



Voucher Sheet

B. Haggin
April, 2023

Species: *Phyllochaetopterus* sp A SCAMIT, 2023 §

P-code—see Discussion

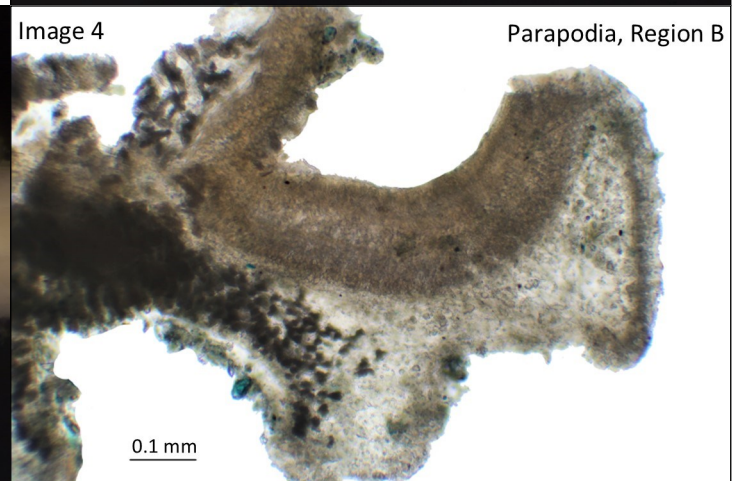
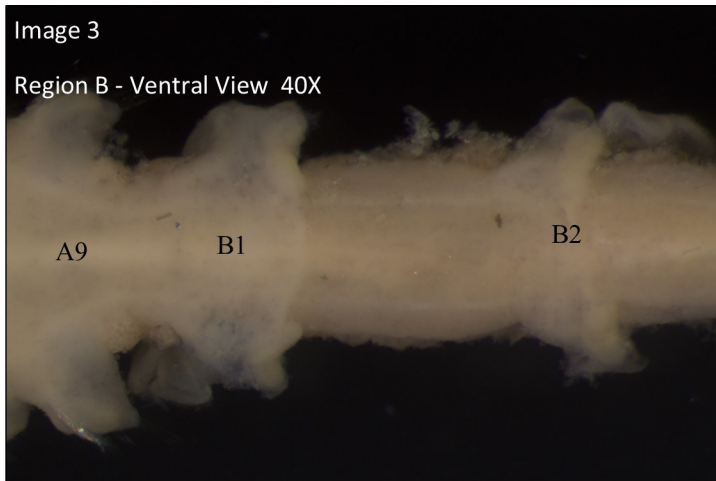
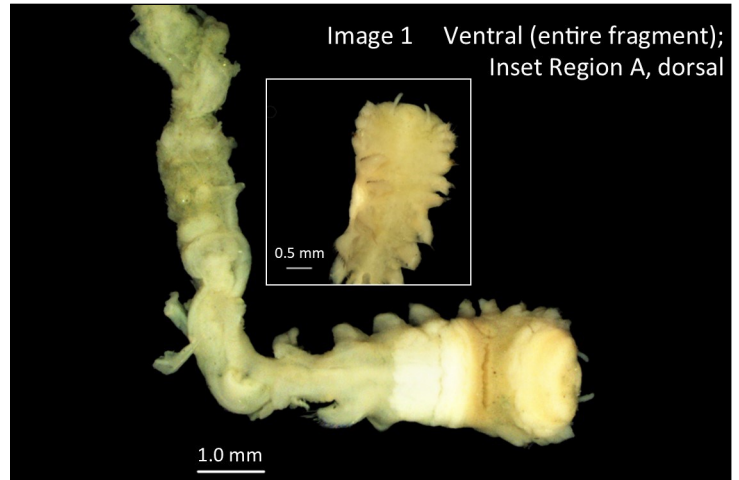
Synonyms: *Phyllochaetopterus* sp LA1 Haggin, 2019 §

ITI-code—none assigned

Family: Chaetopteridae
Suborder: Terebellimorpha
Order: Terebellida
Infraclass: Canalipalpata
Subclass: Sedentaria
Class: Polychaeta
Phylum: Annelida

Diagnostic Characters:

- 1) Largest fragment 17.4 mm for 17 chaetigers; 3.3 mm long and 1.6 mm wide across Region A.
- 2) Prostomium rounded, eyes absent; tentacular cirri present on chaetiger 1 (Image 1).
- 3) Region A with 9 chaetigers (Image 2).
- 4) Region B with 2 chaetigers, notopodia appear bilobed (Images 3, 4).
- 5) Region C incomplete, # of segments unknown; parapodia bottle-shaped (Image 5).
- 6) Chaetiger 4 with 1 cutting chaetae, 3-sided and asymmetrical apically, with etchings in concavities and on shaft (Images 6, 7); notochaetae long, lanceolate, slightly asymmetrical (Images 6, 8); neurochaetae short, lanceolate, highly asymmetrical (Images 6, 9).
- 7) Tube thin, clear, parchment-like.



All photos by B. Haggin

Pigmentation/MGS:

Prostomium, peristomium and A1 unpigmented; A2 yellow-brown; A3-A4 speckled brown; A5 brown; A6 glandular, white; A7 non-glandular, white; A8-A9 brown, fading to unpigmented (Image 2).

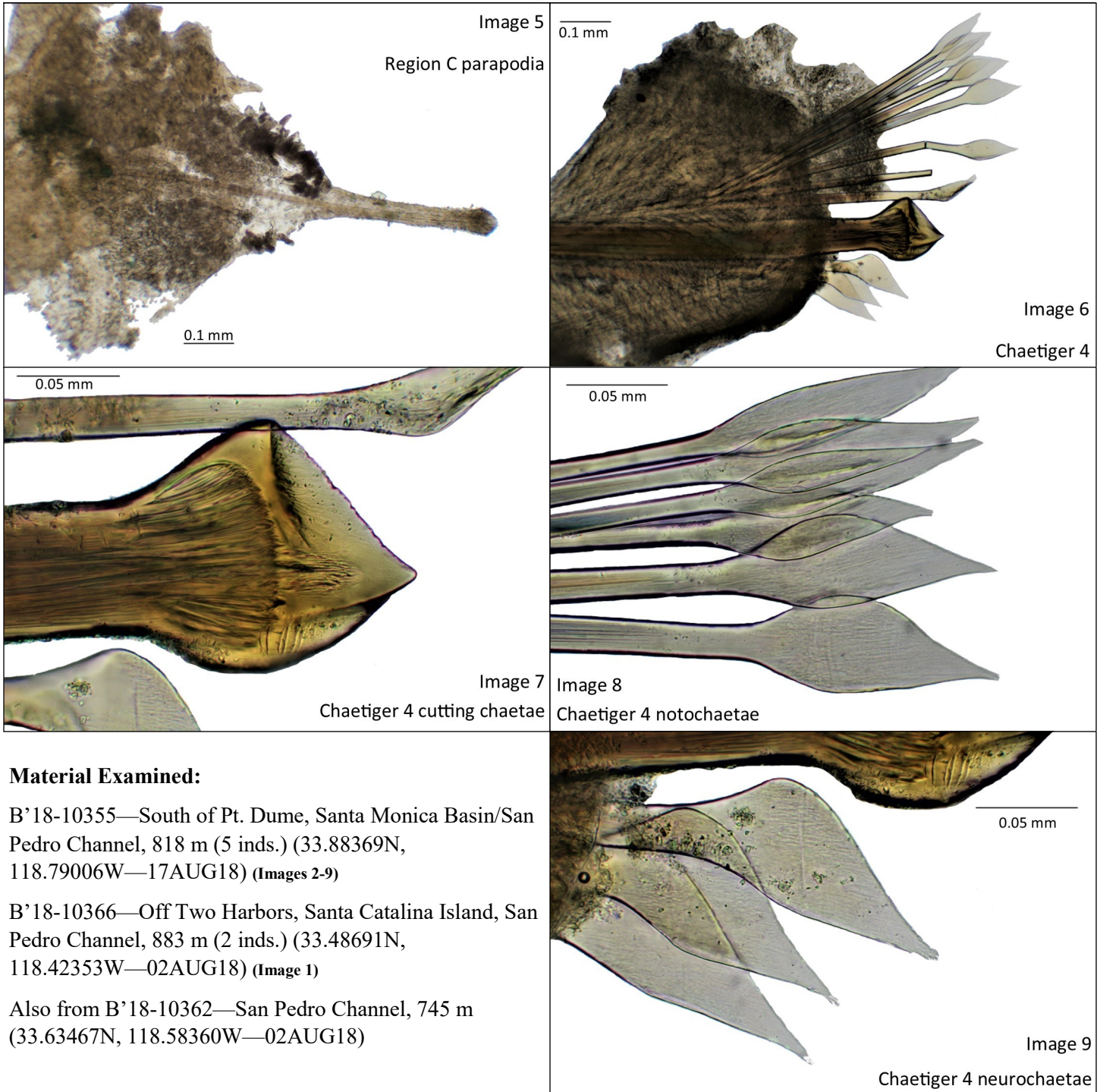
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Material Examined:

B¹⁸-10355—South of Pt. Dume, Santa Monica Basin/San Pedro Channel, 818 m (5 inds.) (33.88369N, 118.79006W—17AUG18) (Images 2-9)

B¹⁸-10366—Off Two Harbors, Santa Catalina Island, San Pedro Channel, 883 m (2 inds.) (33.48691N, 118.42353W—02AUG18) (Image 1)

Also from B¹⁸-10362—San Pedro Channel, 745 m (33.63467N, 118.58360W—02AUG18)

Similar Species:

Phyllochaetopterus limicolus Hartman, 1960—*Phyllochaetopterus limicolus* is similar to *Phyllochaetopterus* sp A in having 9 chaetigers in Region A, 2 chaetigers in Region B, a single cutting chaetae in chaetiger 4 and lacking eyes. The two differ in the ventral pigment pattern of Region A. *Phyllochaetopterus limicolus* has been described with some variability in this pigmentation. Hartman (1960) described it as chalky white thru chaetiger 2, dark tawny or brown from 3-5, chalky white from 6-8 then grayish green. Blake (1996) describes it as pale on chaetiger 1, covered in small pigment spots becoming a reddish-brown band between 5/6 or 6/7, then a large glandular shield on 6-8. SCAMIT (1992)



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Similar Species (cont.):

Phyllochaetopterus limicolus (cont.): discussed the variation in pigment and described *P. limicolus* as having brown coloration on chaetigers 5 & 6, and chalky white on chaetigers 6-8. All of these description differ from the alternating narrow pigment bands found in *Phyllochaetopterus* sp A.

Phyllochaetopterus prolifica Potts, 1914 (sensu Blake, 1996)—*Phyllochaetopterus prolifica* is similar to *P. sp A* in having a single cutting chaetae in chaetiger 4 but differs in a number of ways. *Phyllochaetopterus prolifica* has eyes that are lacking in *P. sp A* and can have up to 12 chaetigers in both Regions A & B. The ventral pigment pattern of Region A is also different between the two species.

Phyllochaetopterus sp LH1 Harris, 2017 §—*Phyllochaetopterus* sp LH1 is similar to *P. sp A* in having a single cutting chaetae in A4 but differs in having up to 10 chaetigers in Region A and over 30 in Region B. The ventral pigment of Region A is a solid brown in *P. sp LH1*, rather than alternating as in *Phyllochaetopterus* sp A.

Phyllochaetopterus gigas Nishi & Rouse, 2014—*Phyllochaetopterus gigas* is similar to *Phyllochaetopterus* sp A in having 9 chaetigers in Region A, 2 chaetigers in Region B, and lacking eyespots. *Phyllochaetopterus gigas* differs in the number of cutting chaetae in chaetiger 4, with up to 6, compared to 1 in *Phyllochaetopterus* sp A. The ventral pigment pattern of Region A also differs, consisting of a broad light patch followed by a broad dark patch and a large white, glandular region on chaetigers 7 and 8 in *Phyllochaetopterus gigas*, where it is a series of alternating thin bands and a narrow white, glandular region on chaetiger 6 in *P. sp A*. *Phyllochaetopterus gigas* has short, inconspicuous tentacular cirri, while *P. sp A* has relatively large tentacular cirri. *Phyllochaetopterus gigas* is known only from the vicinity of whale falls in Monterey Canyon in 2892 m.

Habitat:

Phyllochaetopterus sp A is known from deeper water in the San Pedro Channel. It is found in sediments of clayey silt from 745-883 m. Also collected in the samples were the polychaetes *Amage longibranchiata* Hartman, 1960 (10355, 10366); *Ampharete cornuta* (Hilbig, 2000) (10355); *Myriochele gracilis* Hartman, 1955 (10362); *Maldane californiensis* Green, 1991 (10362); *Syllis* sp A SCAMIT, 2023 § (reported as *Syllis* sp LA4 Haggin, 2019 §) (10362); *Protis pacifica* Moore, 1923 (10355, 10362, 10366); *Aricidea (Acmira) rubra* Hartman, 1963 (10362); *Aricidea (Acmira)* sp LA1 Lovell, 2014 § (10355, 10366) *Levinsenia oculata* (Hartman, 1957) (10362); *Cossura rostrata* Fauchald, 1972 (10362); *Kirkegaardia* sp B SCAMIT, 2023 § (reported as *Kirkegaardia* sp LA1 Haggin, 2019 §) (10355, 10362, 10366); *Chaetozone* sp D SCAMIT, 2023 § (reported as *Chaetozone* sp LA2 Haggin, 2019 §) (10355); *Harmothoe* sp LA1 Furlong, 2014 § (10362); *Lepidonotus* sp A SCAMIT, 2023 § (reported as *Lepidonotus* sp LA1 Haggin, 2019 §) (10362); and an unidentified polynoid (10362), an unidentified *Aricidea* (10355), an unidentified *Cossura* (10362).

Discussion:

Nishi & Rouse (2007) separated the genus *Phyllochaetopterus* into 4 groups based on the combination of number of cutting chaetae in A4 and the number of chaetigers in Region B. The groupings are as follows:

Group A—1-2 cutting chaetae in A4 & 2 chaetigers in Region B

Group B—1-2 cutting chaetae in A4 & 3 or more chaetigers in Region B

Group C—more than 6 cutting chaetae in A4 & 2 chaetigers in Region B

Group D—more than 6 cutting chaetae in A4 & 3 or more chaetigers in Region B

Phyllochaetopterus sp A would be placed into Group A with *Phyllochaetopterus limicolus*.



Phyllochaetopterus sp A

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Discussion (cont.):

The P-Value Tool file has a P-Code of “P389” for *Phyllochaetopterus limicolus*. *Phyllochaetopterus limicolus* is the most likely species for *Phyllochaetopterus* sp A to have been identified as in the past, but I am not sure if it should inherit P-Code “P389” from *Phyllochaetopterus limicolus*. Leslie Harris (SCAMIT, 2022) has expressed that true *Phyllochaetopterus limicolus* is found in deep water, it has a broad thorax and a thinner, tapering abdomen. It is possible that *P. sp A* is *P. limicolus* and the difference in ventral pigment is just variation.

WoRMS currently lists 22 valid species of *Phyllochaetopterus* and SCAMIT Ed. 13 has 2 named species and 1 provisional species listed. *Phyllochaetopterus* sp A would be the 2nd provisional species when added in Edition 14.

References:

Blake, J. A. 1996. Family Chaetopteridae Malmgren, 1867. Pages 233-252. IN: Blake, James A.; Hilbig, Brigitte; and Scott, Paul H. *Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and Western Santa Barbara Channel. Volume 6- The Annelida Part 3. Polychaeta: Orbiniidae to Cossuridae.* Santa Barbara Museum of Natural History. Santa Barbara.

Harris, L. 2017. NEP *Phyllochaetopterus* Character Table. *SCAMIT Handout.*

Hartman, O. 1960. Systematic Account of some Marine Invertebrate Animals from the Deep Basins off Southern California. *Allan Hancock Pacific Expeditions* 22(2): 69-215.

Nishi, E. & Rouse, G. W. 2007. A new species of *Phyllochaetopterus* (Chaetopteridae: Annelida) from near hydrothermal vents in the Lau Basin, western Pacific Ocean. *Zootaxa* 1621: 55-64.

Nishi, E. & Rouse, G. W. 2014. First whale fall chaetopterid; a gigantic new species of *Phyllochaetopterus* (Chaetopteridae: Annelida) from the deep sea off California. *Proceedings of the Biological Society of Washington* 126 (4): 287-298.

Read, G. & Fauchald, K. (Ed.) 2023. World Polychaeta Database. *Phyllochaetopterus* Grube, 1863. Accessed through: World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=129232> on 2023-04-12

SCAMIT. 1992. Notes from SCAMIT Workshop, 6/8/92, on the Chaetopteridae and Onuphidae Common Along the Southern California Shelf. *SCAMIT Newsletter* 11(2): 8.

SCAMIT. 2021. *A Taxonomic Listing of Benthic Macro- and Megainvertebrates from Infaunal & Epifaunal Monitoring and Research Programs in the Southern California Bight, Edition 13.* Cadien, D. B., Lovell, L. L., Barwick, K. L., Haggin, B. M., eds. 203pp.

SCAMIT. 2022. B'18 Problematic Polychaetes (12 April 2021). *SCAMIT Newsletter* 39(6): 5.

Other Literature Consulted:

Pasko, D. & Velarde, R. 1993. Key to the Chaetopteridae of Point Loma. *SCAMIT Handout.*

Version History:

Version 1.0—Draft voucher sheet created (09MAR2020)

Version 2.0—Voucher sheet completed, new images added and updated to new SCAMIT guidelines (04OCT2022)

Version 3.0—Updated name to *Phyllochaetopterus* sp A and author to SCAMIT, 2023 §; Added information on tube characteristics to Diagnostic Characters section; Updated References section; Updated names of co-occurring provisional species (12APR2023)