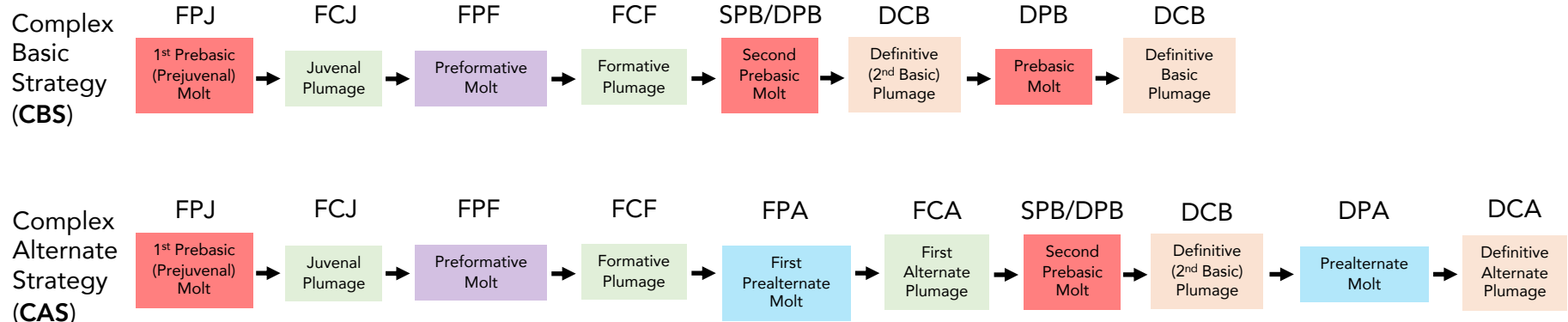


## Molt and Plumage Sequence

(not to scale with timelines above)



**Table 1**

W-R-P Code	Expanded W-R-P code	Calendar
FPJ	First Cycle Prejuvenal (undergoing 1 <sup>st</sup> prebasic molt)	HY
FCJ	First Cycle Juvenal	HY
FPF	First Cycle Preformative (undergoing preformative molt)	HY
FCF	First Cycle Formative	HY/SY
FPA	First Cycle Prealternate (undergoing prealternate molt)	SY
FCA	First Cycle Alternate	SY
SPB	Second Cycle Prebasic (undergoing 2 <sup>nd</sup> prebasic molt)	SY
DCB	Definitive Cycle Basic	SY/ASY
DPA	Definitive Cycle Prealternate (undergoing prealternate molt)	ASY
DCA	Definitive Cycle Alternate	ASY
FAJ	After First Cycle Juvenal (unknown nonjuvenal)	U/AHY
SMB	After Second Prebasic Molt	SY/ASY
UCU	Unknown Cycle Unknown Plumage	U/AHY
UCA	Unknown Cycle Alternate Plumage	U/AHY
UPU	Unknown Cycle Unknown Molt	U/AHY

These timelines and molt/plumage sequences apply to birds that follow either a complex basic strategy (CBS) or a complex alternate strategy (CAS) (see Howell *et al.* 2003 for descriptions of these molt strategies). It is assumed that birds attain definitive plumage in the second molt cycle. Timing of molt is indicated by a coloured vertical bar. Each molt cycle is initiated by a prebasic molt (red bar). The CAS builds on the CBS: In the first molt cycle (green), CAS birds undergo a prebasic (=prejuvenal) molt (red), a preformative molt (purple), and a prealternate molt (blue). In subsequent cycles (orange), CAS birds undergo only a prebasic and a prealternate molt.

See Table 1 for expanded codes (modified from Wolfe *et al.* 2010 and Johnson *et al.* 2011). Additional W-R-P three letter codes can be produced using Table 2.

**Table 2**

1. Determine the cycle	2. Determine the stage within the cycle (molting or not, )	3. Determine the molt or plumage type
First = F	Undergoing molt (Pre...) = P	Juvenal (J)
Second = S	Underwent molt (in Cycle) = C	Formative (F)
Third = T	After a given plumage (e.g. nonjuvenal plumage of unknown cycle) = A	Basic (B)
Fourth = 4		Alternate (A)
Definitive = D	After a given Molt = M	Unknown (U)
Unknown = U	Suspended = S	
e.g. A bird in its first cycle (F) molting (P) into its formative plumage (F) = FPF		

- References: Howell, S.N.G., Corben, C, and Pyle, P. 2003. The first basic problem: A review of molt and plumage homologies. *Condor* 105(4):635-53  
 Johnson, E.I., Wolfe, J.D., Ryder, T.B., and Pyle, P. 2011. Modifications to a molt based ageing system proposed by Wolfe *et al.* (2010). *J. Field Ornithol.* 82(4):422-24  
 Wolfe, J.D., Ryder, T.B., and Pyle, P. 2010. Using molt to categorize the age of tropical birds: An integrative new system. *J. Field Ornithol.* 81(2):186-94