

11 February 2005

AMPITHOIDAE – A, TA Urosome articles separate, third uropods short and with 2 (occasionally 1) distinctive, stout hook spines on the outer ramus. The taxonomy is based on both sexes. Ampithoids are herbivores, occurring in shallow depths where they build nests of algae or burrow into kelp stipes.

1. Pereopods 3 and 4 article 2 strongly inflated to more than 3/4th width coxa (Conlan & Bousfield 1982:62, Fig11 whole body:1); gnathopod 1 palm transverse (Barnard 1965b:9 Fig3g articles 5-7 only:2) 9
- Pereopods 3 and 4 article 2 less than 1/2 width of coxa (Conlan & Bousfield 1982:44, Fig1, whole body:3) gnathopod 1 palm subchelate (Barnard 1965b:41 Fig26c articles 5-7 only:4) 2
2. Antenna 1 accessory flagellum multiarticulated (Conlan & Bousfield 1982:44, Fig1, whole body:3) and peduncular spinous process of uropods 1 and 2 projecting below rami (Barnard 1965b:41 Fig26i:5) *Paragrubia uncinata*
- Antenna 1 accessory flagellum vestigial or absent (Conlan & Bousfield 1982:48, Fig2 whole body:6); ventral spinous process on uropods small or absent (JLB65b:22 Fig12b:7). 3
3. Gnathopod 1 posterior lobe of article 5 long, more than 40% of the entire article length of the entire article (Shoemaker 1938a:17 Fig1a:8, Conlan & Bousfield 1982:48, Fig2 whole body:6) . 4
- Gnathopod 1 posterior lobe of article 5 less than 40% of the length of the entire article (Barnard 1965b:87 Fig3g:9) 6
4. Dense plumose setae on antenna 2 peduncle 5 and flagellum, male gnathopod 1 article 5 shorter than article 6 (Shoemaker 1938a:17 Fig1a:8); and mature male gnathopod 2 palm slightly oblique (Shoemaker 1938:17 Fig1j:10); epimeron 3 hind margin evenly rounded (Shoemaker 1938a:17 Fig1b:11) *Ampithoe plumulosa*
- Antenna 2 lacking dense plumose setae, gnathopod 1 article 5 as long or longer than article 6, mature male gnathopod 2 palm transverse or produced forward, (Conlan & Bousfield 1982:48, Fig2 male body:6); posterior ventral corner of epimeron 3 with intersecting ridge and angular or slightly notched (Conlan & Bousfield 1982:48, Fig2 male body:6) 5
5. Mature male gnathopod 2 palm produced forward and posterior ventral corner of epimeron 3 with small notch and intersecting ridge (Conlan & Bousfield 1982:48, Fig2 male body:6); lobes of lower lip widely separated (Barnard 1965b:10 Fig4a:12) . . . *Ampithoe lacertosa*
- Mature male gnathopod 2 palm transverse and bearing distinct square tooth (Barnard 1965b:26 Fig22e:13); posterior ventral corner of epimeron 3 angular and with faint notch and intersecting ridge (Barnard 1965b:35 Fig22b [3 pleonites only]:14) lobes of lower lip separated by narrow gap (Barnard 1965b:35 Fig23c:15) *Ampithoe valida*
6. Apex of telson with two enlarged, lobed "rabbit ear" folds (Barnard 1969a:87, fig3f:16); article 5 of pereopod 5 less than half as long as article 6 (Barnard 1969a:87 Fig3b:17) *Ampithoe aptos*
- Apex of telson with two minute lateral knobs (Barnard 1965b:28, fig17o:18); article 5 of pereopod 5 more than half as long as article 6 (Barnard 1954:93, Pl.28A:19) 7
7. Mature male gnathopod 2 palm sharply incised to form a large pointed tooth, antenna 2 slightly shorter than antenna 1 setose and with flagellum distinctly shorter than combined articles 4 and 5 (Conlan & Bousfield 1982:54 Fig7 [only head, antennae, G1 & G2 of whole body]:20) *Ampithoe sectimanus*

- Mature male gnathopod 2 palm roundly incised to form short, blunt tooth, antenna 2 distinctly longer than antenna 1, weakly setose and flagellum as long as peduncular articles 4 & 5 (Shoemaker 1938a:20Fig2a:21). 8
- 8. Plumose setae lining articles 2-5 of male gnathopod 1 (Shoemaker 1938a:20Fig2a:21); distal setal row of mandibular palp article 3 marked by distinct angle at inner proximal margin (Shoemaker 1938a:20Fig2c:22); epimeron 3 posterior ventral corner evenly rounded (Shoemaker 1938a:20Fig2b [cut off pleonite 1 forward]:23) *Ampithoe dalli*
- Plumose setae lining only posterior articles 2 of male gnathopod 1 (Conlan & Bousfield1982:59Fig10whole body [from pereonite 2 forward]:24); distal setal row of mandibular palp article 3 rounding evenly into inner proximal margin (Conlan & Bousfield1982:59Fig10LFT MD:25); epimeron 3 posterior ventral corner notched (Conlan&Bousfield1982:59Fig10 [3rd pleonal epimeron only]:26) *Ampithoe simulans*
- 9. Male gnathopod 2 article 6 width no more than twice the width of gnathopod 1 article 6 (Conlan&Bousfield1982:62Fig11whole body:1); proximal articles of antenna 2 flagellum unfused (Conlan & Bousfield1982:62Fig11whole body:1 & Conlan & Bousfield1982:63 Fig12whole body:27) 10
- Male gnathopod 2 article 6 width nearly twice width of gnathopod 1 article 6 (Conlan&Chess1992:411Fig1top body:28); proximal articles of antenna 2 flagellum fused (Conlan & Chess 1992:411 Fig1top body:28) 11
- 10. Pereopod 7 more than 1.5 times as long as pereopod 6 (Conlan & Bousfield1982:62 Fig11whole body:1); gnathopod 2 (both sexes) palm transverse, and article 5 equal to or longer than article 6 (Barnard 1965b:9Fig3f:29); *Peramphithoe humeralis*
- Pereopod 7 less than 1.2 times length of pereopod 6 and gnathopod 2 (both sexes) palm oblique with article 5 length less than article 6 (Conlan & Bousfield1982:63 Fig12whole body:27) *Peramphithoe mea*
- 11. Male gnathopod 2, article 6 less than twice as thick as article 6 of gnathopod 1 .(Conlan & Chess 1992:411 Fig1top body:28) *Peramphithoe stypotrumpetes*
- Male gnathopod 2, article 6 more than twice as thick as article 6 of gnathopod 1 (Barnard 1952:26PL7.1:30 & PL7.7:31) 12
- 12. Male gnathopod 2 palm well defined, extending about half the length of posterior edge of article 6 (Barnard 1952b:25PLVI 3:32), antenna 2 article 4 distinctly shorter than article 3 (Barnard 1952b:25PLVI 3:32) *Peramphithoe lindbergi*
- Male gnathopod 2 palm poorly defined and extending more than half length of article 6, antenna 2 article 4 length approximately equal to article 3 (Barnard 1965:17fig9a[antennae, head, gnathopods and pereonites 1&2only]:33). 13
- 13. Lateral and medial lobes of lower lip projecting equally (Barnard 1965b:17Fig9g:34); antenna 2 first article of flagellum nearly 3 times longer than more distal articles (Barnard 1965:17fig9a[antennae, head, gnathopods and pereonites 1&2only]:33) *Peramphithoe plea*
- Lateral lobes of lower lip projecting further than medial lobes (Barnard 1965b:31Fig19b:35); first article of flagellum of antenna 2 less than 2 times length of more distal articles (Barnard 1965:31fig19a[antennae, head, gnathopods and pereonites 1&2only]:36) *Peramphithoe tea*

Ampithoe (Pleonexes) aptos (Barnard, 1969a), M, Monterey Bay to Point Conception, California, 0 m.

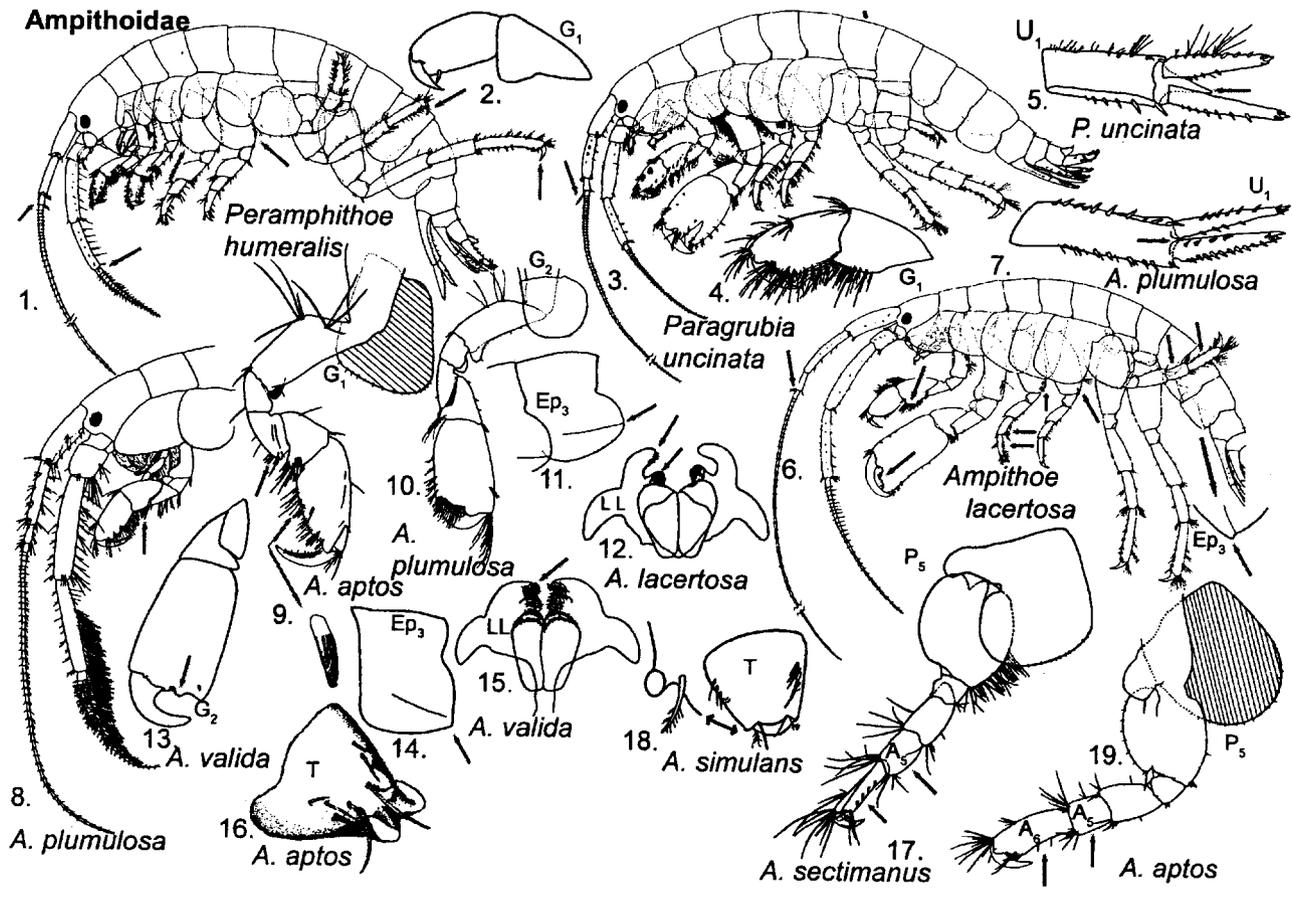
- * *Ampithoe corallina* Stout, 1913, S. California possible *nomen nudum*.
Ampithoe dalli Shoemaker, 1938, M -, NE Russia, Aleutian Islarnds, Alaska to Cape Arago, Oregon, 0-10 m.
Ampithoe lacertosa (Bate, 1858), M-E, Japan, Aleutian Islands, Alaska to Magdalena Bay, Baja California, 0 – 11 m..
 * *Ampithoe longimana* (Smith, 1873), M, North Atlantic- introduced to Southern California, 0–10 m.
 * *Ampithoe pollex* Kunkel, 1910, M, NE Pacific records not clear due to poor description of type populations. Possible introduced species in Southern California, 0 m
Ampithoe plumulosa Shoemaker, 1938, M, British Columbia to Salinas, Equador and Galapagos Islands, 0-15 m.
 * *Ampithoe ramondi* Audoin, 1828, M, Cosmopolitan at latitudes less than 45°, 0-32 m.
Ampithoe sectimanus Conlan & Bousfield, 1982, M, SE Alaska to Oregon, 0 m.
Ampithoe simulans (Alderman, 1936), M, Aleutian Islands, Alaska to La Jolla, California, 0-4 m.
Ampithoe valida Smith, 1873, M-E, Introduced from North Atlantic Georgia Strait, British Columbia to Newport Bay, California, Japan, 0-30 m.
Ampithoe valida Smith, 1873. Marine and estuarine, often abundant among green algae and in fouling communities; an Atlantic species introduced to the Pacific coast from at least British Columbia to Newport Bay. See Alonso et al. 1995, *Oebalia* 21: 77-91 (seasonal population changes), Pardali et al. 2000 *Mar. Ecol. Prog. Ser.* 196: 207-219 (biology, ecology in Portugal). No ecological or biological studies appear to be available for this handsome bright green species on the Pacific coast.
Paragrubia uncinata (Stout, 1912), M, British Columbia to San Diego, California , 4-27 m.
 **Peramphithoe eoa* (Bruggen, 1907), M, 0-90m, northwest Pacific records and distinction from *P. mea* unclear.
Peramphithoe humeralis (Stimpson, 1864), M, Puget Sound, Washington to Guadelupe Island, Mexico, 0-53 m.
Peramphithoe lindbergi (Gurjanova, 1938), M, Okhotsk Sea, Japan, Bering Sea to Corona del Mar, California, 0-18 m.
Peramphithoe mea (Gurjanova, 1938), M, Sea of Japan, Aleutians, possibly to Coos Bay, Oregon or S. California 0-54 m, southern populations of eastern Pacific *P. mea*, *P. plea* and *P. tea* are not clearly distinguished.
Peramphithoe plea (Barnard, 1965), M, Queen Charlotte Islands to Santa Barbara, California, 0 – 17 m.
Peramphithoe stypotrumpetes Conlan and Chess, 1992, M, Southeastern Alaska to California, 0 – subtidal., tubicolous in brown algae fronds (Conlan & Chess 1992).
Peramphithoe tea (Barnard, 1965), M, Prince William Sound to Baja California, 0 – 68 m, distinction from *P. plea* unclear, ecology (Gunnill 1982).

Captions – Gammaridea Ampithoidae plates 1-2:

Ampithoidae (1) – *Peramphithoe humeralis* 1; *Paragrubia uncinata* 2,3; *Ampithoe lacertosa* 4,13; *Ampithoe plumulosa* 5,6,7,11,12; *Ampithoe aptos* 8,9,10,17; *Ampithoe valida* 14,15,16; *Ampithoe simulans* 18;

Ampithoidae (2) – *Ampithoe sectimanus* 19; *Ampithoe dalli* 20,21,22; *Ampithoe simulans* 23,24,25; *Peramphithoe stypotruripes* 26; *Peramphithoe mea* 27; *Peramphithoe lindbergi* 28,29,30; *Peramphithoe plea* 31; *Peramphithoe tea* 32;

Ampithoidae Plate 1



Ampithoidae Plate 2

