FIGURES

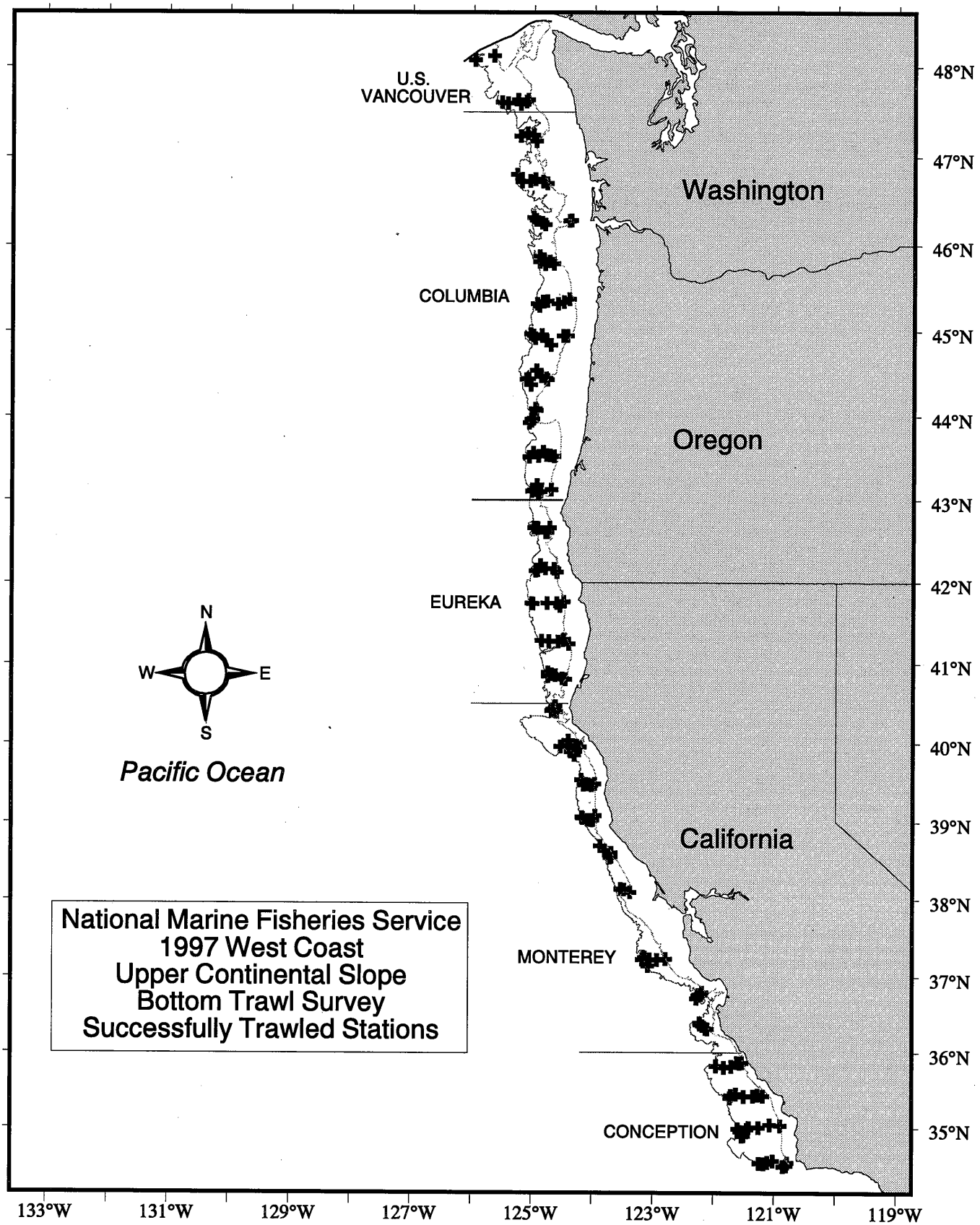


Figure 1.--Map showing the location of 182 successful bottom trawl tows sampled during the 1997 West Coast upper continental slope groundfish survey.

Poly-Nor'Eastern Trawl

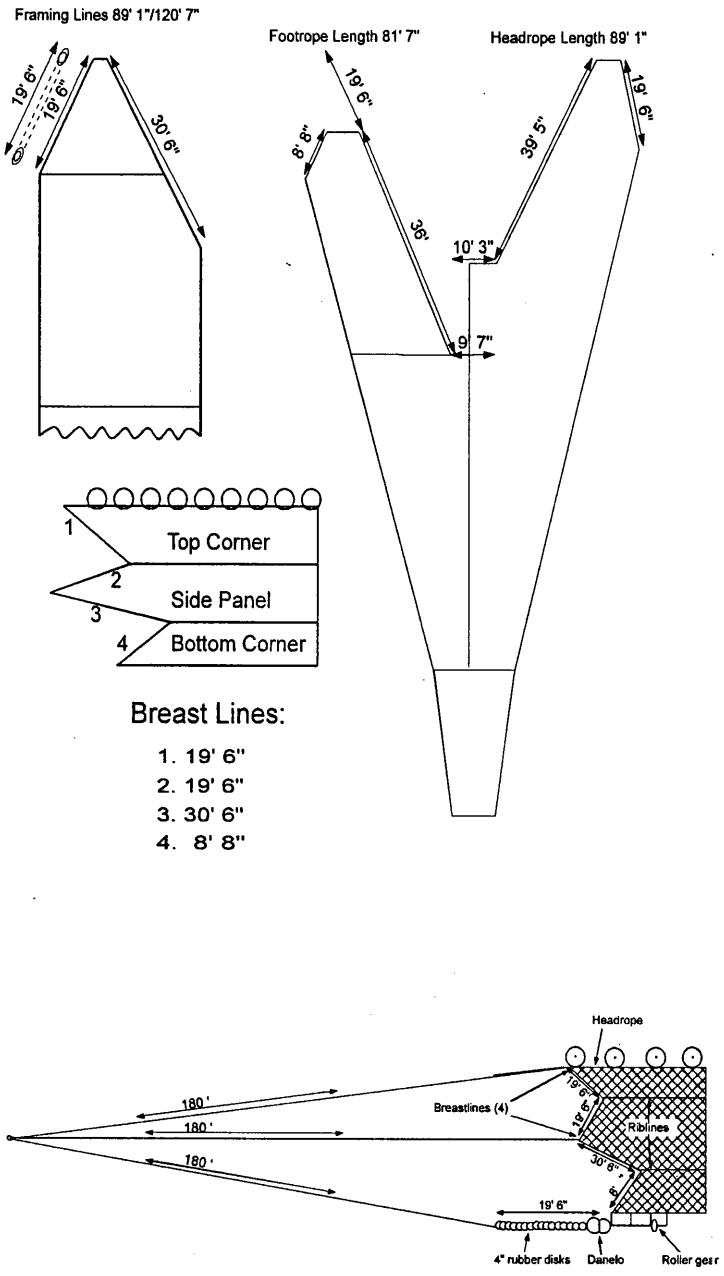
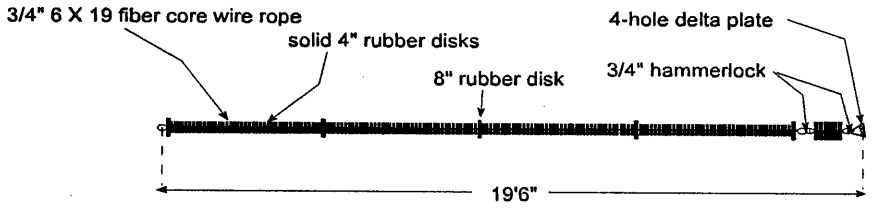


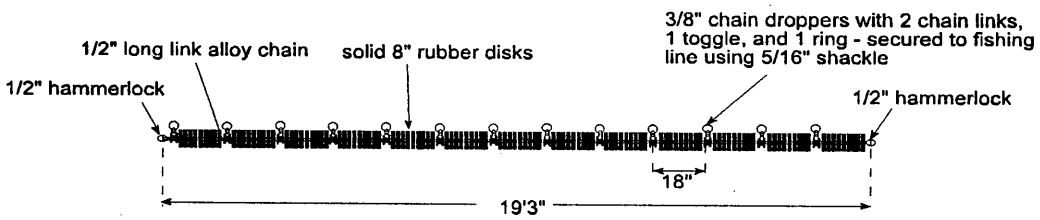
Figure 2.--The standardized poly-Nor'Eastern trawl used to sample groundfish during the 1997 West Coast upper continental slope bottom trawl survey.

West Coast Upper
Continental Slope
Bottom Trawl Survey
Ground Gear

Outboard section



Middle section



Inboard section

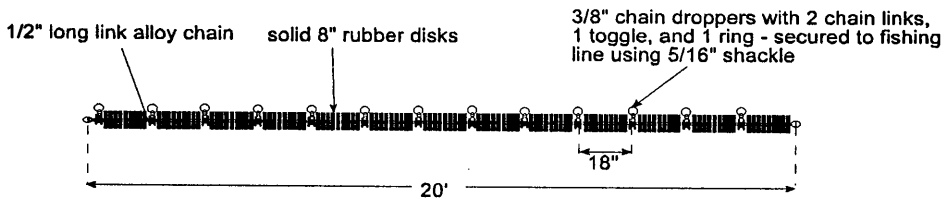


Figure 3.--The groundgear used during the 1997 West Coast upper continental slope bottom trawl survey.

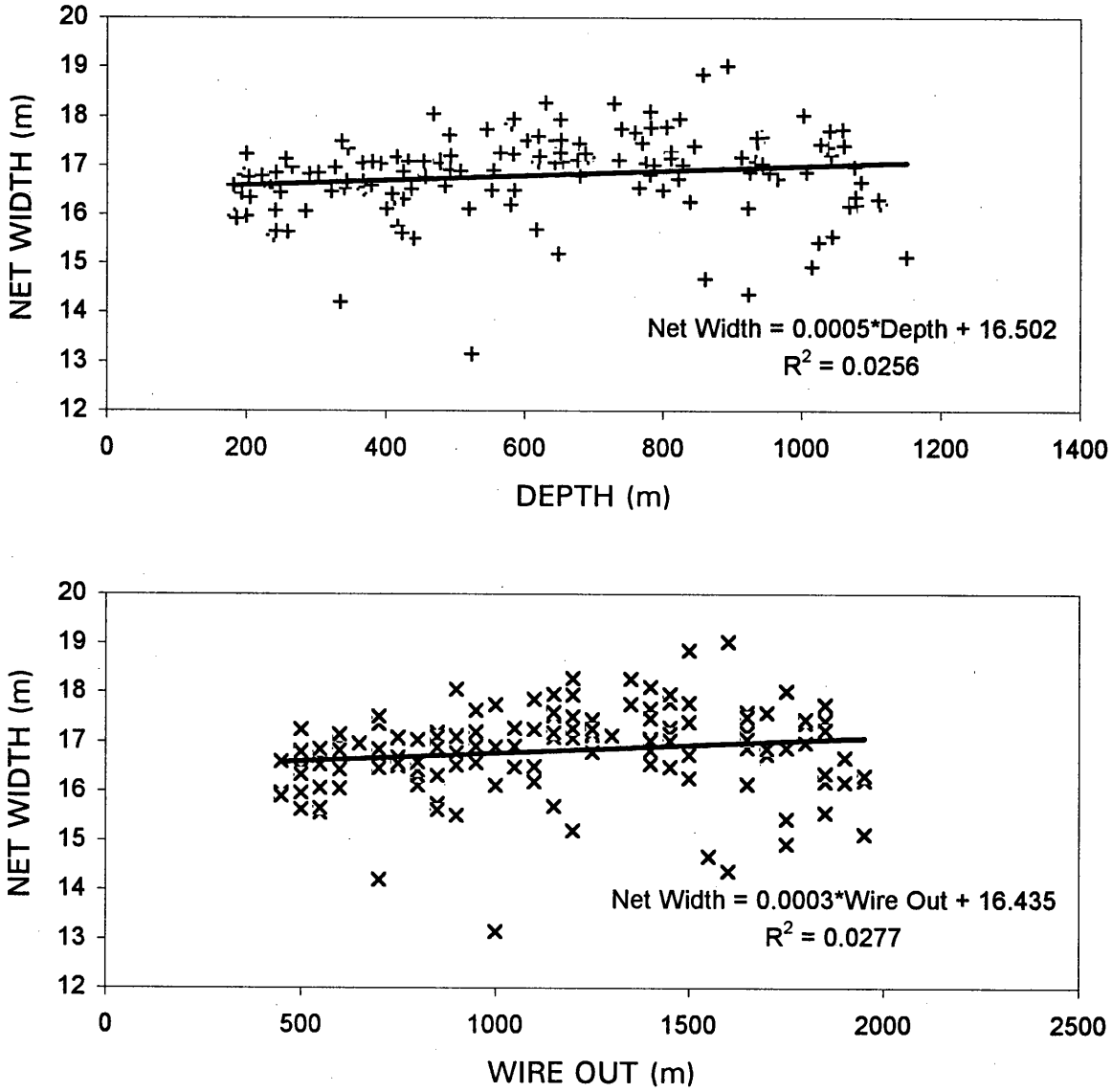


Figure 4.--Mean net widths for each tow during the 1997 West Coast upper continental slope bottom trawl survey plotted against bottom depth and wire out.

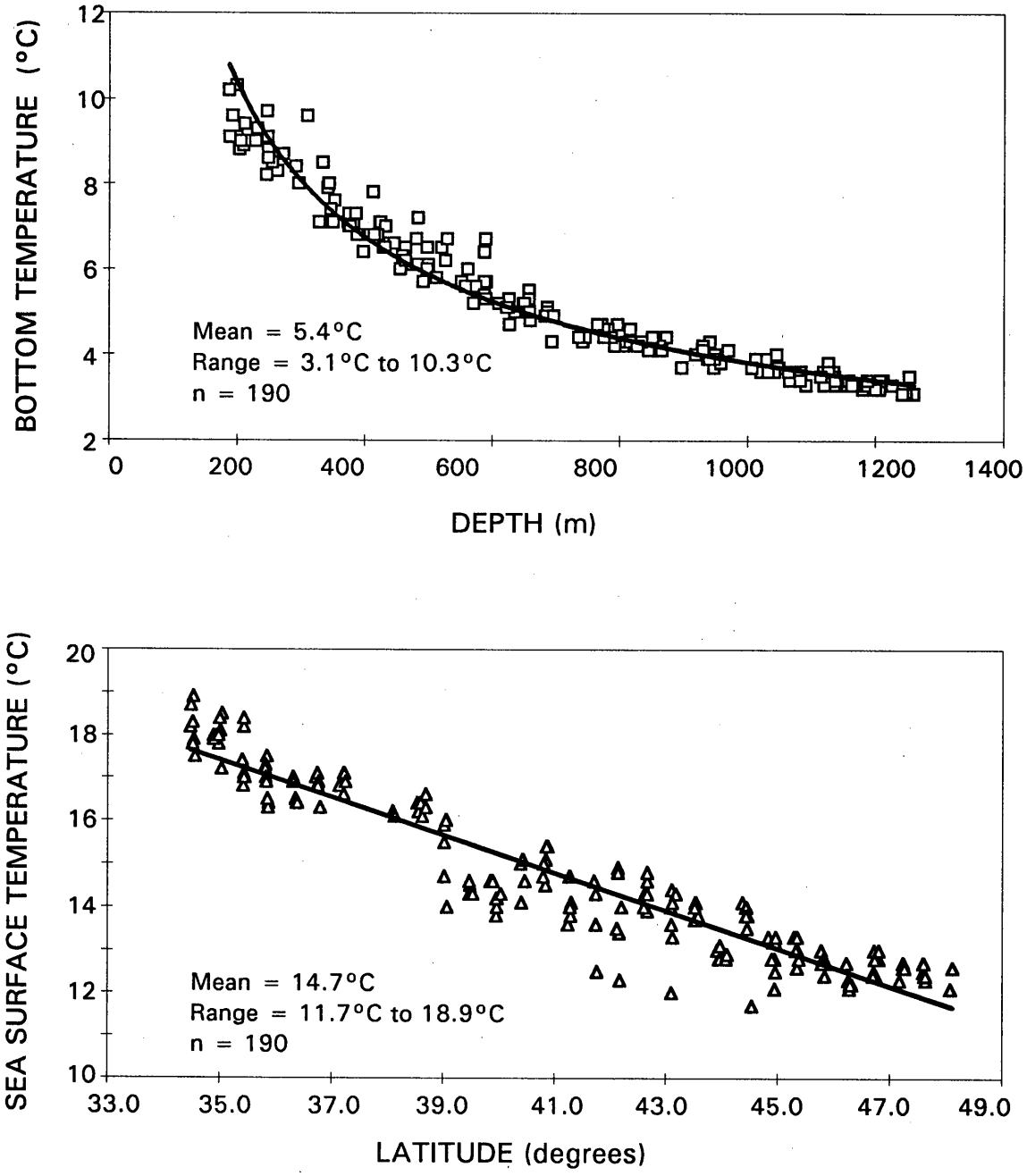


Figure 5.--Bottom and sea surface temperatures observed during the 1997 West Coast upper continental slope bottom trawl survey in relation to tow depth and latitude.

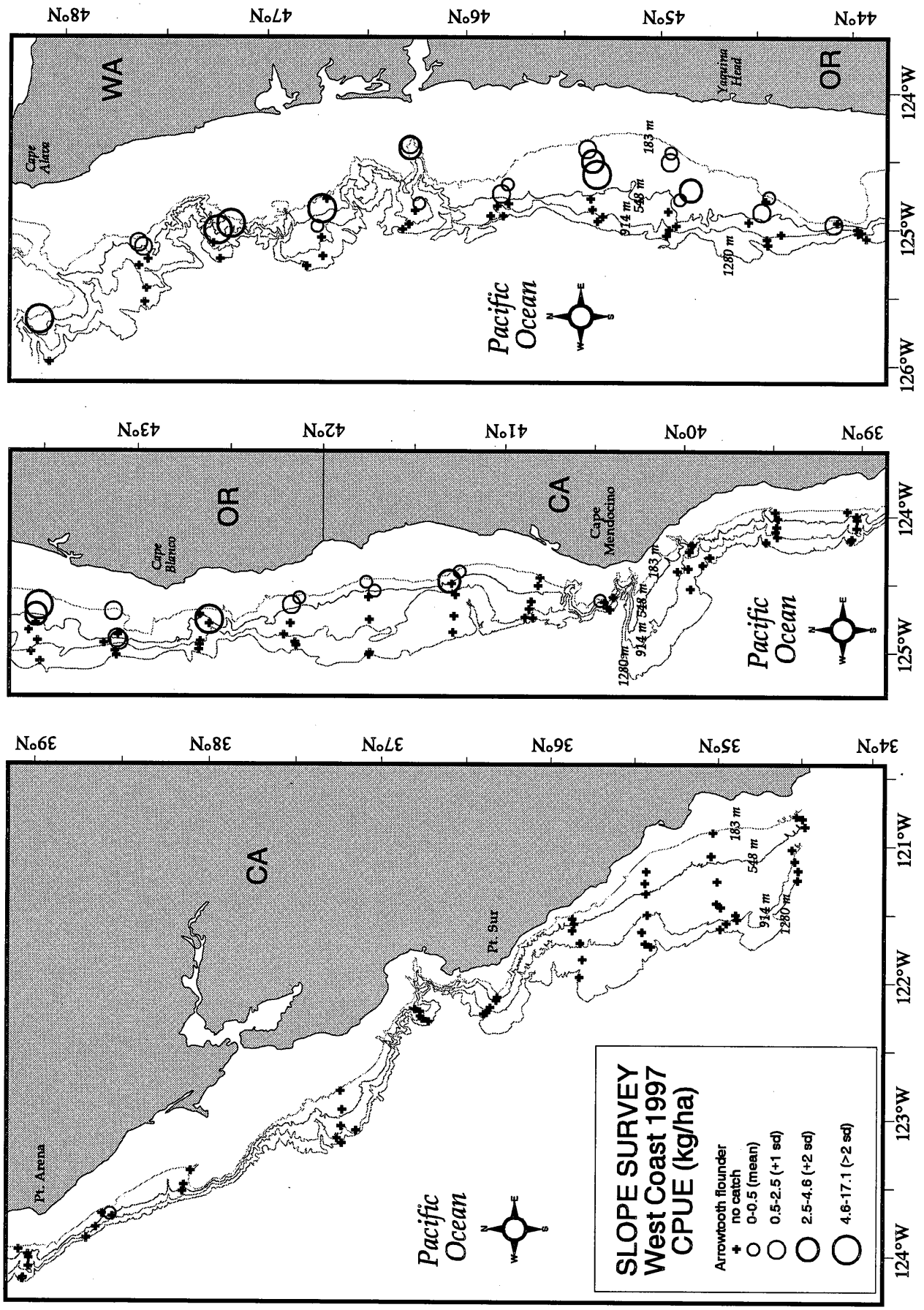


Figure 6.--Arrowtooth flounder distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

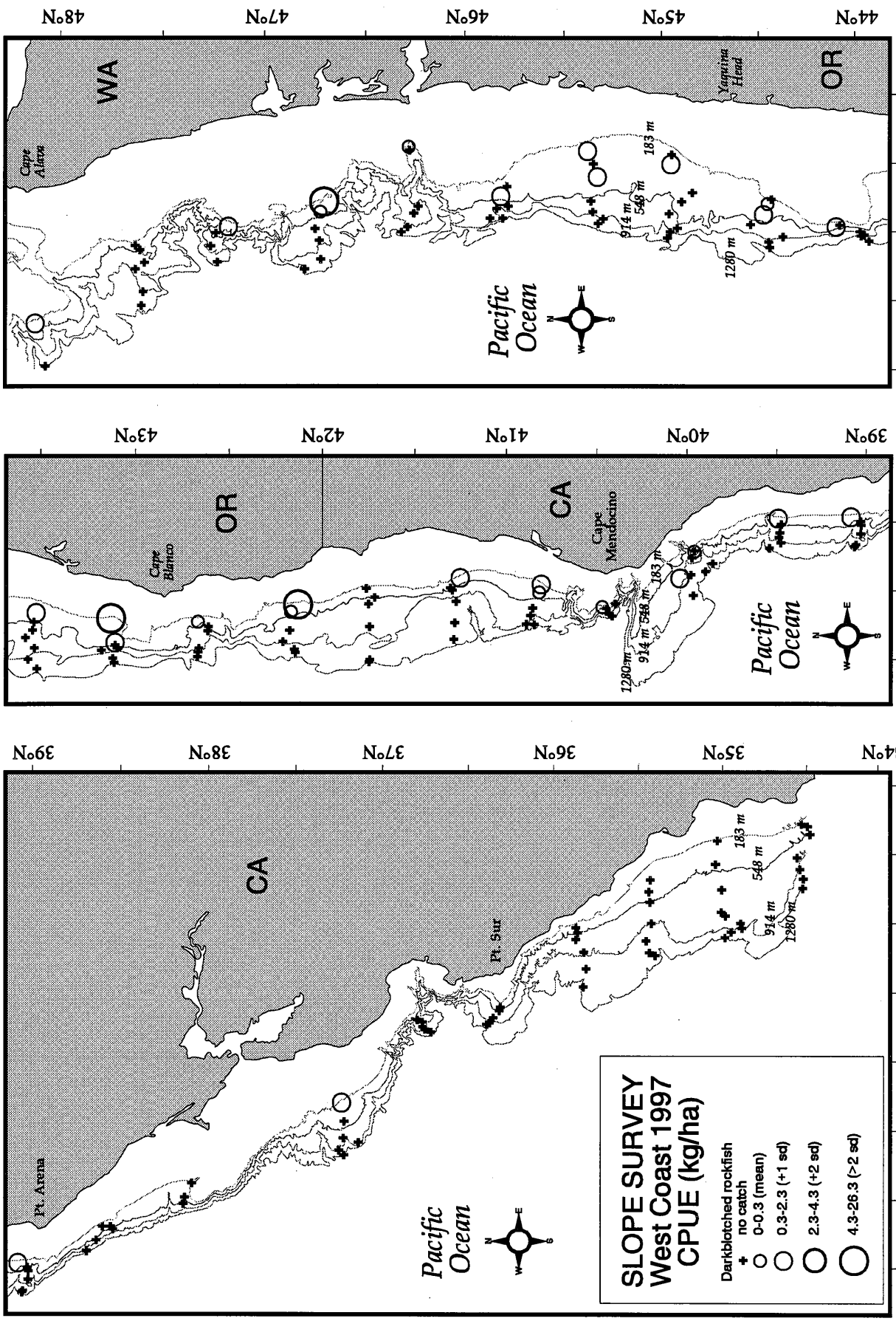


Figure 7.--Darkblotched rockfish distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

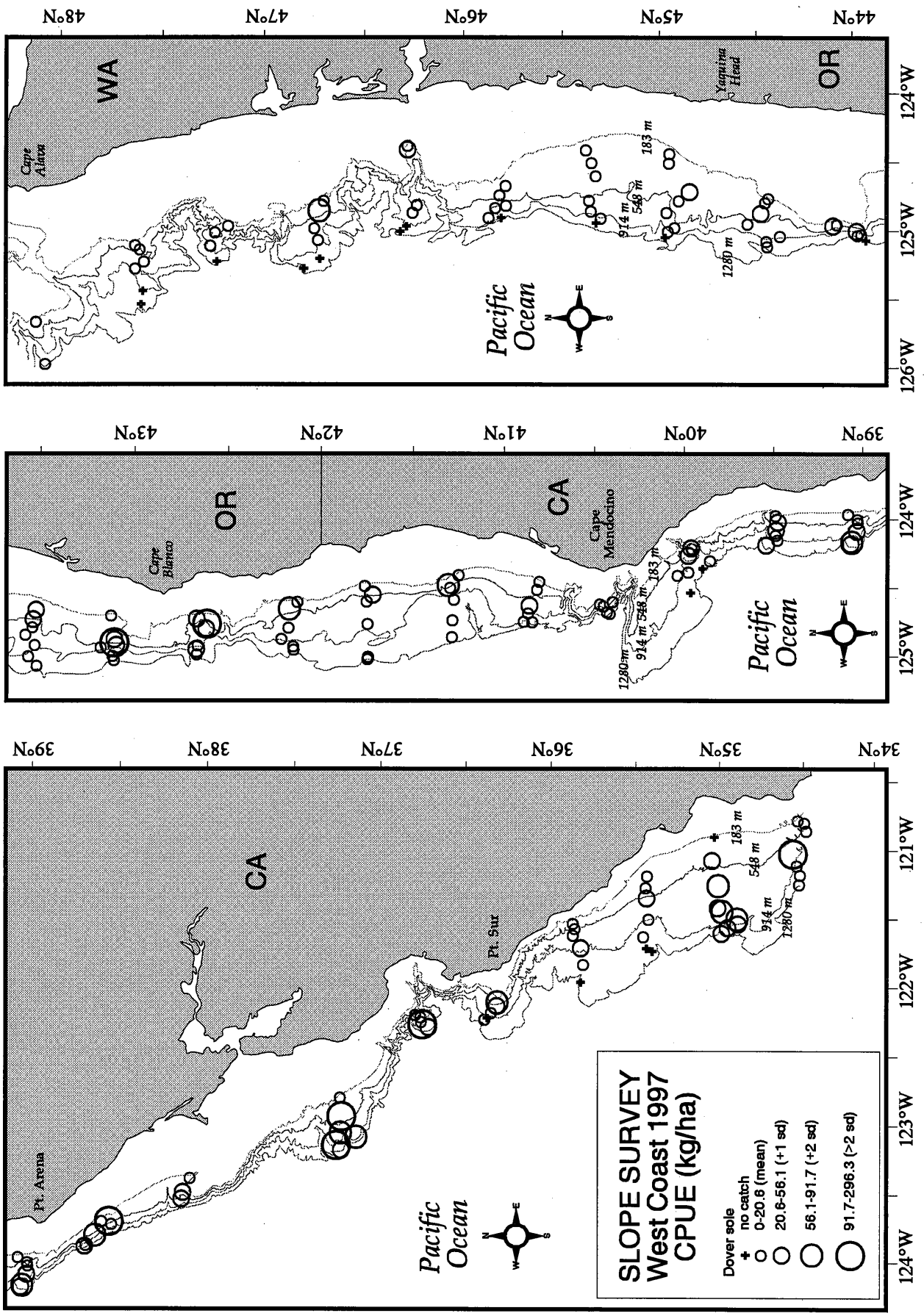


Figure 8.--Dover sole distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

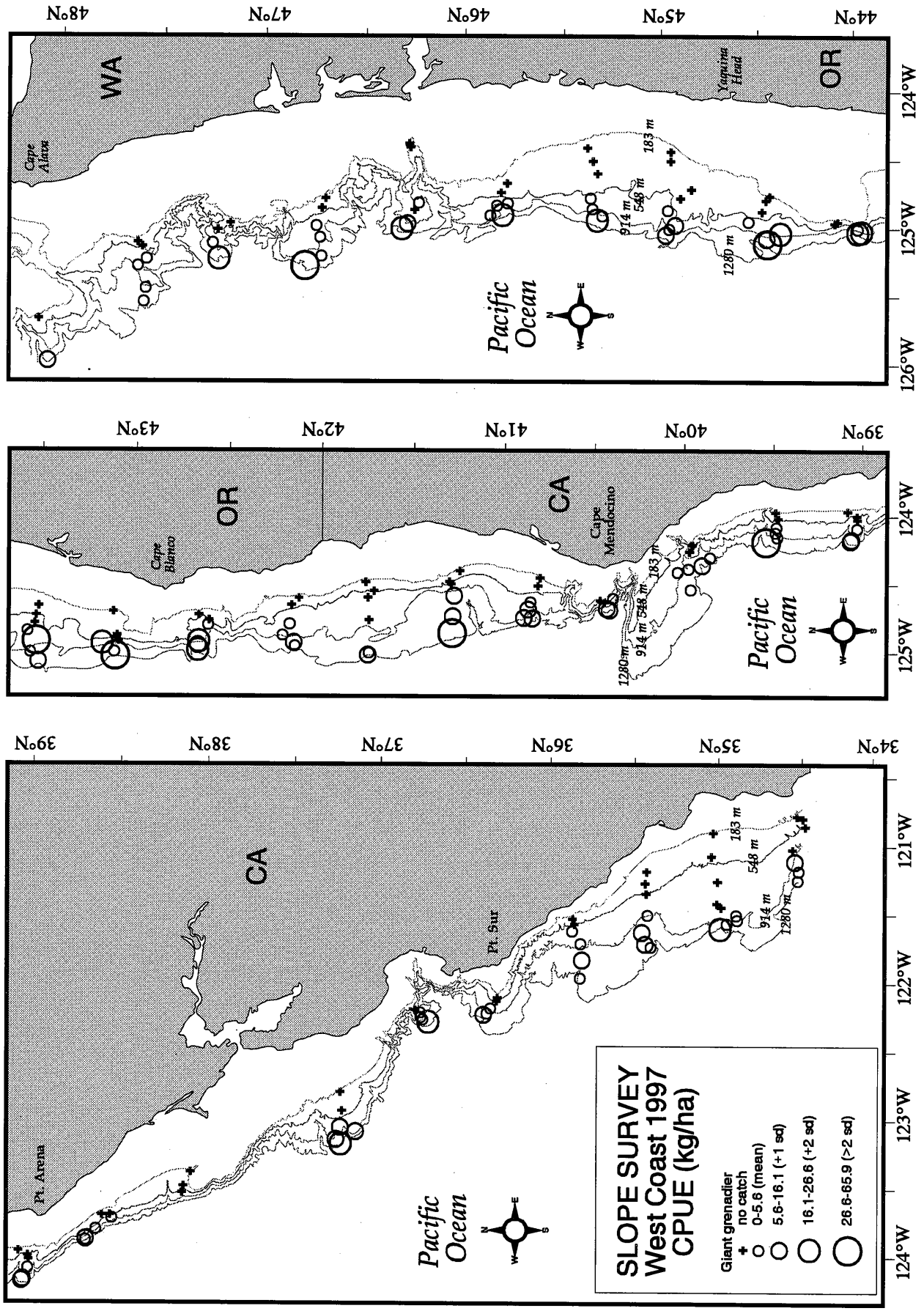


Figure 9.--Giant grenadier distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

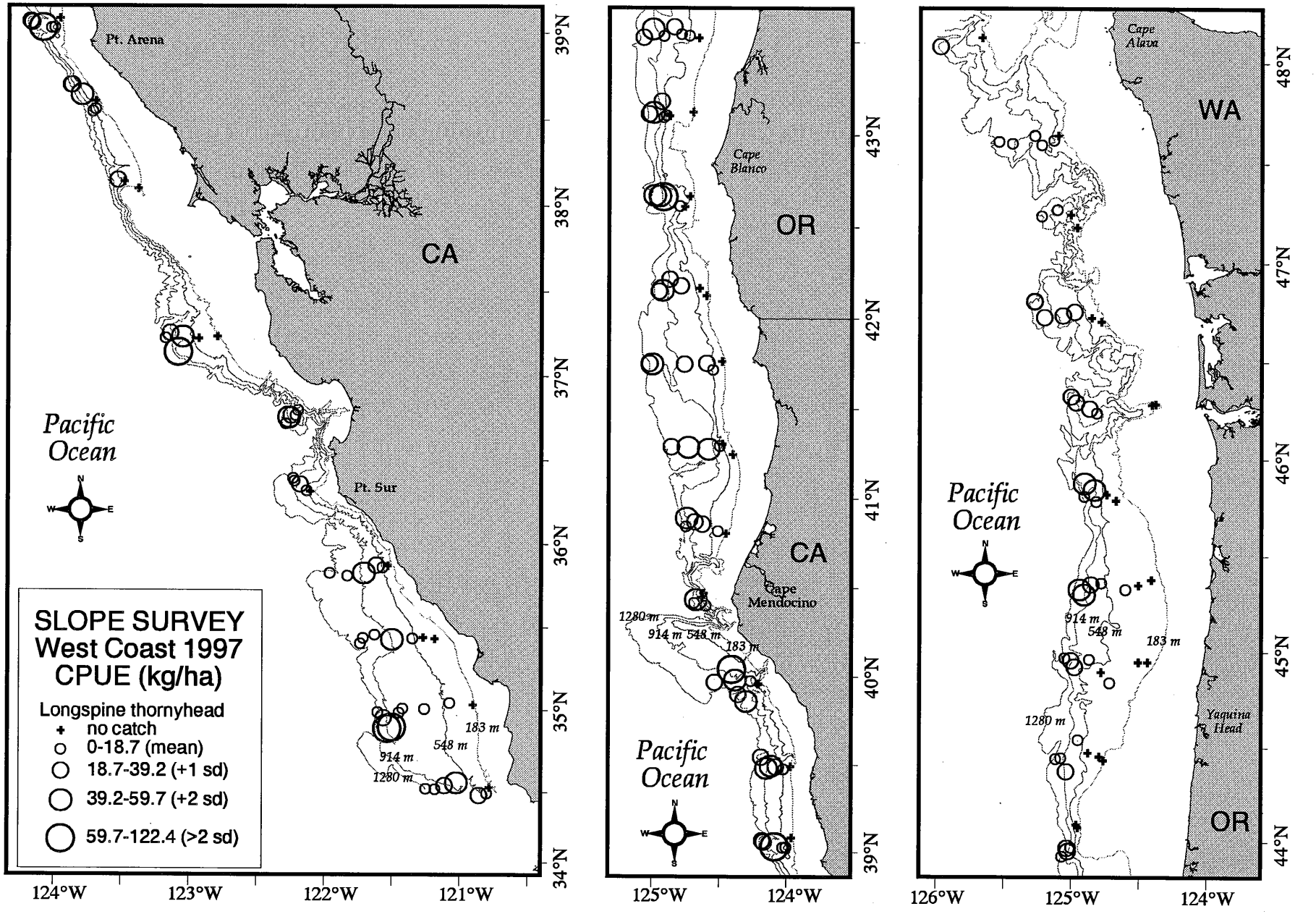


Figure 10.--Longspine thornyhead distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

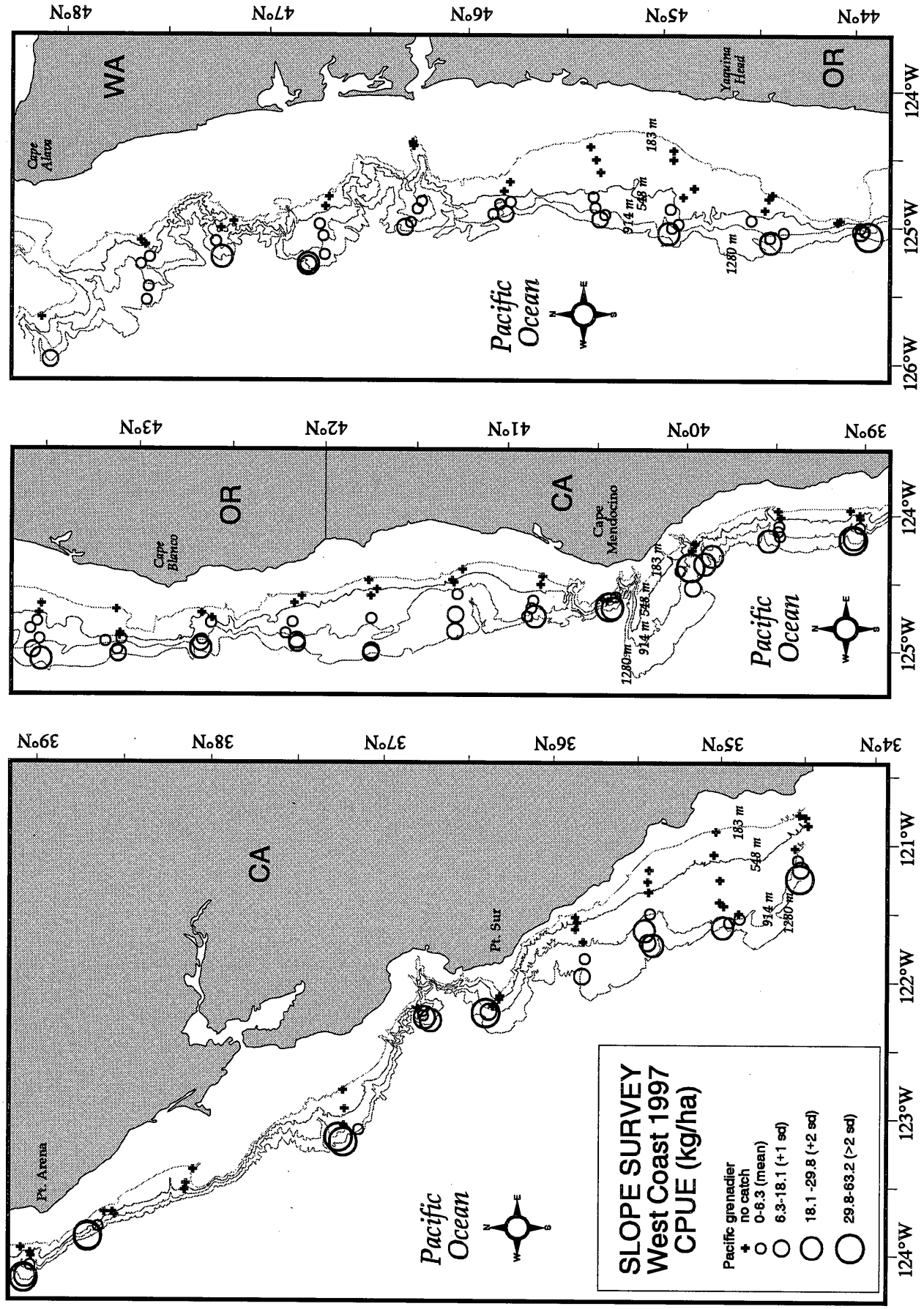


Figure 11.--Pacific grenadier distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

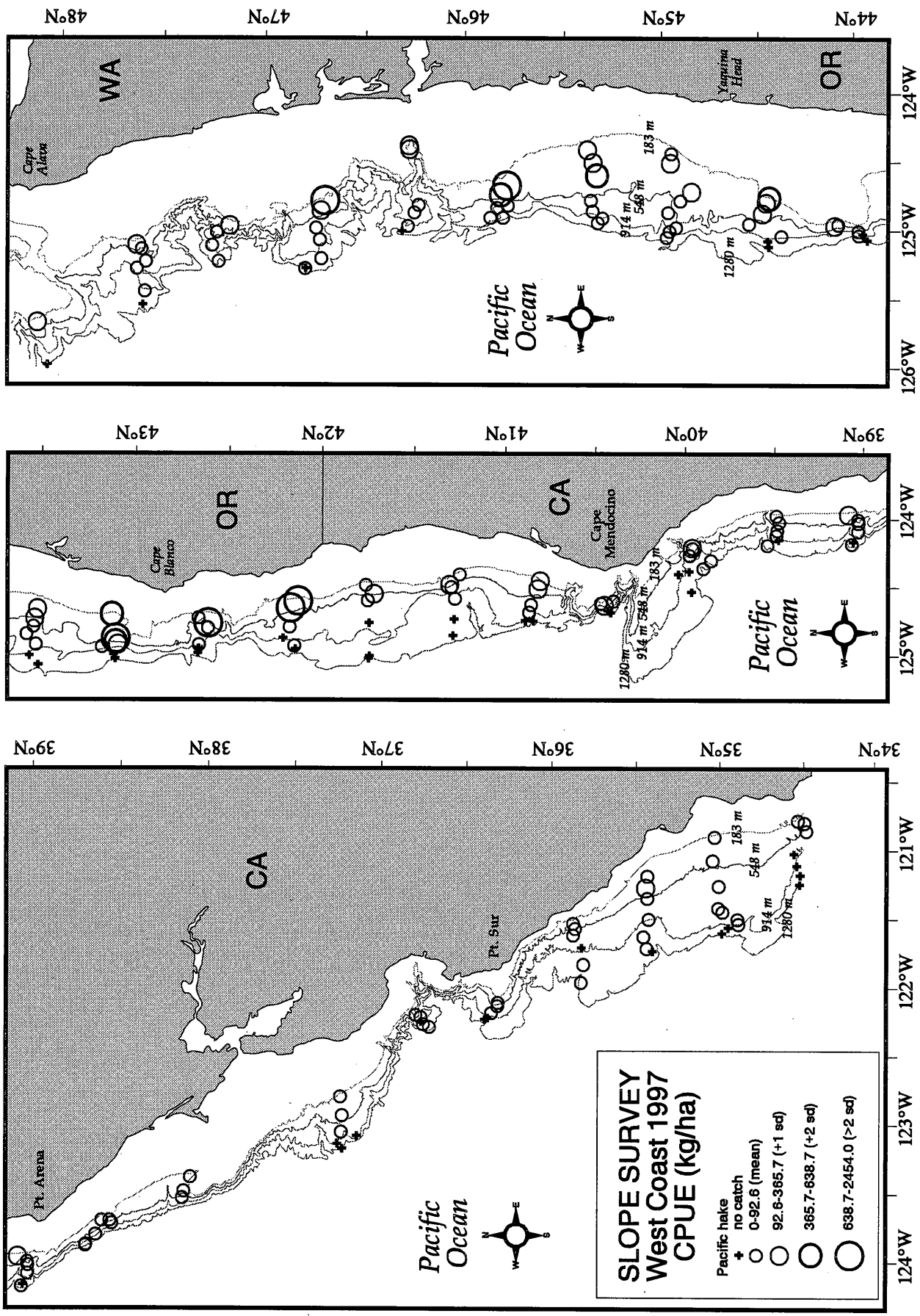


Figure 12.--Pacific hake distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

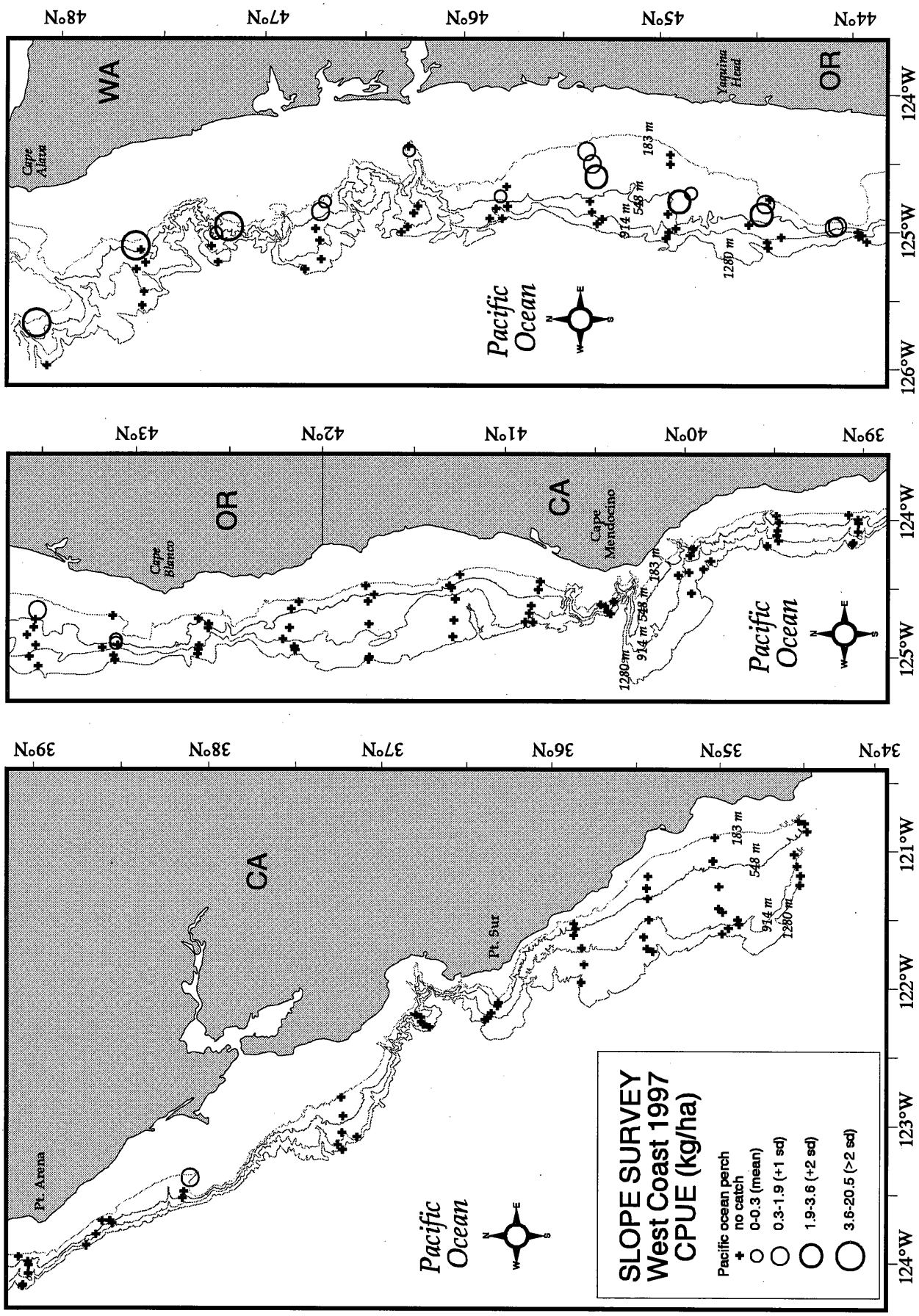


Figure 13.--Pacific ocean perch distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

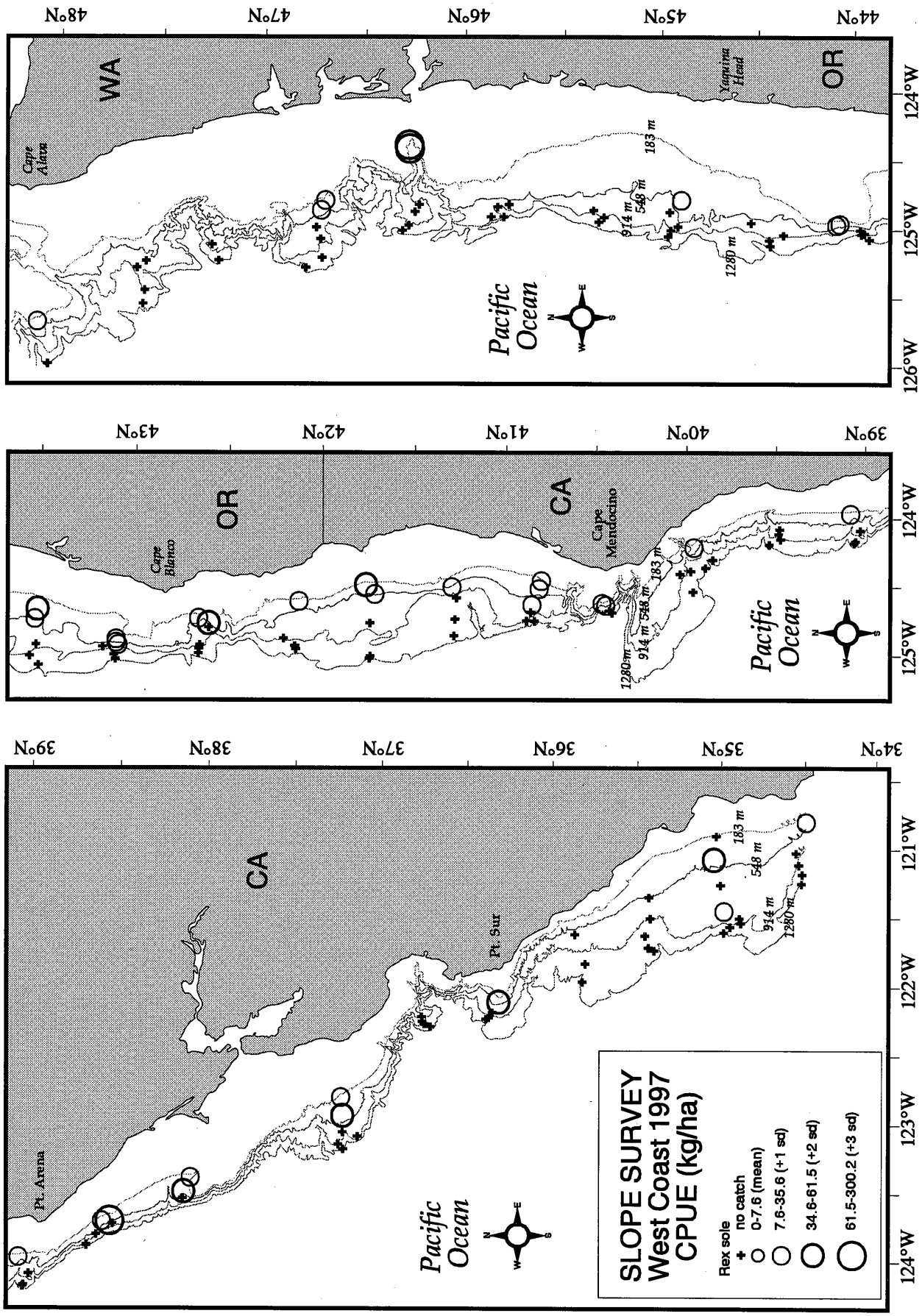


Figure 14.—Rex sole distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

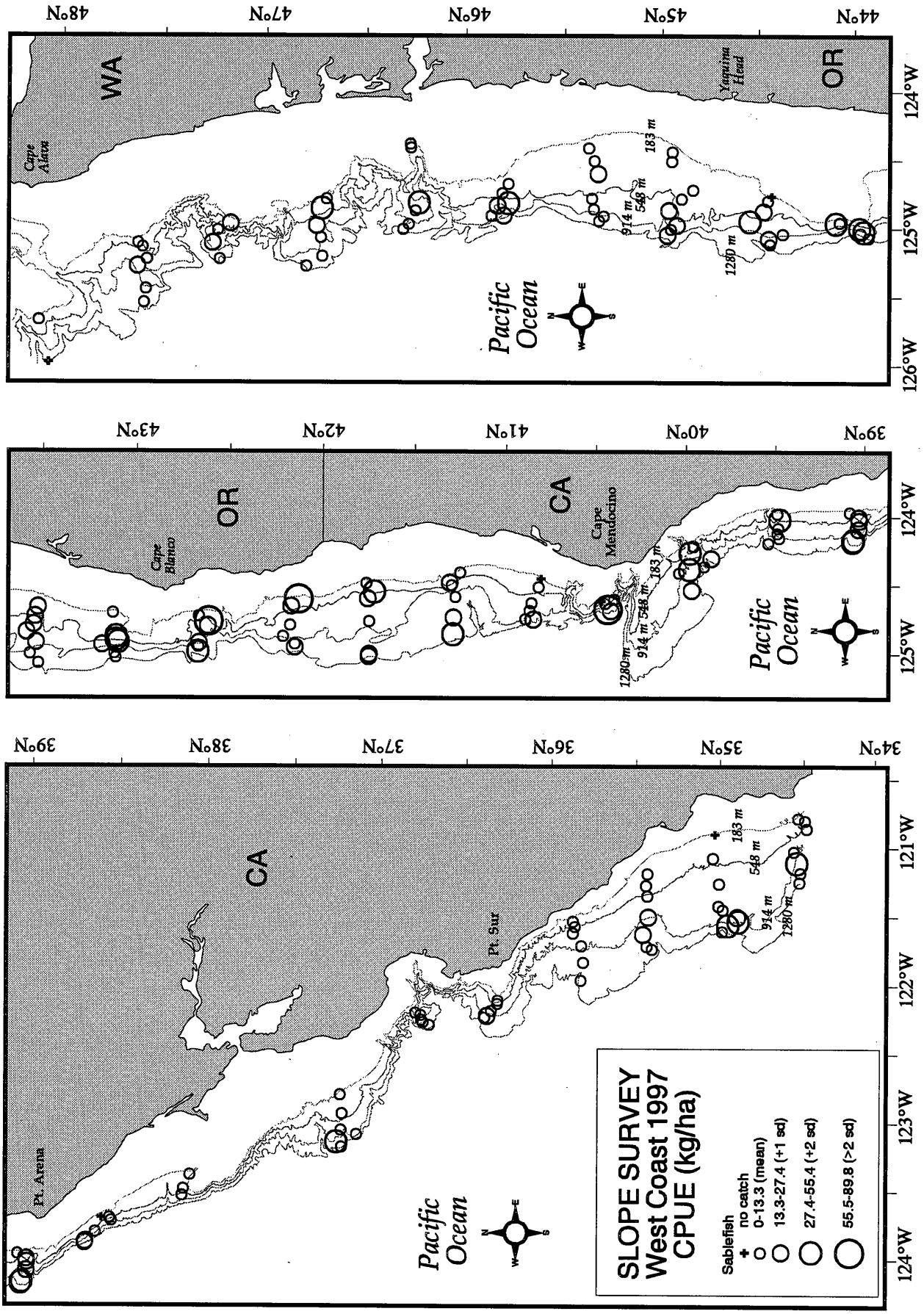


Figure 15.--Sablefish distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

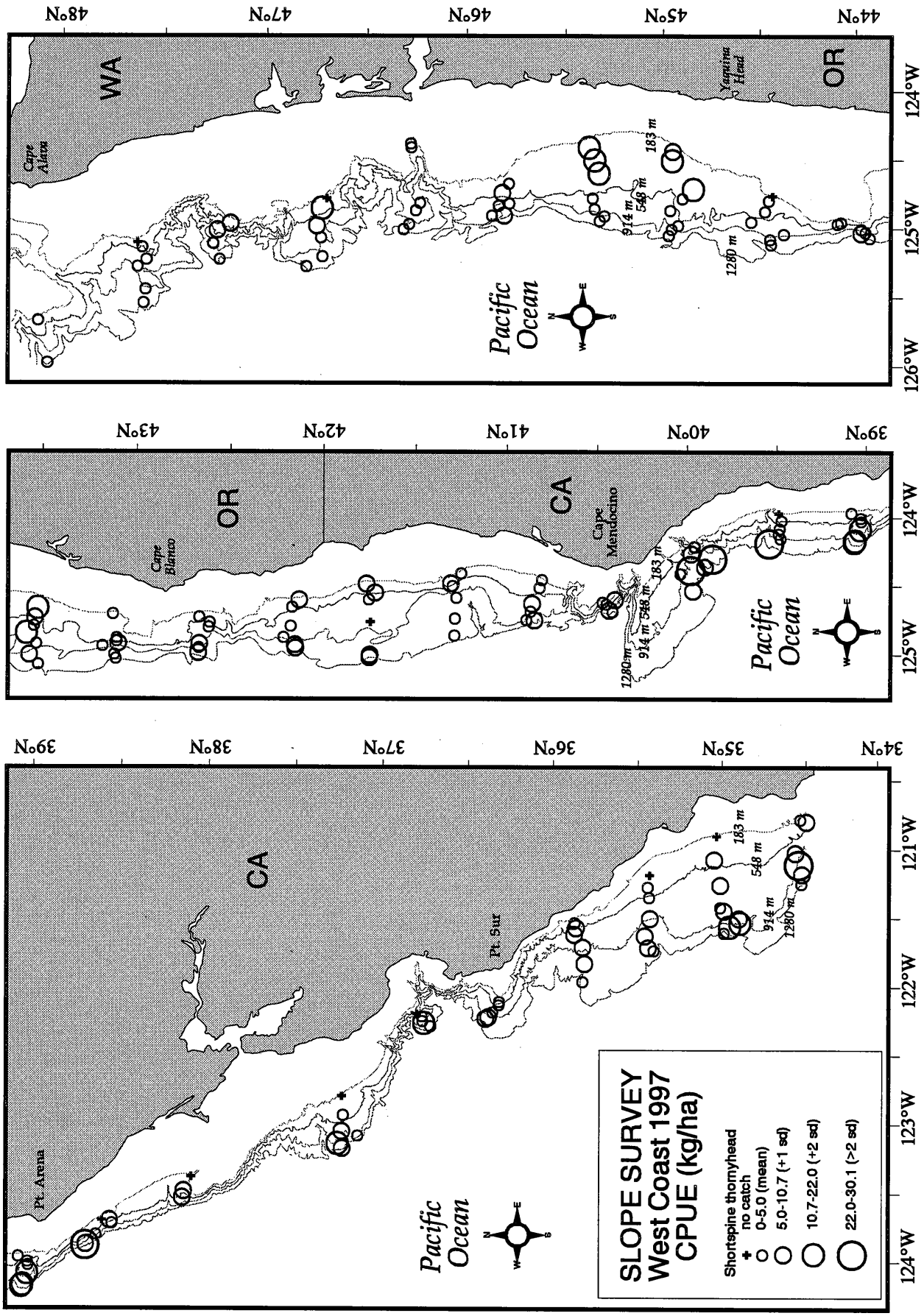


Figure 16.--Shortspine thornyhead distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

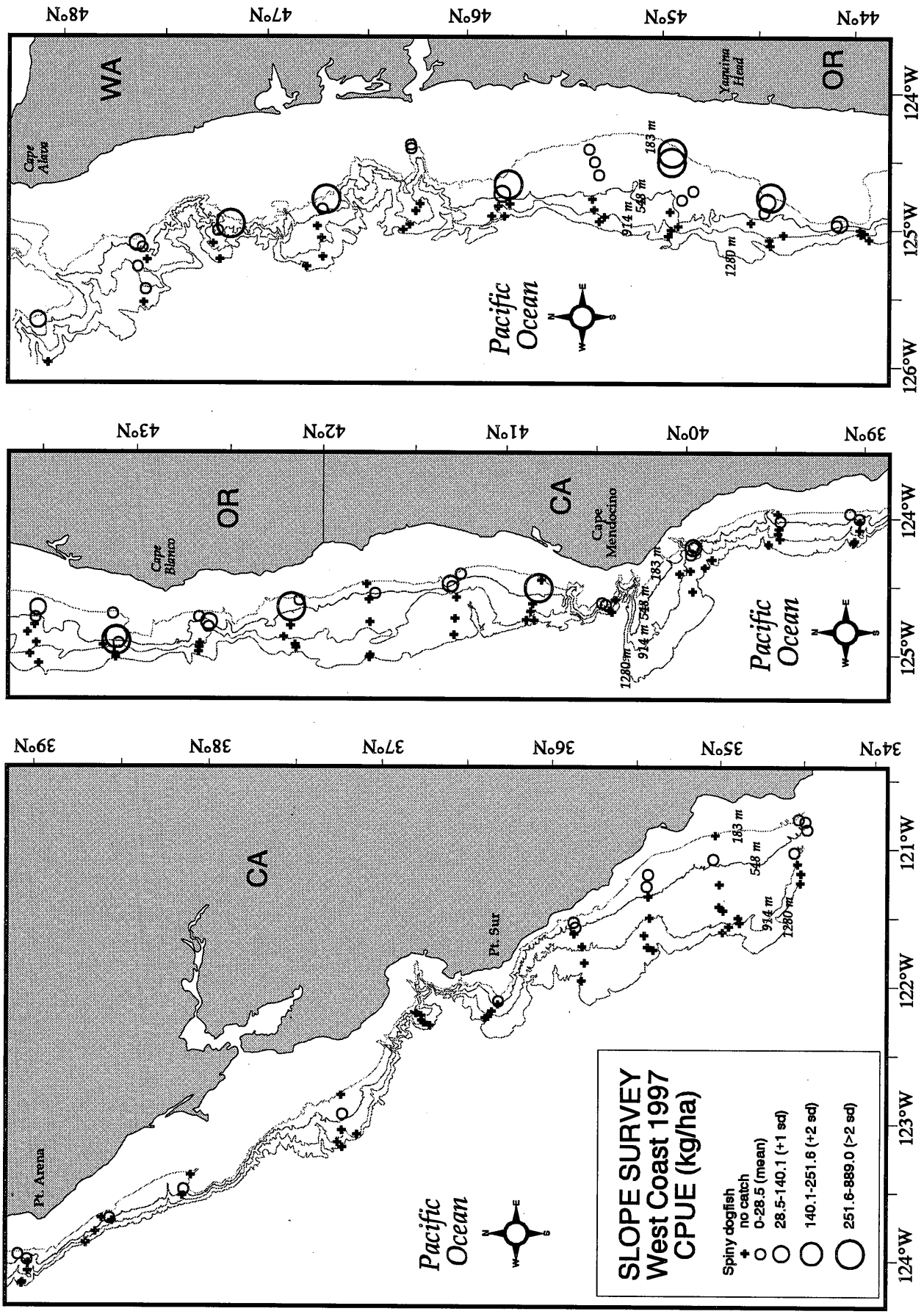


Figure 17.--Spiny dogfish distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

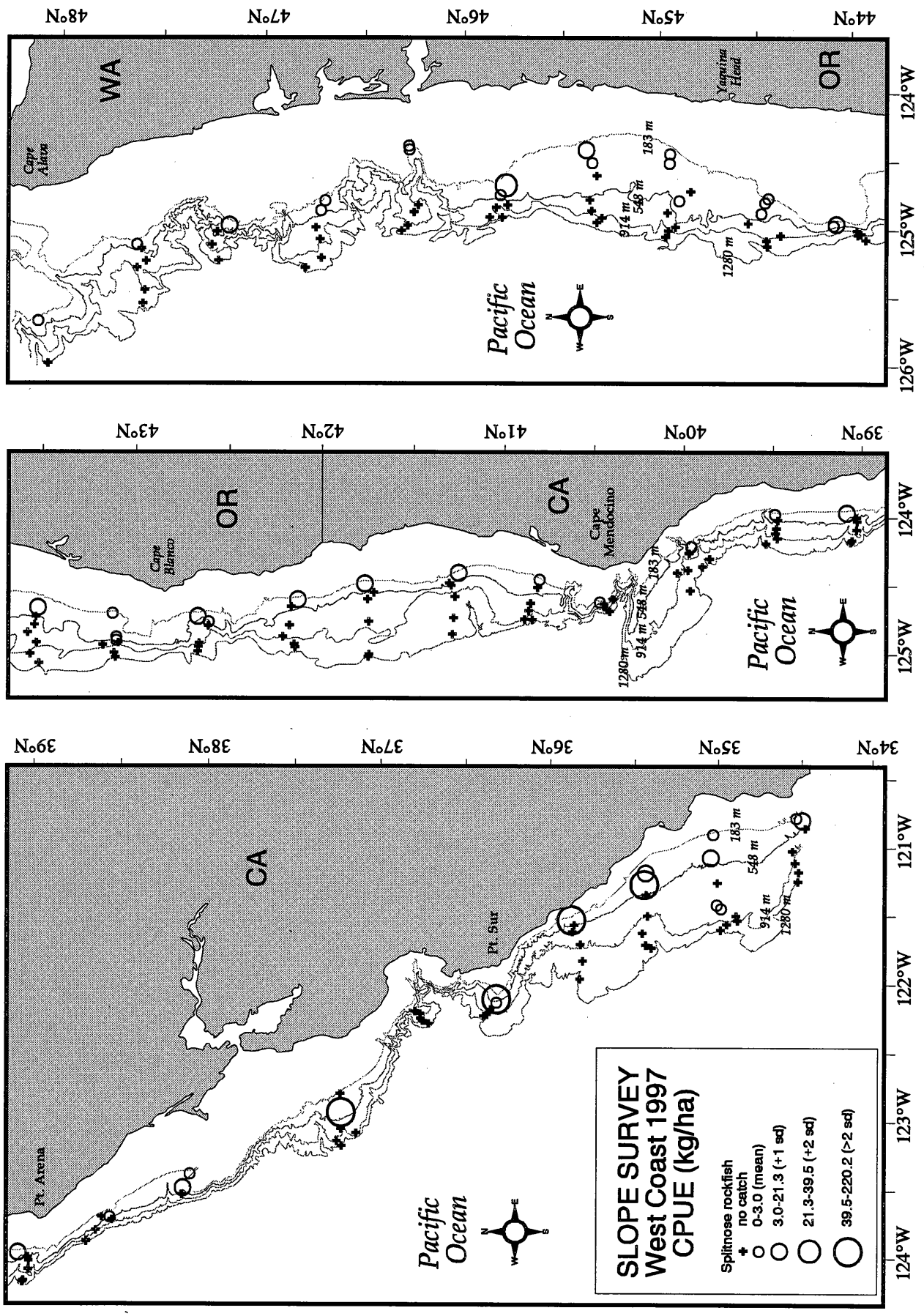


Figure 18.--Splitnose rockfish distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

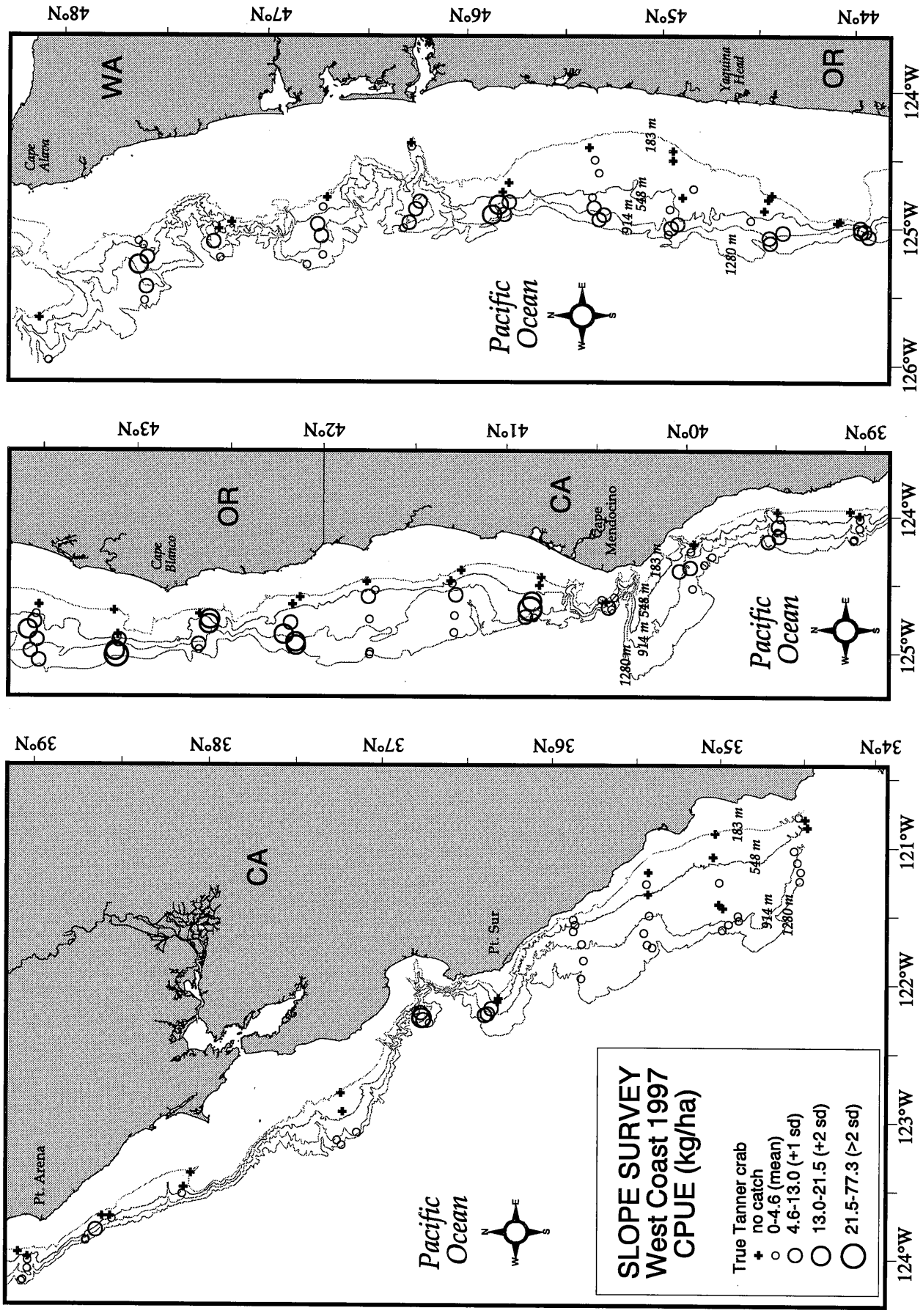


Figure 19.--True Tanner crab distribution and relative abundance (kg/ha) from the 1997 West Coast upper continental slope bottom trawl survey.

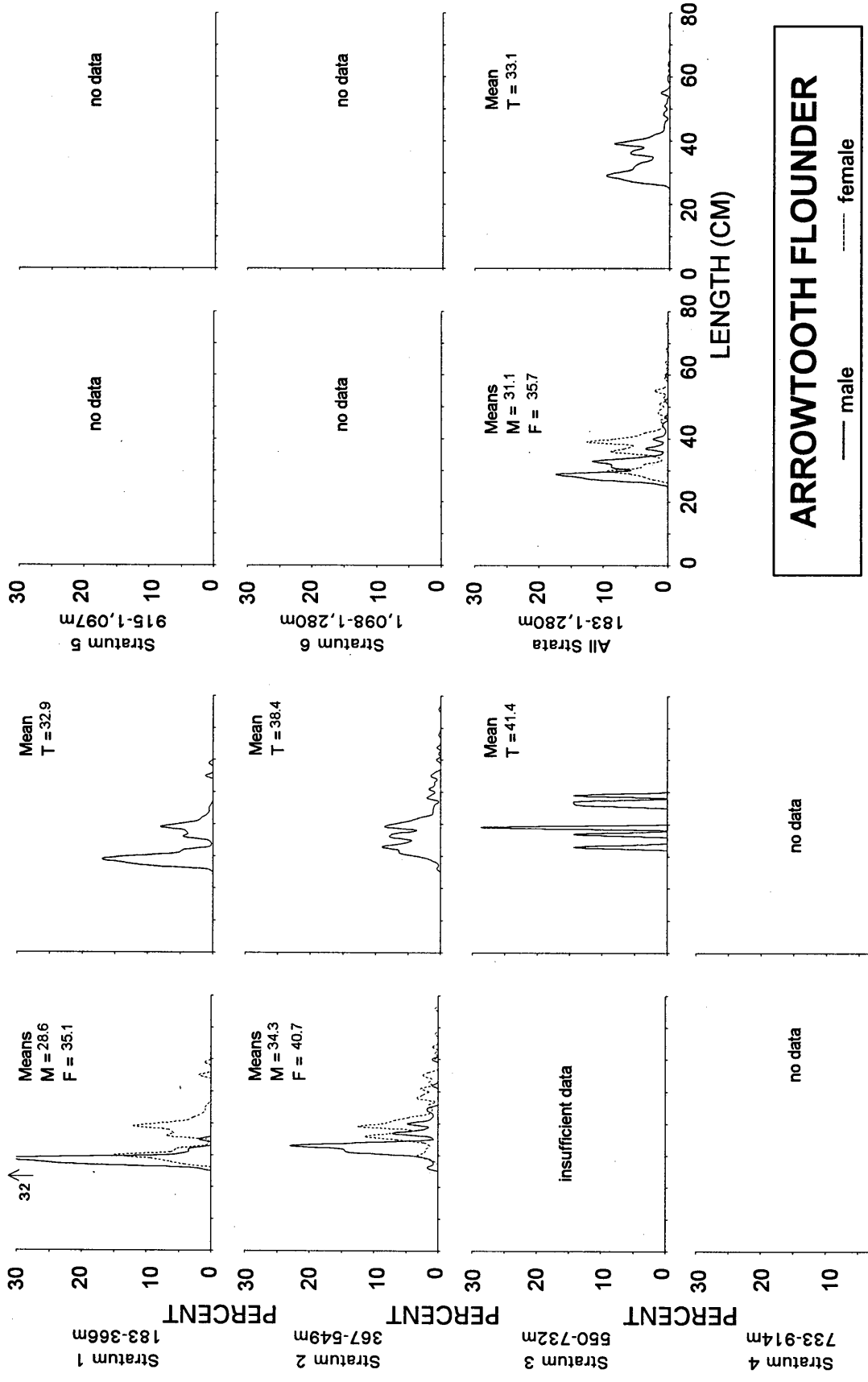


Figure 20.--Estimated population size composition and mean lengths (cm) of arrowtooth flounder by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

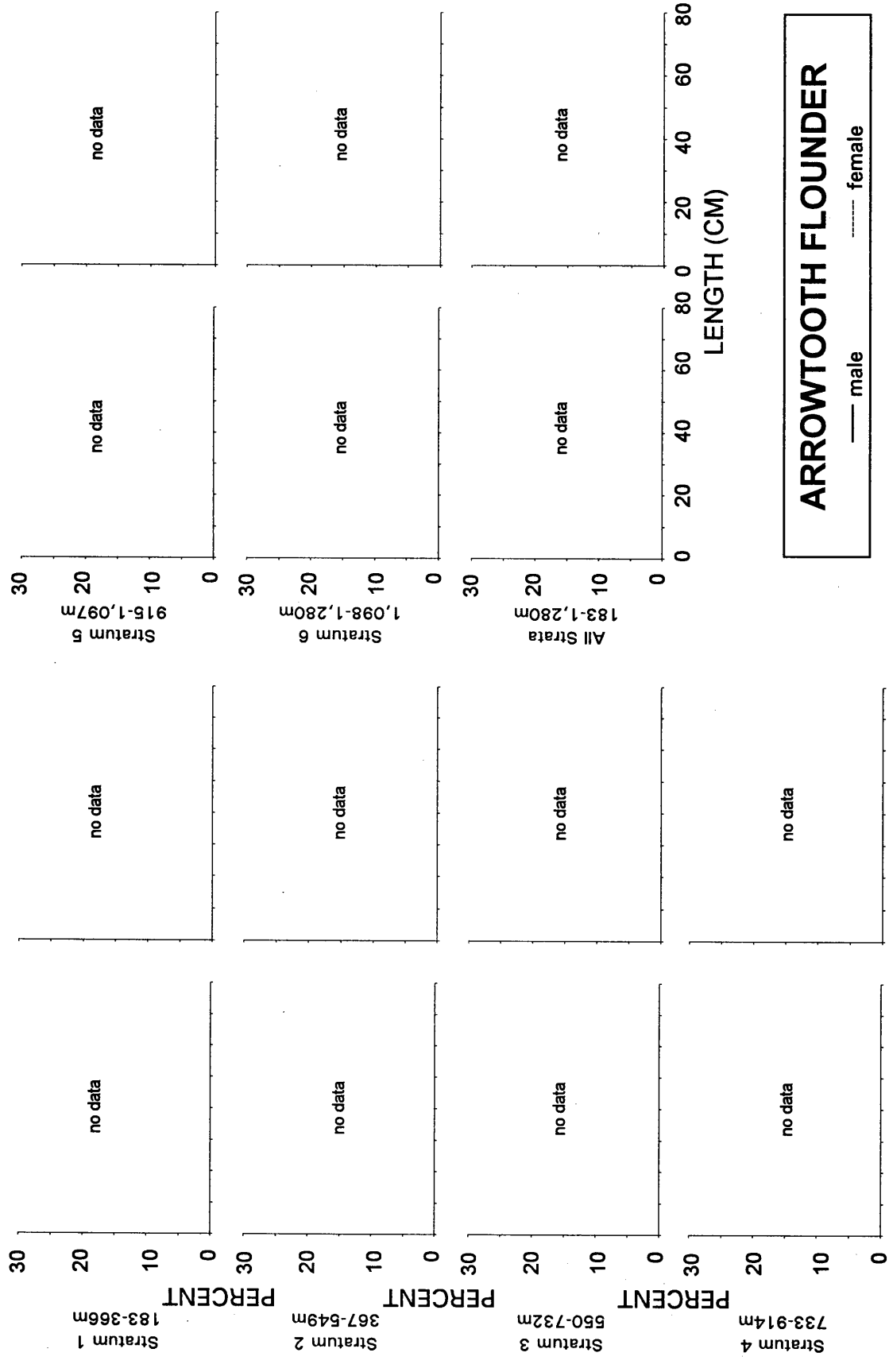


Figure 21.--Estimated population size composition and mean lengths (cm) of arrowtooth flounder by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

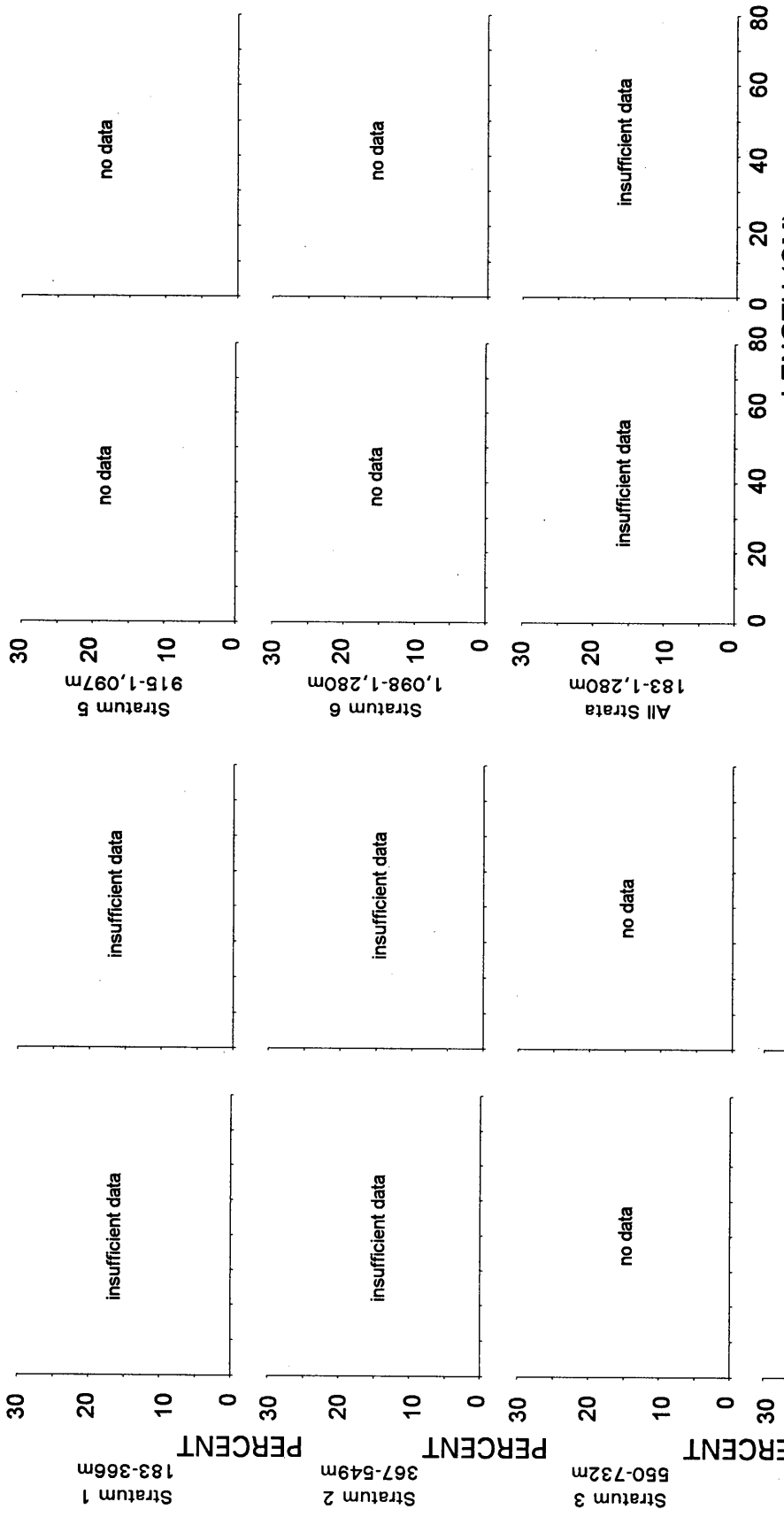


Figure 22.--Estimated population size composition and mean lengths (cm) of arrowtooth flounder by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

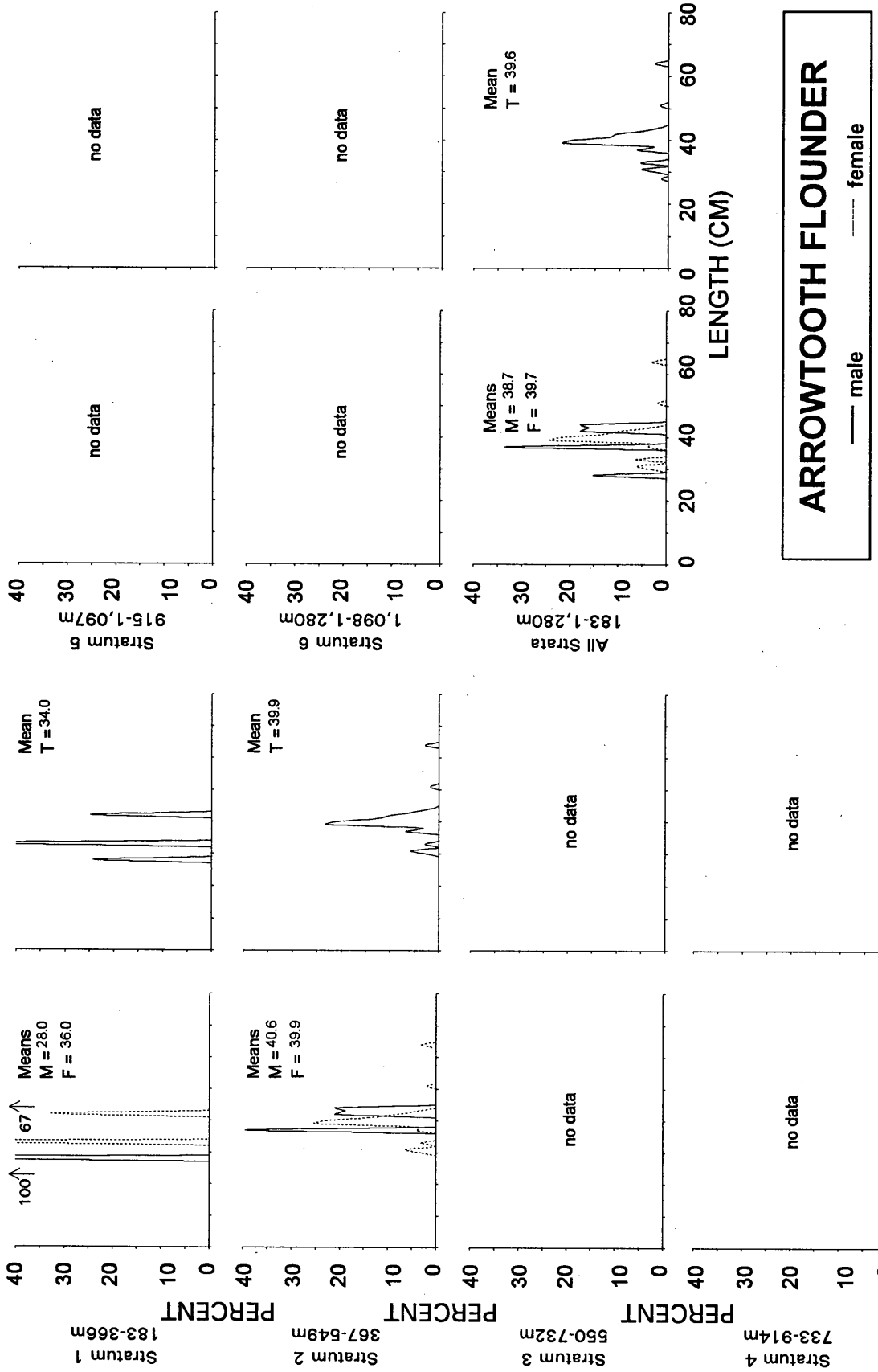


Figure 23.--Estimated population size composition and mean lengths (cm) of arrowtooth flounder by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

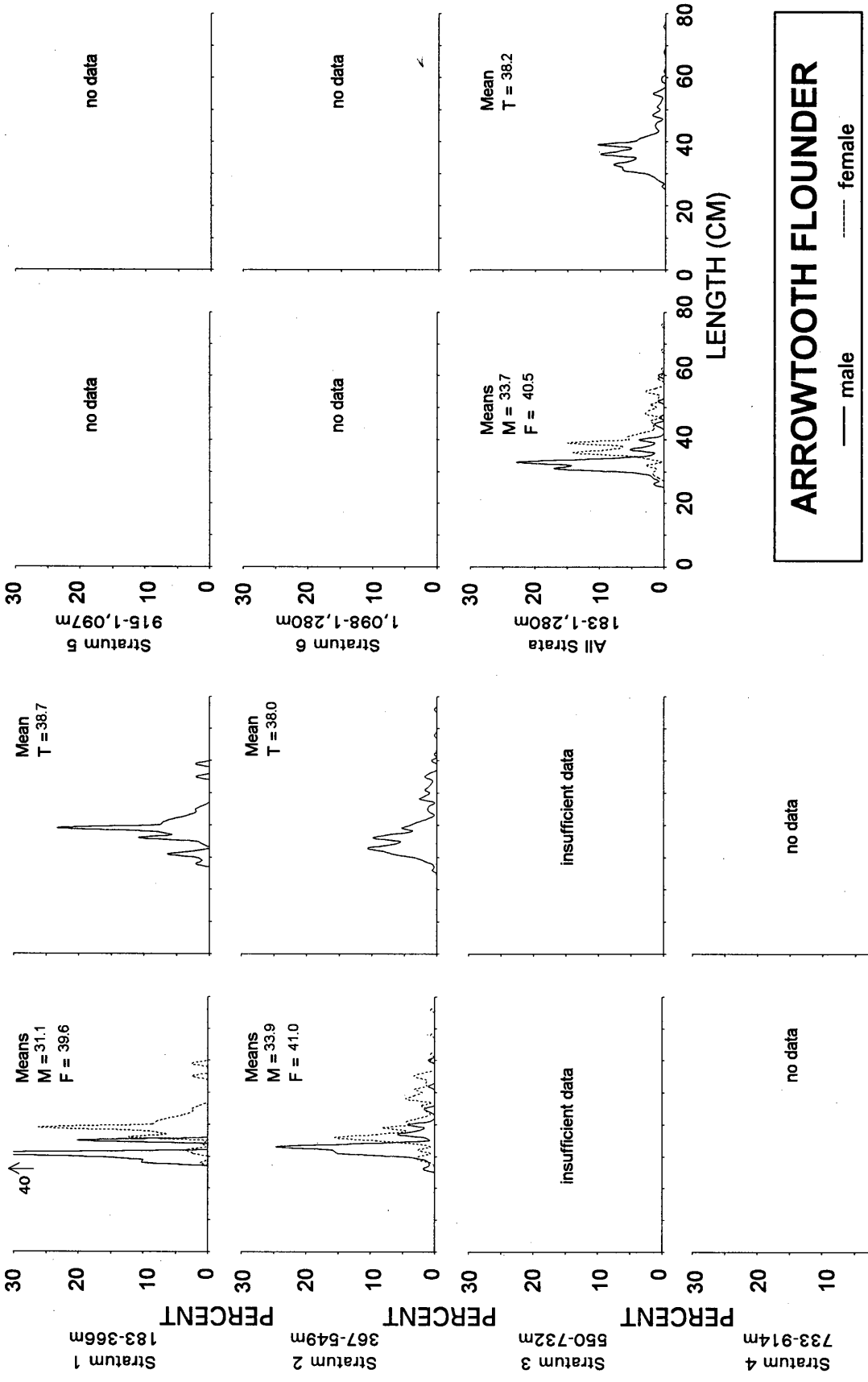


Figure 24.--Estimated population size composition and mean lengths (cm) of arrowtooth flounder by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

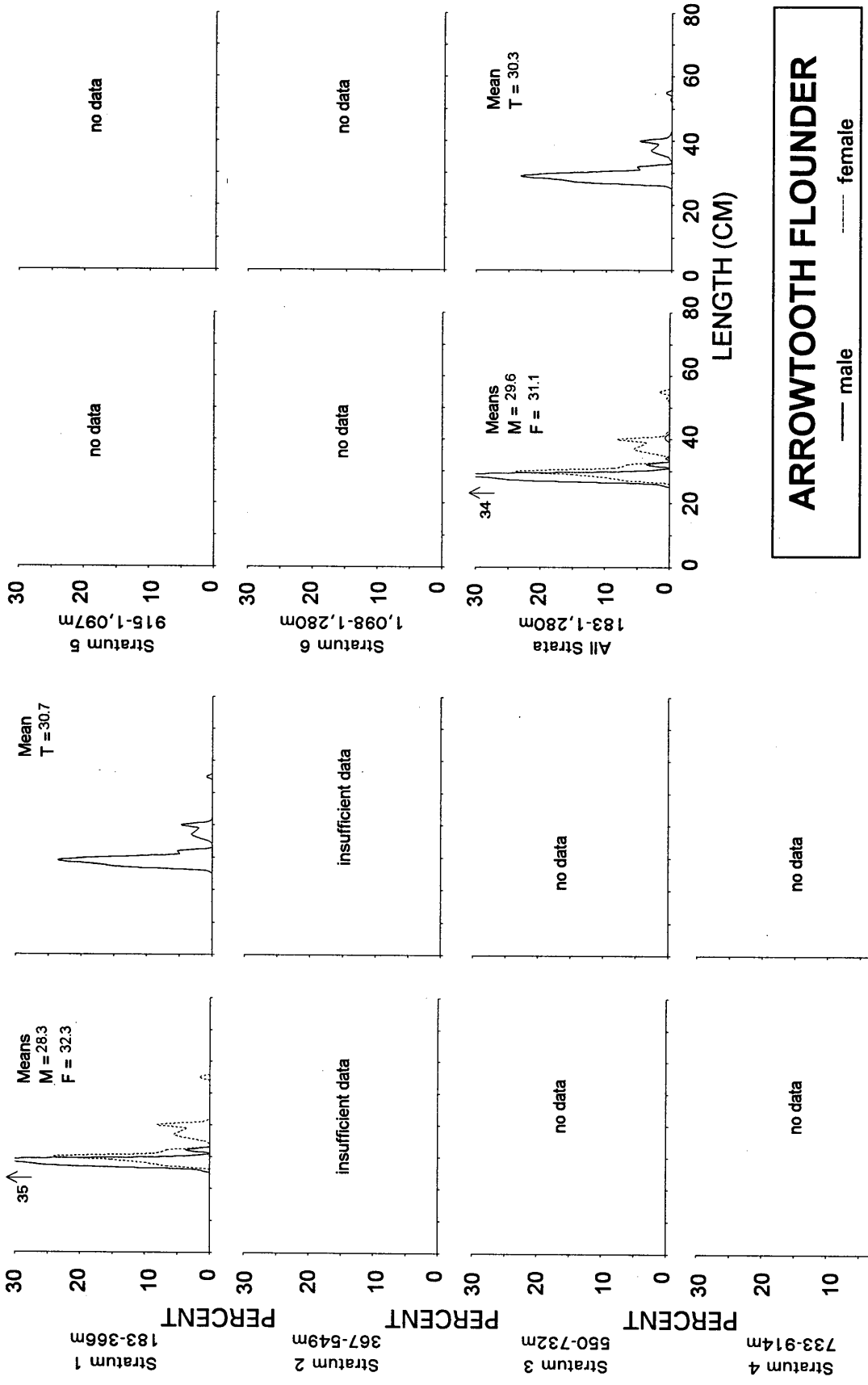


Figure 25.--Estimated population size composition and mean lengths (cm) of arrowtooth flounder by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

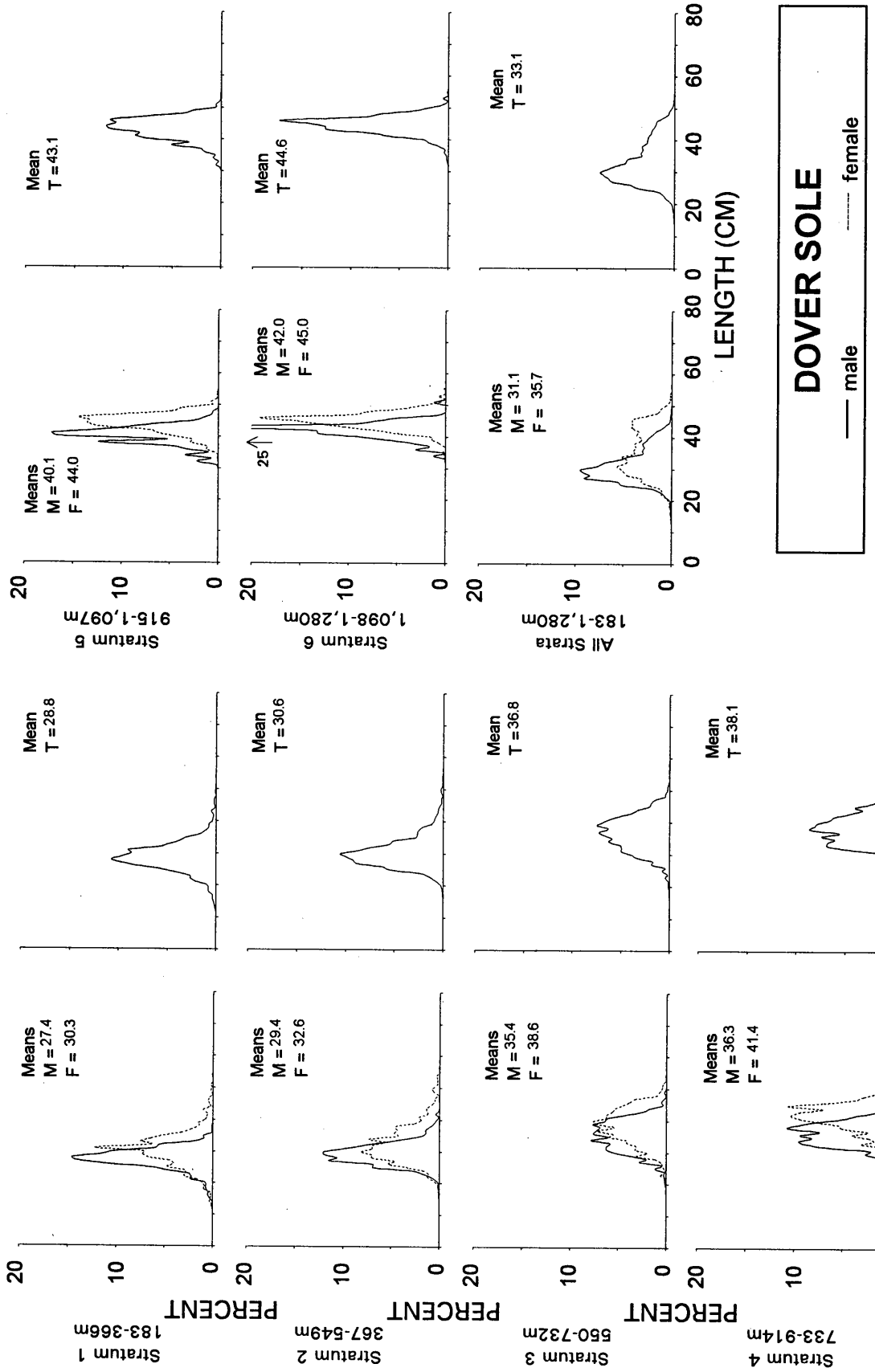


Figure 26.--Estimated population size composition and mean lengths (cm) of Dover sole by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

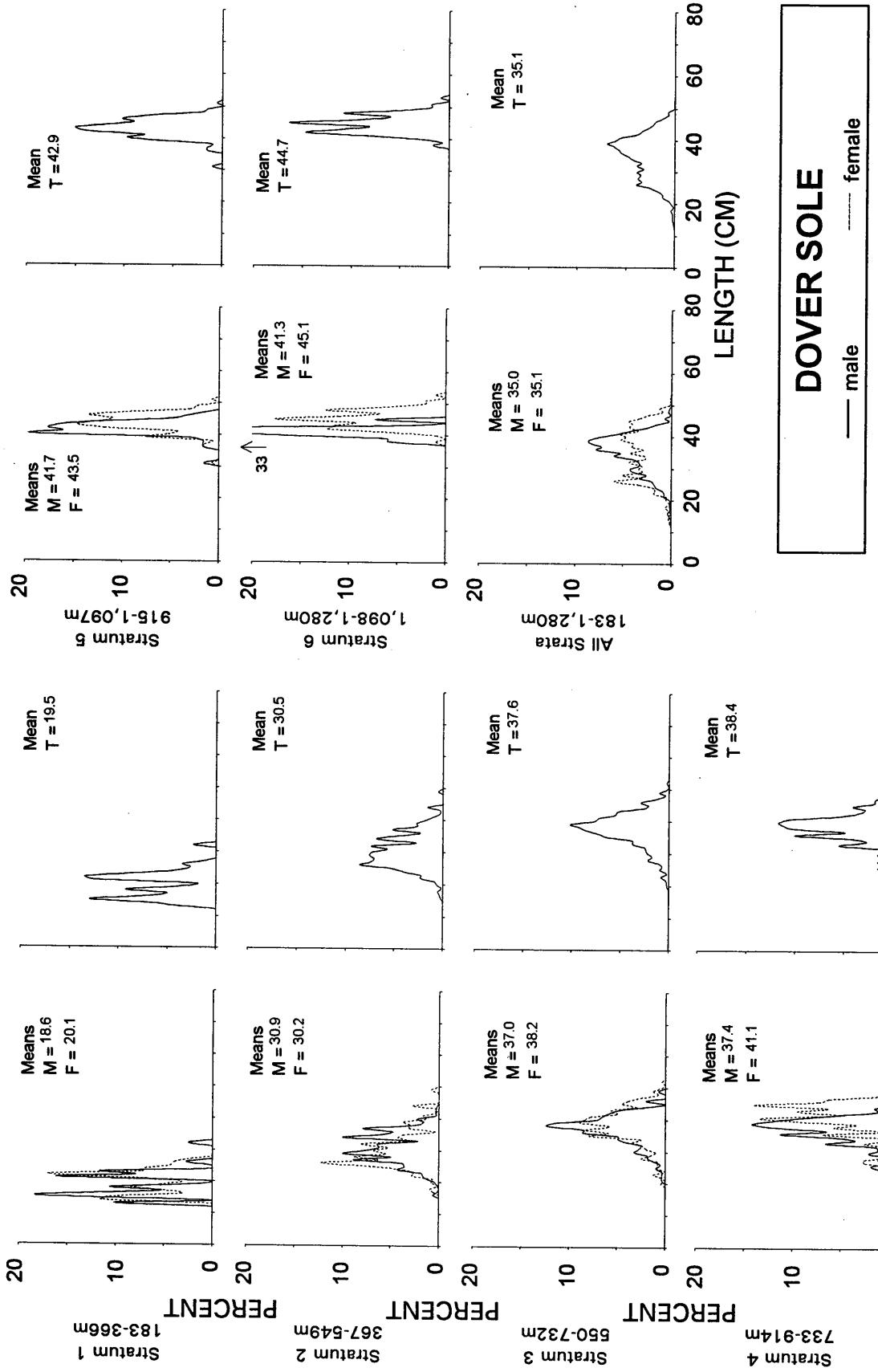


Figure 27.--Estimated population size composition and mean lengths (cm) of Dover sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

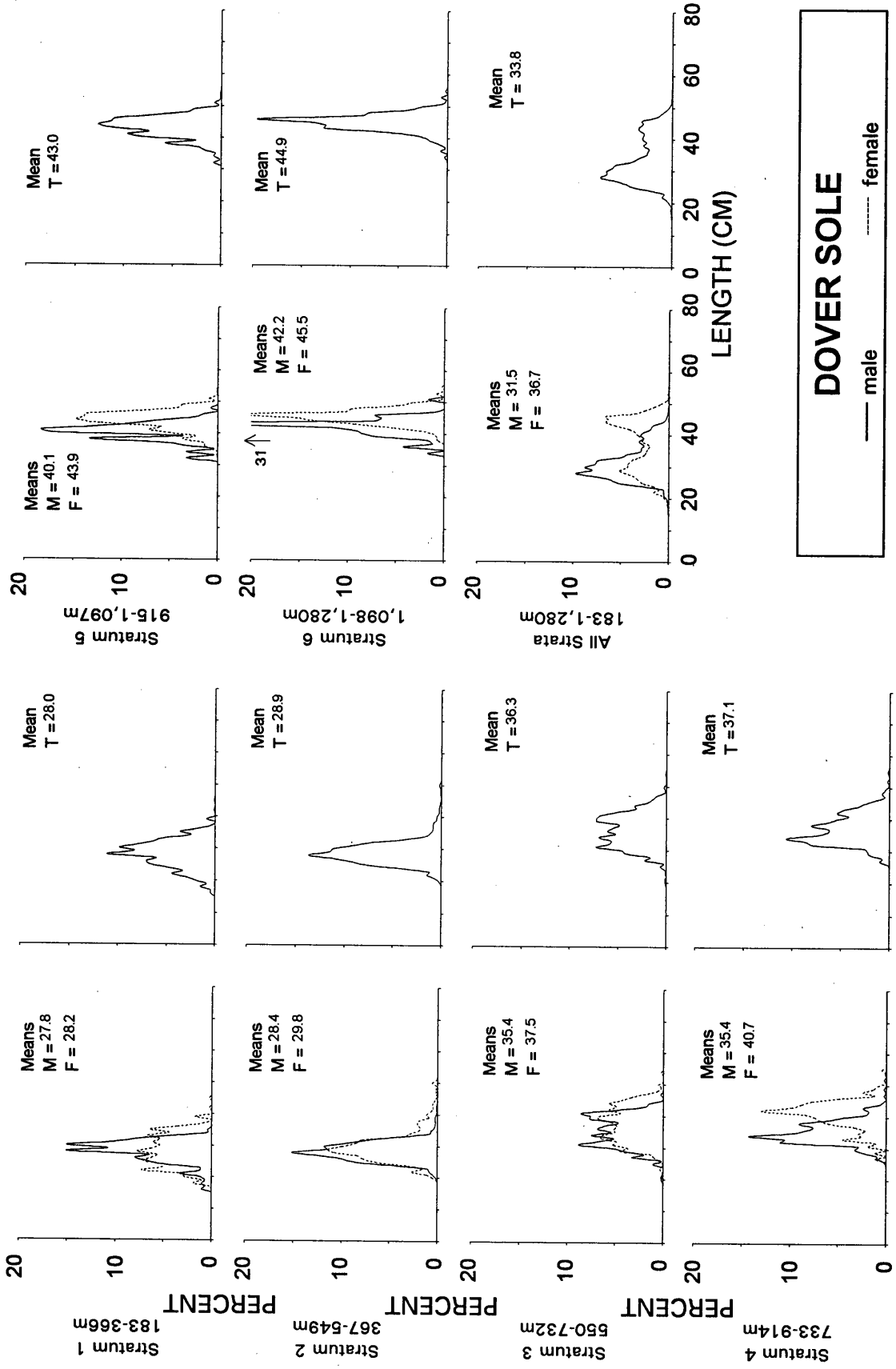


Figure 28.--Estimated population size composition and mean lengths (cm) of Dover sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

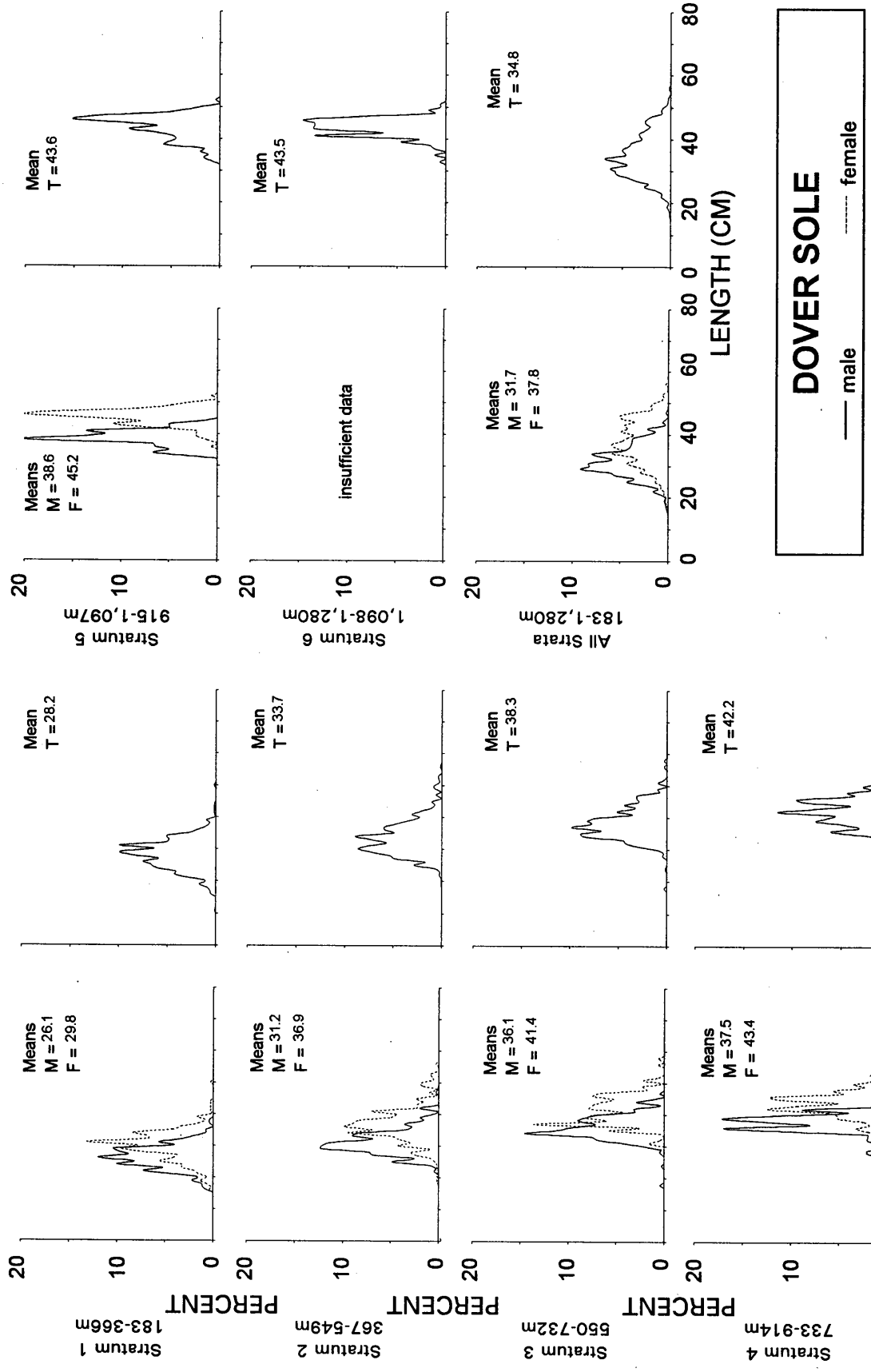


Figure 29.--Estimated population size composition and mean lengths (cm) of Dover sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

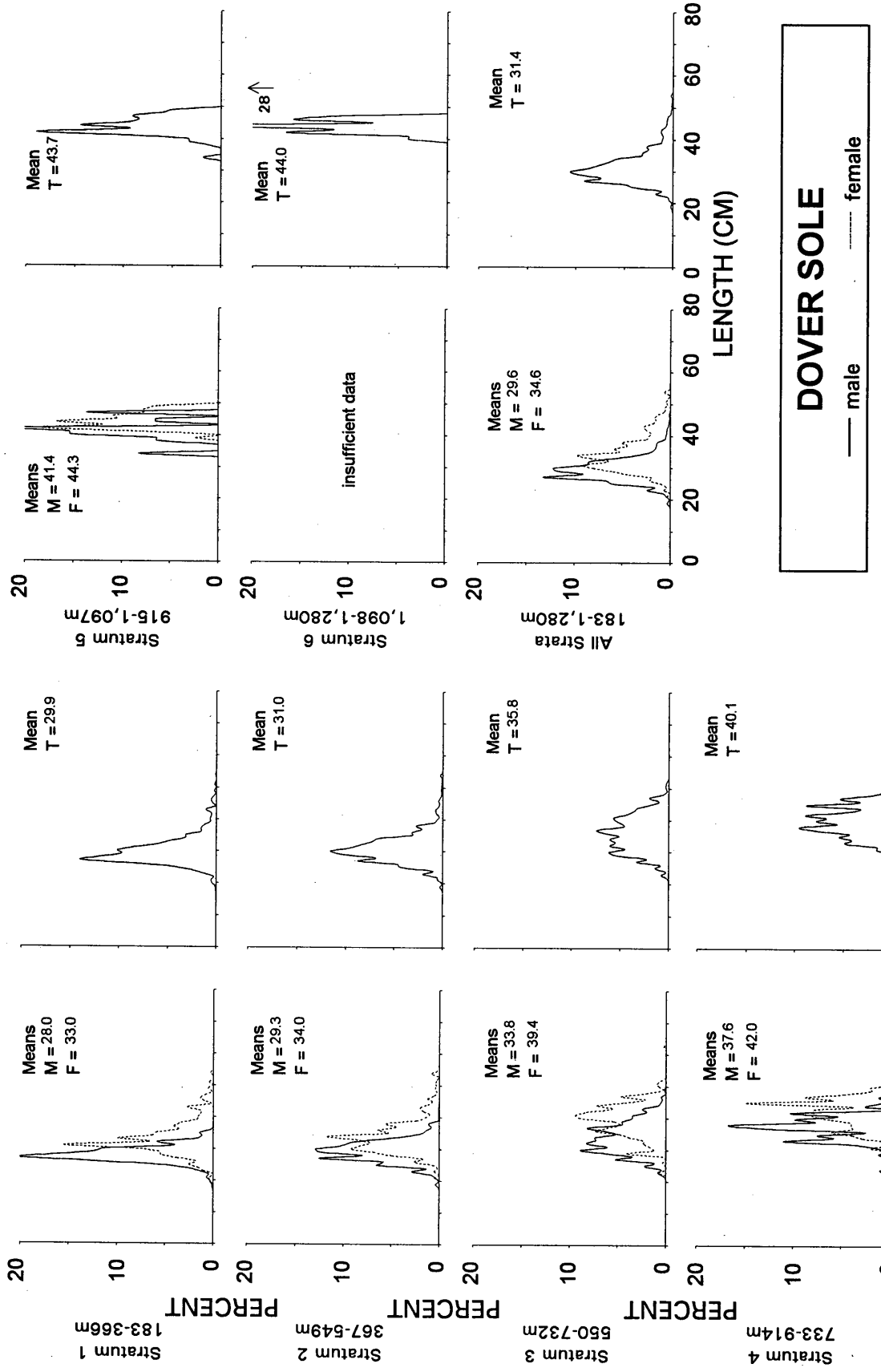


Figure 30.--Estimated population size composition and mean lengths (cm) of Dover sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

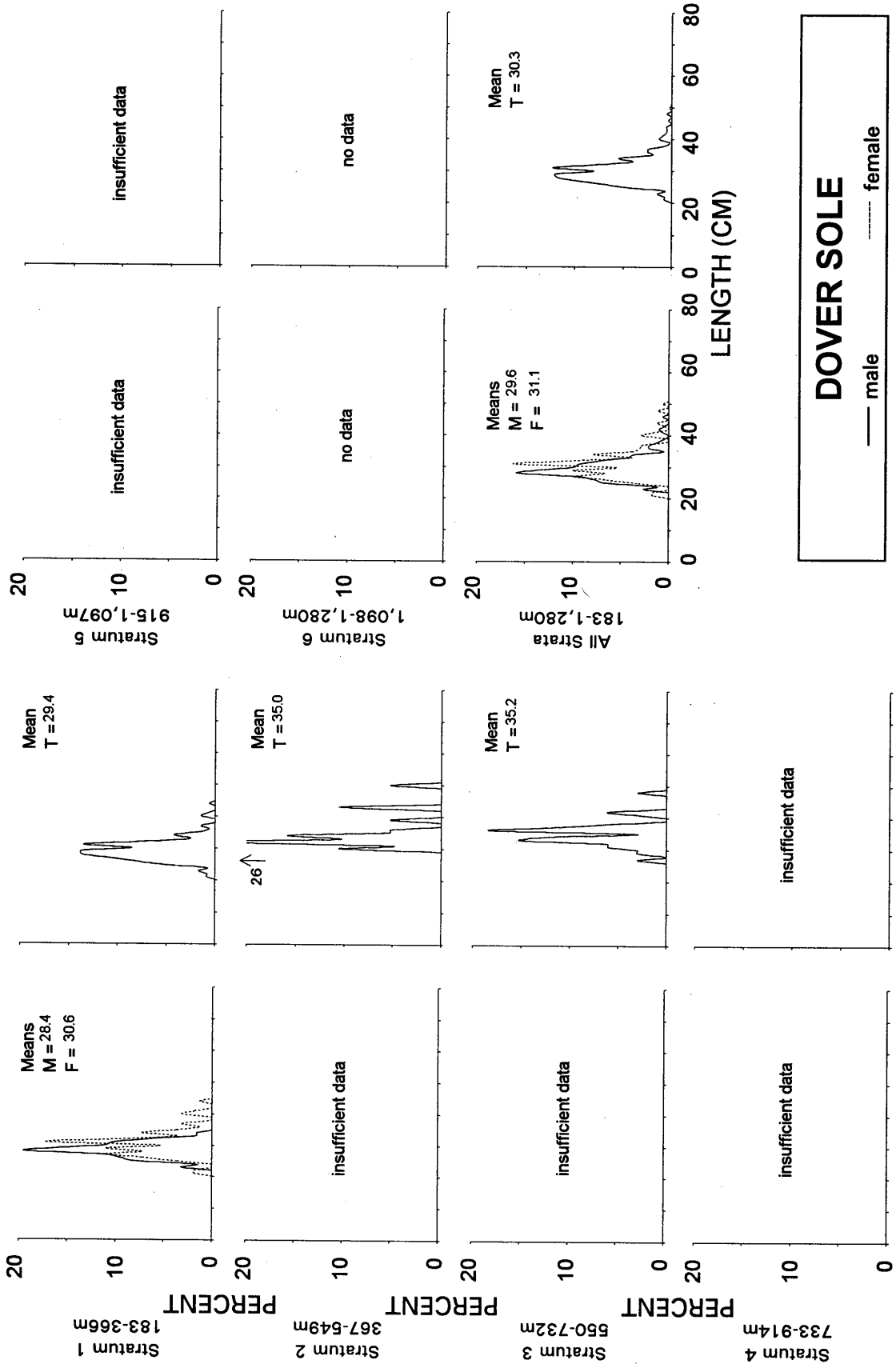


Figure 31.--Estimated population size composition and mean lengths (cm) of Dover sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

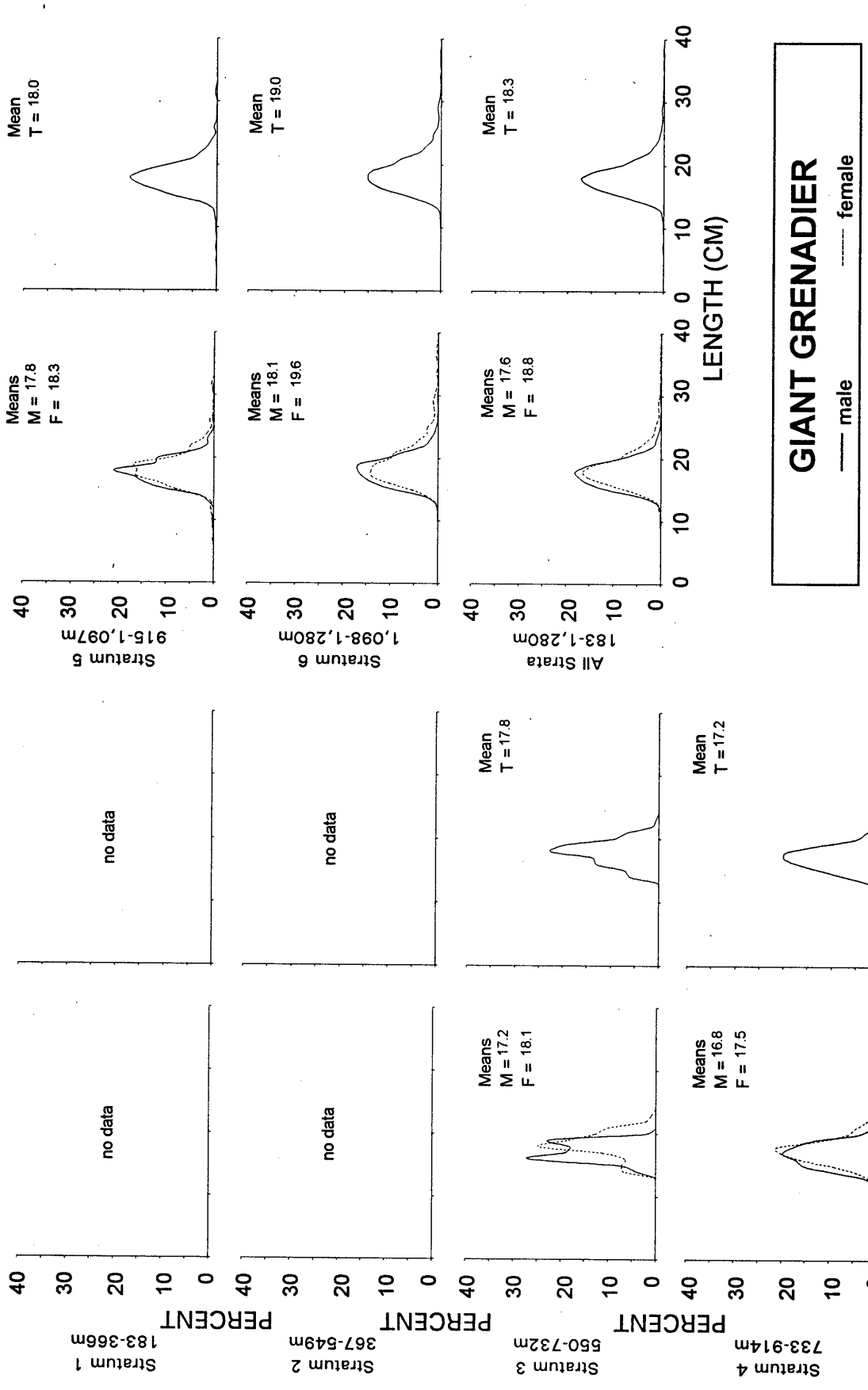


Figure 32.--Estimated population size composition and mean lengths (cm) of giant grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

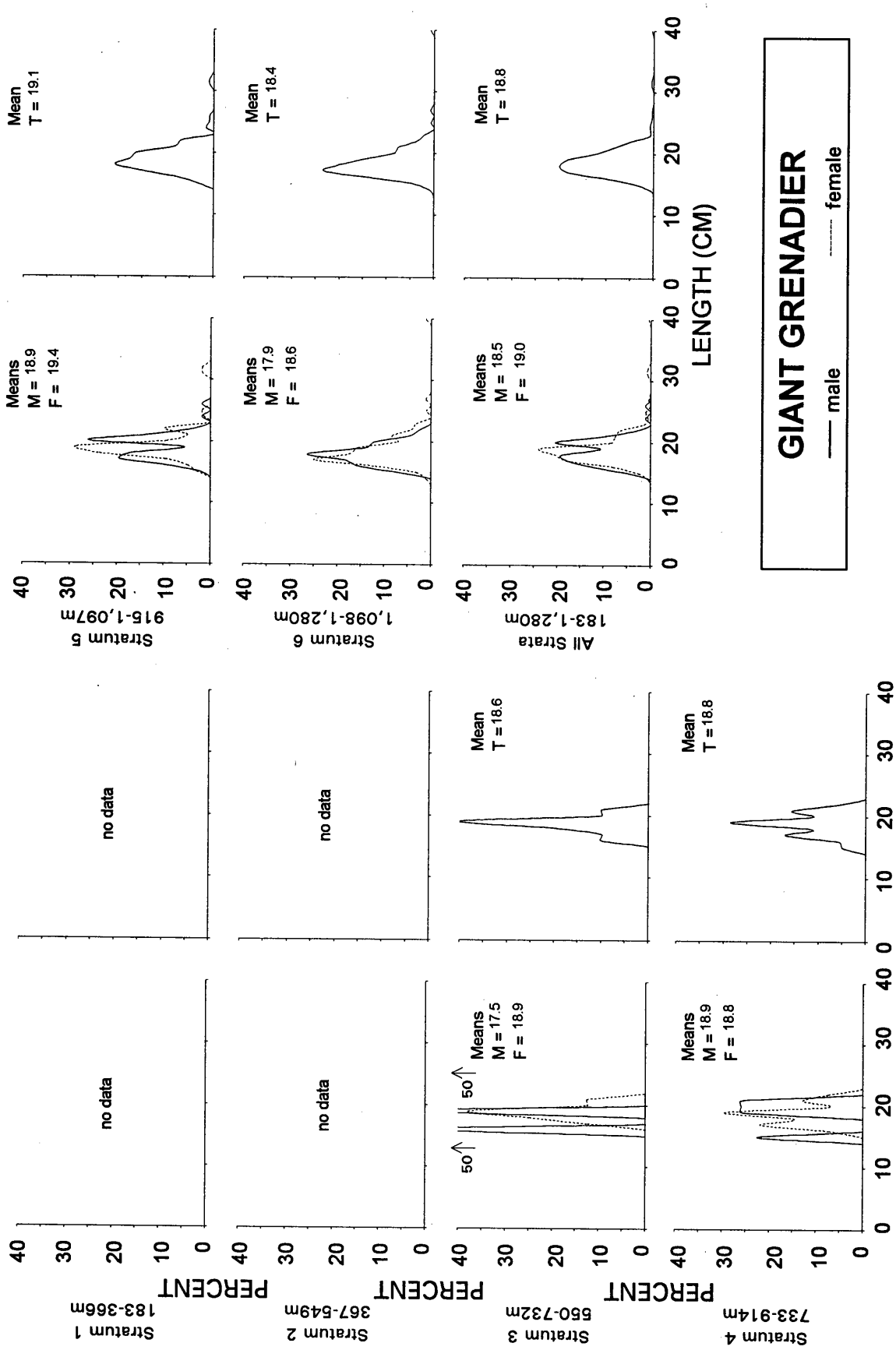


Figure 33.--Estimated population size composition and mean lengths (cm) of giant grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

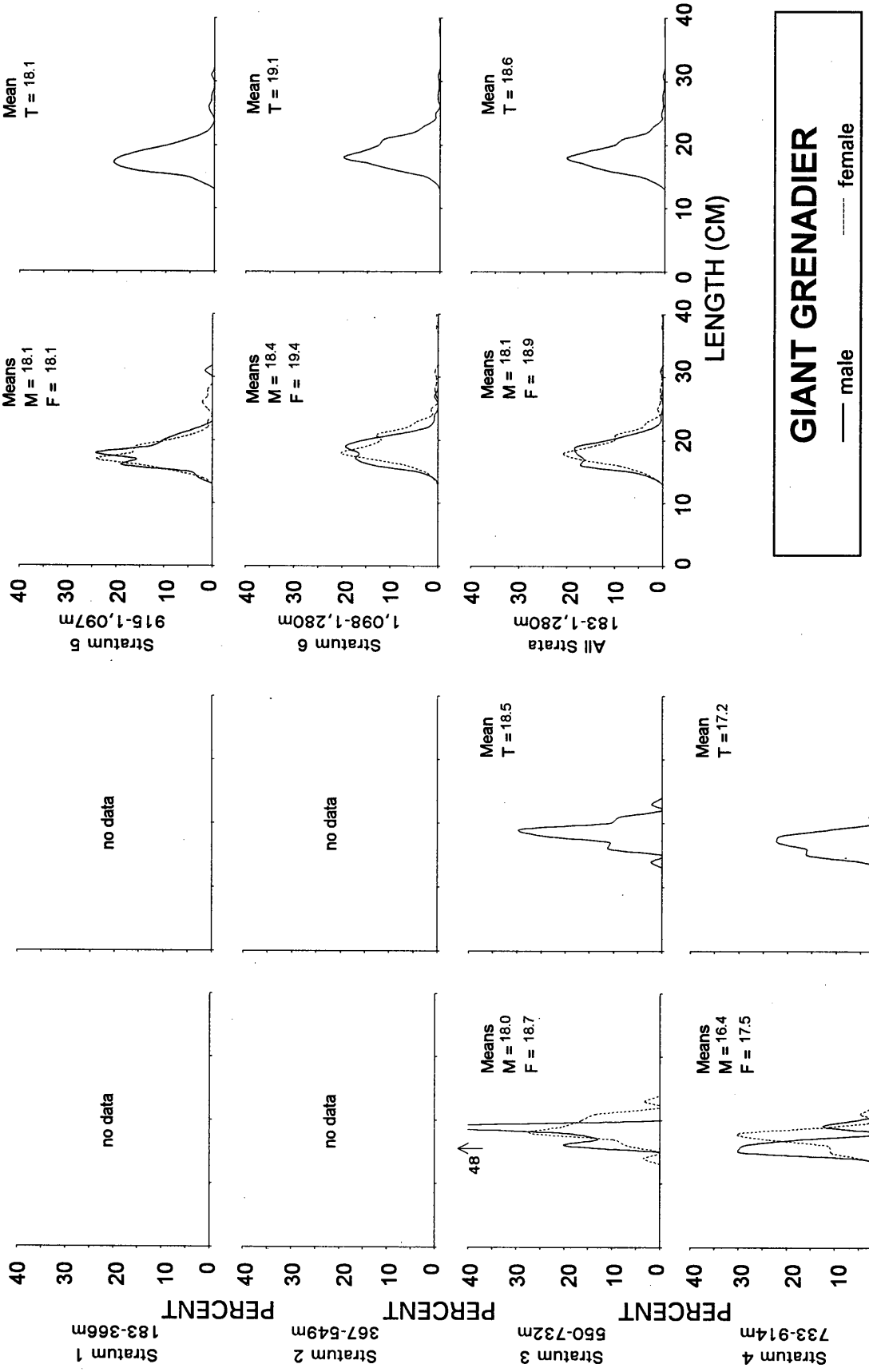


Figure 34.--Estimated population size composition and mean lengths (cm) of giant grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

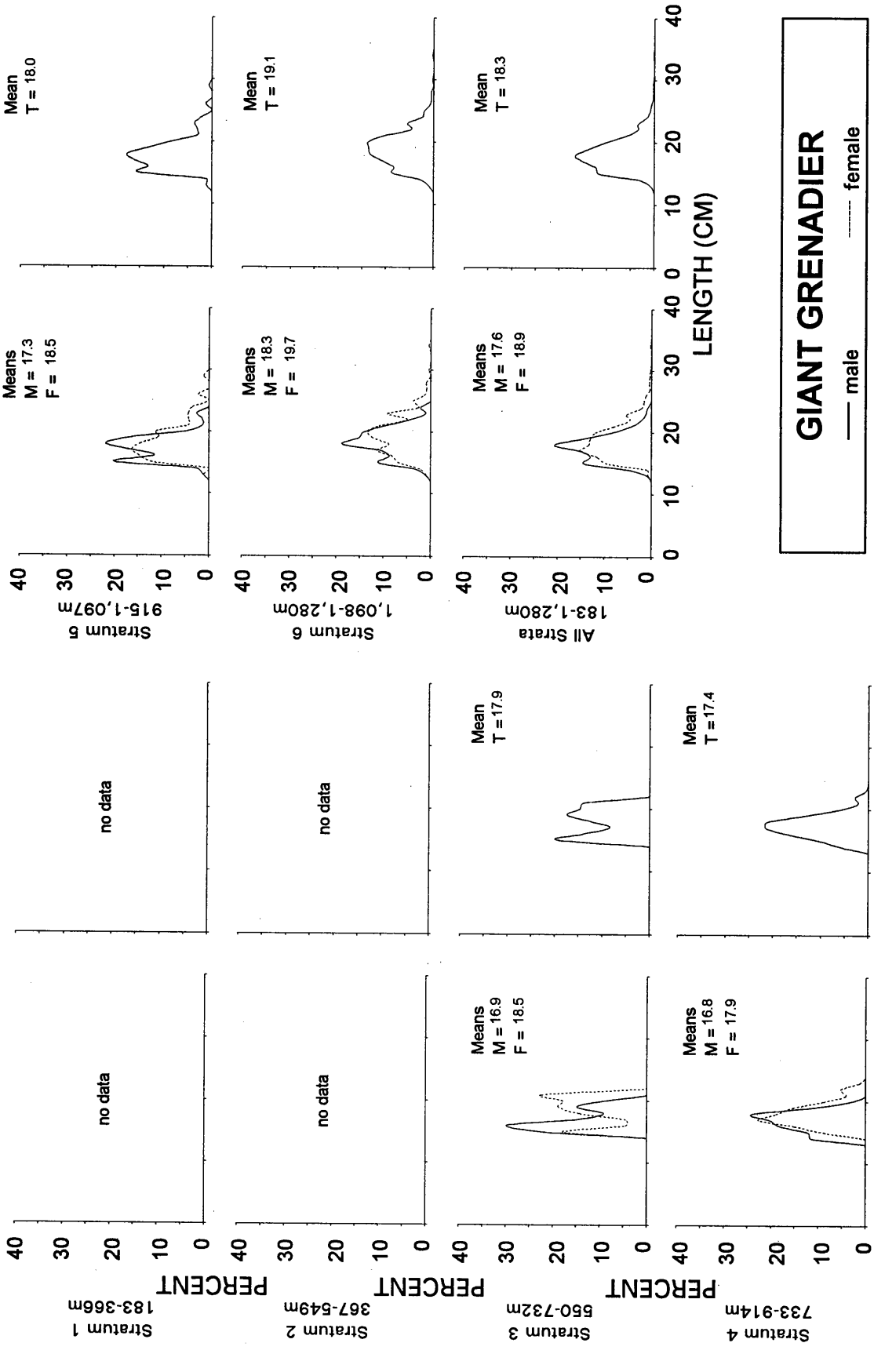


Figure 35.--Estimated population size composition and mean lengths (cm) of giant grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

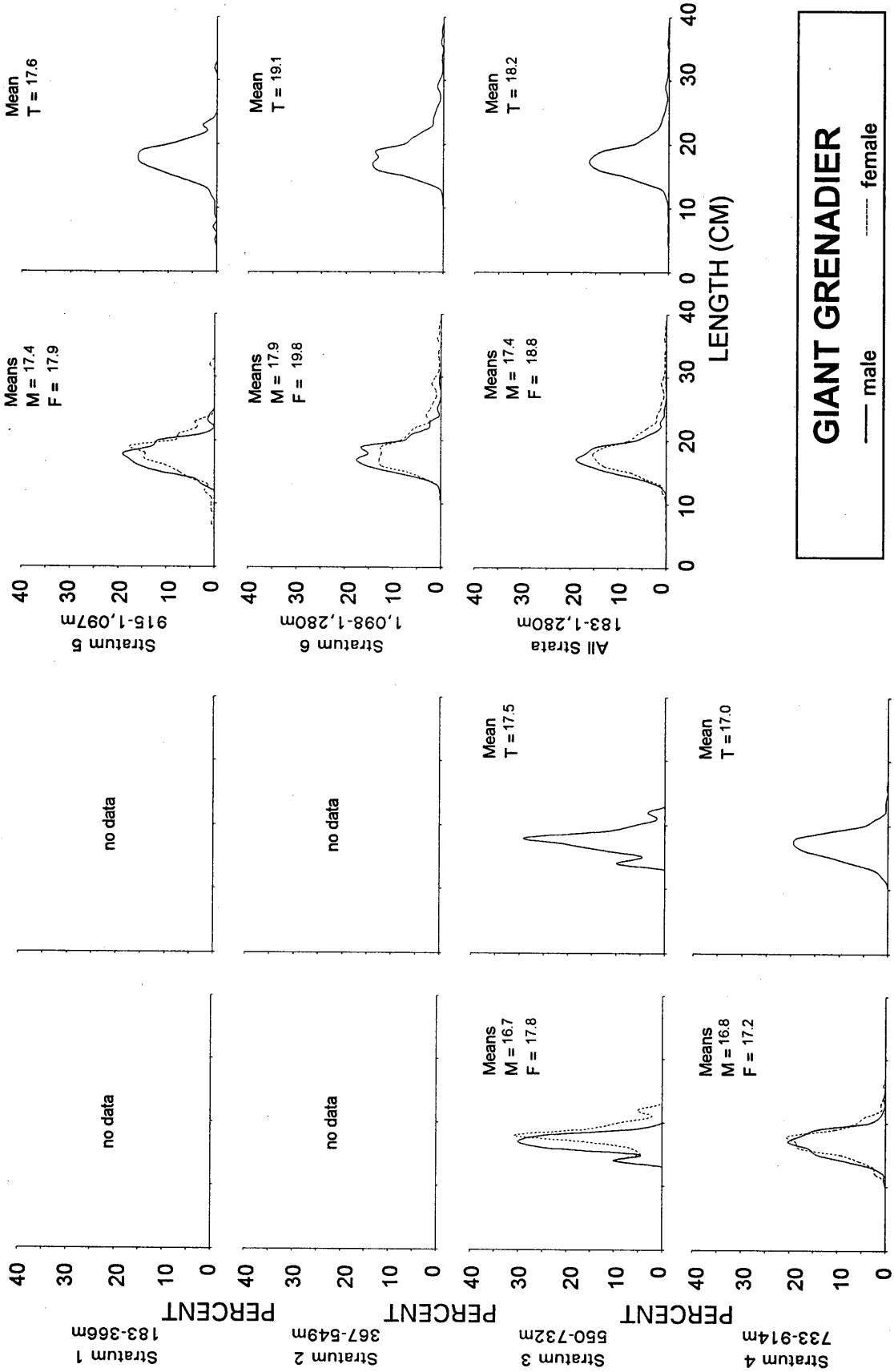


Figure 36.--Estimated population size composition and mean lengths (cm) of giant grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

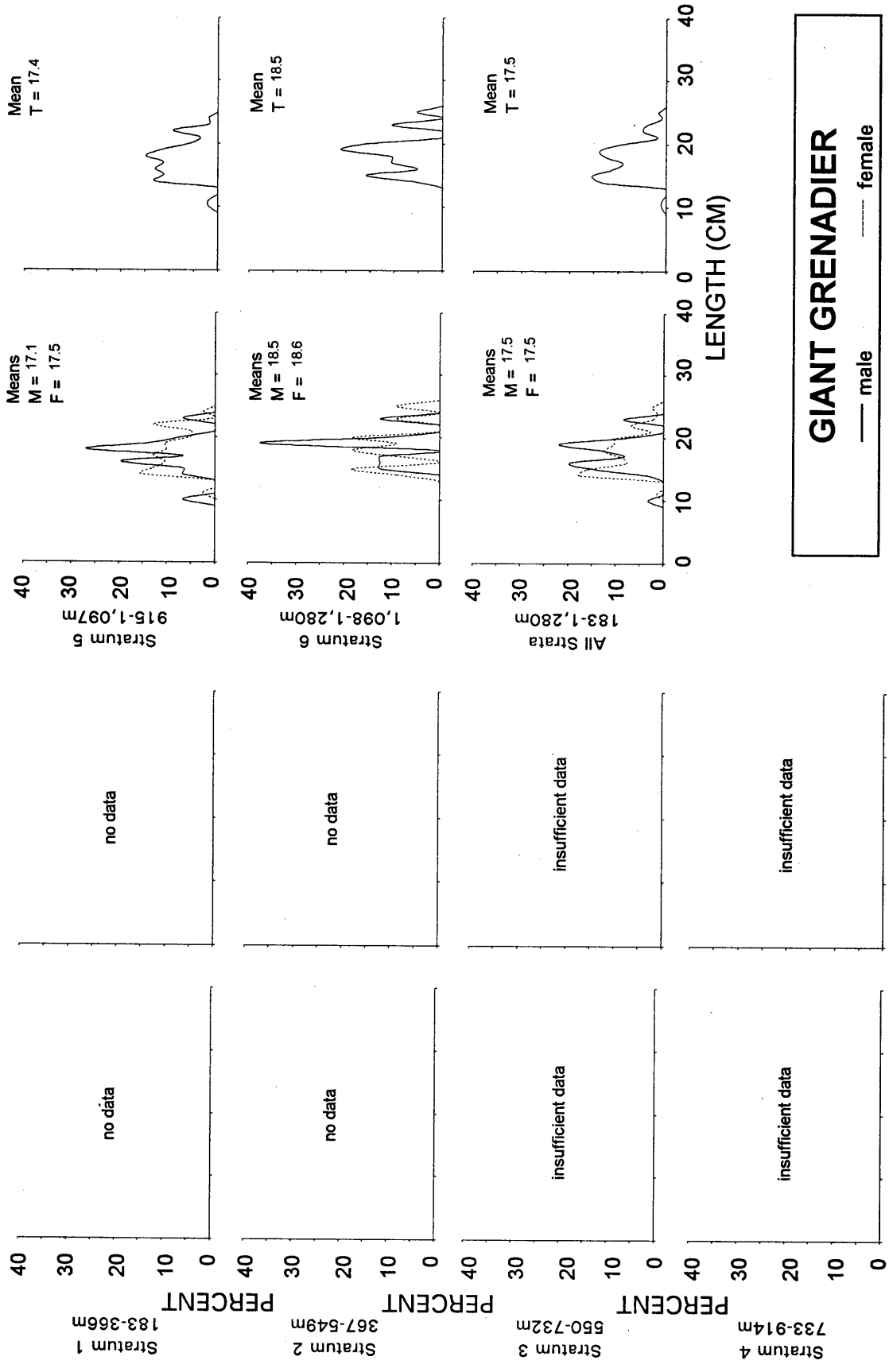


Figure 37.--Estimated population size composition and mean lengths (cm) of giant grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

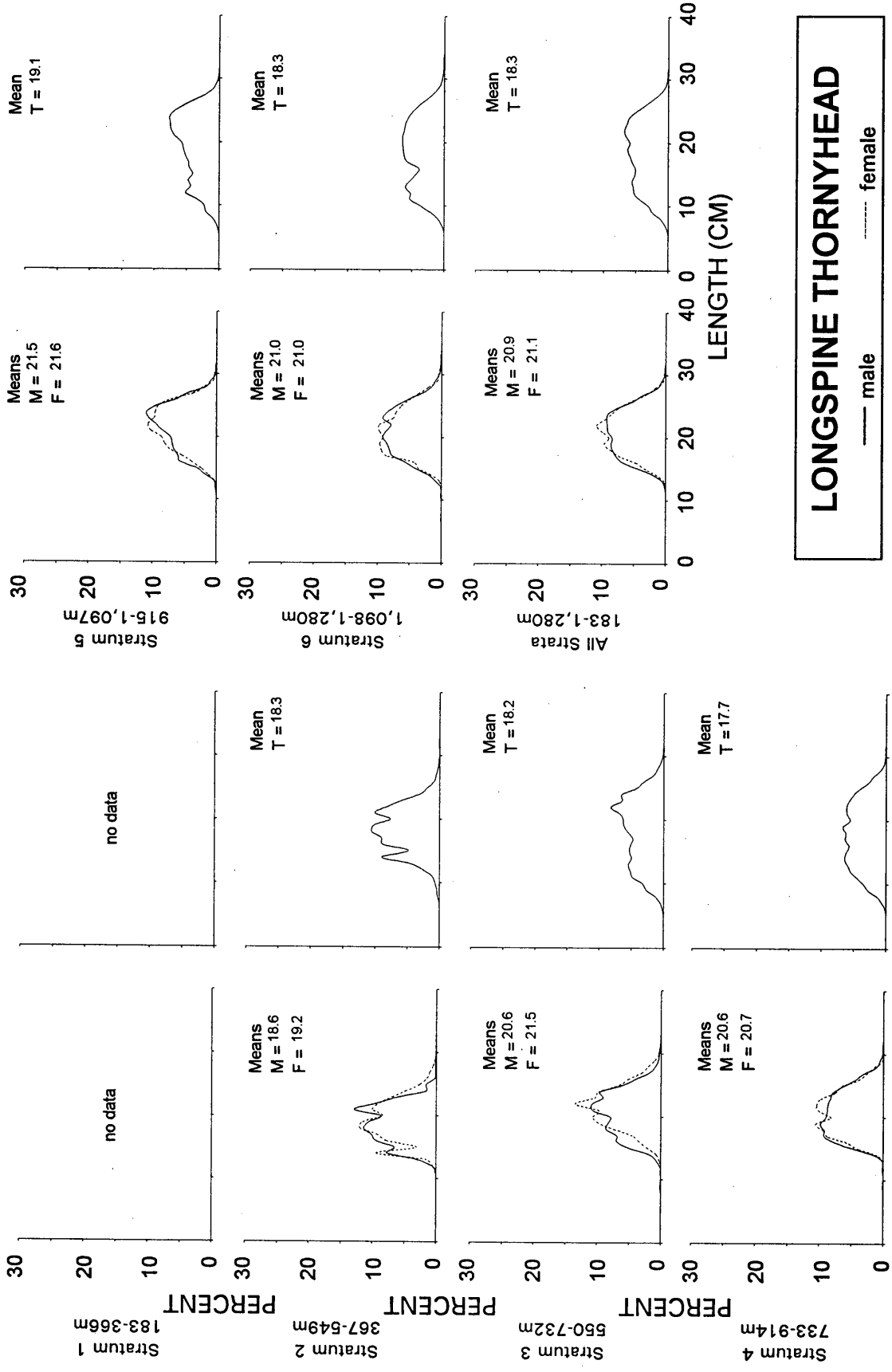


Figure 38.--Estimated population size composition and mean lengths (cm) of longspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

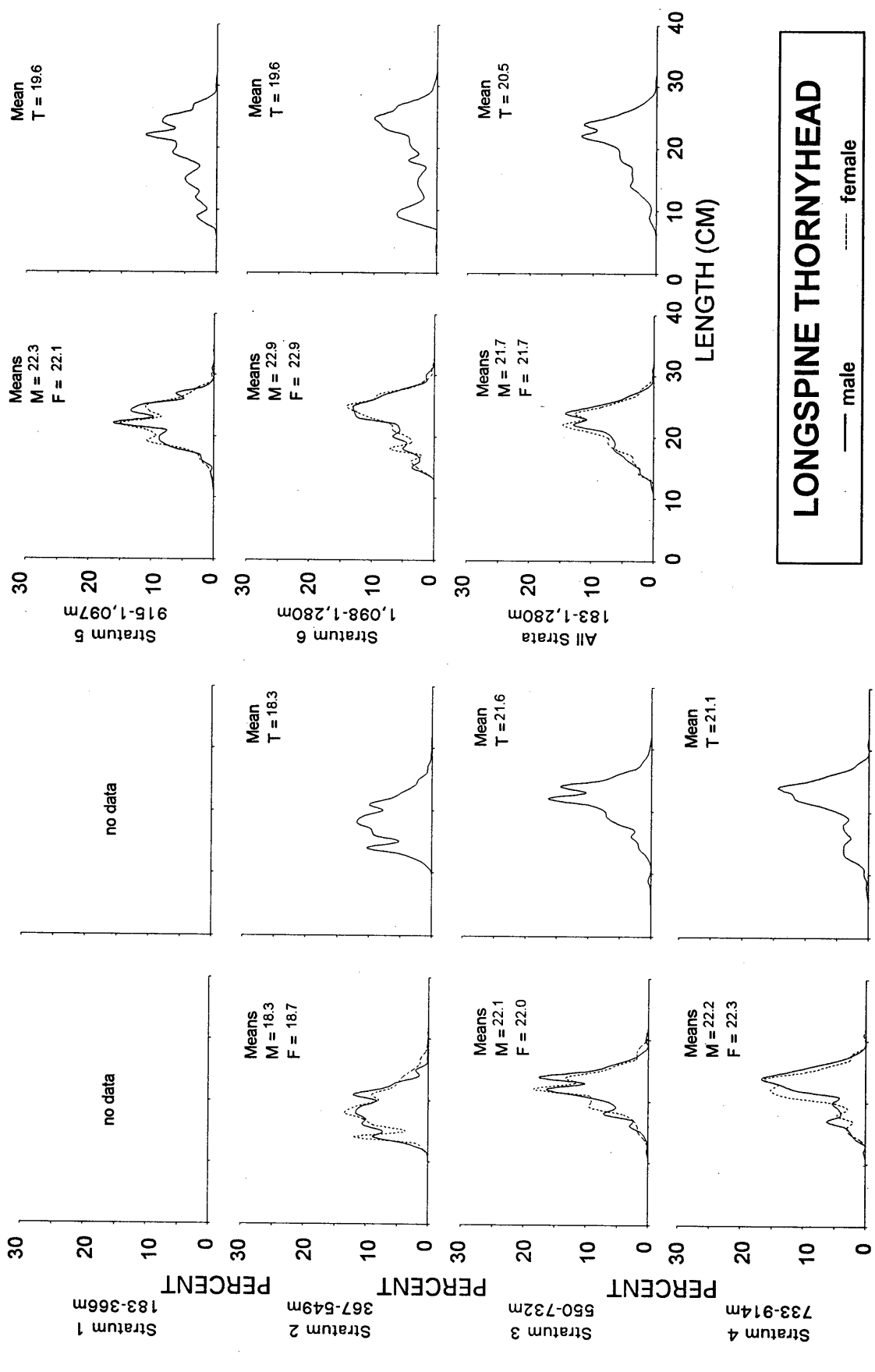


Figure 39.--Estimated population size composition and mean lengths (cm) of longspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

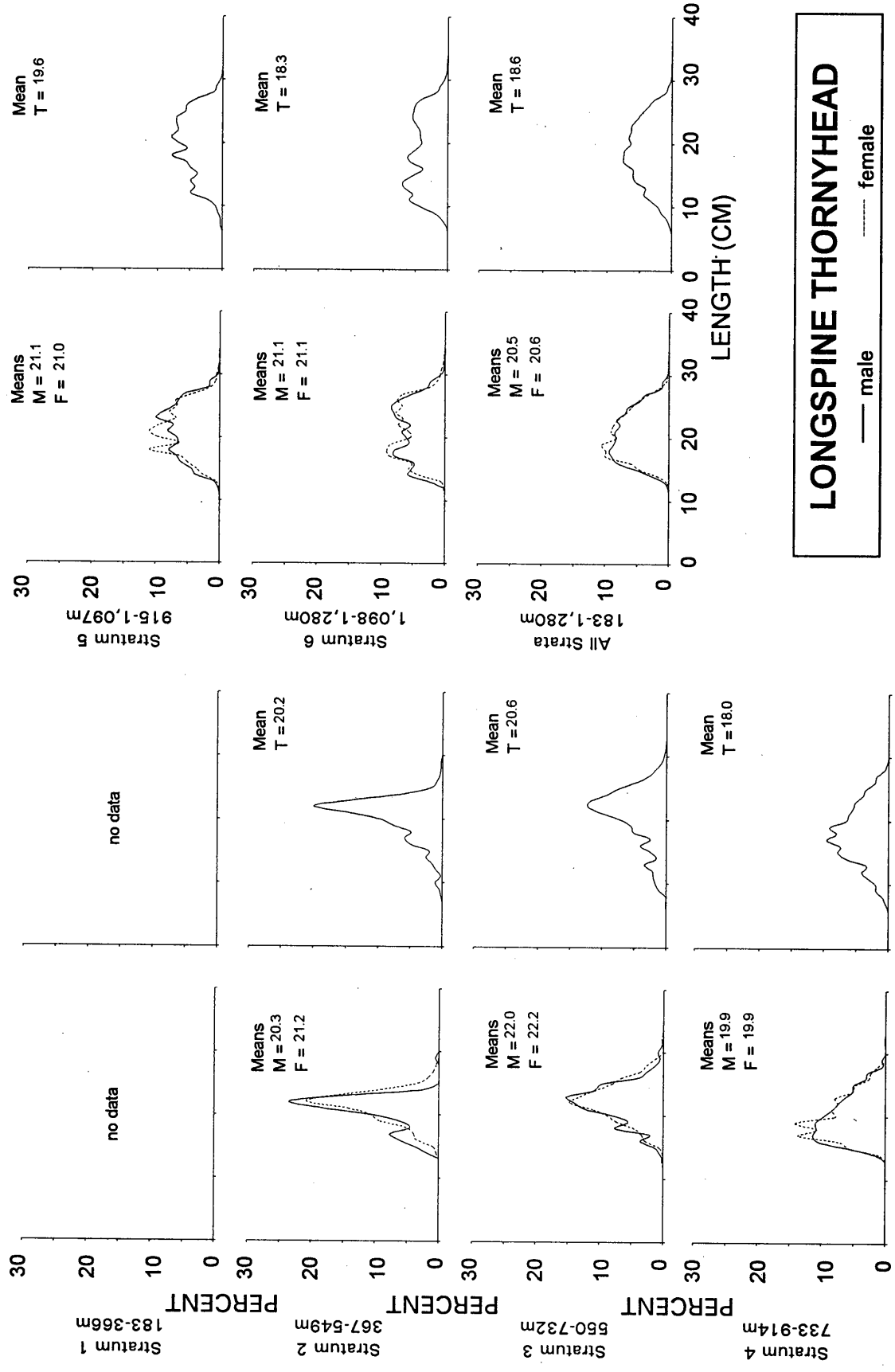


Figure 40.--Estimated population size composition and mean lengths (cm) of longspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

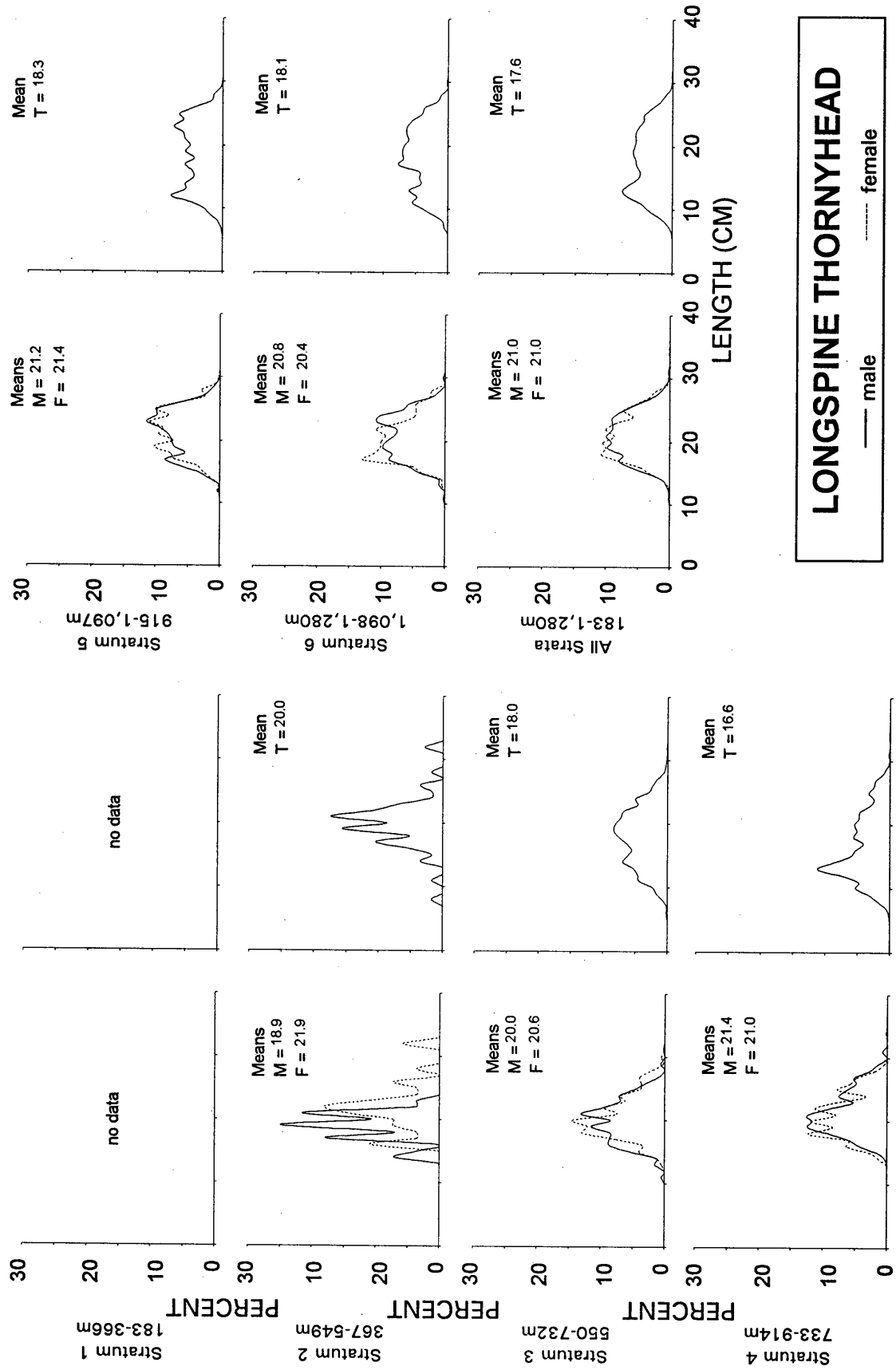


Figure 41.--Estimated population size composition and mean lengths (cm) of longspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

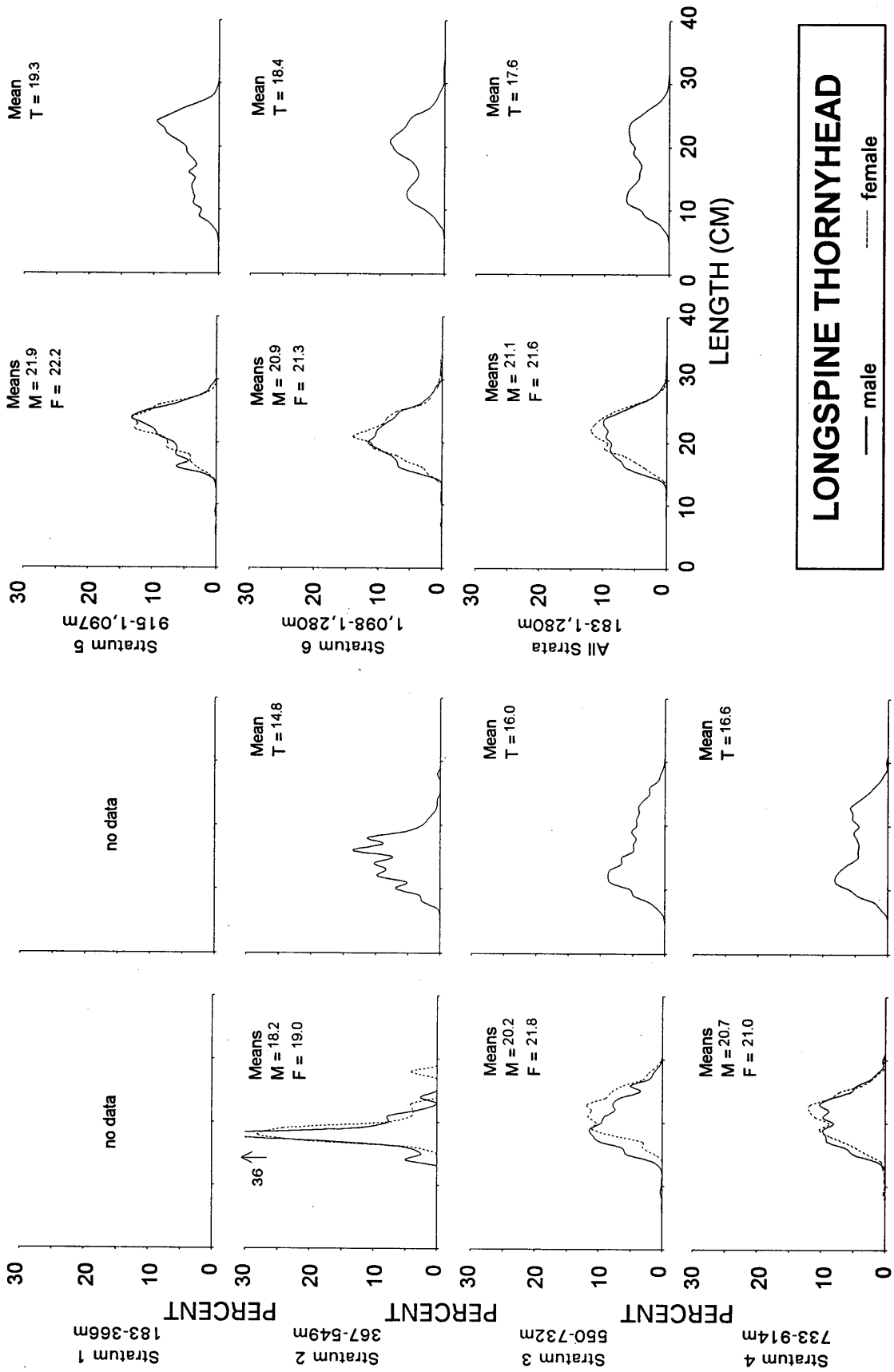


Figure 42.--Estimated population size composition and mean lengths (cm) of longspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

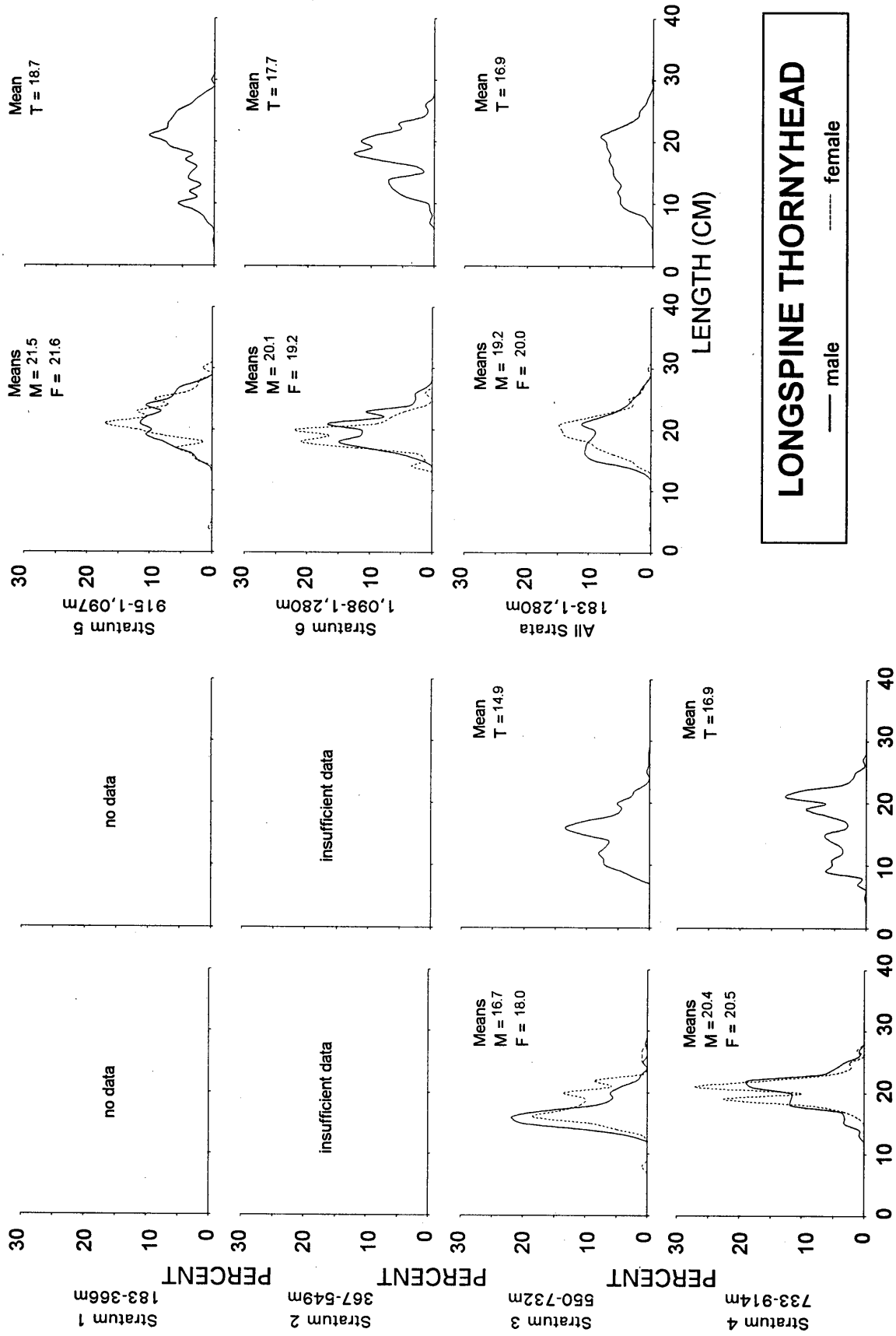


Figure 43.--Estimated population size composition and mean lengths (cm) of longspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

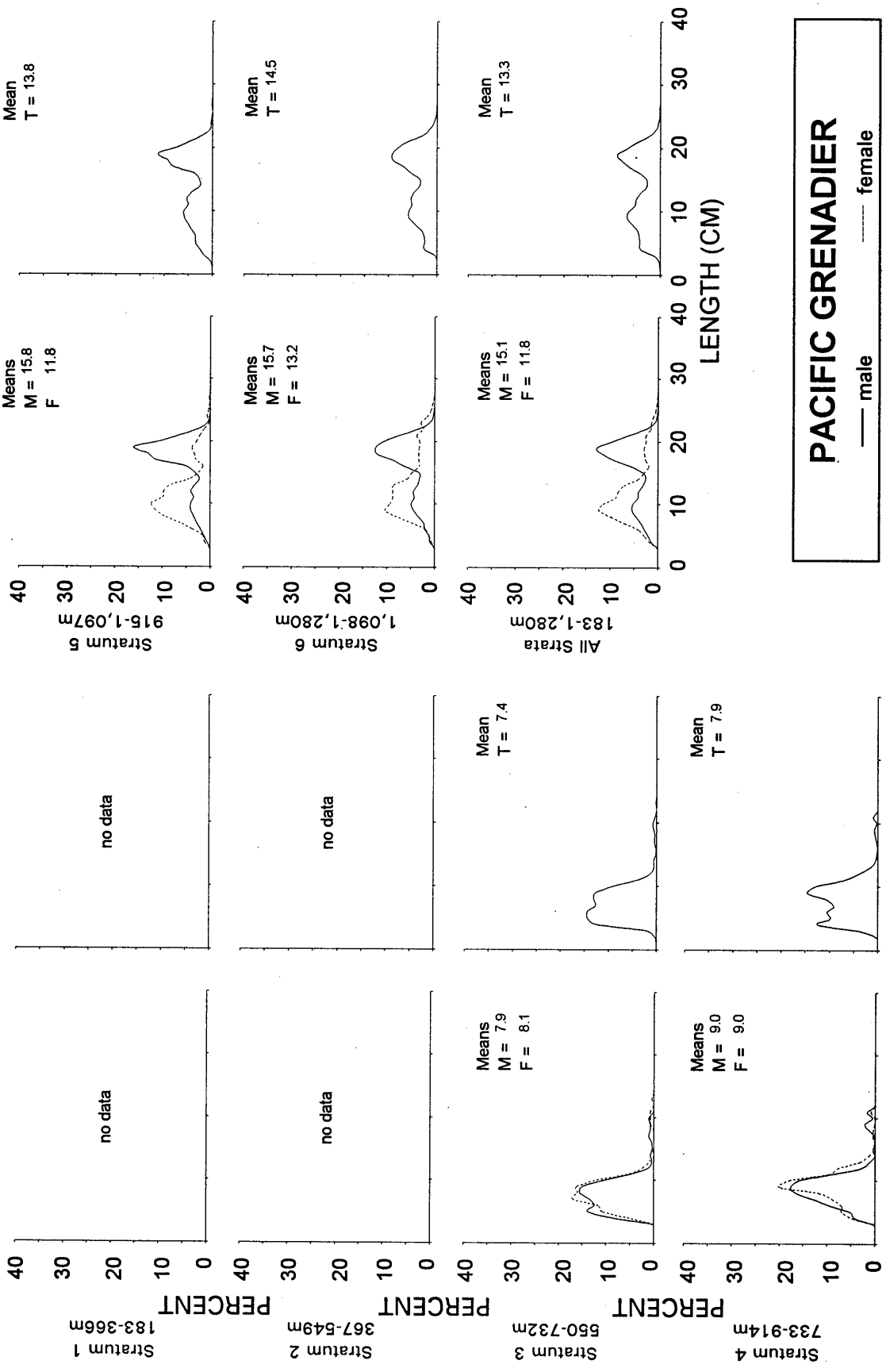


Figure 44.--Estimated population size composition and mean lengths (cm) of Pacific grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

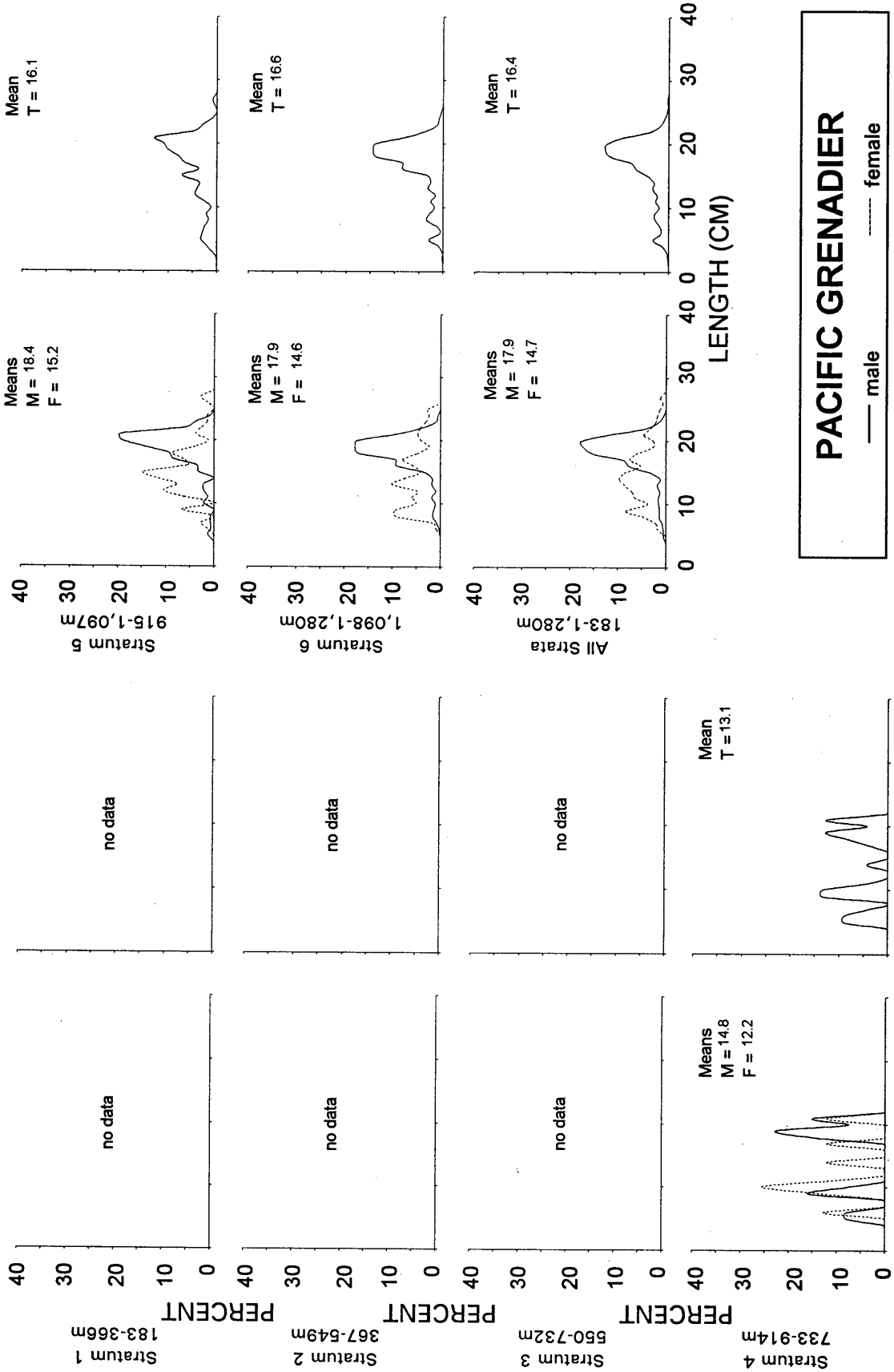


Figure 45.--Estimated population size composition and mean lengths (cm) of Pacific grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

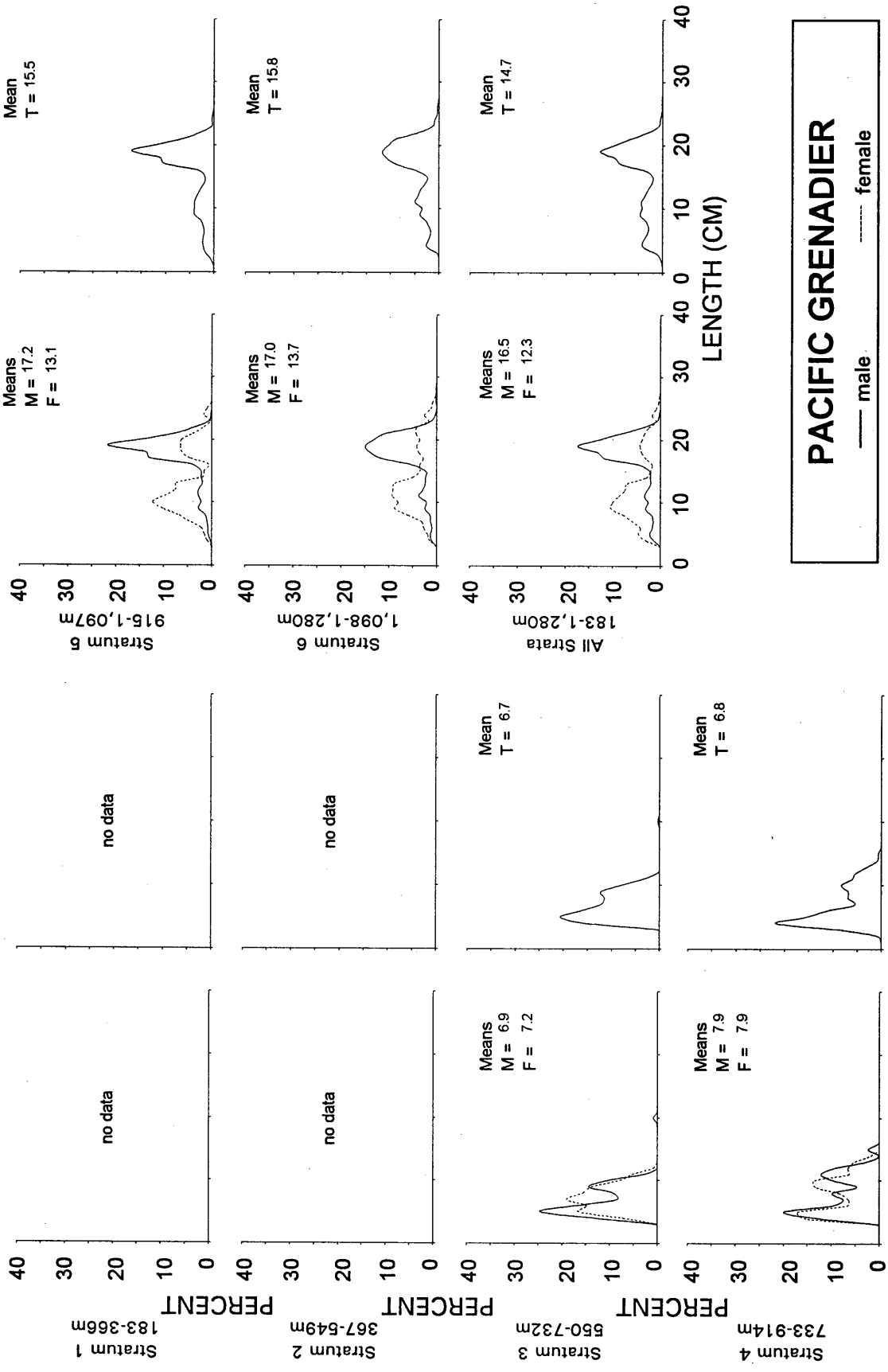


Figure 46.--Estimated population size composition and mean lengths (cm) of Pacific grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

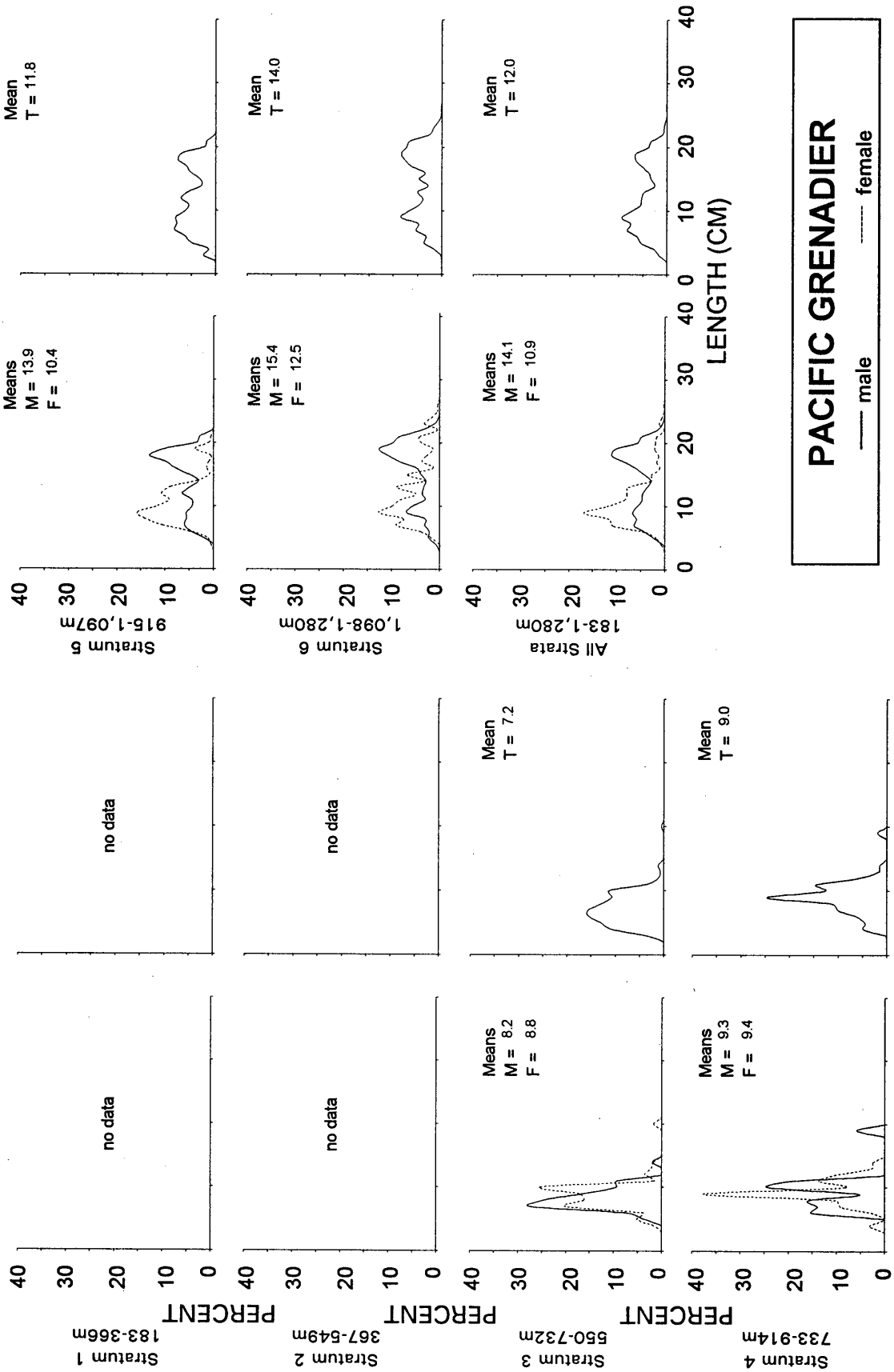


Figure 47.--Estimated population size composition and mean lengths (cm) of Pacific grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

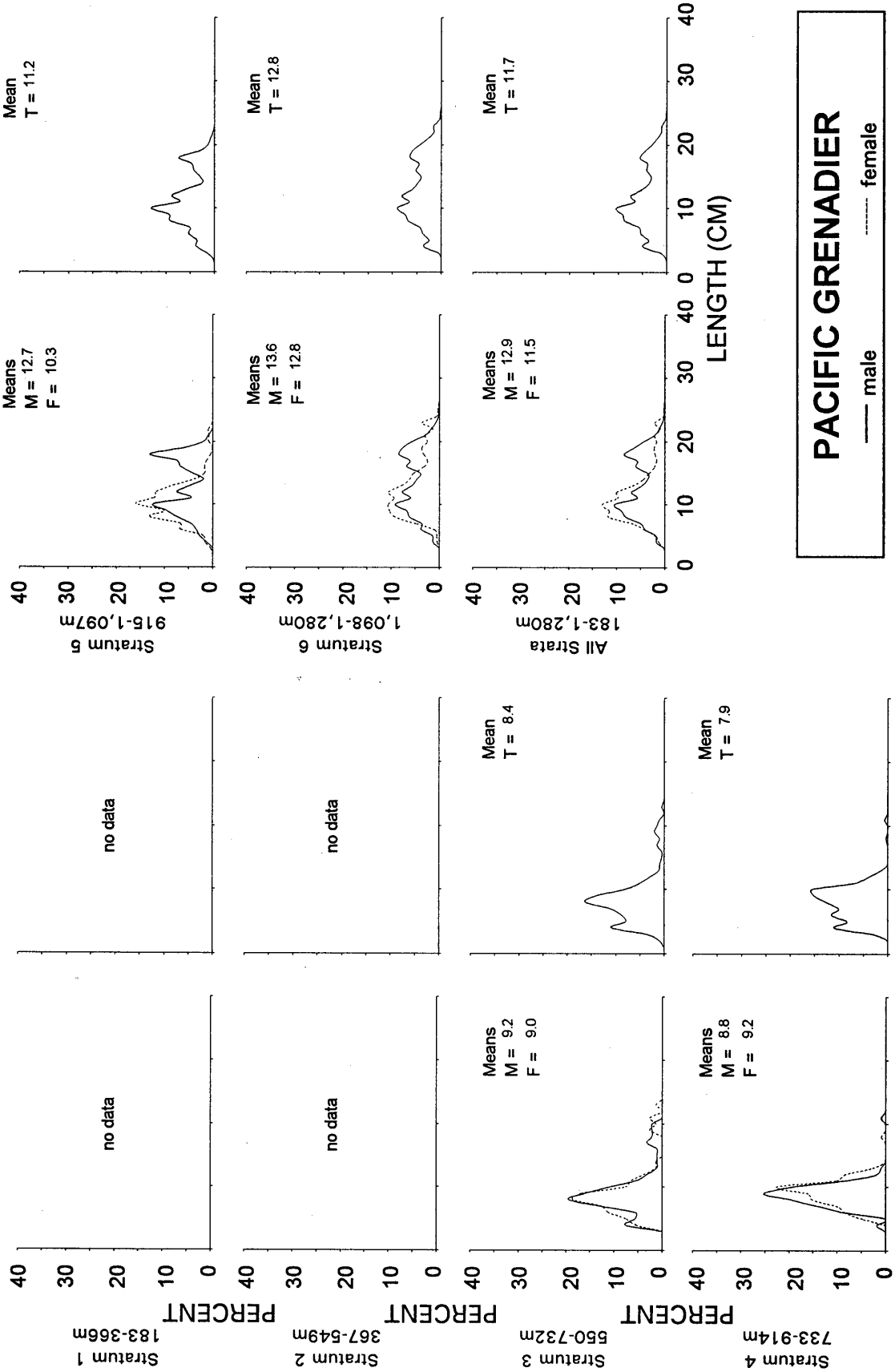


Figure 48.--Estimated population size composition and mean lengths (cm) of Pacific grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

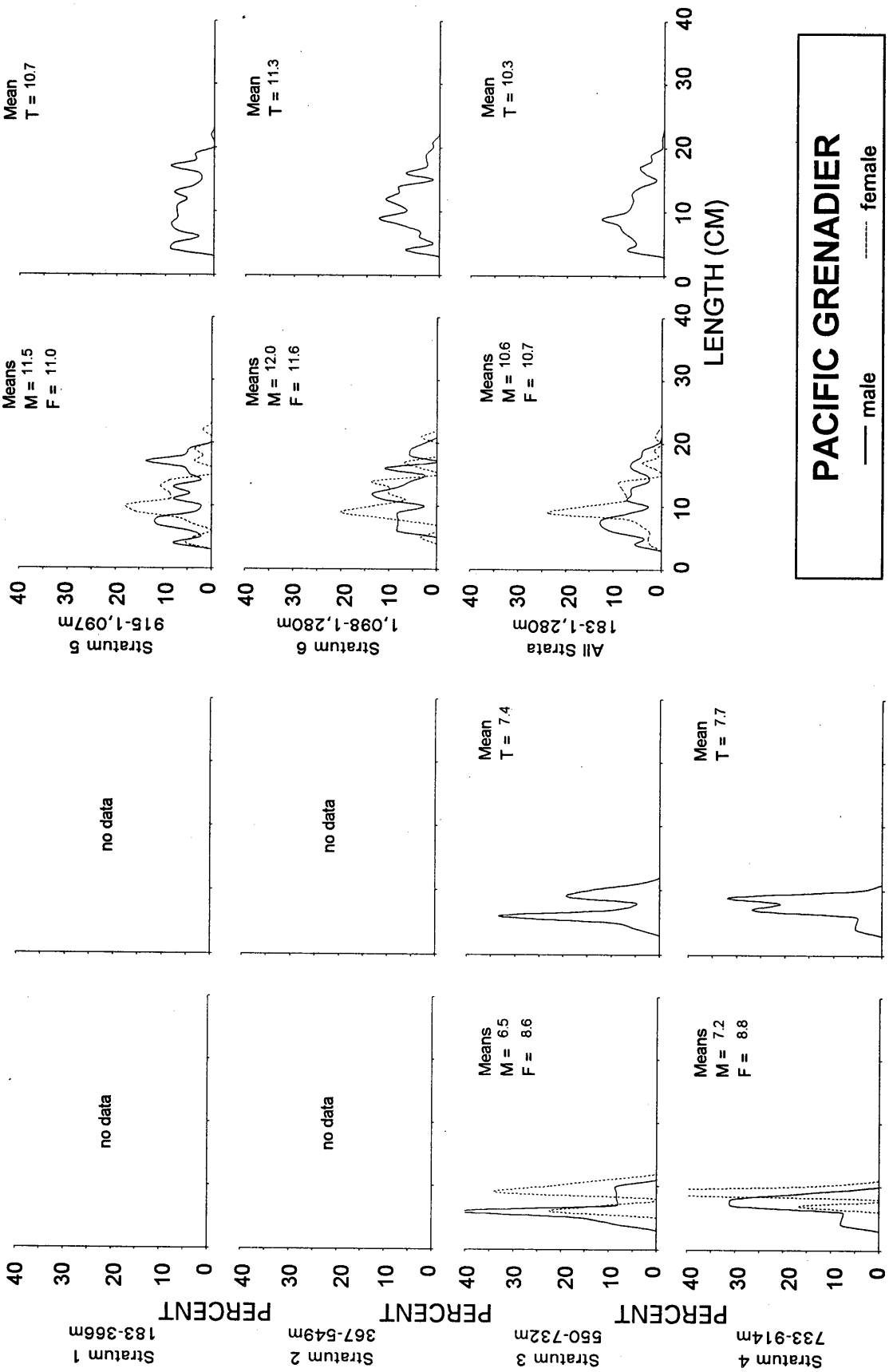


Figure 49.--Estimated population size composition and mean lengths (cm) of Pacific grenadier by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

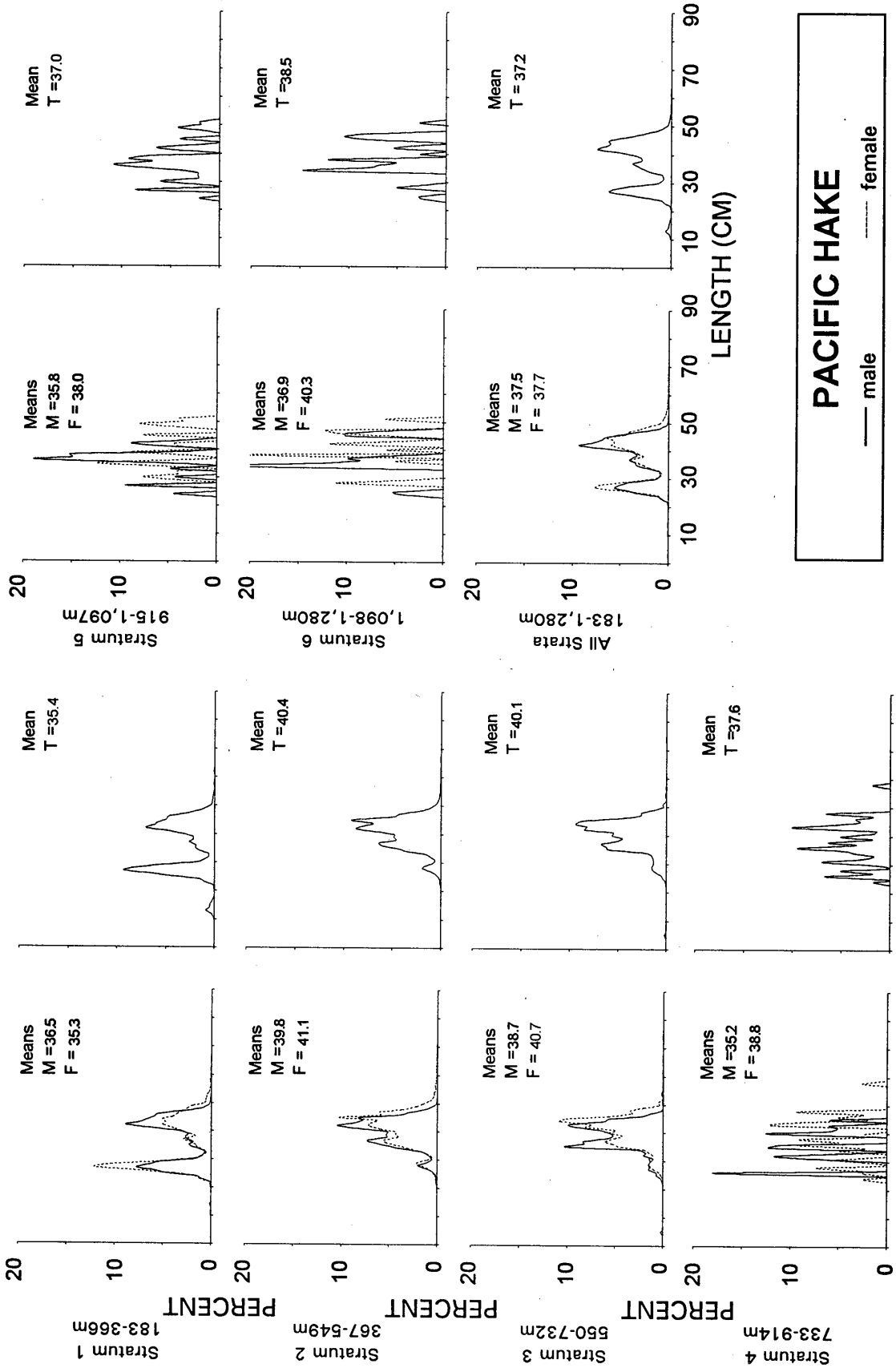


Figure 50.--Estimated population size composition and mean lengths (cm) of Pacific hake by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

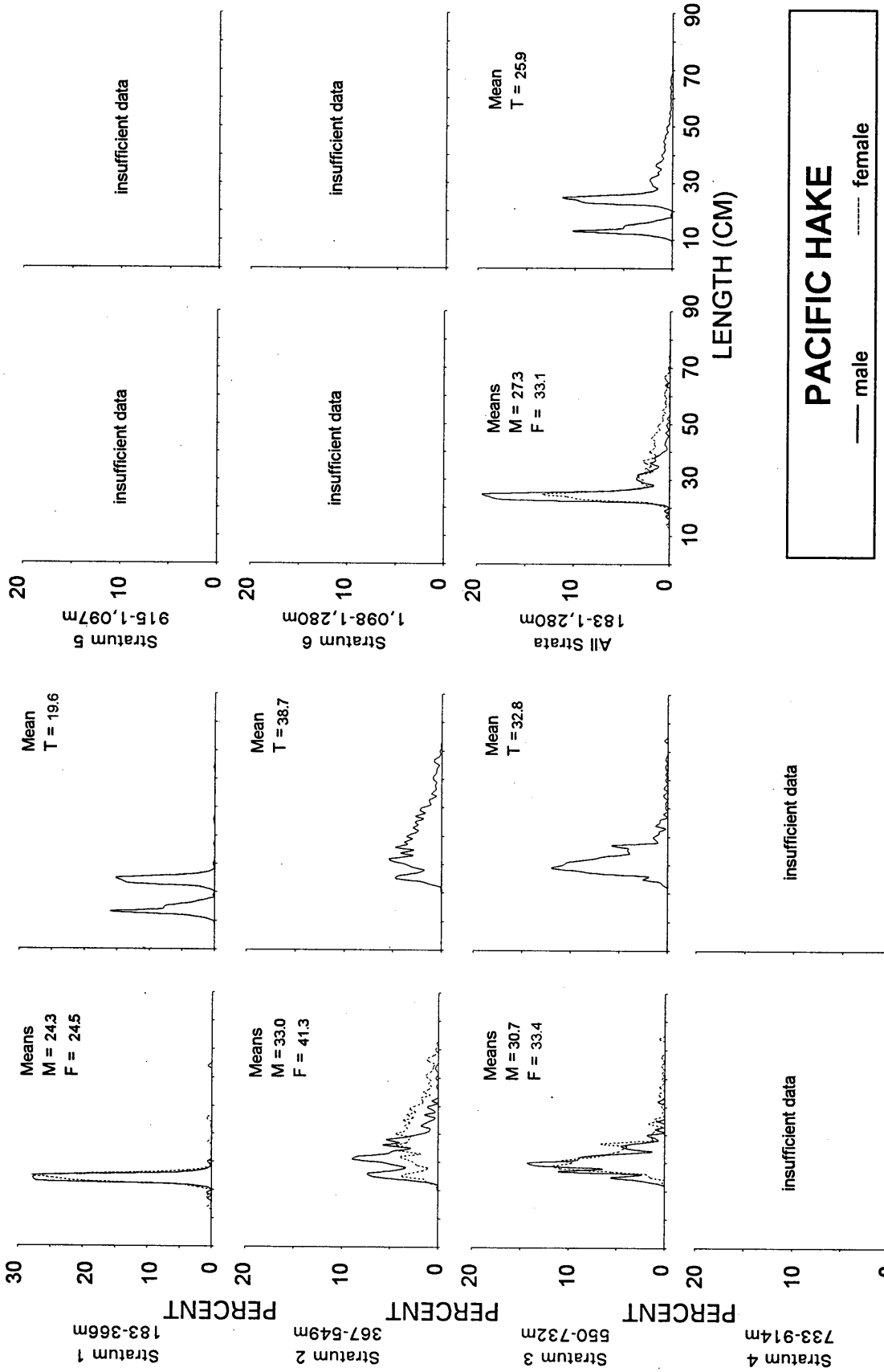


Figure 51.--Estimated population size composition and mean lengths (cm) of Pacific hake by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

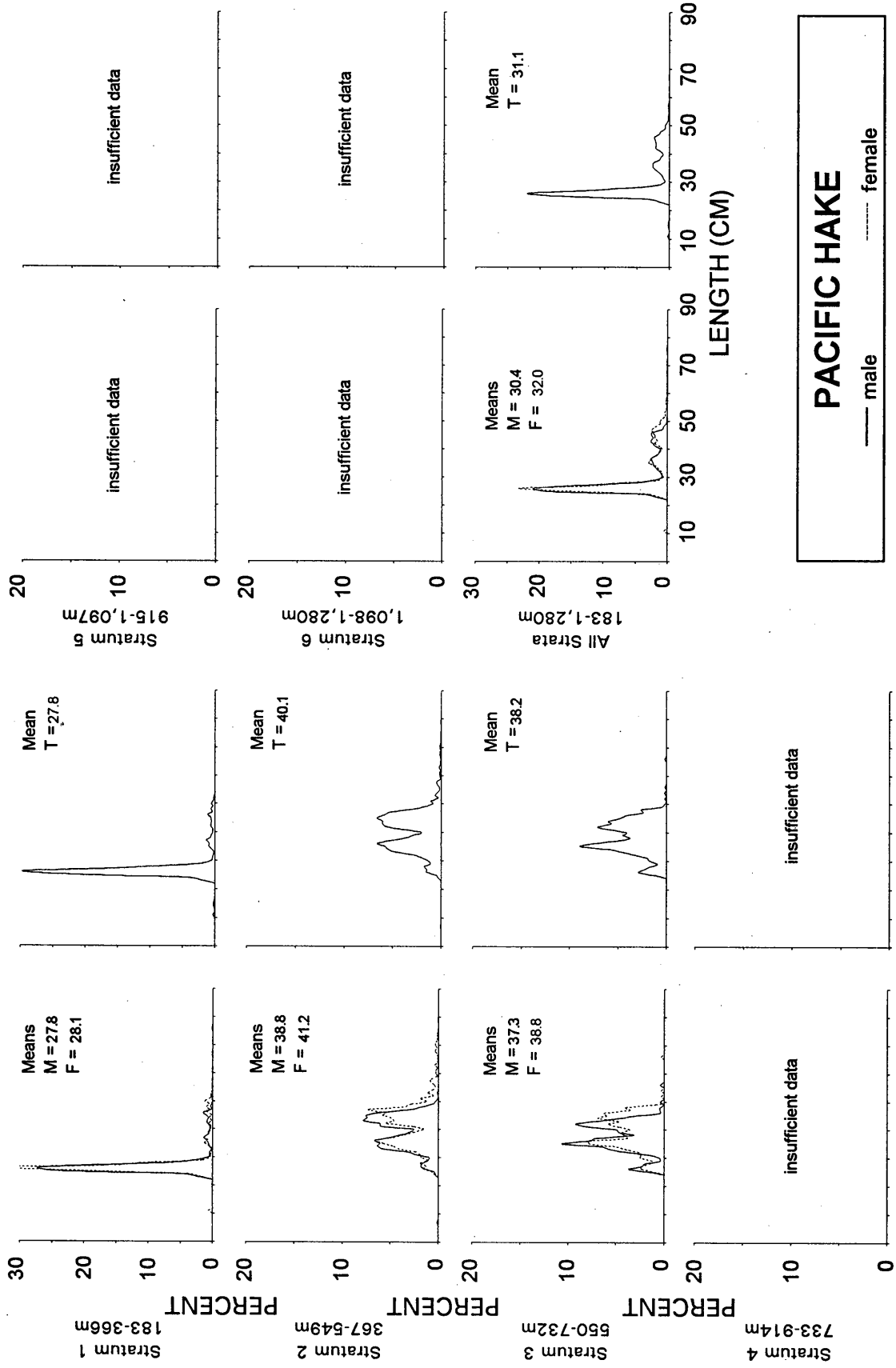


Figure 52.--Estimated population size composition and mean lengths (cm) of Pacific hake by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

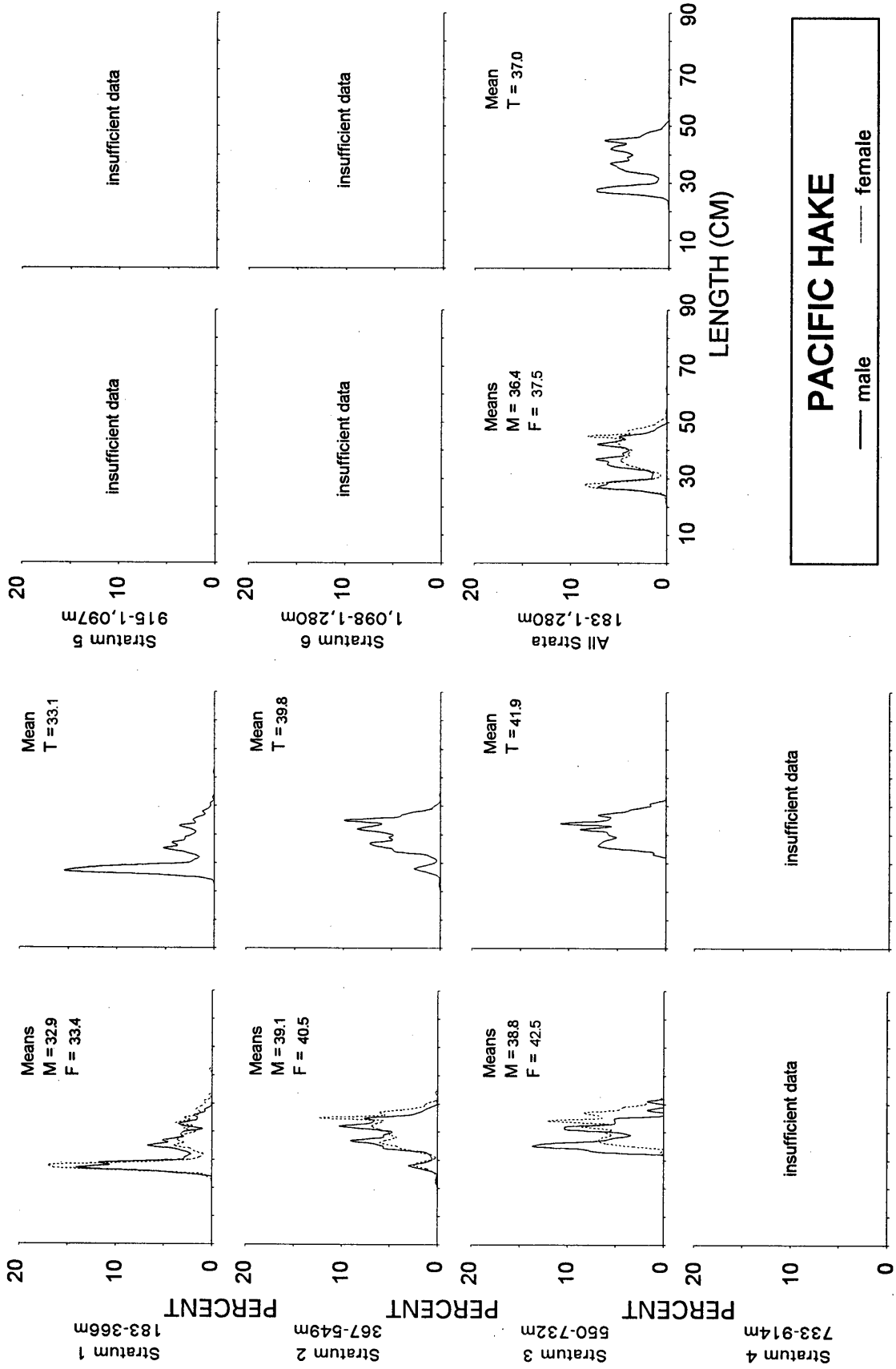


Figure 53.--Estimated population size composition and mean lengths (cm) of Pacific hake by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

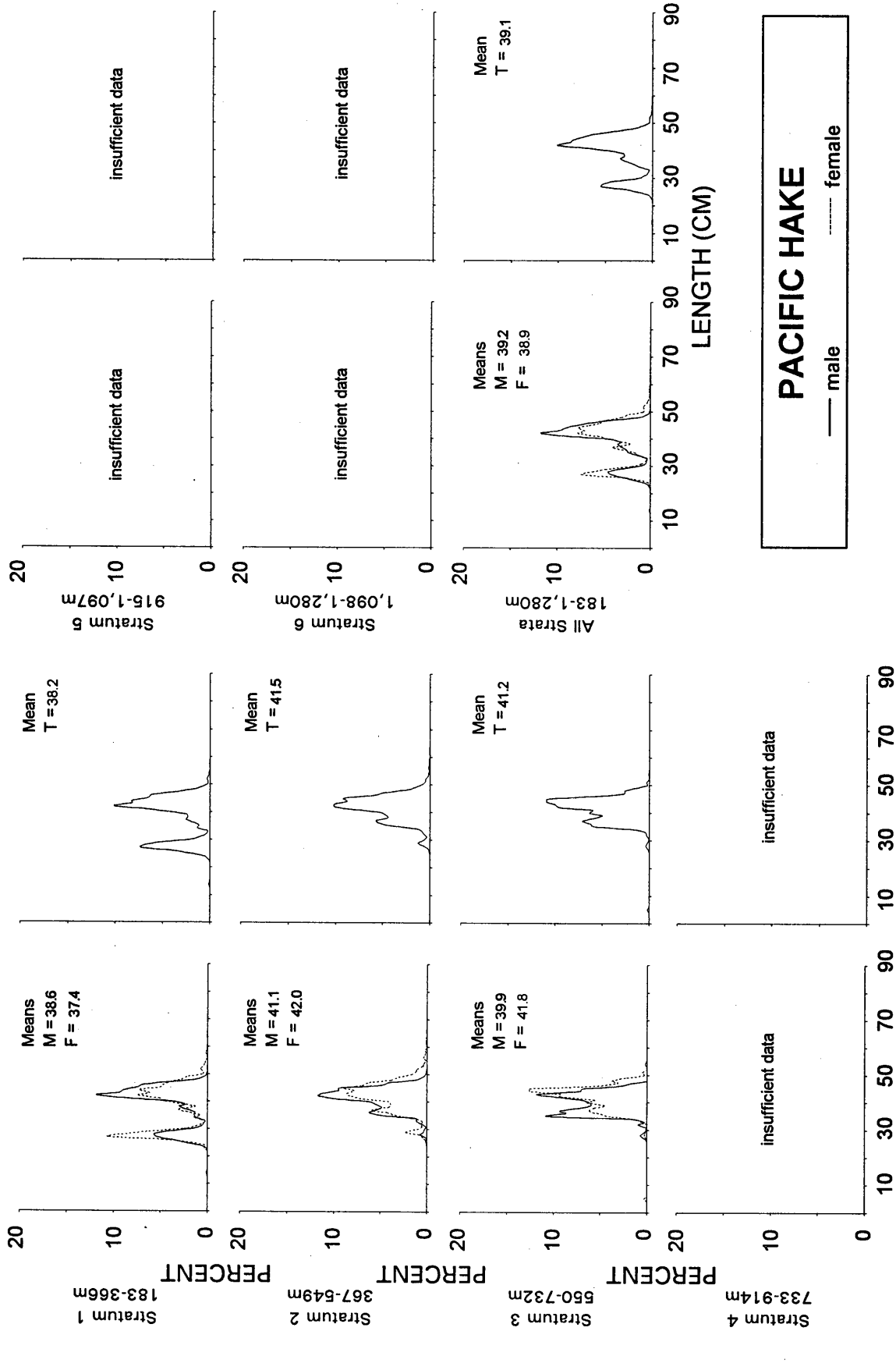


Figure 54.--Estimated population size composition and mean lengths (cm) of Pacific hake by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

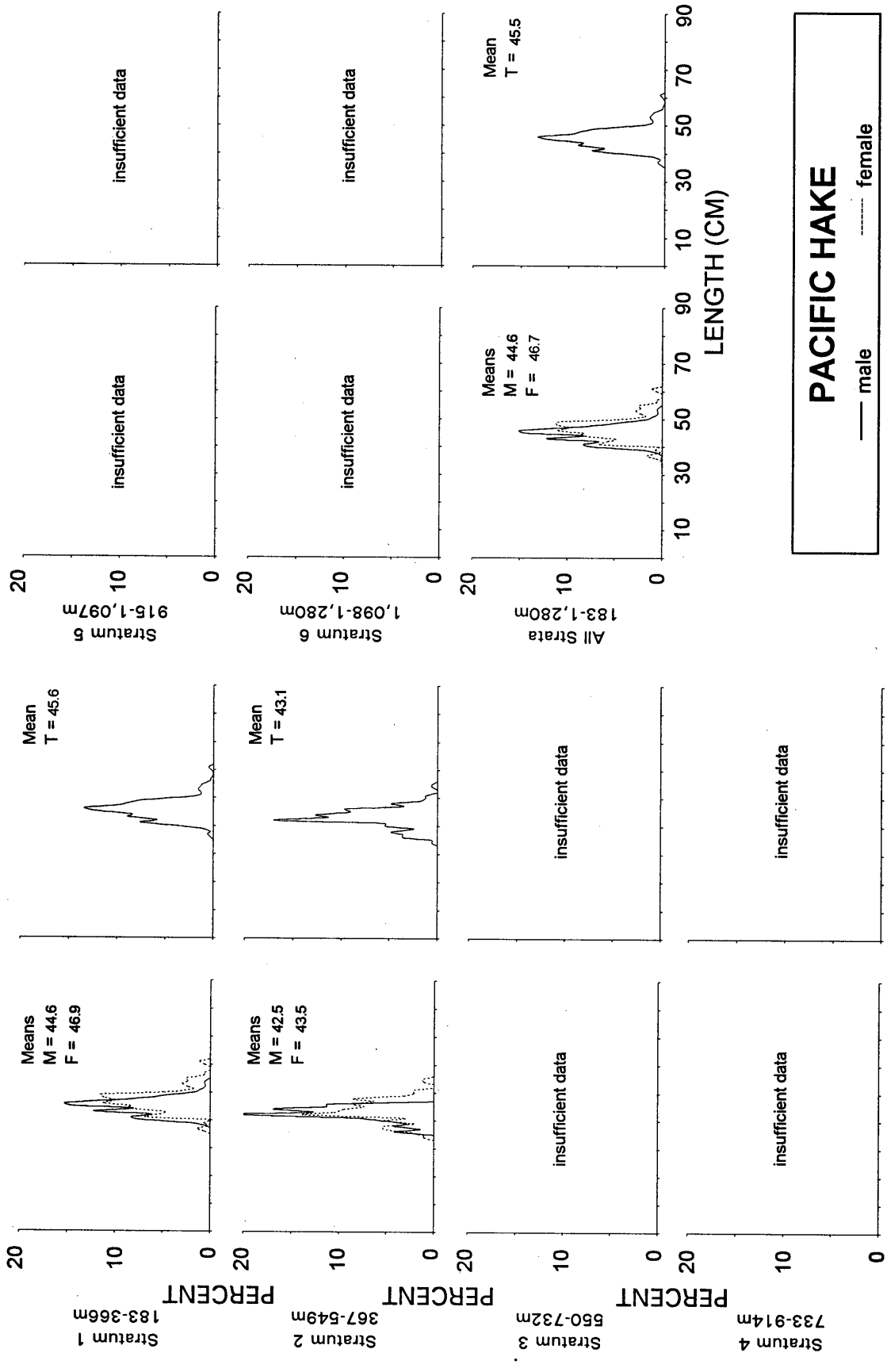


Figure 55.--Estimated population size composition and mean lengths (cm) of Pacific hake by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

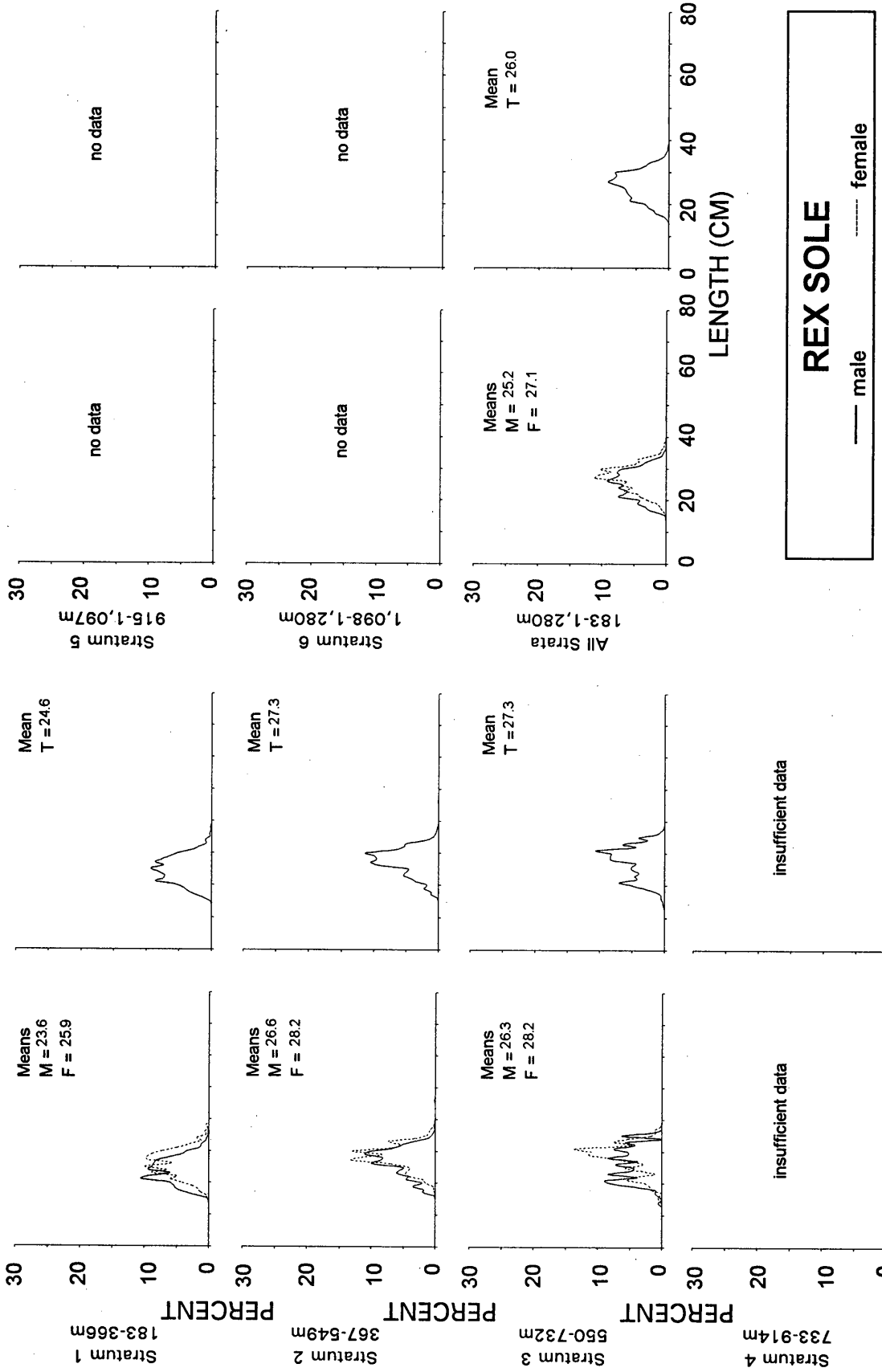


Figure 56.--Estimated population size composition and mean lengths (cm) of rex sole by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

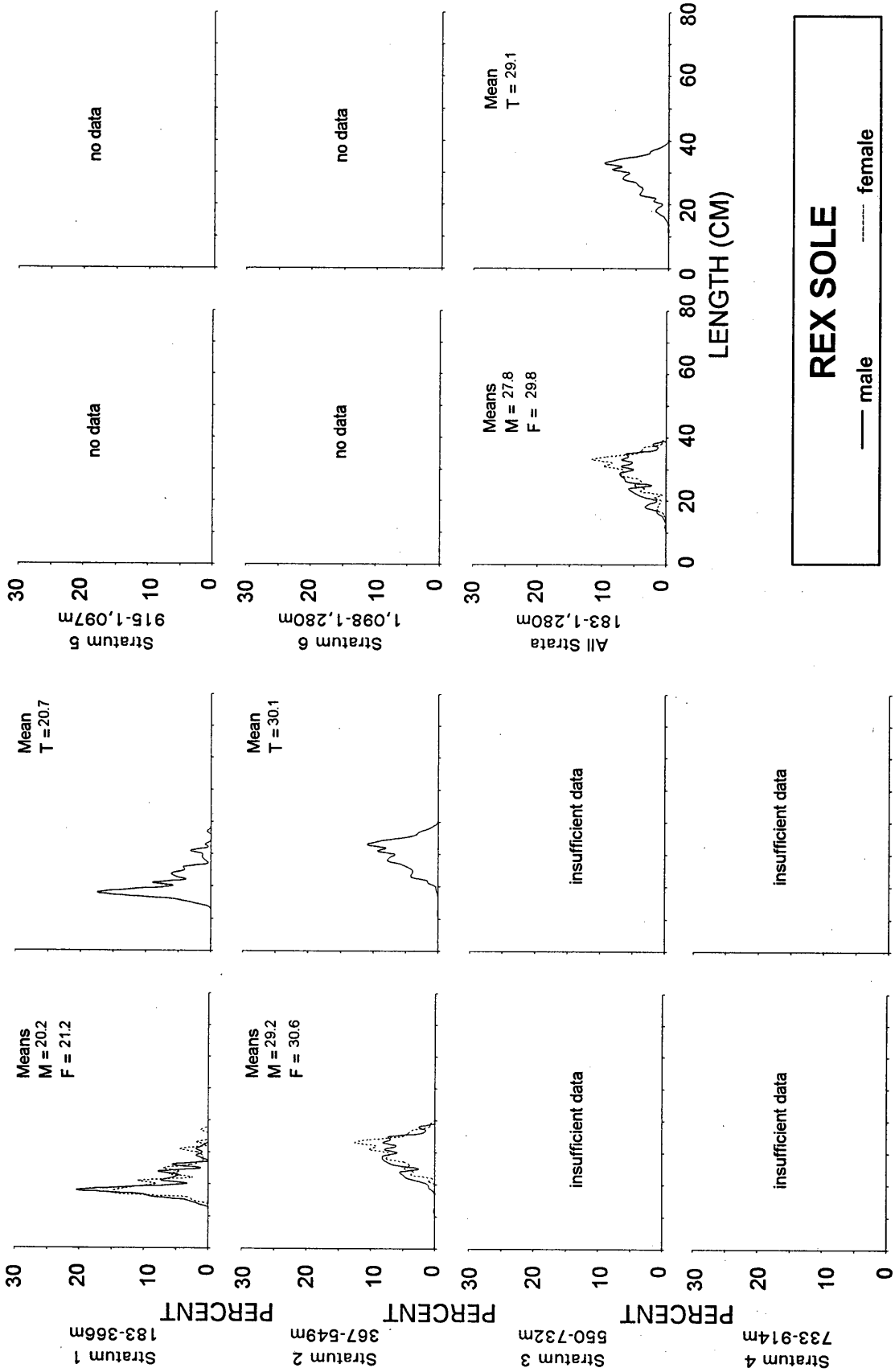


Figure 57.--Estimated population size composition and mean lengths (cm) of rex sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

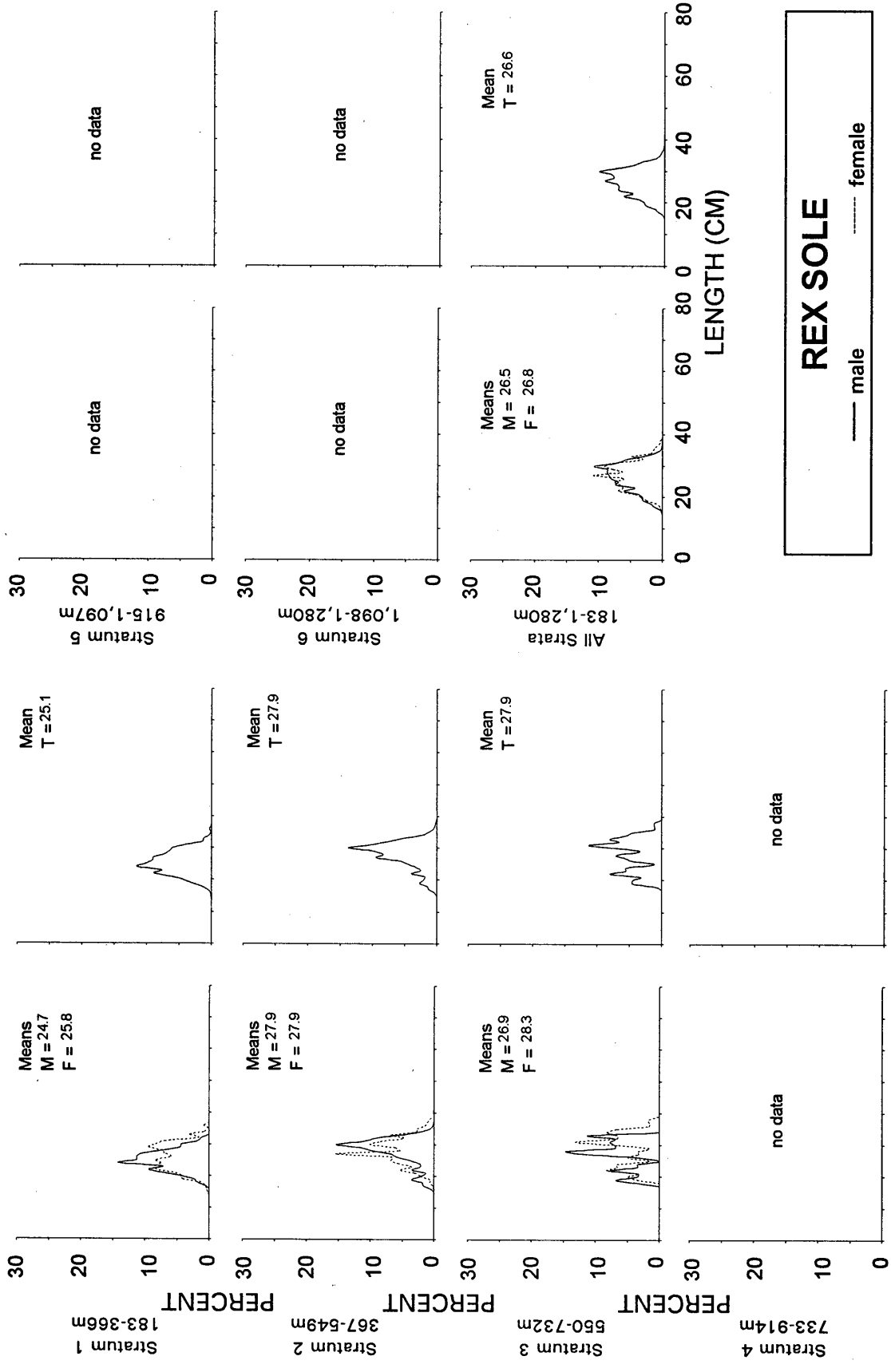


Figure 58.--Estimated population size composition and mean lengths (cm) of rex sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

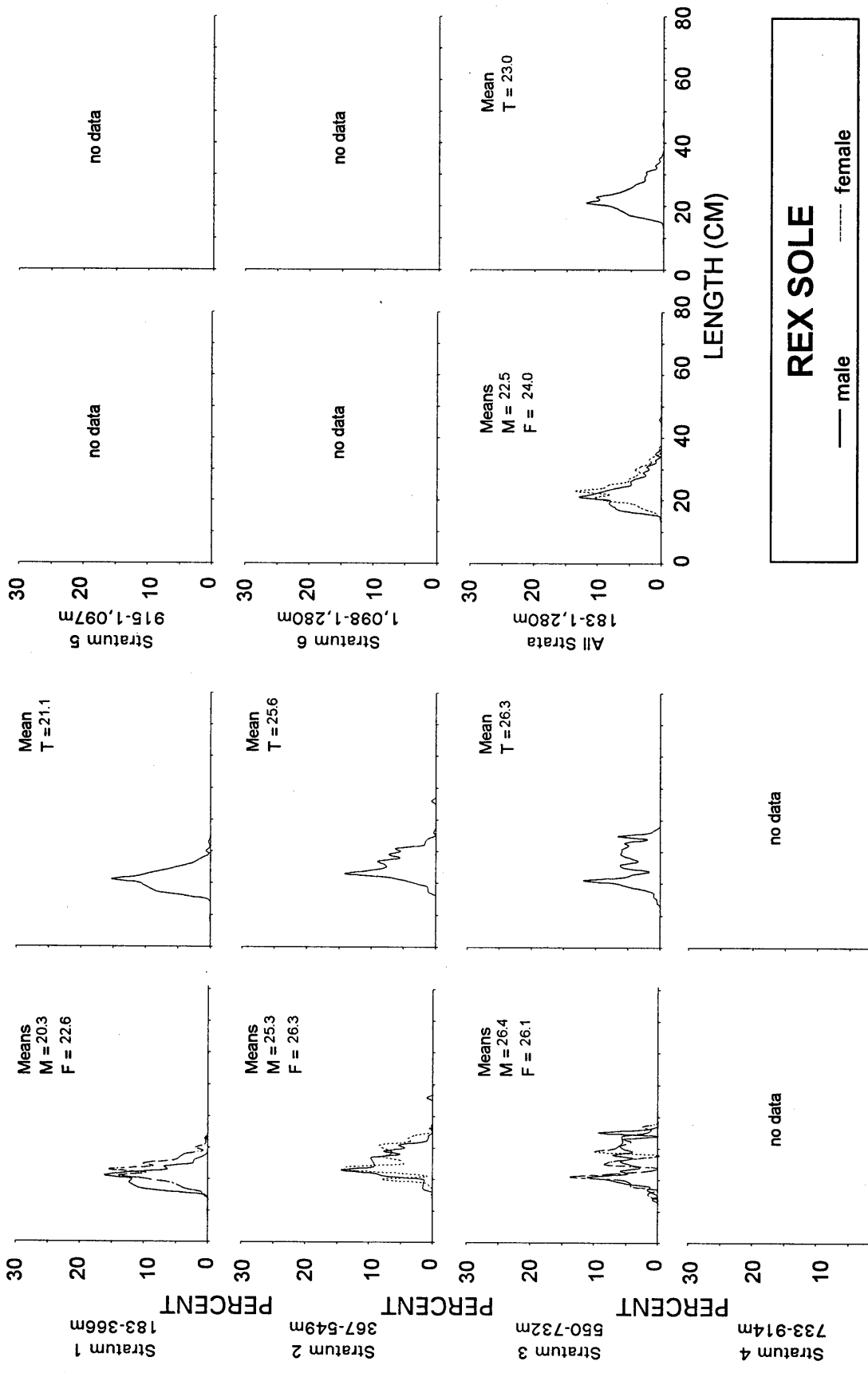


Figure 59.--Estimated population size composition and mean lengths (cm) of rex sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

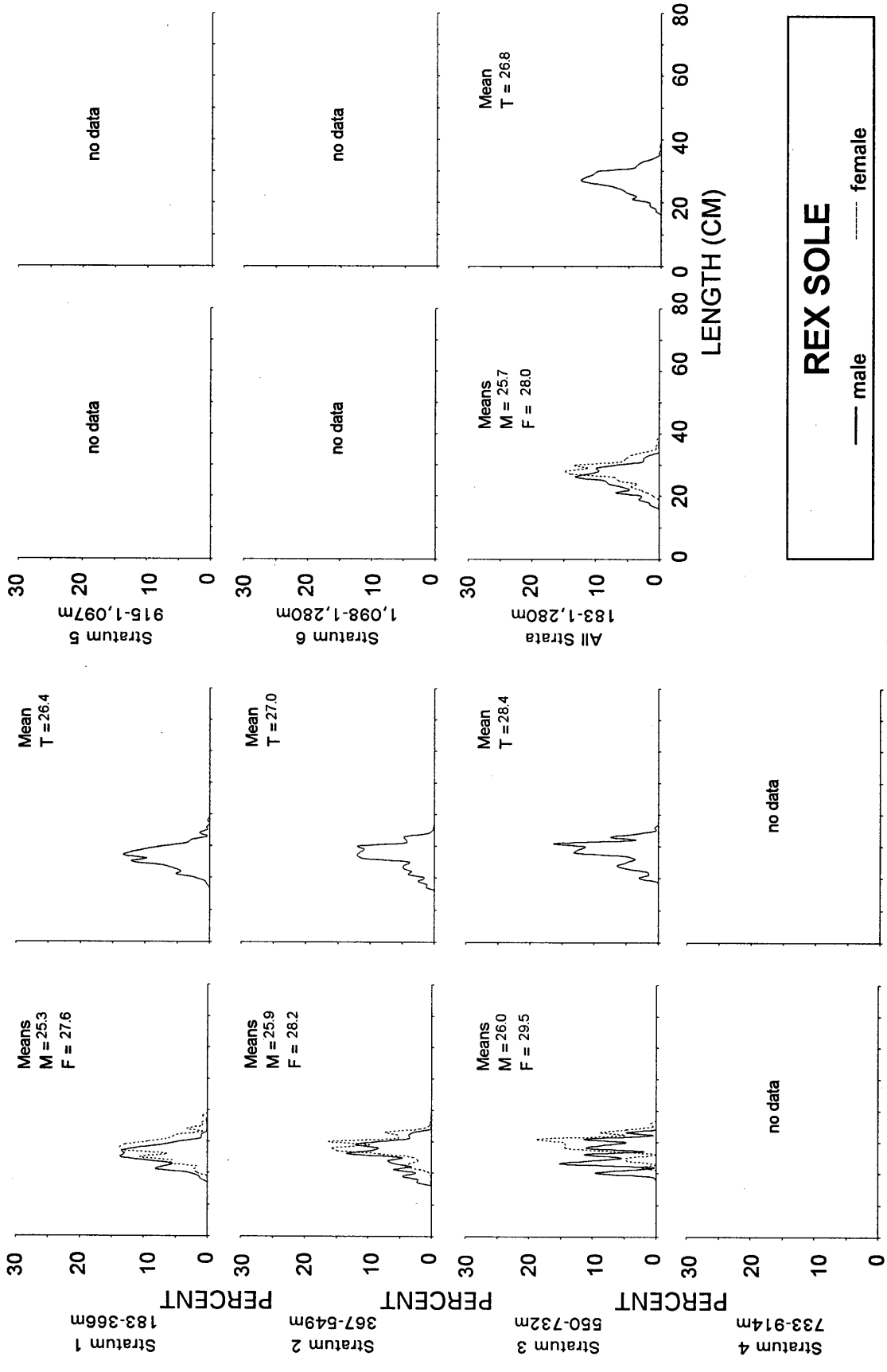


Figure 60.--Estimated population size composition and mean lengths (cm) of rex sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

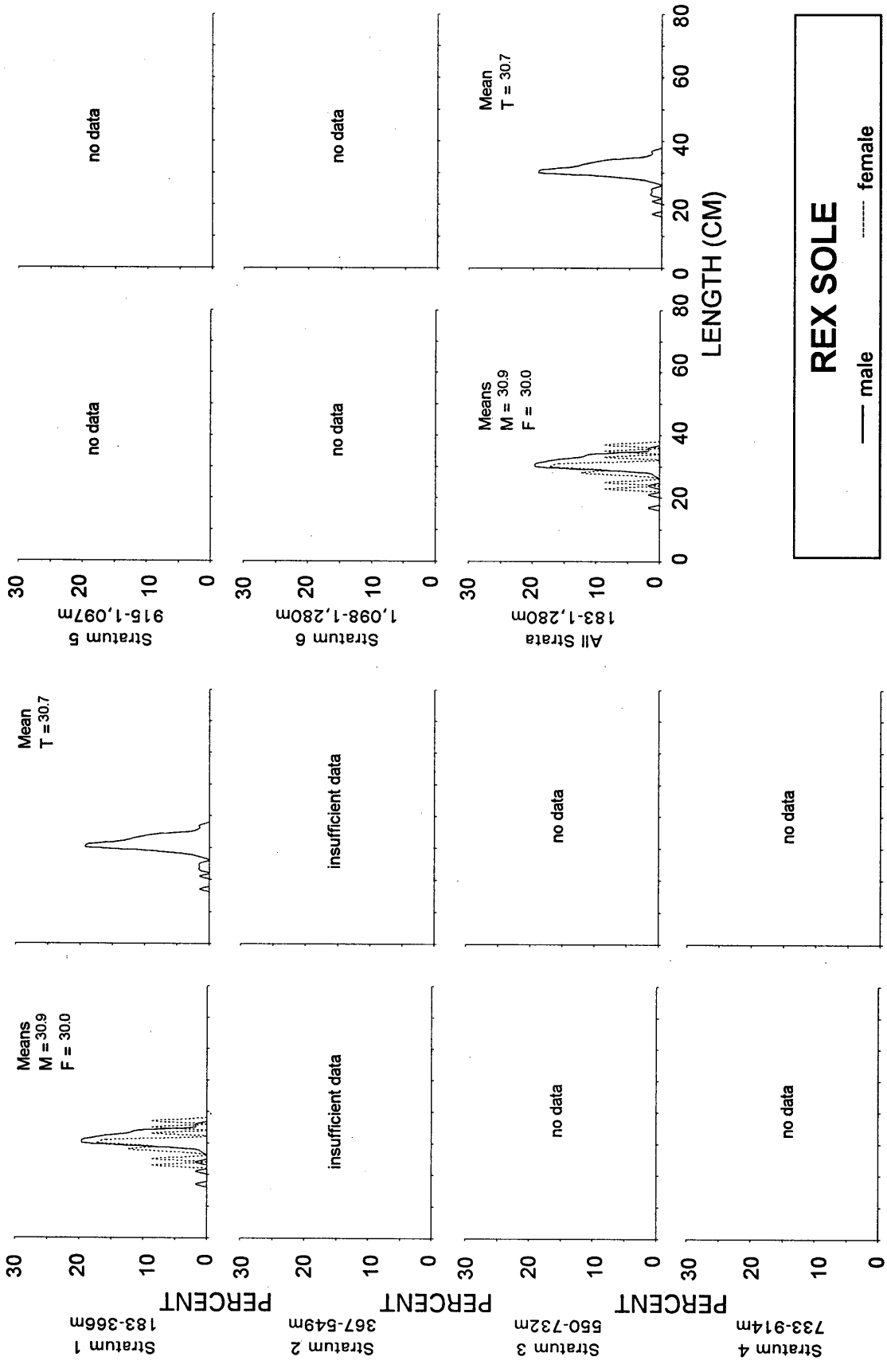


Figure 61.--Estimated population size composition and mean lengths (cm) of rex sole by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

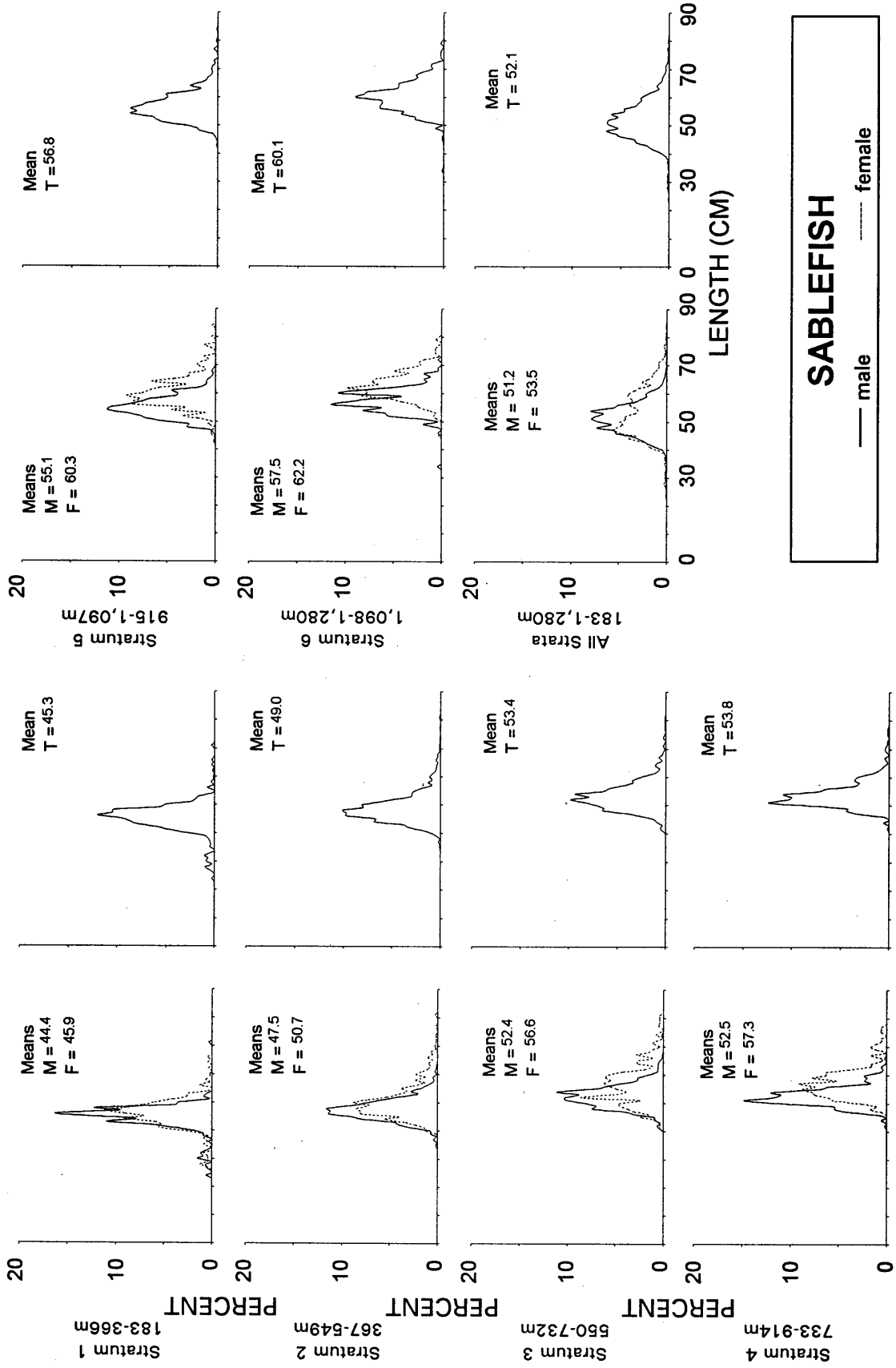


Figure 62.--Estimated population size composition and mean lengths (cm) of sablefish by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

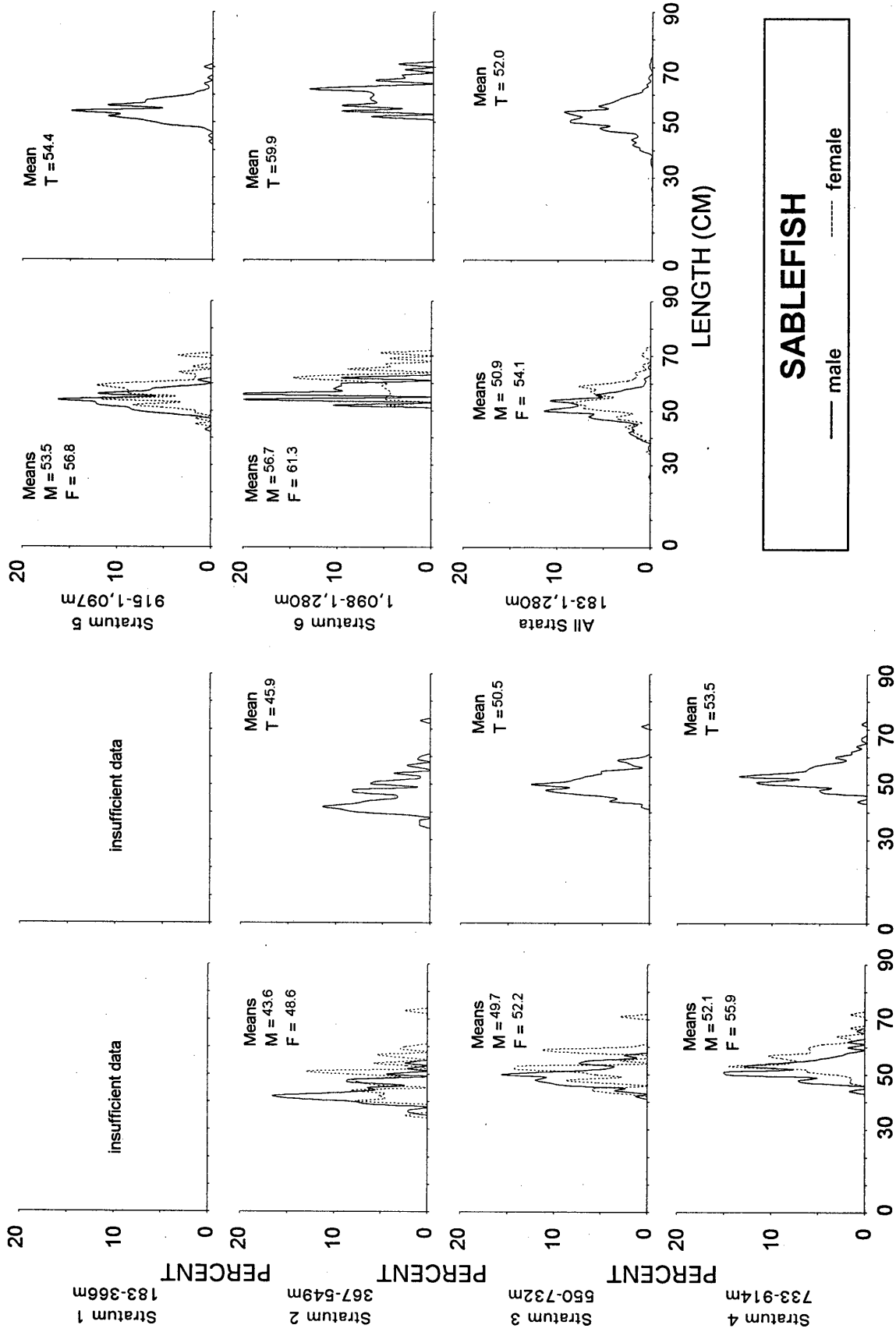


Figure 63.--Estimated population size composition and mean lengths (cm) of sablefish by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

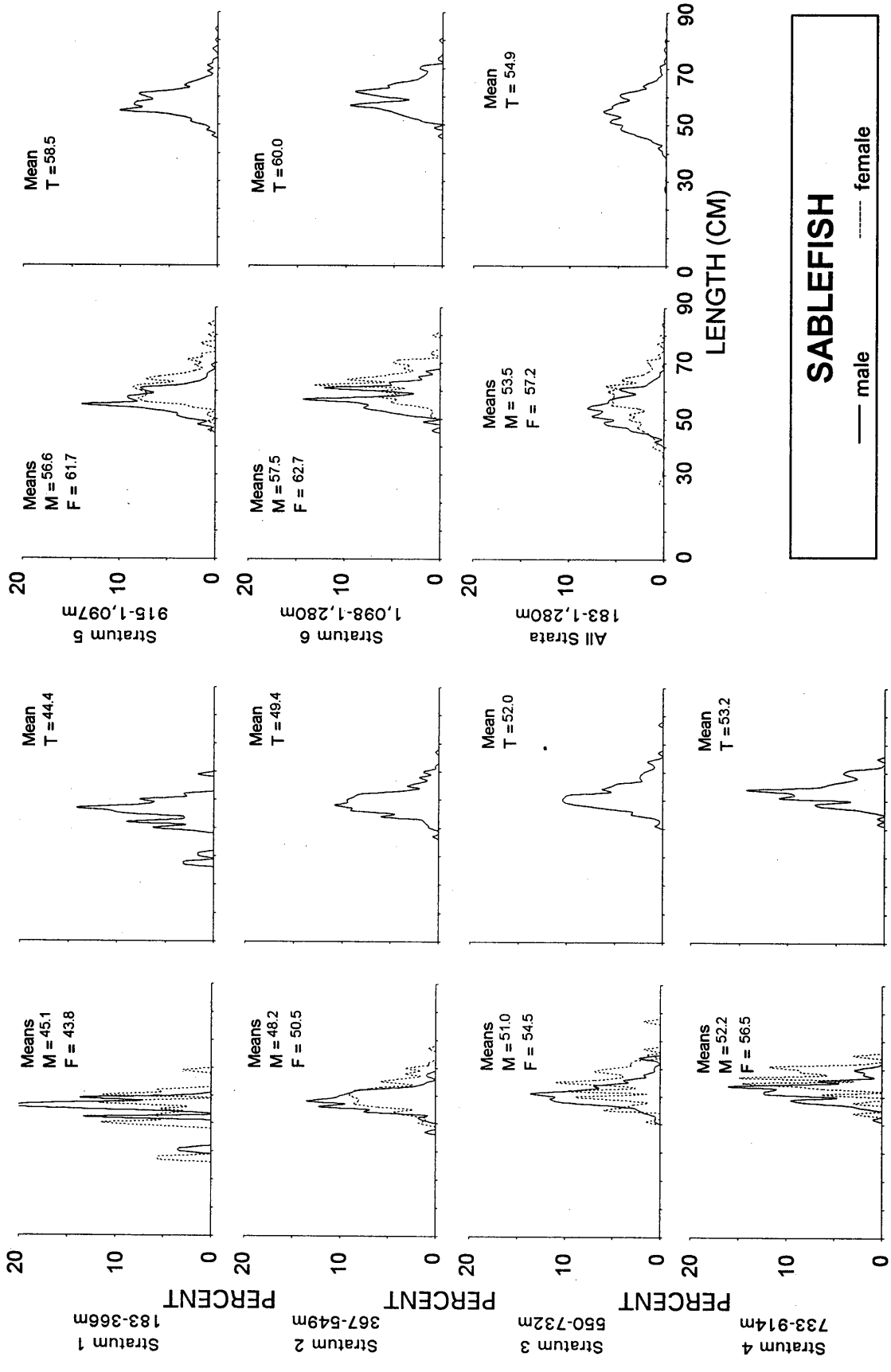


Figure 64.--Estimated population size composition and mean lengths (cm) of sablefish by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

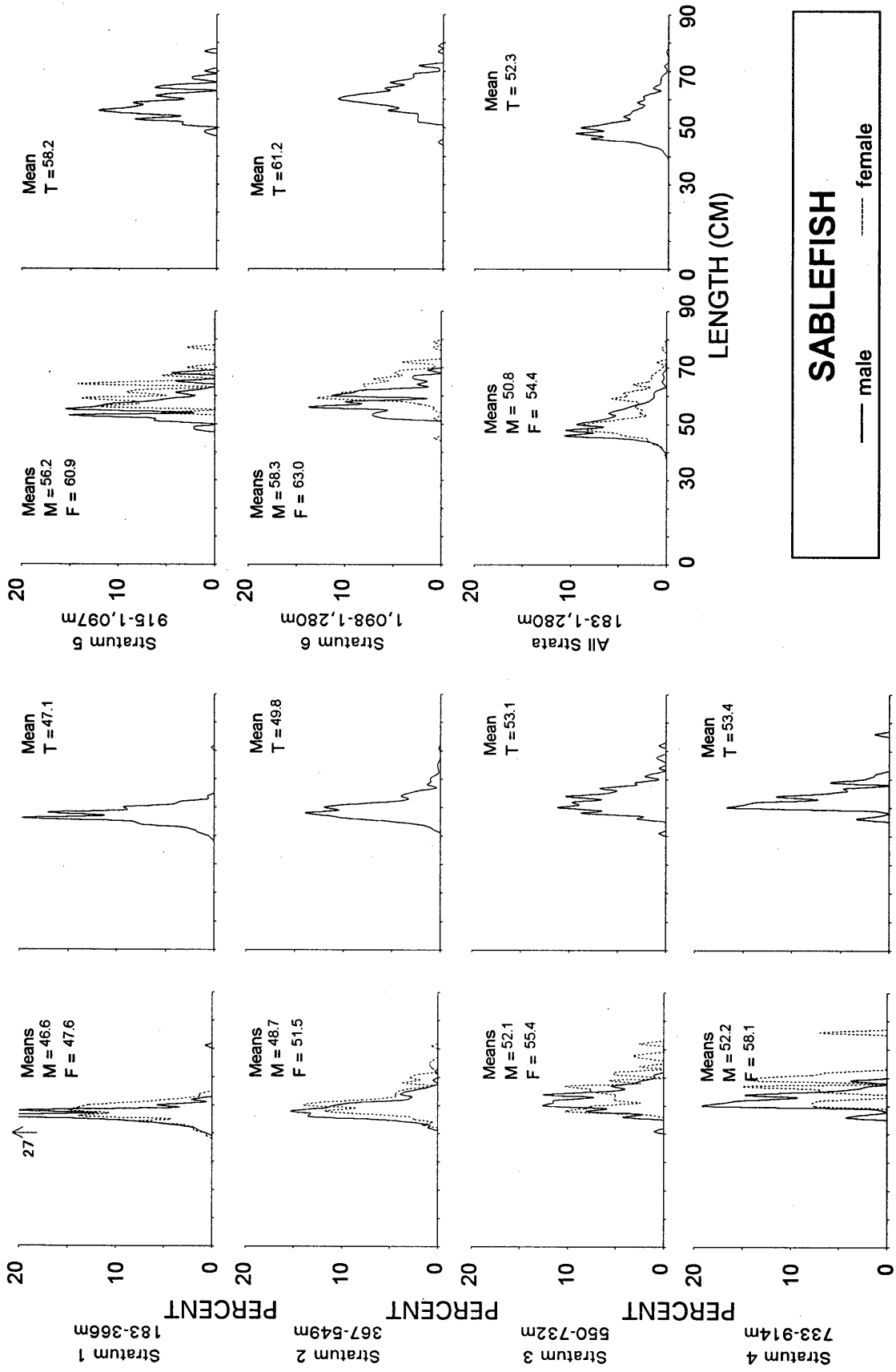


Figure 65.--Estimated population size composition and mean lengths (cm) of sablefish by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

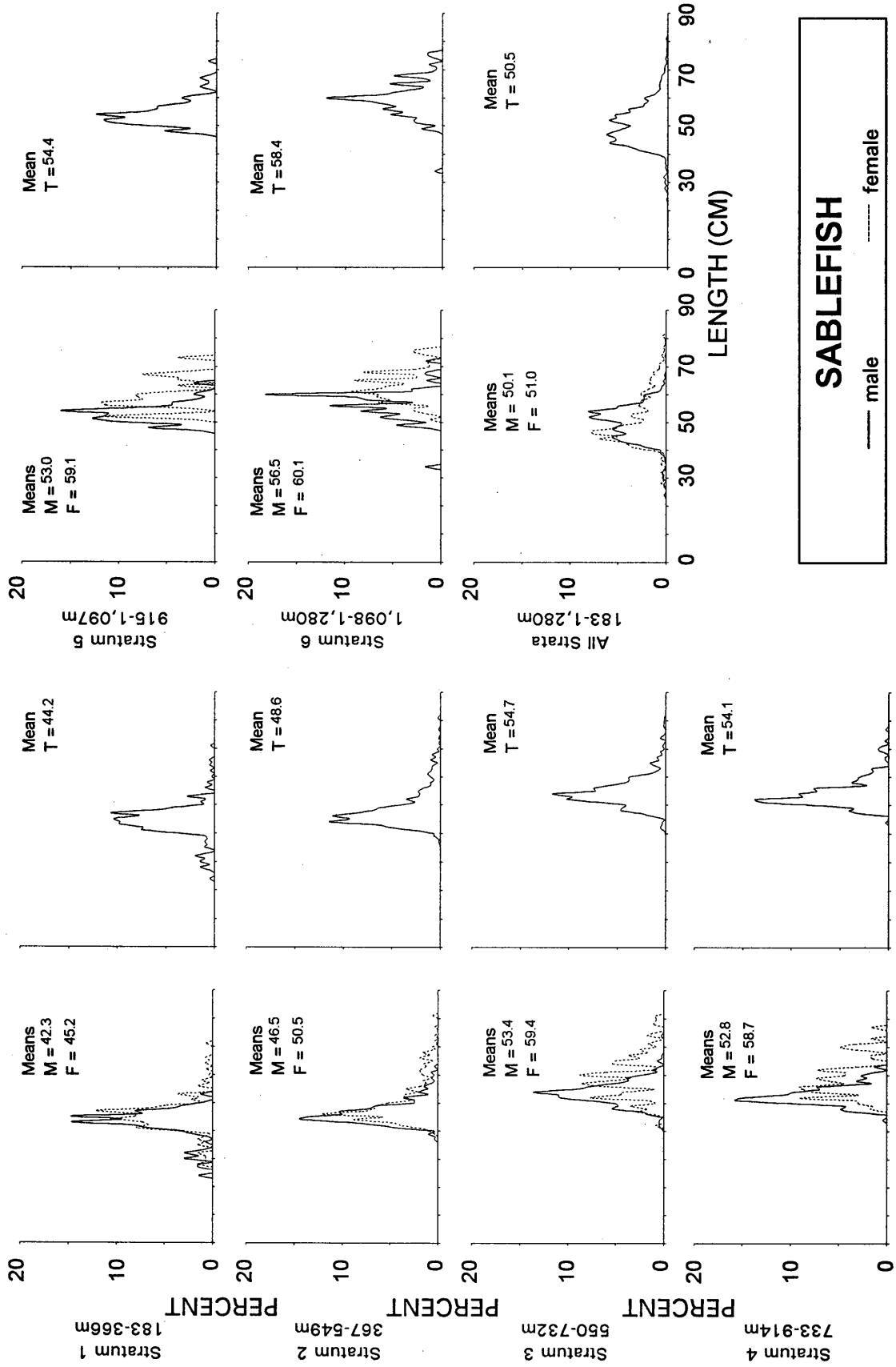


Figure 66.--Estimated population size composition and mean lengths (cm) of sablefish by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

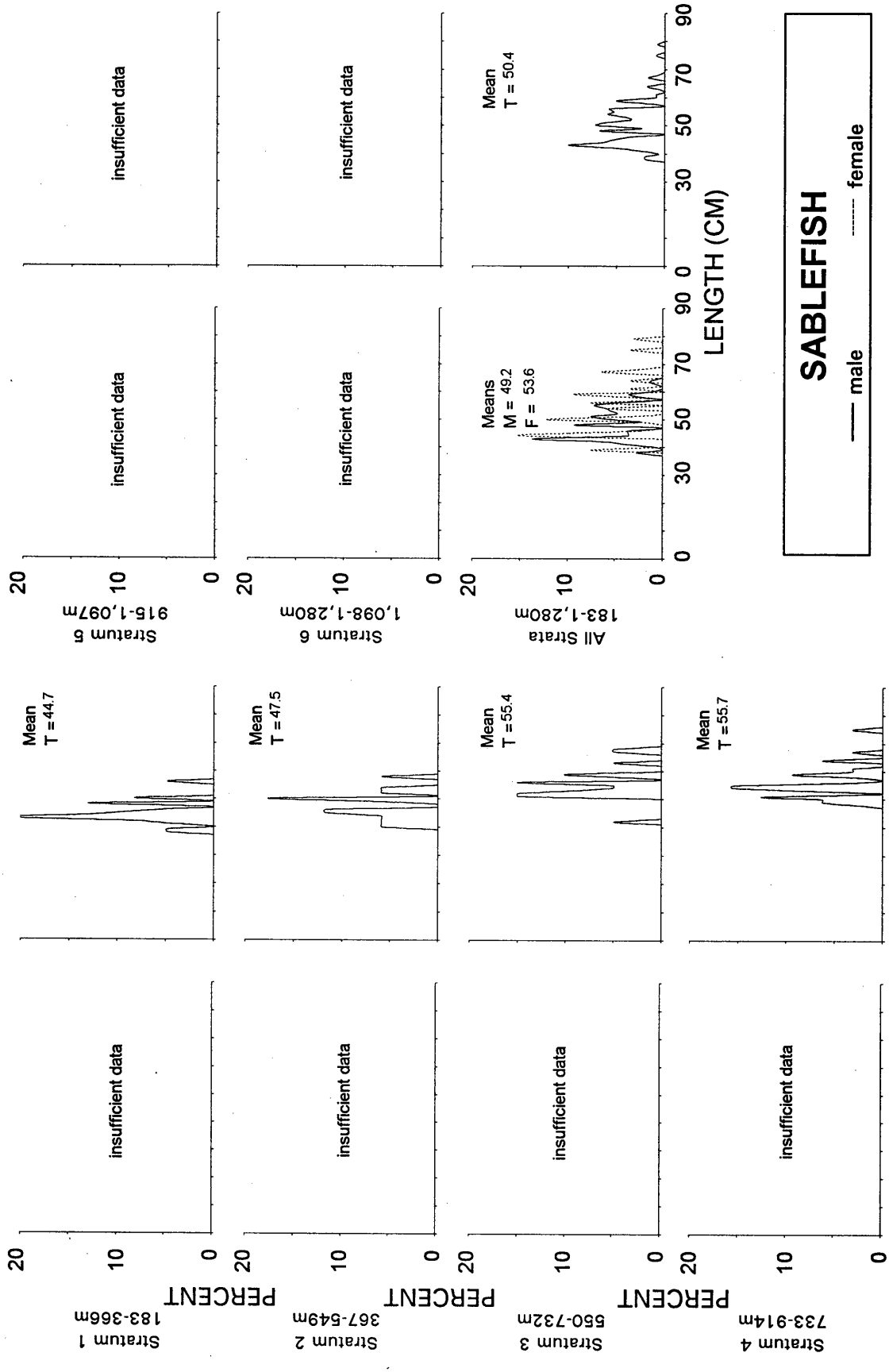


Figure 67.--Estimated population size composition and mean lengths (cm) of sablefish by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

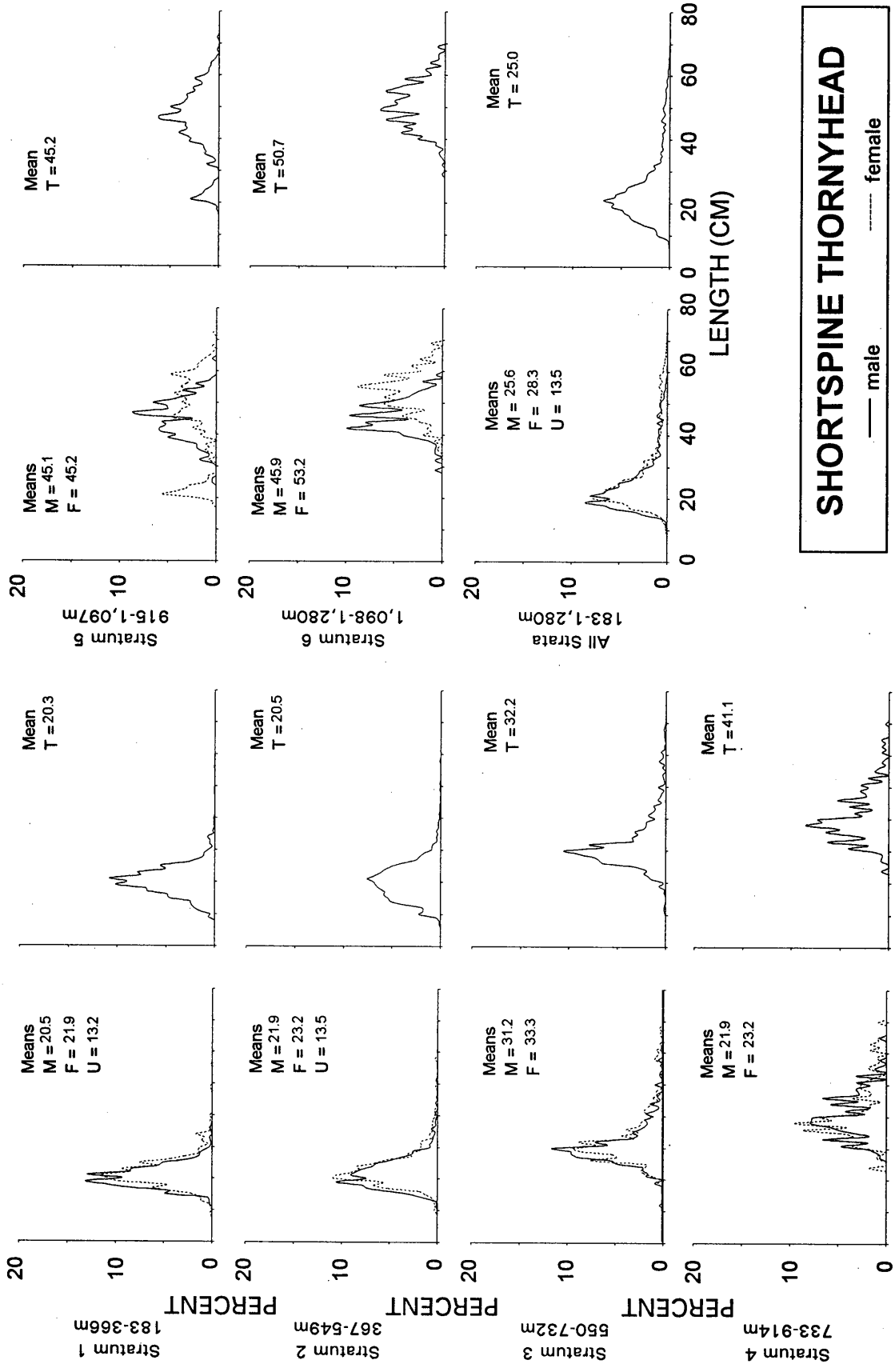


Figure 68.--Estimated population size composition and mean lengths (cm) of shortspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for all International North Pacific Fisheries Commission areas sampled from the 1997 West Coast upper continental slope bottom trawl survey.

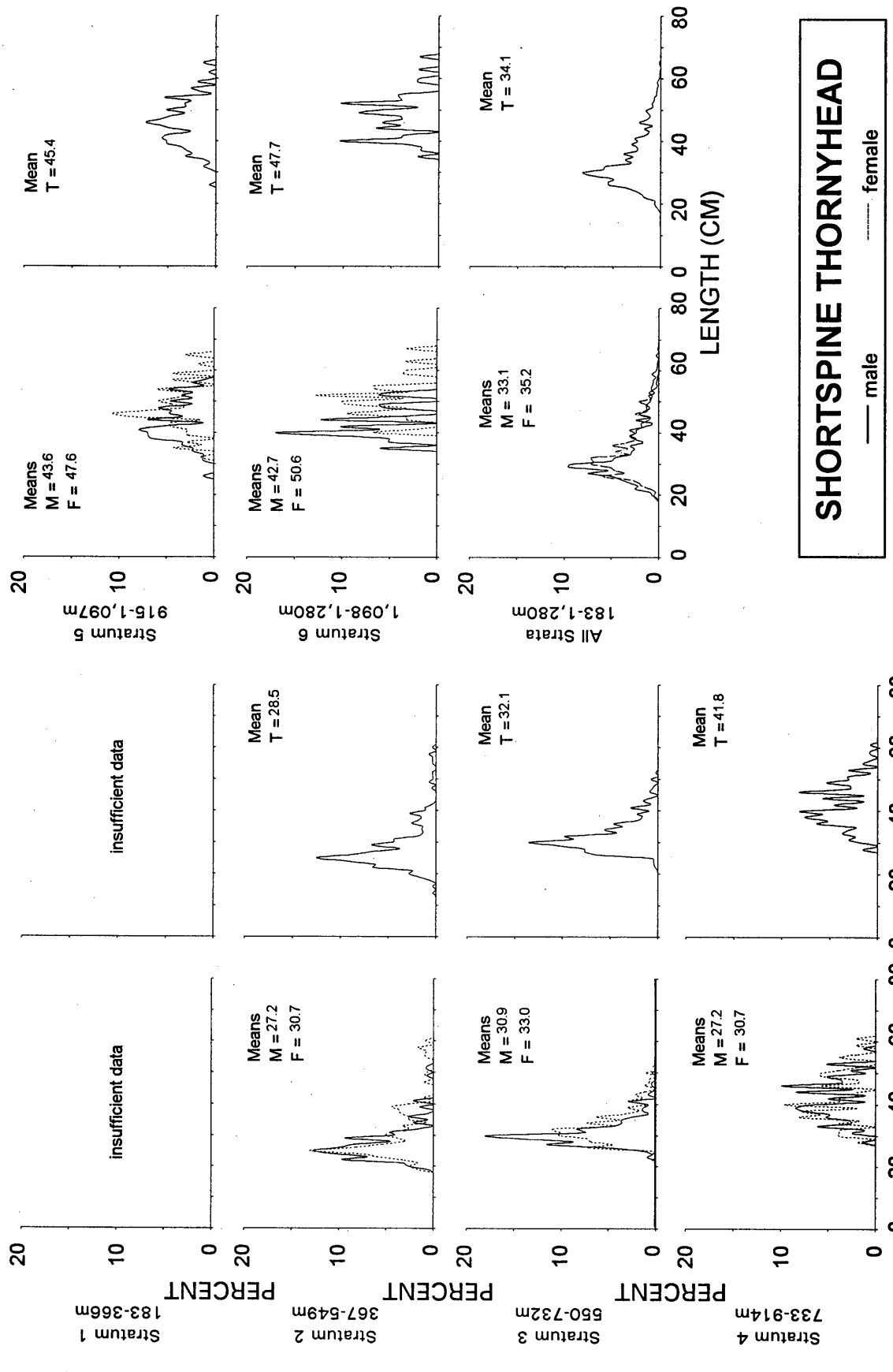


Figure 69.--Estimated population size composition and mean lengths (cm) of shortspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

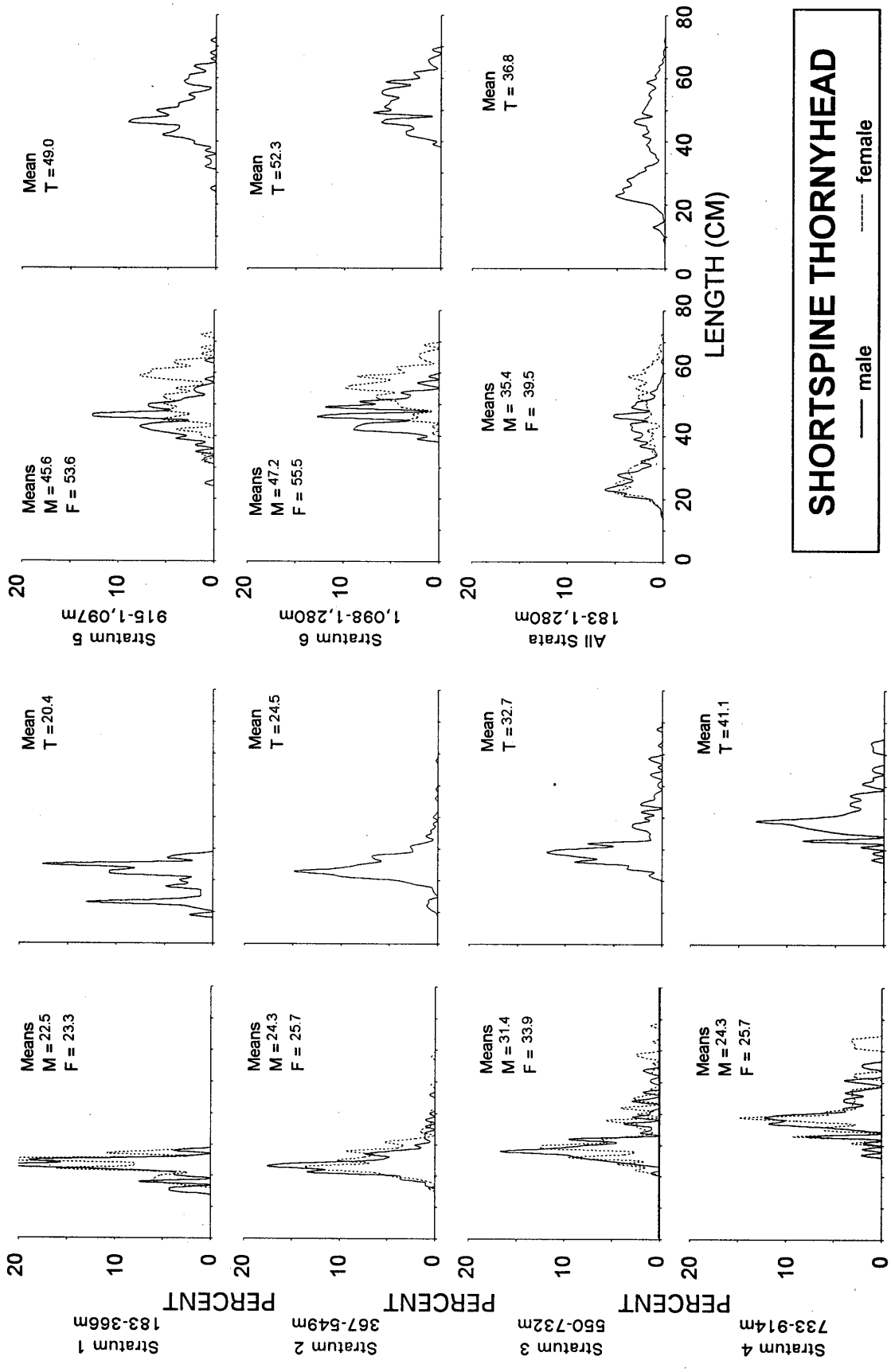


Figure 70.--Estimated population size composition and mean lengths (cm) of shortspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

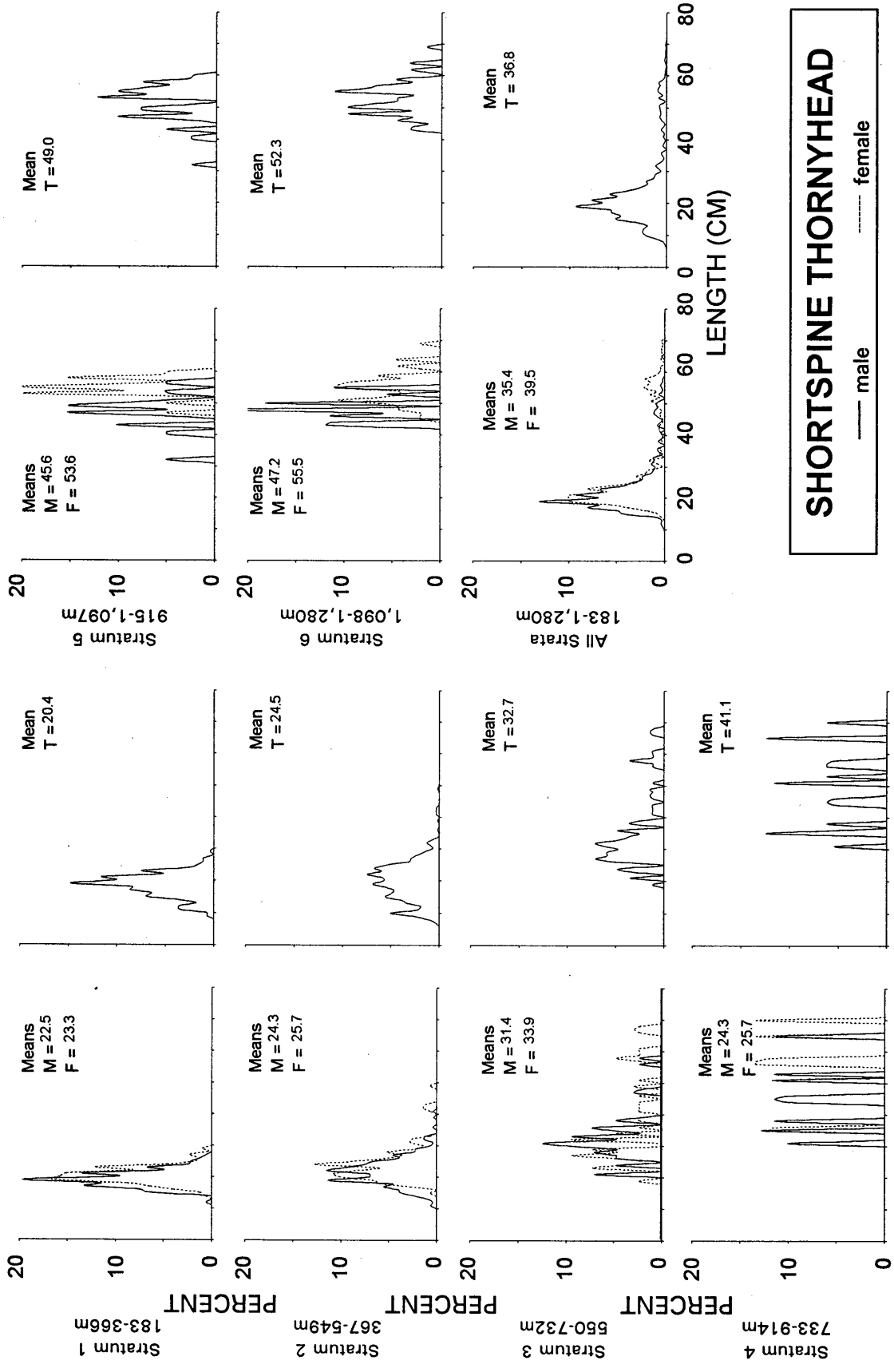


Figure 71.--Estimated population size composition and mean lengths (cm) of shortspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

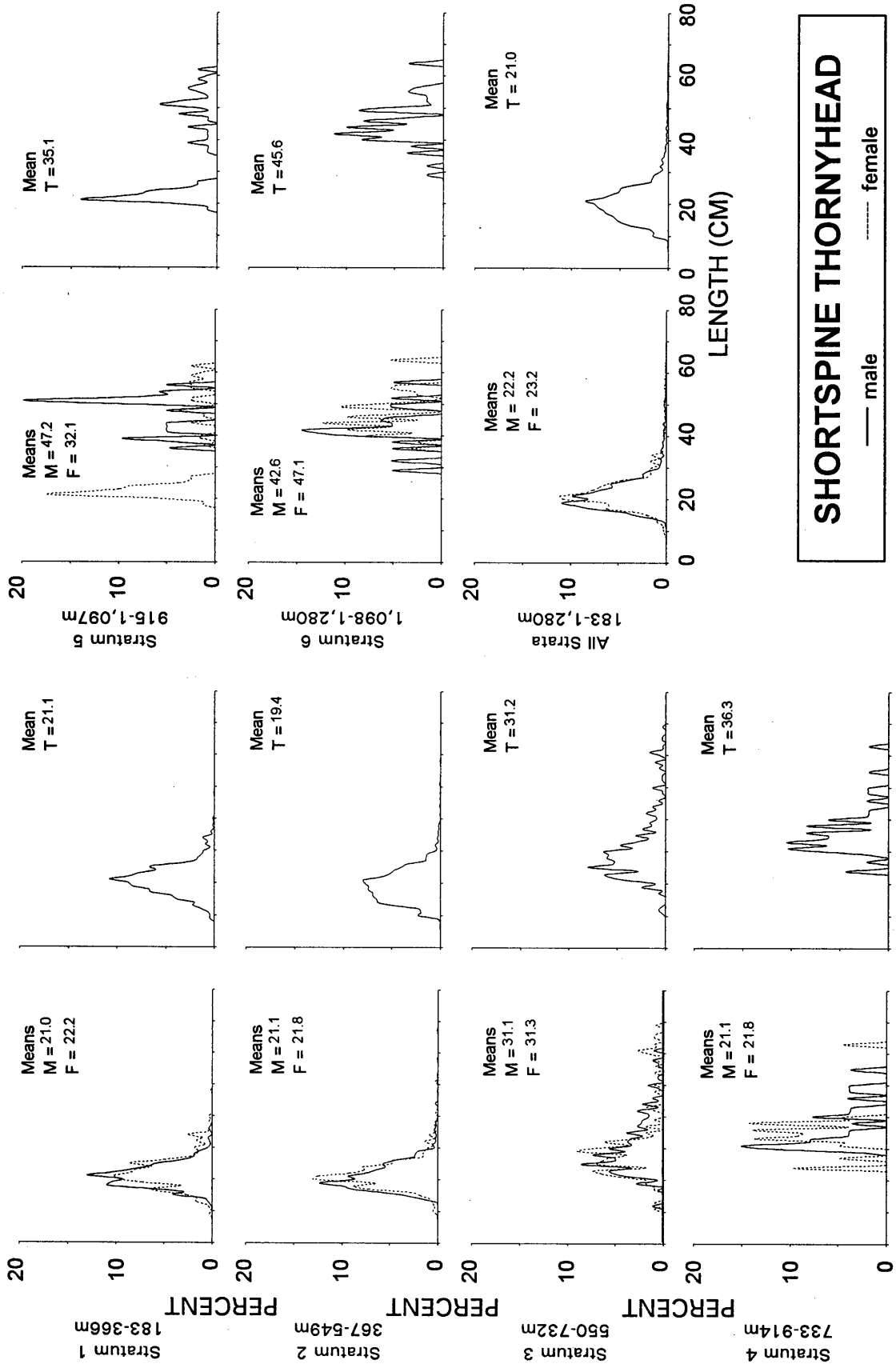


Figure 72.--Estimated population size composition and mean lengths (cm) of shortspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

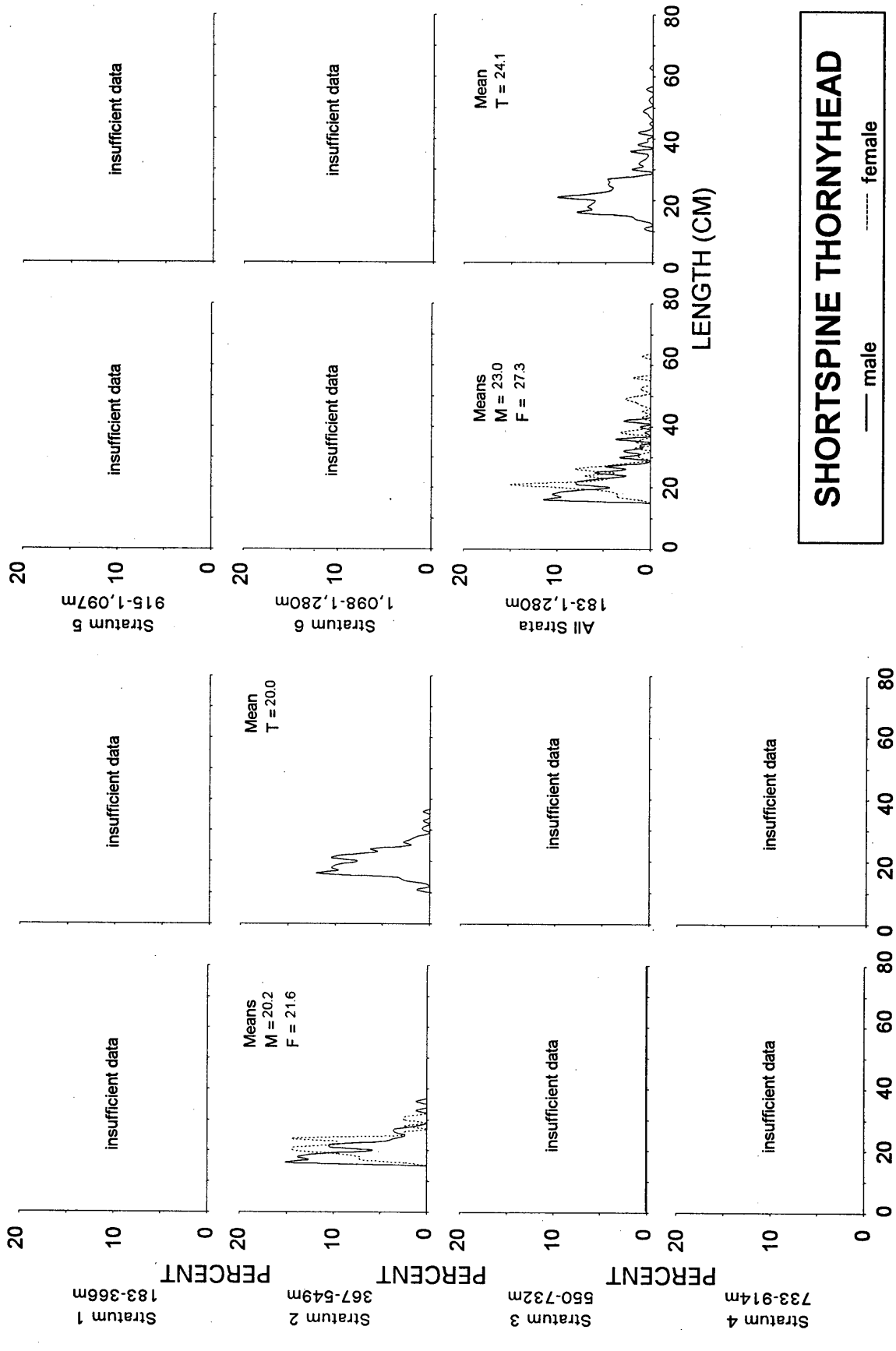


Figure 73.--Estimated population size composition and mean lengths (cm) of shortspine thornyhead by depth stratum and by sex (T = males, females, and unsexed combined) for the International North Pacific Fisheries Commission U.S.-Vancouver area from the 1997 West Coast upper continental slope bottom trawl survey.

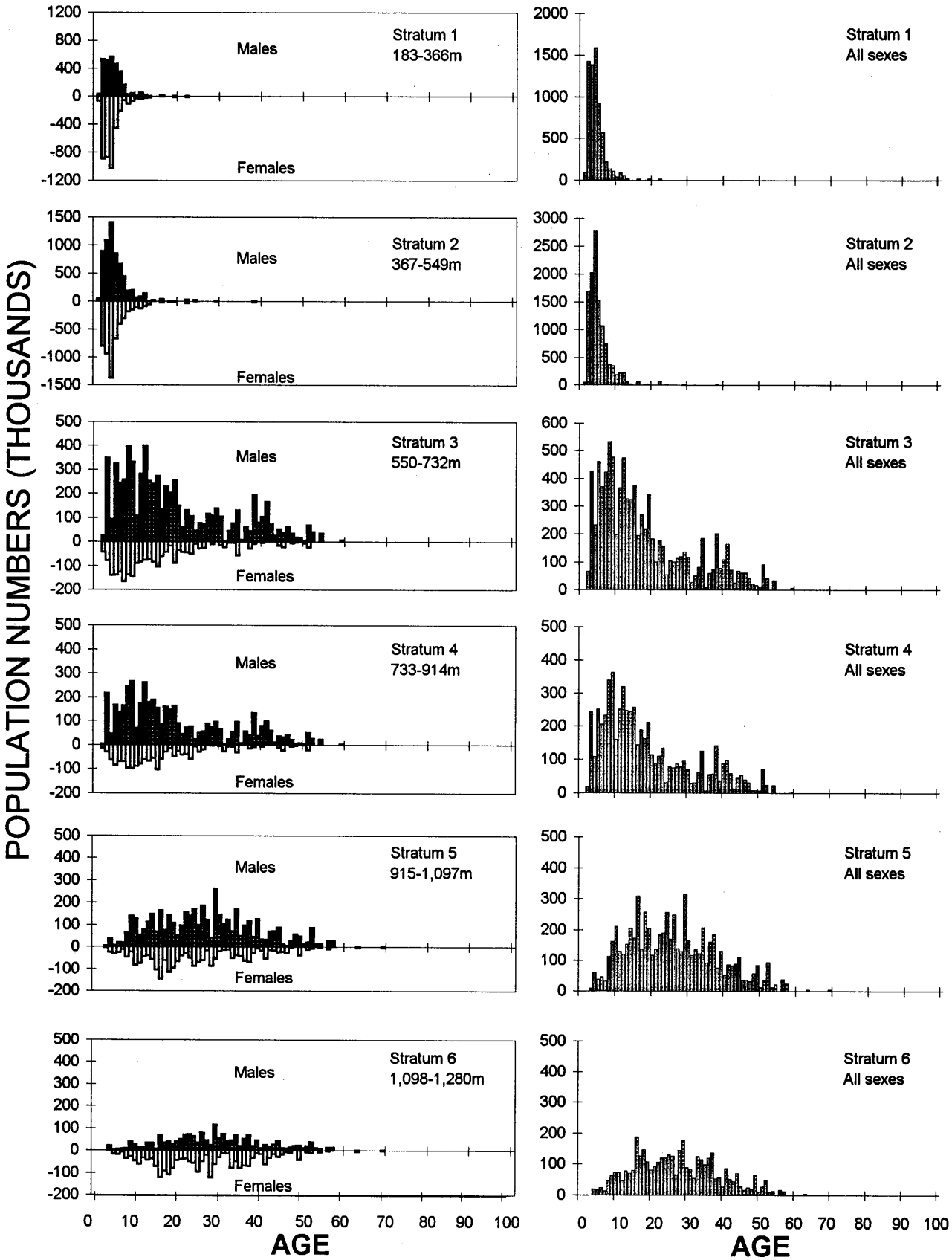


Figure 74.--Estimated population age composition for sablefish by stratum and by sex for all the International North Pacific Fisheries Commission areas combined from the 1997 West Coast upper continental slope bottom trawl survey.

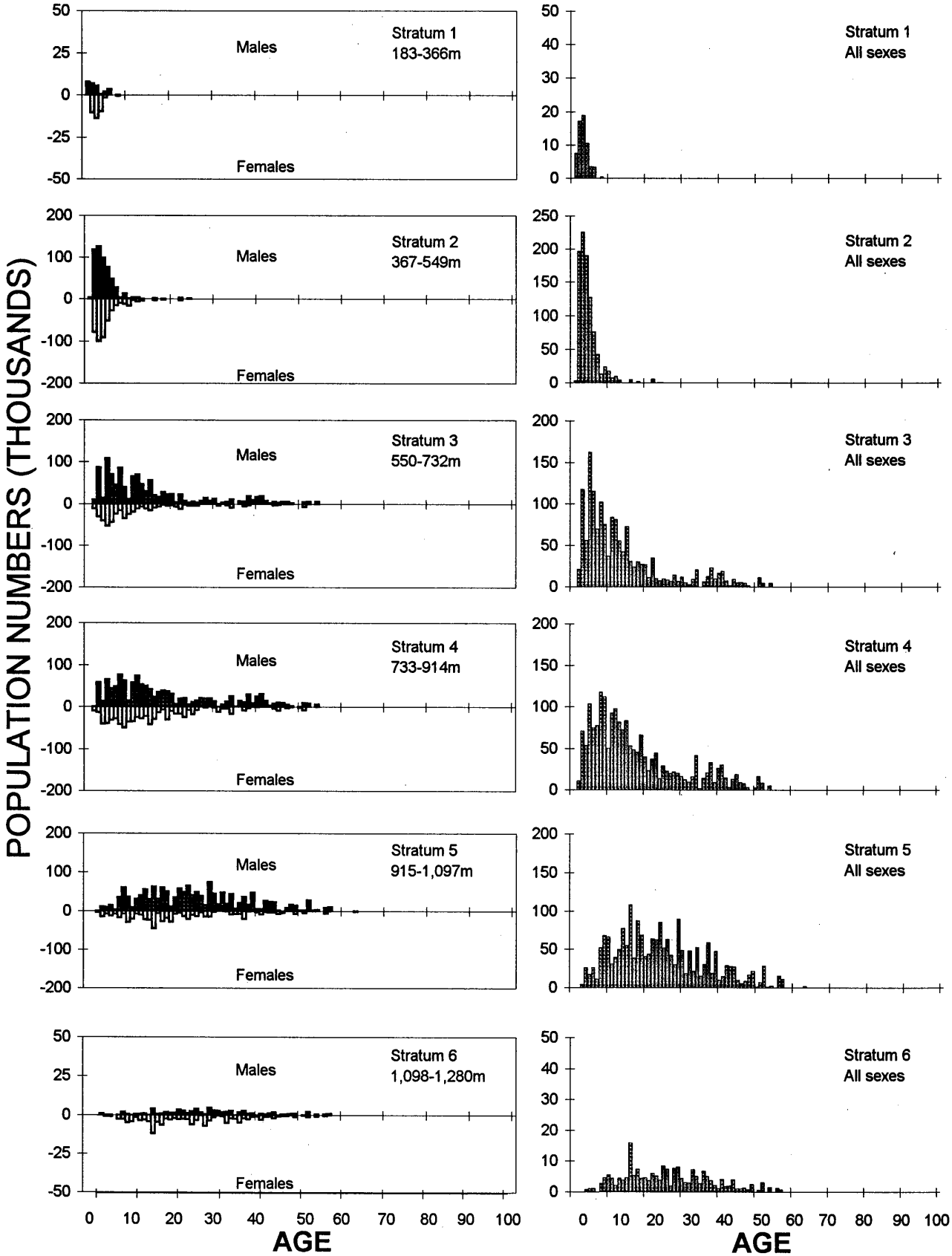


Figure 75.--Estimated population age composition for sablefish by stratum and by sex for the International North Pacific Fisheries Commission Conception area from the 1997 West Coast upper continental slope bottom trawl survey.

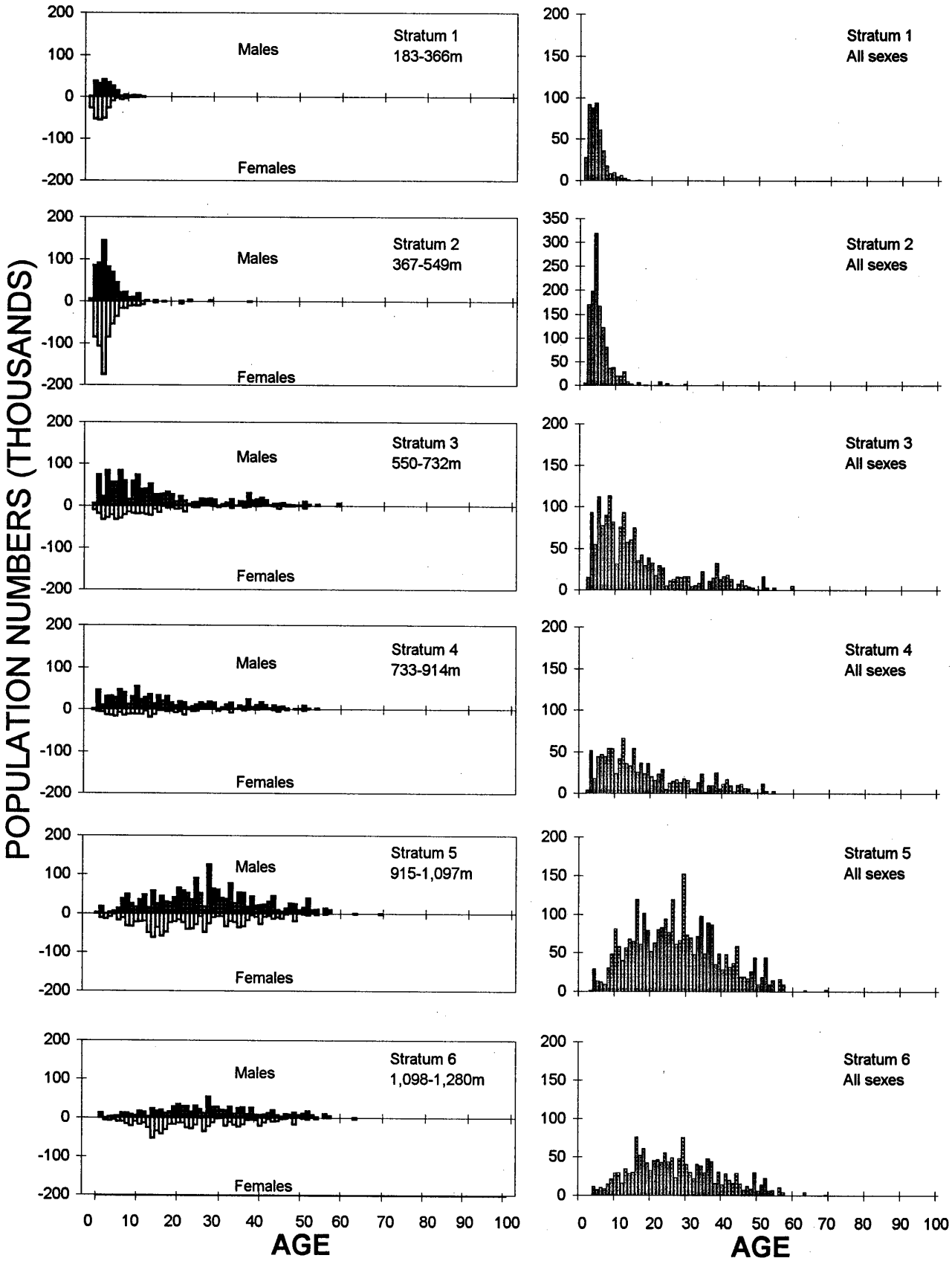


Figure 76.--Estimated population age composition for sablefish by stratum and by sex for the International North Pacific Fisheries Commission Monterey area from the 1997 West Coast upper continental slope bottom trawl survey.

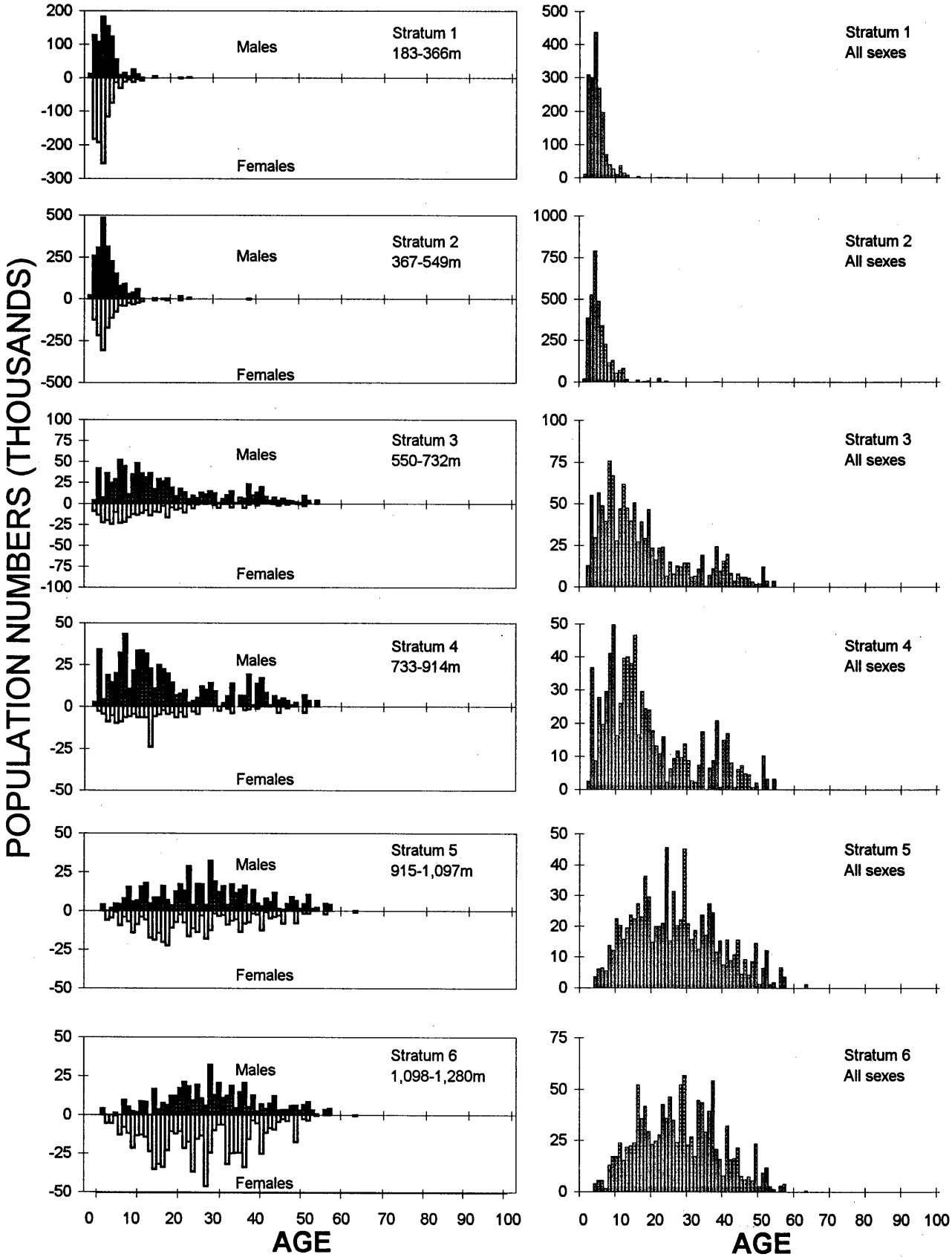


Figure 77.--Estimated population age composition for sablefish by stratum and by sex for the International North Pacific Fisheries Commission Eureka area from the 1997 West Coast upper continental slope bottom trawl survey.

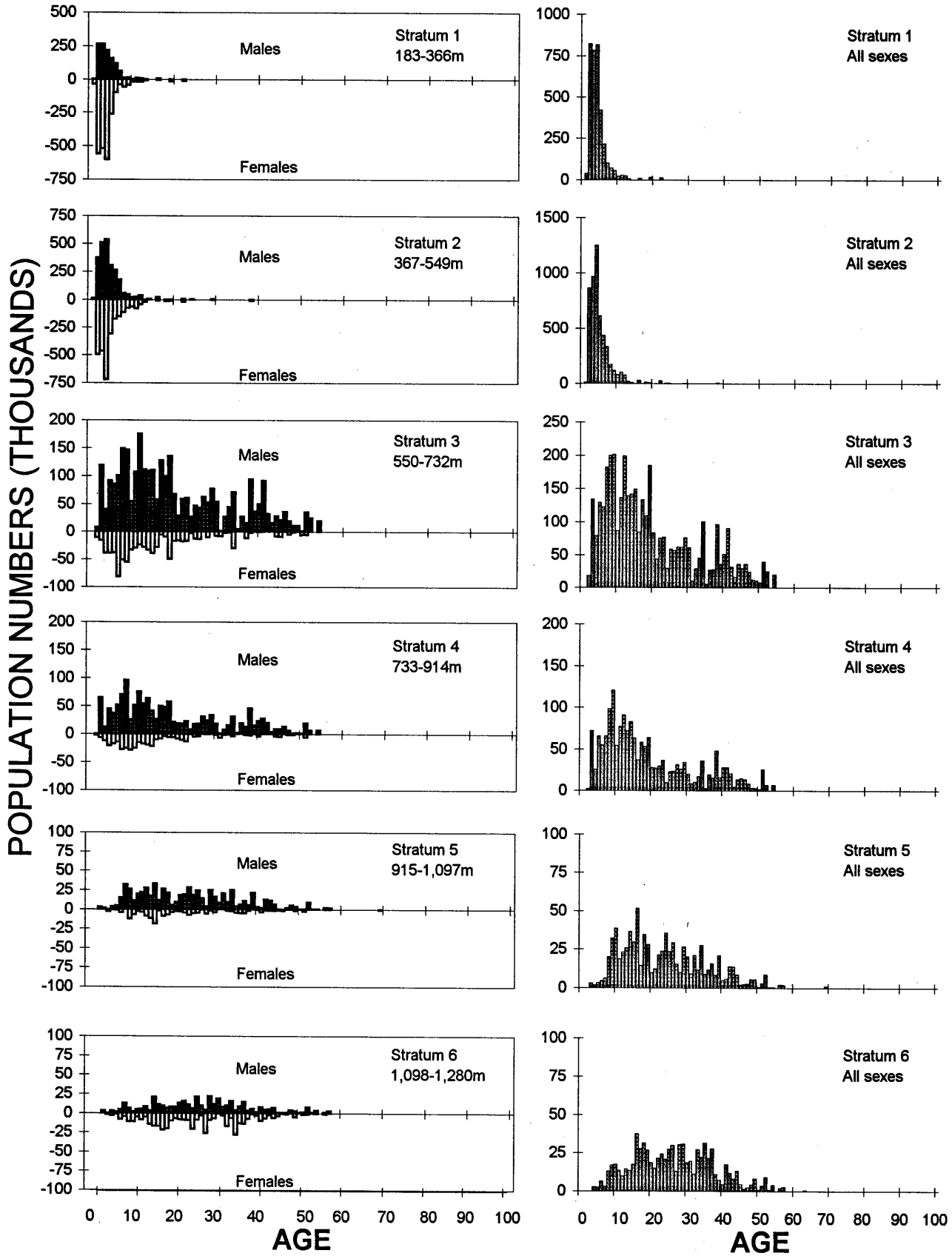


Figure 78.--Estimated population age composition for sablefish by stratum and by sex for the International North Pacific Fisheries Commission Columbia area from the 1997 West Coast upper continental slope bottom trawl survey.

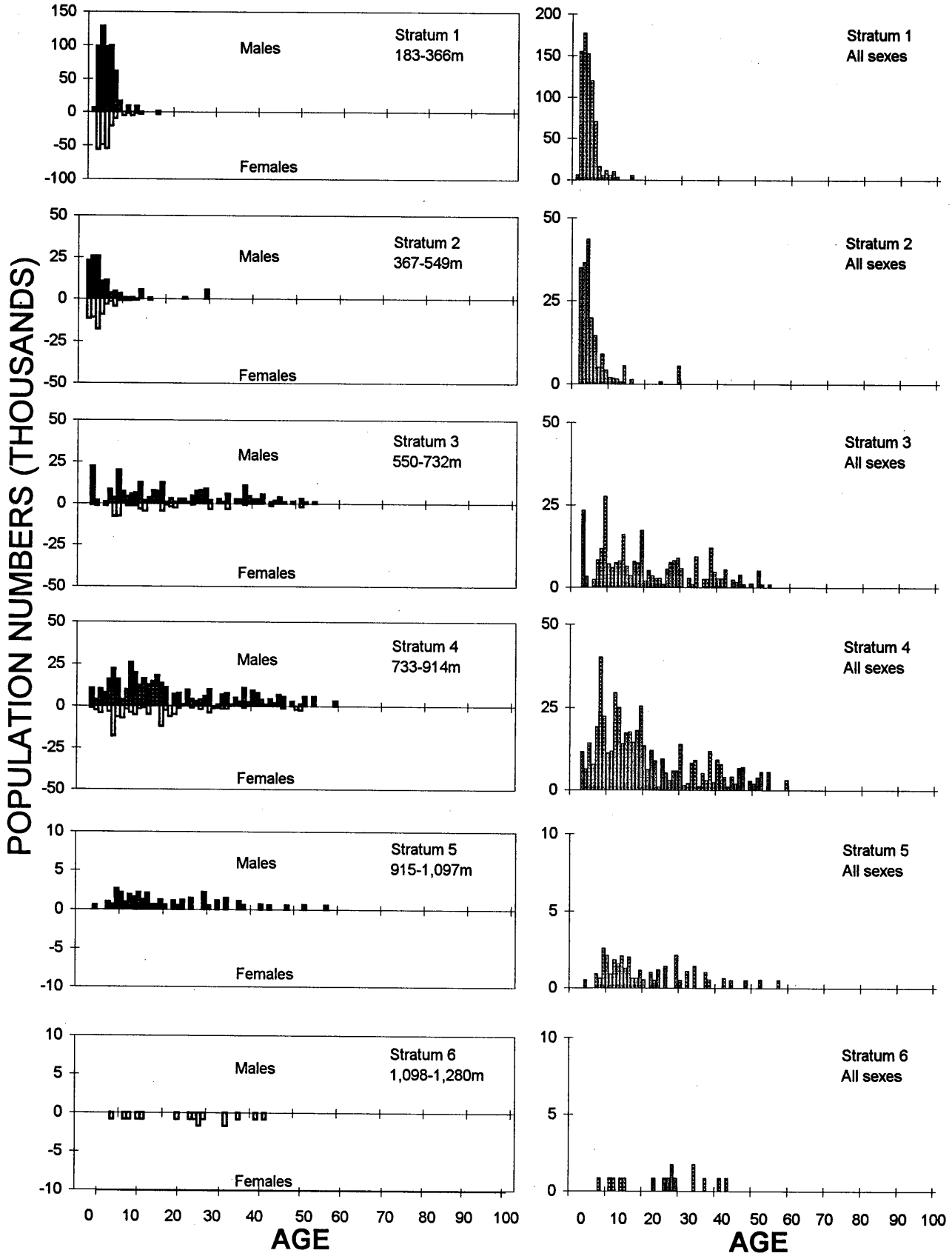


Figure 79.--Estimated population age composition for sablefish by stratum and by sex for the International North Pacific Fisheries Commission U.S. Vancouver from the 1997 West Coast upper continental slope bottom trawl survey.