

The third speaker for the day was Ron Velarde and he spoke about aphroditids. He passed out copies of Mark Rossi's 1978 key and illustrations that had some added comments and information. Aphroditids have a limited number of useful taxonomic characters. In 1953 Pettibone synonymized *Aphrodita refulgida* and *A. japonica*; however, most workers, including Ron, don't support this synonymy. Ron described various characters and character states. The presence or absence of eyes should be noted but don't place a lot of weight on it. Eyes can be faded or subdermal and difficult to detect. The shape of the median antenna is a good character. It can be cirriform, clavate, or a small tubercle. Be careful though; if a cirriform antenna is broken it may appear to be clavate. The palps in aphroditids can be varying lengths. Sometimes they can be regenerating, and there can be variation within the same animal. Another character is the facial tubercle which is between the palps, but descriptions have been inconsistent. Usually the length of the facial tubercle is compared to the size of the prostomium.

The setae are a major character. Often the relative width of neurosetae and notosetae are used. When comparing, use the thickest of the neurosetae and notosetae. There are three tiers or groups of neurosetae. It's important to know what tier the key is referring to. Neurosetae may have spines, spurs, etc. on the outside. Unfortunately on large specimens the tips often break off. Ron commented that the first two setigers and the posterior setigers are modified so it's best to use only setae from the middle of the body.

There are three distinct groups of notosetae: notosetae group 1 are the lateral notosetae closest to the acicula, usually consisting of the "felt"; notosetae group 2 are thicker and extend over the dorsum and may form more than one group of dorsal notosetae; notosetae group 3 are thin capillaries that are positioned in between notosetae group 2. Group 2 notosetae have different structures on the exterior and distinct tips which are species specific. Group 1 and 2 notosetae are used in taxonomy.

We agreed that *Aphrodita parva* is a description of a juvenile and we don't recognize this species. For standardization, Ron examines parapodia at setigers 10 and 11. First, the felt and debris must be carefully cleared away.

Ron spent a day at the Los Angeles County Natural History Museum examining specimens of aphroditids. He looked at the type of *A. falcifera* from off Mexico and found it to be very distinctive. The dorsal notosetae have scales and the neurosetae have spurs. Ron later found a specimen of *A. falcifera* in his own lab's voucher collection from a kelp holdfast off La Jolla. Ron could not find a specimen of *Aphrodita* sp A to examine. No one seems to know of a more complete description of Rossi's *A. sp. A*.

Ron noted that #4 in the 1978 Rossi key has 3 choices. The first choice in which the lateral notosetae are shaggy and white leads to *A. sonorae* Kudenov, 1975 (includes *A. mexicana* Kudenov, 1975). Ron suspects the order of priority between these two synonymous species should be reversed and will check on this. These species were described from the Gulf of California. Ron commented that each of these two species is treated in separate journals both by Kudenov in 1975.

The last couplet of the key, #9, leads to *A. japonica* and *A. longipalpa*. *A. longipalpa* is differentiated by its long palps which then leaves everything else to *A. japonica*. Consequently, *A. japonica* may include other yet undescribed species.

We spent the remainder of the afternoon examining various specimens of *Aphrodita* spp under dissecting microscopes and looking at the diagnostic characters Ron had emphasized.

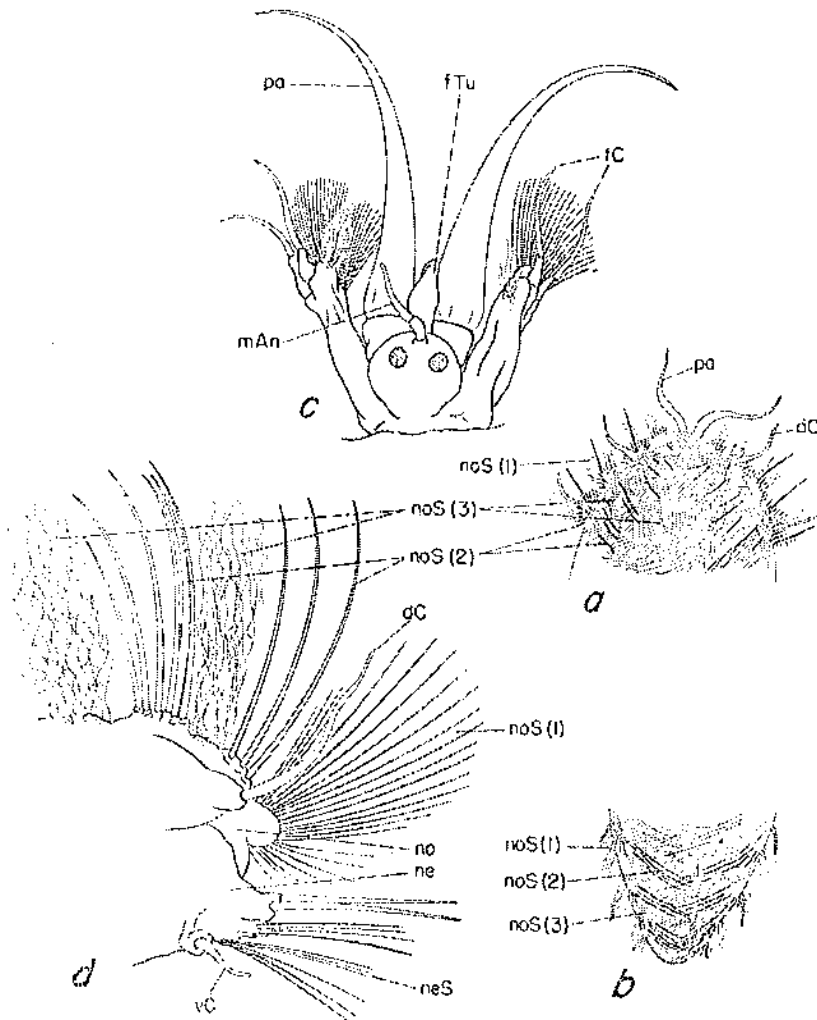


FIGURE 2.--Aphroditidae, *Aphrodita hastata*: a, dorsal view anterior end; b, dorsal view posterior end; c, dorsal view prostomium and tentacular segment; d, parapodium of cirriferous segment.

basally and brilliant bluish green distally). (2) An upper and lower tuft of large, dark amber-colored protective notosetae; they extend dorsomedially, perforating the dorsal feltage, nearly touching medially and especially conspicuous in the posterior fourth; they are stout basally, tapering gradually to slender, flexible hooked tips (may be broken off; in *A. aculeata*, these protective spines are thicker, darker, much shorter, acute and rigid, projecting stiffly along the lateral part of the body and leaving the greater part of the dorsum free of these heavy spines). (3) Groups of fine, capillary, iridescent, yellowish feltage setae in 2 main groups on the cirriferous segments,

*Pethobone* 1923

Lonca

A KEY TO THE SPECIES OF APHRODITA (POLYCHAETA)  
FROM THE WEST COAST OF NORTH AMERICA

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- 1. Dorsal notosetae (Fig. 4, noS(2)) with scales (Fig. 6); lateral notosetae include (Fig. 4, noS(1)) capillaries and stout spines . . . . . A. falcifera Hartman, 1939
- 1. Notosetae without scales; lateral notosetae entirely capillary . . . . . 2
- 2. Thickest dorsal notosetae 2X thicker than thickest neurosetae . . . . . 3
- 2. Thickest dorsal notosetae as thick as or thinner than thickest neurosetae . . . . . 4
- 2. Dorsal notosetae with large asperities (Fig. 7); median antenna clavate (Fig. 1); lower rows of neurosetae often with spurs (Fig. 9) . . . . . A. armifera Moore, 1910
- 3. Dorsal notosetae without large asperities; median antenna cirriform (Fig. 2); lateral notosetae iridescent golden-green . . . . . A. sp. A ?
- 4. Lateral notosetae shaggy, white, conceal neurosetae; median antenna reduced to a small tubercle (Fig. 3) . . . . . A. sonorae Kudenov, 1975 (includes A. mexicana Kudenov, 1975)
- 4. Lateral notosetae iridescent green, free of debris; neurosetae concealed; median antenna cirriform; neurosetae with tips produced to points . . . . . A. refulgida Moore, 1910
- 4. Lateral notosetae colorless, often encrusted with debris; neurosetae often project beyond lateral setae . . . . . 5
- 5. Median antenna clavate . . . . . 6
- 5. Median antenna cirriform . . . . . 8
- 6. Eyes large, confluent (Fig. 1); thickest neurosetae 1.8X thicker than thickest dorsal notosetae . . . . . A. brevitentaculata Essenberg, 1917
- 6. Eyes small; thickest neurosetae and notosetae about equal . . . 7
- 7. Dorsal notosetae acutely constricted proximal to hooked tips (Fig. 8); lateral fascicle of dorsal notosetae number 12-20 . . . . . A. castanea Moore, 1910
- 7. Dorsal notosetae hooked but not acutely constricted (Fig. 5); notosetae number 10 . . . . . A. negligens Moore, 1905

8. Body less than 10 mm; 27 segments; middle and lower rows of neurosetae with spurs (Fig. 10). . . . . A. parva Moore, 1905 <sup>\*</sup> Aphrodite sp. Juv.
8. Body usually larger with more than 30 segments; small individuals may have some lower neurosetae with spurs . . . . . 9
9. Eyes present; median parapodial length to body width (exclusive of parapodia) ratio about four to one . . . . . A. japonica Marenzeller, 1879
9. Eyes absent; parapodium to body width ratio about two to one . . . . . A. longipalpa Essenberg, 1917

Figure 1 from Essenberg, 1917; Figures 2 and 4 from Pettibone, 1963; Figure 3 from Kudenov, 1975; Figures 5 and 10 from Moore, 1905; Figures 8, 9 and 11 from Moore, 1910; Figures 12 and 13 from Hartman, 1939.

Essenberg, C. 1917. Univ. Calif. Publ. Zool., 16(22):401-430.  
 Hartman, O. 1939. Allan Hancock Pacific Exped., 7: 1-156.  
 Kudenov, J.D. 1975. Bull. So. Calif. Acad. Sci., 74: 75-79.  
 Moore, J.P. 1905. Acad. Nat. Sci. Phil., Proc., 57: 525-554.  
 ----- 1910. Ibid, 63: 234-318.  
 Pettibone, M.H. 1963. U. S. Nat. Mus. Bull., 227:1-356.

\* SCANDINAVIAN Vol 24(3), 2005

Clavate antenna-----

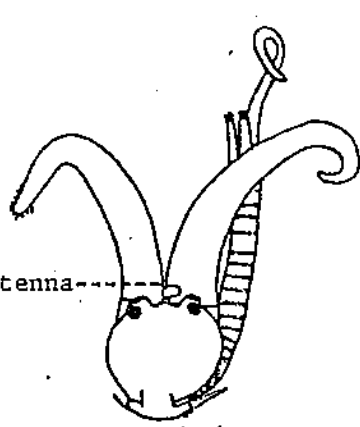


Figure 1 (*A. brevitentaculata*)

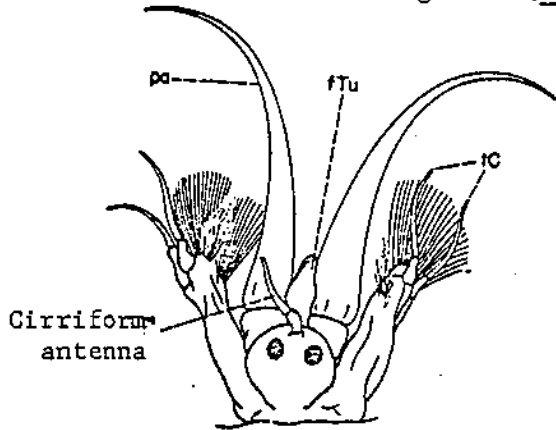


Figure 2

Tubercle-----

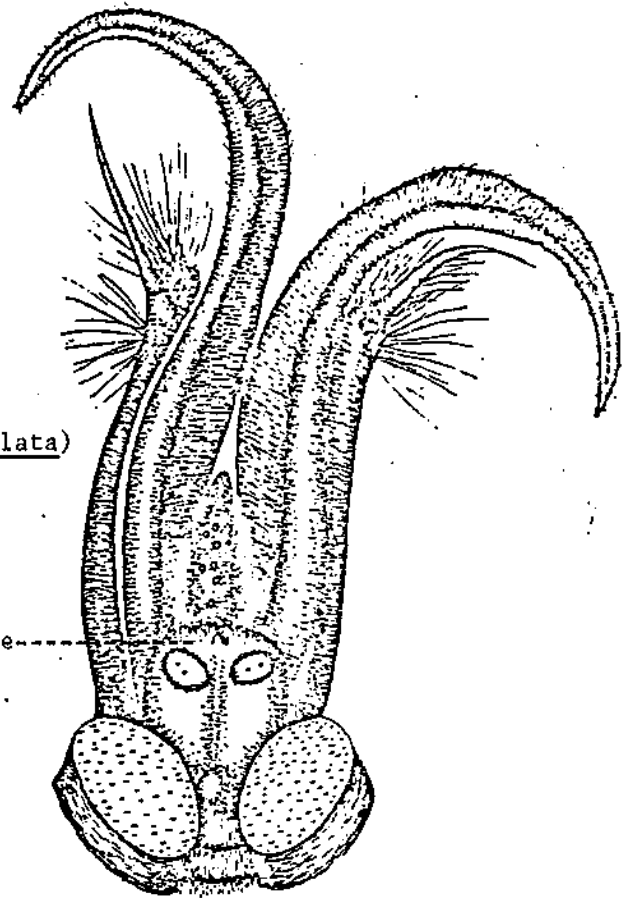


Figure 3 (*A. sonoreae*)

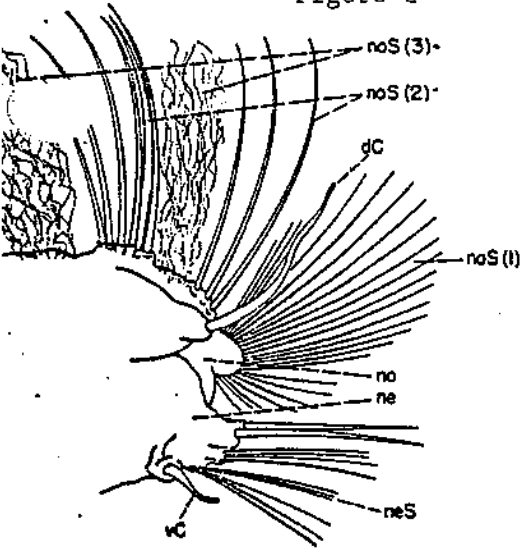


Figure 4



Figure 5



Figure 6

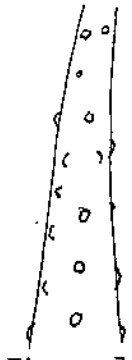


Figure 7



Figure 8



Figure 9



Figure 10

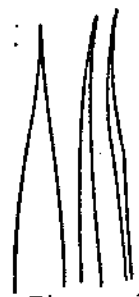


Figure 11

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Figure 12

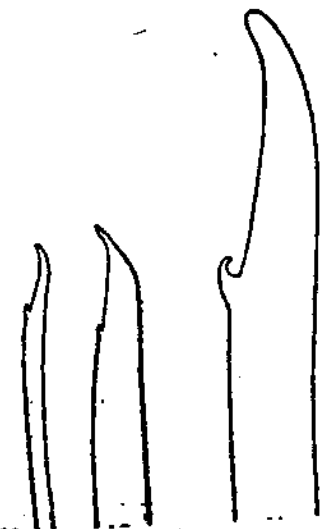


Figure 13