

A Preliminary Key to the Hermit Crabs of California

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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. 84, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

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)