Moult and age determination of the Mātātā South Island Fernbird (*Poodytes punctatus*)

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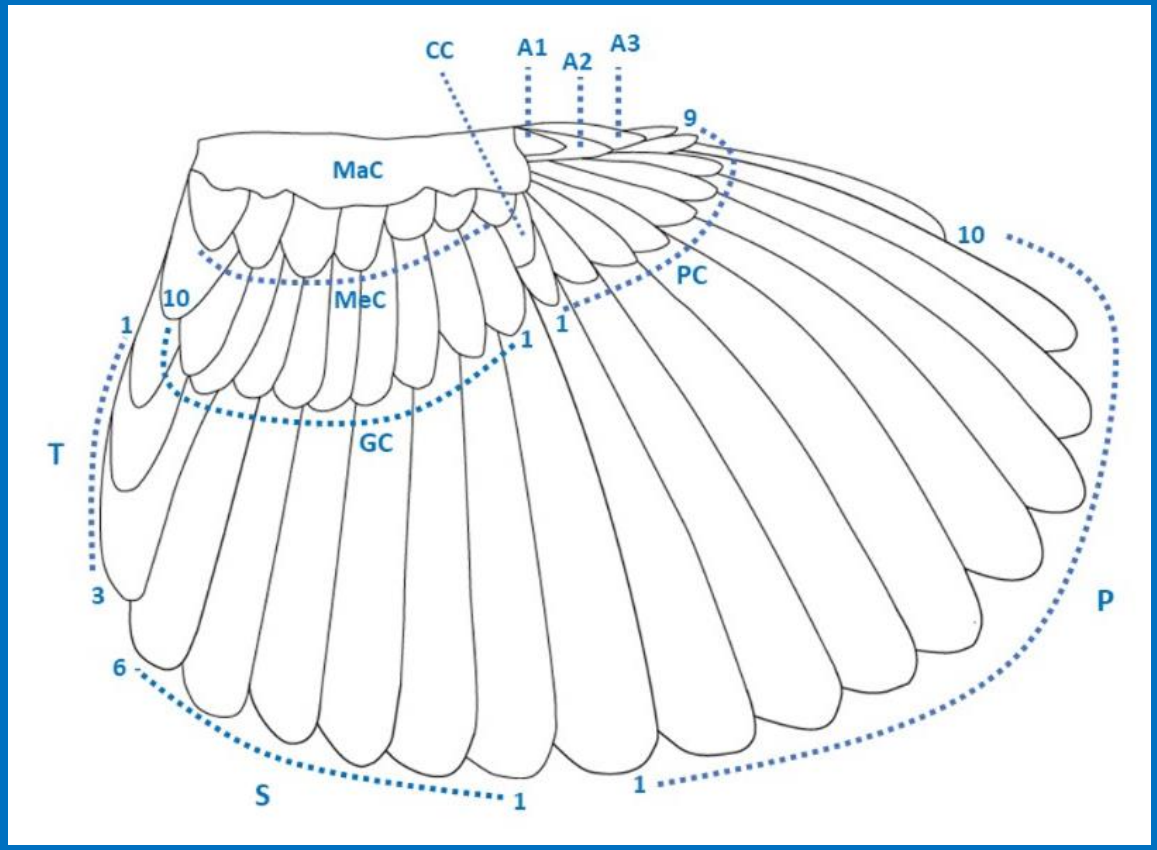
Feather numbering



Wing: 10 primaries (P) and primary coverts (PC), 6 secondaries (S), 3 tertials (T); 9 or 10 greater coverts (GC); carpal covert (CC), median and marginal coverts (MeC and Mac); alula (A); 10 tail

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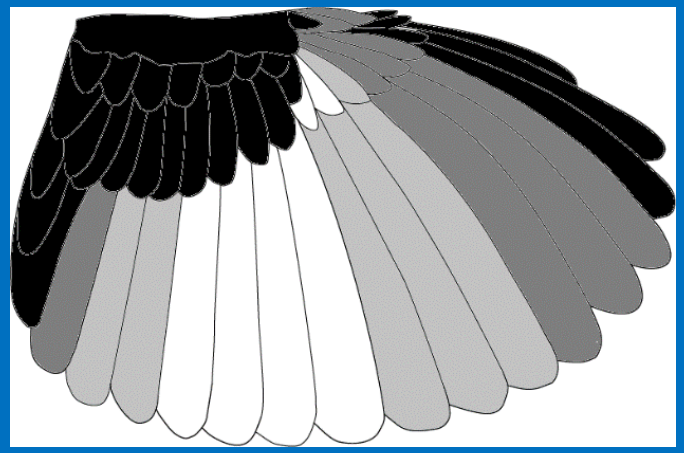
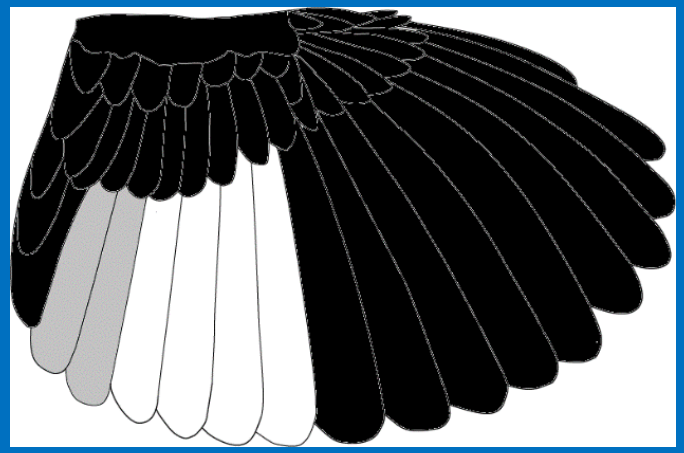
Post juvenile primary moult

Post juvenile moult varies from partial GC,MeC,MaC to complete.



Eccentric moult involves retention of a variable number of largely inner primary coverts, primaries and secondaries. Outer primary coverts are replaced in a block, along with outer primaries; usually most of the outer secondaries are retained (white).



Abridged involves complete moult with most inner to all secondaries retained.

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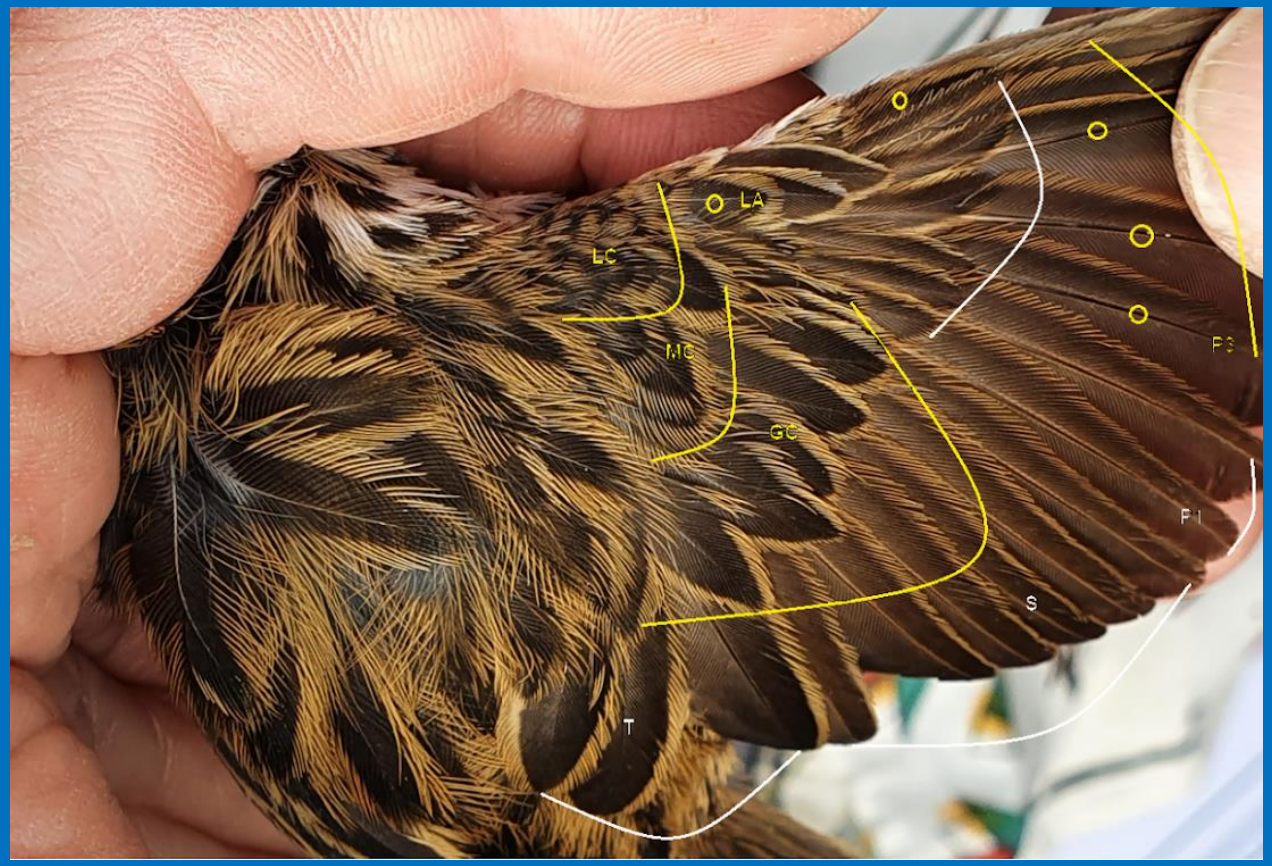
Moult limits for ageing Fernbirds

New feathers have fine barbs (hairs without interlocking hooks) along margins



Post juvenile feathers include PC7-8, A1 (or lesser alula) and P3-P8 visible with **darker shaft** and fresh buffy margins (July).

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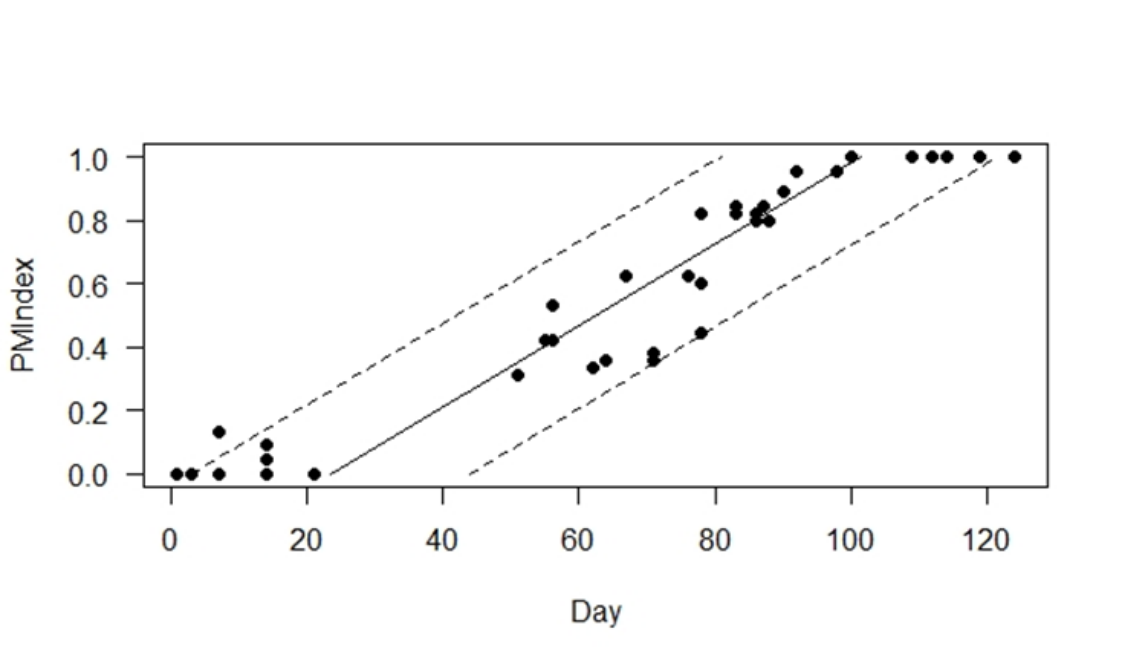
Timing of ‘adult’ primary feather moult



Summer 2021/2022: The primary moult start date was set at 1 January (Moult Index=0) with moult complete with MIndex=1. Primary moult was completed in 78 ± 5 days and 50% birds started primary moult by 24 January ± 3 days.

Primary moult score=19; Moult Index = 19/45

Earliest P1 moult 12 December…..ongoing study

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Fernbird rectrices

Juvenile rectrices showing wear – January; feather structure is loose with spacing between barbs; faint growth bars

Outward moult sequence (centrifugal) – central feathers have most wear, replaced as required*

January – 2nd year bird with juv rectrices

New rectrices (2+ adult, 30 April) with faint growth bars

Fault and growth bars can be seen in juvenile and adult
*potential to lose some/all feathers at same time

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Assessing moult and age of feathers – lots to consider!

- Time of year - Juveniles commence moult later than adults* and may moult primaries.
- Juvenile feathers have a lighter structural density, and generally have more uniform fresh feathers in early summer; young birds with sheathes at the base of feathers growing in….
- Look for the contrast in colour for pale old and new dark feather shafts (or rachis); new primary feathers have a dark-grey tinge and coverts have golden brown feather margins
- Feather wear with respect to function and exposure to the environment; colour variation across fernbird feathers and over time
- Secondary characteristics – young birds have very dark black tongue spots

Acknowledgements

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