



Figure 10. Yellowtail flounder length-at-age data, with fitted von Bertalanffy growth curves for females (green line) and males (red line), as well as both sexes included (blue line) using data from length-frequency (light blue symbols), sections (red symbols), tagging (green symbols) and bomb radiocarbon (black symbols). See Table 2 for curve equations.

who used edge type of scales and modal length-frequency analysis to corroborate his age readings from scales for the New England stocks. Later Lux and Nichy (1969) used tag-recapture and length-frequency modal analysis of New England yellowtail flounder stocks to validate scale reading. Neither of these methods directly validate absolute ages or annulus periodicity, and these studies were directed at young, fast-growing fish.

Length-frequency analysis was important in determining the size at which the first annulus was formed and gave information on length-at-age for the next two distinctive modes in the annual length frequencies. Yellowtail flounder spawn on the Grand Banks mainly during the summer months from May to September with a peak spawning in June (Pitt, 1970; Frank *et al.*, 1989). Young-of-year yellowtail flounder appear to settle to the bottom at a

Table 2. Summary of parameters of von Bertalanffy growth equation for yellowtail flounder from different studies. res., Research samples; com., commercial samples.

Location	Sex	Ages fitted	L_{∞}	K	t_0	Reference
Grand Bank res.	σ^+	3–11	42.07	0.41	1.39	Pitt, 1974
Grand Bank res.	σ^+	3–12	48.12	0.29	0.80	Pitt, 1974
Grand Bank com.	σ^+	4–12	46.40	0.32	0.63	Pitt, 1974
Grand Bank com.	σ^+	4–10	52.96	0.24	0.86	Pitt, 1974
New England com.	σ^+	2–7	50.00	0.34	-0.26	Lux and Nichy, 1969
Scotian Shelf res.	σ^+	4–11	52.0	0.26	1.29	Pitt, 1974
St. Pierre Bank	σ^+	2–8	48.38	0.15	0.50	Berthome, 1976
St. Pierre Bank	σ^+	2–9	56.44	0.13	0.50	Berthome, 1976
Grand Bank com.	σ^+			0.07		Walsh and Morgan, 1999a, b
Grand Bank res.	σ^+	0–21	48.8	0.19	0.08	This study
Grand Bank res.	σ^+	0–25	55.6	0.16	0.07	This study