

A Preliminary Key to the Hermit Crabs of California

Janet Haig
Allan Hancock Foundation
revised 14 February 1990

1. Outer maxillipeds approximated at their bases; chelipeds equal or subequal in size - Diogenidae 2
Outer maxillipeds widely separated at their bases; right cheliped larger than left 7
2. Pereiopod 4 simple; paired pleopods present in both sexes - *Paguristes* 3
Pereiopod 4 subchelate; no paired pleopods in either sex *Isocheles pilosus* (Holmes 1900)
3. Dorsal surface of palms of chelae with large conical tubercles, each tipped with a dark corneous spine; chelae bearing many long stiff simple setae 4
Dorsal surface of palms of chelae coarsely granulated, and bearing fluffy clusters of short plumose setae *Paguristes parvus* Holmes 1900
4. Rostrum about as long as lateral frontal projections; antennal flagellum with short, wide-set hairs on lower surface 5
Rostrum longer than lateral frontal projections; antennal flagellum with long, close-set hairs on lower surface 6
5. Chelae very broad, with their dorsomesial margin strongly convex *Paguristes bakeri* Holmes 1900
Chelae relatively narrow, with dorsomesial margin not strongly convex *Paguristes turgidus* (Stimpson 1857)
6. Rostrum broad at base, reaching about to base of eyescales; propodus and dactyl of walking legs with small, dark corneous spines on inner surface *Paguristes ulreyi* Schmitt 1921
Rostrum slender, narrow at base, tip reaching beyond base of eyescales; propodus and dactyl of walking legs unarmed on inner surface *Paguristes* sp. 1 of Haig
7. Crista dentata of outer maxillipeds with one or more accessory teeth; ♀ with a gonopore on the coxa of both 3d pereiopods - Paguridae 8
Crista dentata of outer maxillipeds lacking accessory tooth; ♀ with a gonopore on the coxa of the left 3d pereiopod only - Parapaguridae 33 35
8. Telson posterior margin entire, lacking lobes and median cleft 9
Telson divided into lobes posteriorly 10

2 of 12
partially by *Pseudina gaudin*
TS-23 Haig 11

based on figures from the literature, Pt. 101. ♂, 101.101.101.101

9' Telson with median transverse constriction, major chela armed distally. *Orthopagurus* spines
 Telson lacking median transverse constriction, major chela armed distally. *Discorsopagurus schmitti* (Stevens 1927)

- 9. Telson unarmed terminally; uropods asymmetrical *Enallopaguroopsis guatemoci* (Glassell 1937)
- Telson spined terminally; uropods symmetrical *Discorsopagurus schmitti* (Stevens 1927)
- 10. Propodial rasp of pereopod 4 a single scale row 11
- Propodial rasp of pereopod 4 well developed, with multiple scale rows 13
- 11. Abdomen coiled; uropods asymmetrical 12
- Abdomen straight; uropods symmetrical *Pylopagurus holmesi* Schmitt 1921
- 12. Right chela discoid, dorsal surface of palm convex and bearing many low boss-like tubercles; dactyl with raised ridge on dorsal face; pereopod 4 with preungual process *Phimochirus californiensis* (Benedict 1892)
- Right chela subquadrate, dorsal surface of palm slightly concave, with raised margins and scattered slender tubercles; dactyl without facial ridge, but bearing a proximal tubercle row on dorsal face; pereopod 4 lacking preungual process *Haigia diegensis* (Scanland & Hopkins 1969)
- 13. Abdomen coiled; uropods asymmetrical 14
- Abdomen straight; uropods symmetrical *Orthopagurus minimus* (Holmes 1900)
- 14. Dactyls of pereopods 2 and 3 at least 1.5x shield length (usually 2x); ♂ with short sexual tube on coxa of pereopod 5 - *Parapagurodes* and *Pagurus aleuticus* ♀ 15
- Dactyls of pereopods 2 and 3 never more than 1.3x shield length (usually 1x or less); ♂ without sexual tube on coxa of pereopod 5 (except *P. aleuticus* ♂ ♀) 17
- 15. Dactyls of pereopods with a pronounced lateral sulcus *Pagurus aleuticus* (Benedict 1892) ♀
- Dactyls of pereopods lacking a sulcus laterally 16
- 16. Dorsal surface of palm of right chela unarmed proximally; scattered small spinules or spinulose tubercles distally and on fixed finger *Parapagurodes makarovi* McLaughlin & Haig 1973
- Dorsal surface of palm of right chela armed proximally with 4 or 5 irregular rows of widely spaced strong spines, these not extending onto fixed finger *Parapagurodes laurentae* McLaughlin & Haig 1973
- 17. Left chela with dorsal surface of palm flattened; propodus of pereopod 3 with a row of spines on upper margin 18
- Left chela with dorsal surface of palm elevated; propodus of pereopods usually unarmed on upper margin 21
- 18. Dorsomesial margin of left chela nearly straight; posterior lobes of telson armed on terminal margins only . 19
- Dorsomesial margin of left chela strongly convex; posterior lobes of telson armed on both terminal and lateral margins *Pagurus spilocarpus* Haig 1977

19. Dactyls of walking legs with 3 longitudinal rows of small spines or spinulous tubercles on dorsal surface, separated proximally by 2 shallow longitudinal sulci 20
- Dactyls of walking legs with a prominent longitudinal sulcus on dorsal surface *Pagurus aleuticus* (Benedict 1892)
20. Chelae with moderately short, bluntly conical spines or tubercles on dorsal surface *Pagurus ochotensis* Brandt 1851
- Chelae with acute spines on dorsal surface *Pagurus armatus* (Dana 1851)
21. Left chela with dorsolateral surface convex; midline often elevated, but not into a prominent ridge 22
- Left chela with dorsolateral surface concave, midline elevated into a prominent ridge; palm of right chela raised into a prominent, triangular plateau *Pagurus tanneri* (Benedict 1892)
22. Merus of right cheliped with 1 or 2 prominent tubercles on ventral surface 23
- Merus of right cheliped without prominent tubercles on ventral surface 31
23. Dorsal surface of palm of chelae roughened, with prominent granules 24
- Dorsal surface of palm smooth, paved with tiny, close-set granules *Pagurus* sp. 2 of Haig
24. Rostrum only slightly produced 25
- Rostrum distinct, produced well beyond lateral frontal lobes 28
25. Merus of right chela with 2 prominent tubercles ventrally 26
- Merus of right chela with 1 prominent tubercle ventrally *Pagurus caurinus* Hart 1971
26. Ocular acicles tipped with 3 or more spines *Pagurus quaylei* Hart 1971 (in part)
- Ocular acicles tipped with a single spine 27
27. Right chela more or less evenly and finely granulated dorsally; palm of left chela granulated on lower surface *Pagurus granosimanus* (Stimpson 1859)
- Right chela more or less coarsely and irregularly granulated dorsally; palm of left chela smooth on lower surface *Pagurus beringanus* (Benedict 1892)
28. Carpus of right chela wider than deep; shield and legs hairy 29
- Carpus of right chela deeper than wide; shield shiny and smooth, entire crab almost hairless *Pagurus hemphilli* (Benedict 1892)
29. Merus of right chela with 1 prominent tubercle ventrally; carapace shield wider than long 30
- Merus of right cheliped with 2 prominent tubercles ventrally; carapace shield distinctly longer than wide *Pagurus samuelis* (Stimpson 1859)

30. Carapace shield distinctly wider than long *Pagurus hirsutiusculus hirsutiusculus* (Dana 1851)
 Carapace shield slightly longer than wide *Pagurus hirsutiusculus venturensis* Coffin 1957
31. Eyescales subovate, usually terminating in a single spine 32
 Eyescales obliquely truncate, the oblique margin with 4 or 5 spinules
 *Pagurus redondoensis* Wicksten 1982
32. Propodus of right pereopod 2 unarmed; dactyl of left pereopod 3 without pointed tubercles on dorsal margin or ventral part of outer surface 33
 Propodus of right pereopod 2 with a row of spines dorsally; dactyl of left pereopod 3 usually with row of pointed tubercles on dorsal margin and a similar row on ventral part of outer surface
 *Pagurus quaylei* Hart 1971
33. Rostrum rounded, not strongly produced 34
 Rostrum narrow, pointed, strongly produced *Pagurus* sp.4 of Hart
34. Dactyls of walking legs with a row of small corneous spinules on lower margins
 *Pagurus capillatus* (Benedict 1892)
 Dactyls of walking legs with row of strong corneous spines on lower margin . *Pagurus setosus* (Benedict 1892)
35. Dorsal surface of palm of right chela evenly granulate; ♂ with 2 pairs of pleopods
 *Parapagurus benedicti* de Saint Laurent 1972
 Dorsal surface of palm of right chela with a few longitudinal rows of small pointed granules or tubercles; no paired pleopods in ♂ *Sympagurus haigae* (de Saint Laurent 1972)