarius***

3b First pleopod elements gently bent at an angle of approximately 30 degrees; rostrum without carina; cephalic base of central projection without a right angle shoulder……***Orconectes (G.) virilis***

4a Cusp of mandible entire; central projection length greater than 40% of first pleopod length; rostral margins concave…… …***Orconectes (P.) rusticus***

4b Cusp of mandible toothed; central projection length less than 40% of first pleopod length; rostral margins straight……..... **5**

5a Hepatic region of carapace with one or more spines; central projection of first pleopod straight; mesial process inflated and divergent from central projection……..***Orconectes (F.) limosus***

5b Hepatic region of carapace without spines; central projection straight; mesial process not inflated and subparallel to central projection…… **6**

6a Cephalic base of central projection with right angle shoulder; central projection length 23% (18%-28%) of first pleopod length…….***Orconectes (C.) obscurus***

6b Base of central projection without right angle shoulder; central projection length 16% (13%-22%) of first pleopod length…….…….***Orconectes (C.) sanbornii***

7a Fingers of chelae dorsoventrally flattened; base of dactyl deeply incised; conspicuous tuft of setae at base of immovable finger of chelae; areola obliterated; suborbital angel obsolete …… ……..……..***Fallicambarus (C.) fodiens***

7b Fingers robust; base of dactyl either not incised or weakly incised; areola open or closed; suborbital angle variable……..**8**

8a Mesial 1/3 of palm of chela covered with tubercles; base of dactyl weakly incised; areola closed or nearly so……***Cambarus (T.) thomai***

8b Mesial tubercles on palm of chela restricted to one or two rows of tubercles; base of dactyl not incised; areola open…….**9**

9a Two rows of tubercles on palm of chela……....**10**

9b One row of tubercles on palm of chela……..**14**

10a Second row of tubercles on palm of chela nearly or equally developed as first row……....**11**

10b Second row of tubercles on palm of chela less developed than first row…….……**12**

11a Rostral margins convergent and uniform in thickness; two well developed rows of tubercles of equal size on palm of chela; body color brownish or greenish……...***Cambarus (P.) robustus***

11b Rostral margins parallel and truncated anteriorly; tubercles on palm of chela cristiform; body color blue or red……..…***Cambarus (J.) dubius***

12a More mesial row of tubercles on palm of chela poorly developed, more lateral row ½ size of first row or adpressed……..……..…**13**

12b More mesial row of tubercles on palm of chela cristiform; more lateral row poorly developed…. …….***Cambarus (J.) dubius***

13a Postorbital ridge with spine; second row of palmar tubercles ½ size of first row; areola with 4-5 rows of punctuations……***Cambarus (C.) sciotensis***

13b Postorbital ridge without spine; second row of palmar tubercles numbering 4-5 and greatly adpressed; areola with 3-4 rows of punctuations……..…..***Cambarus (C.) b. cavatus***

14a Dorsolongitudinal ridges of fingers of chelae poorly developed…….……..**15**

14b Dorsolongitudinal ridges of fingers of chelae well developed……..……**17**

15a Length of dactyl less then 1.8 times length of mesial margin of palm; (James River drainage)…… ……***Cambarus (H.) longulus***

15b Length of dactyl more then 1.8 times length of mesial margin of palm; (Greenbrier and Elk River drainages)……..**16**

16a Strong dorsal impression at base of fixed finger; dactyl length about 2.0 times palm length; (Elk River drainage)……...***Cambarus (H.) elkensis***

16b Dorsal impression at base of fixed finger absent; dactyl length about 2.5 times palm length; (Greenbrier and Upper New River drainages)……...……***Cambarus (H.) chasmodactylus***

17a Cervical spines present……..…….**18**

17b Cervical spines absent…….……..…….**19**

18a Suborbital angle obsolete…….…….***Cambarus (P.) veteranus***

18b Suborbital angle acute……....***Cambarus (P.) nerterius***

19a Postorbital ridge terminating anteriorly in a sharp spine or tubercle…….**20**

19b Postorbital ridge without sharp spine or tubercle……..…….**21**

20a Suborbital angle acute……...……***Cambarus (C.) sciotensis***

20b Suborbital angle absent……..***Cambarus (P.) nerterius***

21a Body laterally compressed; body color red, orange, blue, or black; palmar tubercles cristiform.…..**22**

21b Body dorsoventrally compressed; body color brown or green; palmar tubercles adpressed…….**23**

22a Lateral margin of propodus of cheliped smooth; body color blue...…***Cambarus (J.) monongalensis***

22b Lateral margin of propodus of cheliped costate; body color red, orange, or black …….. ……***Cambarus (J.) dubius***

23a Third or fourth tubercle on mesial margin of fixed finger enlarged; rostral margins thickened ……..***Cambarus (C.) b. carinirostris***

23b Third or fourth tubercle on mesial margin of fixed finger not enlarged; rostral margins uniform in thickness……...……. ***Cambarus (C.) b. bartonii***