

Distribution of the centipede *Scolopocryptops sexspinosus* (Say) in Alaska and Canada (Scolopendromorpha: Cryptopidae)

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Abstract

Specific Alaskan and Canadian localities are recorded for the chilopod *Scolopocryptops sexspinosus* (Say) (Cryptopidae), the only indigenous Nearctic scolopendromorph species occurring north of the lower 48 states. It occurs west of the crest of the Coast Range in British Columbia, extending northward to the southernmost islands of Alaska, and is recorded for the first time from eastern Canada, from Niagara Gorge, Ontario. Reports of *S. rubiginosus* Koch from southern Alaska are based on a misidentification of *S. sexspinosus*, and records from the north-central United States are too distant from the international border for it to be plausible for Manitoba and western Ontario. This centipede does not occur along the Pacific Coast and is improbable for any other part of Canada.

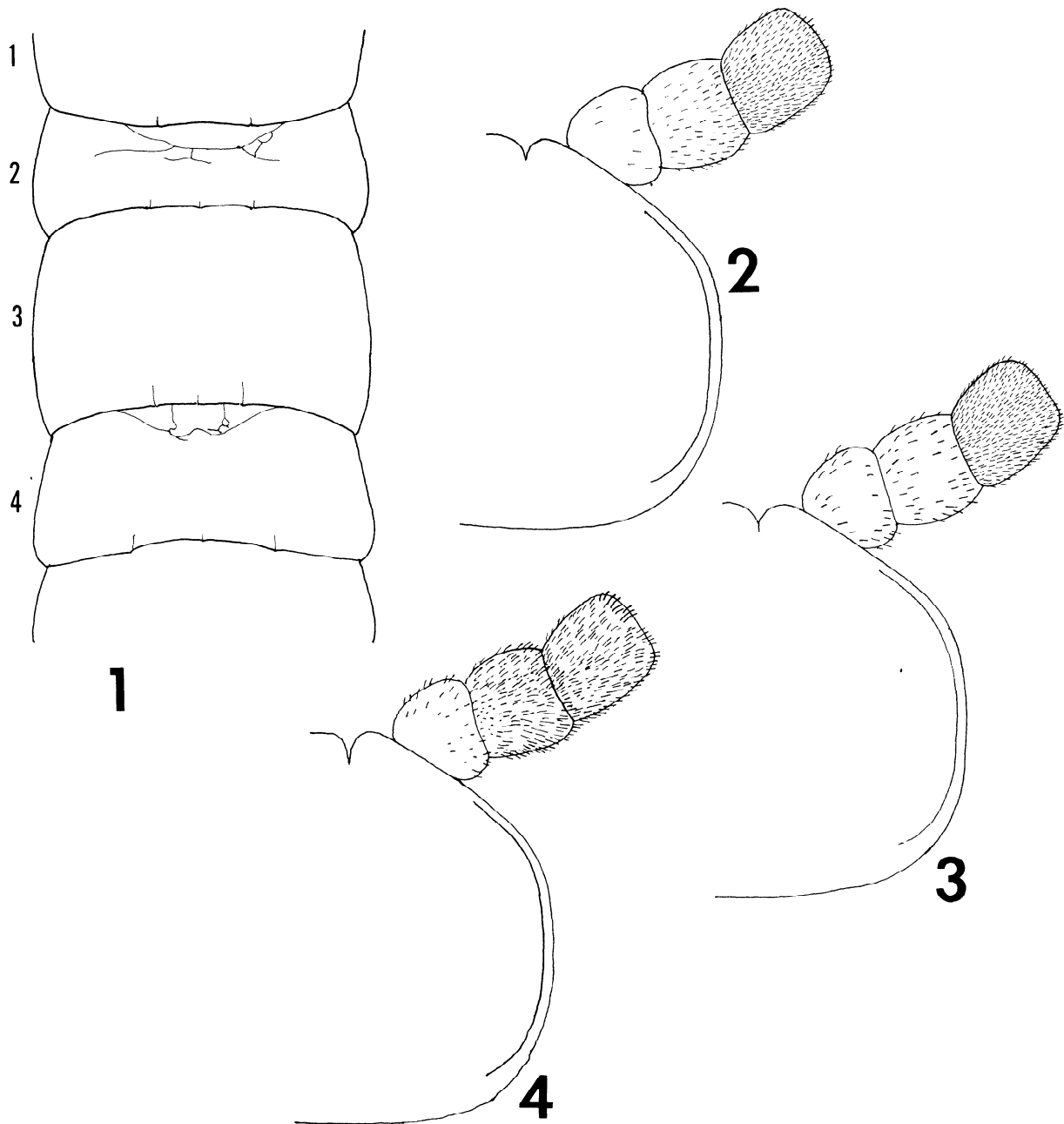
Introduction

When a field biologist visits an unfamiliar area, he may be equally impressed by what he does *not* find as by what he actually collects. Such was my experience in July 1986, when I spent a week collecting myriapods from Windsor and Sarnia to Niagara Falls in southern Ontario. While searching in moist litter and under rocks, logs, and bark of decaying logs, I encountered many lithobiomorph and geophilomorph centipedes (with 15 and 31 or more pairs of legs and pedal segments, respectively), but I found only one scolopendromorph (with 21 or 23 leg pairs and pedal segments) the entire trip, an adult *Scolopocryptops sexspinosus* (Say) near the bottom of Niagara Gorge. Across Lake Erie in Ohio, Pennsylvania, and New York, this chilopod order is relatively abundant, and one can expect from 2 to 5 species depending upon the area (Bailey 1928, Crabill 1960, Williams and Hefner 1928), so the depauperate Ontario scolopendromorph fauna contrasts markedly with that in neighboring parts of the United States. According to Crabill

(1960), Kevan (1979, 1983), and Kevan and Scudder (1989), this condition exists throughout Canada, as *S. sexspinosus* is the only indigenous scolopendromorph definitely known from the country.^{1,2} They recorded it from British Columbia and Vancouver Island in general. However, neither this citation nor their general records of *S. sexspinosus* from Alaska, where it was first reported by Chamberlin (1919), are supported by published data or specific localities. To my knowledge, the only specific, published Canadian or Alaskan locality for a scolopendromorph is Forrester Island, Alaska, for *S. rubiginosus* (Koch) (Chamberlin 1919), undoubtedly the basis for Kevan's 1983 citation of southern Alaska. However, it too is based on a misidentification of *S. sexspinosus* as I have learned from examining the sample, so *S. rubiginosus* does not occur in Alaska or anywhere along the Pacific Coast of North America. Moreover, the reports of its probable occurrence in central Canada/Manitoba and Ontario (Chamberlin 1919, Crabill 1960, Kevan 1979, 1983) are suppositions based on the range in the United

¹ Five allochthonous scolopendromorphs have been discovered in Canada (Palmen 1954, Kevan 1983, Kevan and Scudder 1989): two tropical/subtropical American species, *Scolopendra alternans* Leach and *viridis* Say, among imported items in Quebec and Nova Scotia, and three European species — *Cryptops anomalans* Newport and *parisi* Brolemann, in greenhouses in eastern Canada, and *C. hortensis* Leach in New Westminster, British Columbia.

² Kevan and Scudder (1989) recorded *Theatops spinicaudus* (Wood) from Burnaby Mountain, British Columbia, in endnote 43, but Shelley (1990) reported that this was a misprinting of *Scolopocryptops spinicaudus* Wood. Having now examined these specimens, I can report that they are *S. sexspinosus* and that *S. spinicaudus* is absent from Canada.



Figures 1-4. *S. sexspinosus*. 1, tergites 1-4 dorsal view, specimen from Moresby I., Queen Charlotte Islands, BC. 2, right half of cephalic plate and basal antennomeres of specimen from Niagara Region, Ont. 3, the same, specimen from Moresby I., Queen Charlotte Islands. 4, the same, specimen from North Carolina.

States. The northernmost localities of *S. rubiginosus* are in Sauk County, Wisconsin, and Winona County, Minnesota (Crabill 1958, plus unpublished speci-

mens that I have examined), the latter being in the southeastern corner of that state, some 580 km (350 mi.) from the international border, and much too



Figure 5. Distributions of *S. sexspinosus*, the family Cryptopidae, and the order Scolopendromorpha in Alaska and Canada.

distant for the chilopod to be probable for Canada. Consequently, *S. rubiginosus* is deleted from the Canadian and Alaskan fauna, leaving only one native scolopendromorph occurring north of the lower 48 states, *S. sexspinosus*.

Scolopocryptops sexspinosus lacks ocelli, possesses 23 pairs of legs and pedal segments, and is typically orange to reddish-orange, although the Niagara specimen was brownish, a variation occasionally seen in southeastern individuals. Tergal sulci are incomplete on all segments (Fig. 1), and the first antennomere is less hirsute than the second and more distal articles (Figs. 2-3). However, in contrast to specimens from the southern United States, in which the 2nd antennomere is much more hirsute than the 1st and subequal to the distal articles (Fig. 4), its pilosity in northern specimens is only slightly greater than that of the 1st and significantly less than those of more distal articles. This condition grades into the denser pilosity in the United States, and the Canadian/Alaskan specimens are clearly *S. sexspinosus* and not *S. nigridius* McNeill because they lack dense pilosity on the caudal legs and blue blotches on the antennae and venter.

I have collected *S. sexspinosus* in British Columbia as well as Ontario and have examined the scolopendromorph holdings in every known reposi-

tory in the United States and Canada. The species occurs on the southernmost islands of Alaska and is common on Vancouver Island, the Queen Charlotte Islands, and the southwestern corner of the Canadian mainland west of the crest of the Coast Range. From the standpoint of Canada, its discovery in Ontario represents a range extension of some 3,600 km (2,168 mi.), but this distance is illusory because *S. sexspinosus* is known from Syracuse, Onondaga County, New York (Bailey 1928). Consequently, the actual range extension is only around 230 km (144 mi.). Acronyms of repositories are listed below and are followed by known Alaskan and Canadian localities arranged in a general north to south sequence.

AMNH - American Museum of Natural History, New York, NY.

CAS - California Academy of Sciences, San Francisco.

CMN - Canadian Museum of Nature, Ottawa, Ontario.

ILNHS - Illinois Natural History Survey, Urbana.

NCSM - North Carolina State Museum of Natural Sciences, Raleigh.

NMNH - National Museum of Natural History, Smithsonian Institution, Washington, DC.

RBCM - Royal British Columbia Museum, Victoria.

TBMNH - Thomas Burke Museum of Natural History, University of Washington, Seattle.
 UBC - University of British Columbia, Vancouver.

USA: ALASKA: **Revillagigedo I.**, 24 km N Ketchikan, 2 spmns., 15 April 1916, J. A. Kusche (NMNH) and 1 spmn., 31 May 1947, R. Baker (TBMNH). **Prince of Wales I.**, 55°29'N, 133°24'W, 1 spmn., 15 August 1983, B. R. Norman (TBMNH). **Annette I.**, Metlakatla, 1 spmn., date unknown, Keen (NMNH) and 1 spmn., date unknown, T. Kincaid, Harriman Exp. (NMNH). **Forrester I.**, 15 spmns., July 1913, Heath (NMNH).

CANADA: BRITISH COLUMBIA: QUEEN CHARLOTTE ISLANDS: **Graham I.**, Massett, 3 spmns., 12 October 1890, collector unknown (TBMNH): 15 km N Port Clements, 1 spmn., 9 May 1984, G. G. E. Scudder (UBC); Kiusta Indian Village, 1 spmn., 13 May 1952, G. C. Carl (RBCM); 0.8 km NNW Bonanza Cr., nr. Rennell Sound, 1 spmn., 29 July 1981, D. H. Kavanaugh and D. H. Mann (CAS); and Tow Hill Park, 2 spmns., 26 July 1981, D. H. Kavanaugh and D. H. Mann (CAS). **Moresby I.**, Sandspit, 3 spmns., 25 June 1978, N. L. H. Krauss (AMNH); Camp Moresby, Pallant Cr., 3 spmns., 24 July 1981, D. H. Kavanaugh (CAS); Kaisun Village Site, 2 spmns., 9 August 1983, D. H. & M. D. Kavanaugh (CAS); Darwin Sound, 1 spmn., 13 August 1983, D. H. & M. D. Kavanaugh (CAS); and Louscoone Inlet, N of Etches Pt., 4 spmns., 28 June 1981, G. G. E. Scudder (UBC). **Louise I.**, Skedans, 1 spmn., 3 July 1981, G. G. E. Scudder (UBC). **Tanu I.**, Tanu, 1 spmn., 2 July 1981, G. G. E. Scudder (UBC). **Lyell I.**, Gate Cr., 3 spmns., 2 July 1981, G. G. E. Scudder (UBC) and 2 spmns., 9 August 1983, D. H. & M. D. Kavanaugh (CAS). **Burnaby I.**, E & W. sides of island, 1 spmn. each, 6-7 August 1955, G. C. Carl (NMNH). **Kunghit I.**, nr. Bowes Pt., 2 spmns., 28 June 1981, G. G. E. Scudder (UBC). **Anthony I.**, 3 spmns., 17 October 1956, G. C. Carl (NMNH).

VANCOUVER ISLAND: **Kyuquot**, 1 spmn., 14 February 1958, collector unknown (NMNH). **Courtenay**, 1 spmn., June 1965, N. L. H. Krauss (NMNH). **Robson Bight**, Tsitika R., 1 spmn., 28 July 1986, D. H. & M. D. Kavanaugh (CAS). **McMillan Prov. Pk.**, 1 spmn., 30 July 1989, R. M. Shelley (NCSM). **Little Qualicum Falls Prov. Pk.**, 5 spmns., 3 May 1958, G. E. Ball (NMNH). **Parksville**, 3 spmns., 13 September 1935, R. V. Chamberlin and W. Ivie (NMNH). **Lantzville**, 1 spmn., 30 July 1989, R. M. Shelley (NCSM). **Mt. Arrowsmith**, 2 spmns., 30 May 1958, G. E. Ball (NMNH). **Ivy Green Prov. Pk.**, 2 spmns., 28 March 1980, R. A. Cannings (RBCM). **Errington**, 1 spmn., March 1952, G. H. Lardner (NMNH). **Port Renfrew**, 3.4 km S Botanical Beach, 1 spmn., 5 August 1981, B. D. Ainscough (RBCM). **China Beach Prov. Pk.**, 1 spmn., 5 August 1981, R. A. Cannings (RBCM). **Sooke**, 1 spmn., 7 March 1980, R. A. Cannings (RBCM). **Point No Point**, 1 spmn., 7 March 1980, R. A. Cannings (RBCM). **Goldstream Prov. Pk.**, 2 August 1989, R. M. Shelley (NCSM). **Sidney**, 3 spmns., 16 September 1935, J. & W. Ivie (NMNH), and along

Saanich Inlet, 2 spmns., 14 September 1935, R. V. Chamberlin & W. Ivie (NMNH). **Gordon Head**, 7 km W Victoria, 4 spmns., 1 May 1905, collector unknown (NMNH). **Langford**, 4 spmns., 29 May 1958, G. E. Ball (NMNH).

OTHER ISLANDS: **Porcher I.**, Chissnore Passage, along Spiller Cr., 1 spmn., 13 August 1986, D. H. & J. L. Kavanaugh (CAS). **Grassy I.**, 1 spmn., 29 June 1958, G. C. Carl (RBCM). **Triangle I.**, 1 spmn., 1 July 1980, B. D. Ainscough (RBCM). **Moketas I.**, 1 spmn., 2 July 1958, G. C. Carl (RBCM). **Spring I.**, 1 spmn., 9 July 1958, G. C. Carl (RBCM). **Cameron I.**, 1 spmn., 13 September 1935, R. V. Chamberlin & W. Ivie (NMNH). **Hohoe I.**, 1 spmn., 2 July 1958, G. C. Carl (RBCM). **Protection I.**, in Squirrel Cove, Cortes I., 1 spmn., 25 July 1986, D. H. & J. L. Kavanaugh (CAS). **Texada I.**, Anderson Bay, 2 spmns., 25 July 1986, D. H. & J. L. Kavanaugh (CAS). **Galiano I.**, Spanish Hills, 1 spmn., 8 May 1982, G. G. E. Scudder (UBC). **Pender I.**, locality unknown, 2 spmns., 1 September 1955, G. C. Carl (RBCM).

MAINLAND SITES: **Lowe Inlet**, 1 spmn., June 1899, Harriman Exp. (NMNH). **Forward Harbor**, southeast shore, 1 spmn., 27 July 1986, D. H. & J. L. Kavanaugh (CAS). **Shannon Falls Prov. Pk.**, 1 spmn., 29 July 1989, R. M. Shelley (NCSM). **Whytecliff Park**, 2 spmns., 1 September 1938, G. C. Carl (NMNH). **Capilano Cyn. Reg. Park**, 1 spmn., 28 July 1989, R. M. Shelley (NCSM). **Vancouver**, 4 spmns., 8 March 1923, 14 July 1932, and 6 April 1933, H. B. Leech (NMNH), 1 spmn., 24 August 1953, H. H. Ross (ILNHS), and Univ. of British Columbia campus, 5 spmns., 14 July 1988, W. E. Steiner (NMNH). **Burnaby Mtn.**, 4 spmns., July 1971-July 1972, R. G. Holmberg (NCSM, CMN). **North Surrey**, 2 spmns., 6 September 1965, J. & W. Ivie (AMNH). **Steelhead**, 1 spmn., 15 June 1933, H. B. Leech (NMNH). **Bridal Veil Falls Prov. Park**, 1 spmn., 27 July 1989, R. M. Shelley (NCSM).

ONTARIO: **Niagara Region**, Niagara Gorge, along Whirlpool Nature Trail, 1 spmn., 11 July 1986, R. M. Shelley (NCSM).

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