

it is remarkable how little comment has been made regard-

Table 3. Data and summary statistics (in mm) for modern Kakapo bones in the Museum of New Zealand, by individual

Specimen name	Reference	Sex	Cr		Hu	Ul	Ca	Pe	Fe	Ti		Ta	
			l	b						l	mb	l	mb
	NM23032	M	56.1	45.8	82.1	83.9	43.1	78	92	8.12	129.9	6.89	56.1
	NM22954	M					80	93.4	8.02	131.5	7.14	58	7.45

Table 4. Sex ratios (number of males/female) of Kakapo at various sites as derived from subfossil leg bone elements grouped into two size

Site	Element	<i>n</i>	Males	Females	Ratio Males : female	χ^2	<i>P</i>
Castle Rocks	Femur	66	38	28	1.36	1.5	n.s.
Martinborough	Femur	157	115	42	2.74	33.9	<0.001
Waitomo	Femur	52	40	12	3.08	13.7	<0.001
Martinborough	Tibia	76	57	19	3.00	19.0	<0.001
All sites	All	428	308	120	2.57		

927

ml.

expected to be preferable in such a lek system. Both the presumed greater cost of rearing (larger) males and the skewed operational sex ratio would seem to favour greater production of females, despite the possible biased selective value of males in such breeding systems (Peterson & Emlen

comm.). Male chicks, being larger and apparently growing faster (Fig. 5), may be assumed to impose a greater cost on mothers than do female chicks (Lack 1954).

2500
2000



males may favour species survival even at the expense of compromised female survivability if no better alternative arises to free females from this bind.

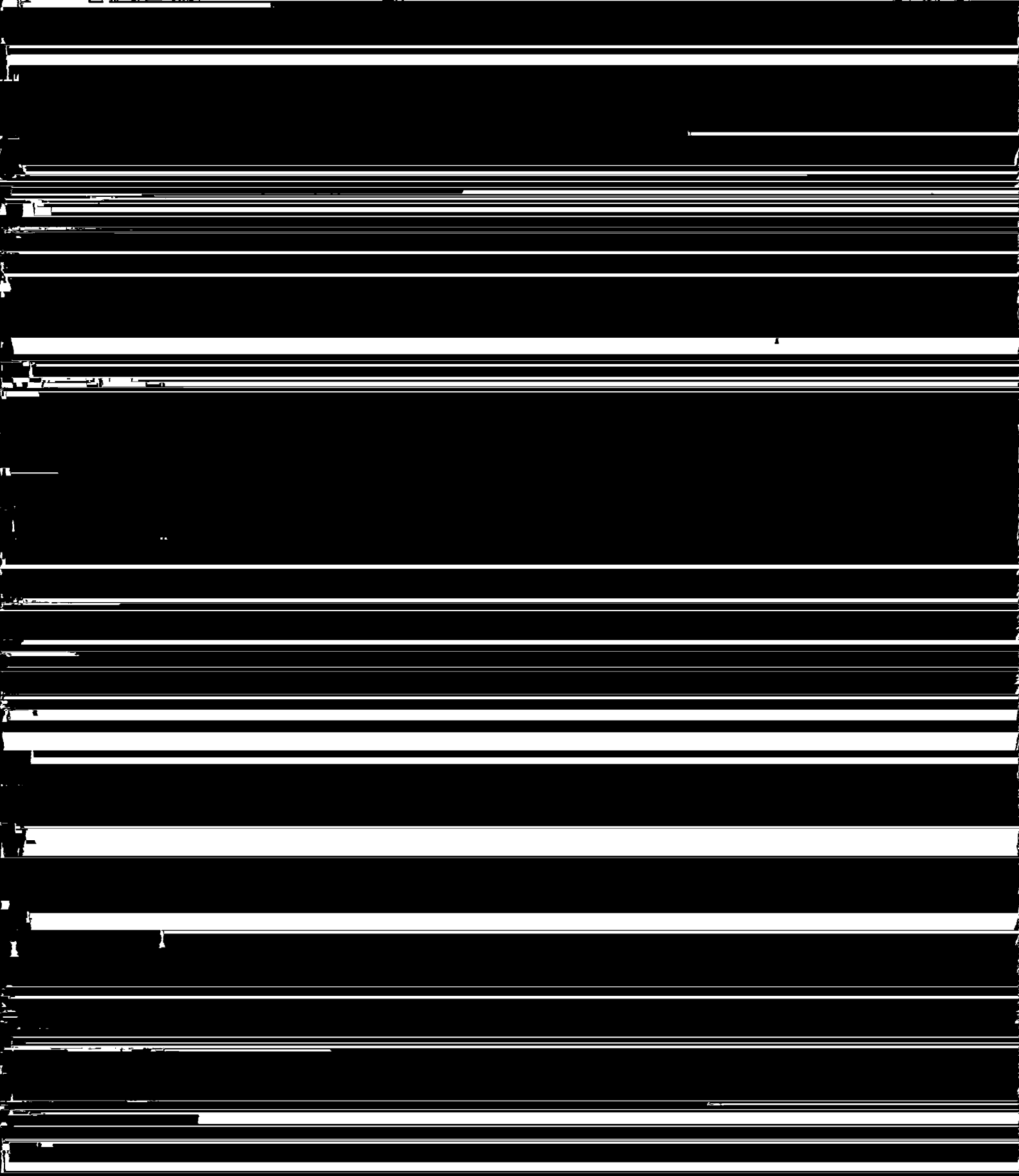
Presumably when a female chooses a mate at the lek she

Table 5. Mean values for mass and external dimensions of a sample of modern male and female Kakapo on Stewart Island.^a Calculated wing and tail loadings are expressed as a function of the length of those structures

breeding system that evolved, presumably in response to phylogenetic features of Kakapo and the nature of the local New Zealand environment (e.g. freedom from ground pred-

REFERENCES

cations of flightlessness in the Kakapo (Psittaciformes: *Strigops*



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1997

1997