Journal of Biological Dynamics

Coping behaviour as an adaptation to stress: post-disturbance preening in colonial seabirds

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Keywords:

AMS Subject Classification Code

1.1. *Hypothesis of coping behaviour as an evolutionary adaptation to stress*

Larus argentatus

Thalasseus sandvicensis *Sterna hirundo*

Streptopelia risoria

1.3. *Preening as a hypothetical coping behaviour after eagle disturbance*

Haliaeetus leucocephalus

Sturnus vulgaris

Fringilla coelebs

Calidris alpina

B ... β ...

... β ...

$$\frac{N}{t} = b(\beta)N - d(\beta)N$$

... $b(\beta)$ ... β ... A ... $d(\beta)N$ ... β ...

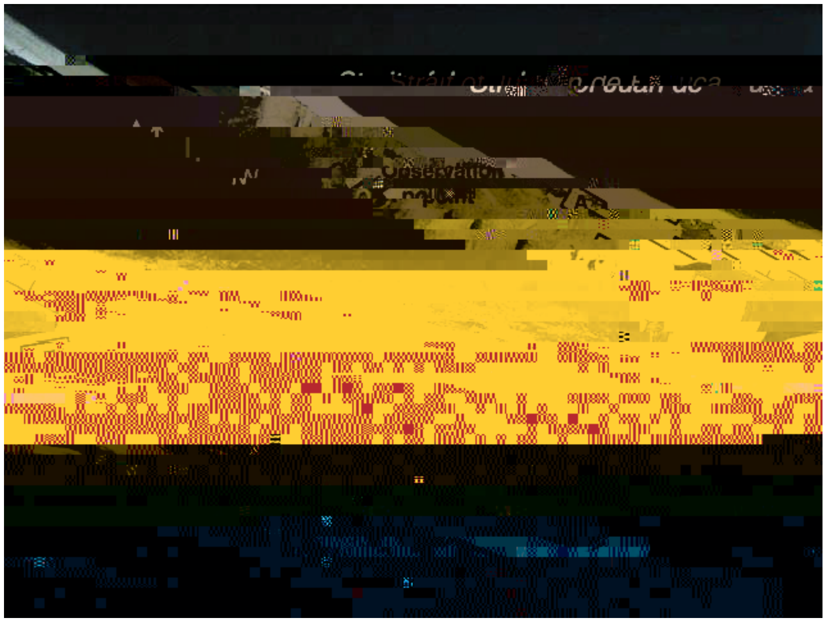
... β ... $(n+\ )$ ...

$$\frac{N}{t} = b(\beta)N$$

$$a(\beta) = a_0 \left(- - \sum_{j=}^{n-} \left(\frac{\beta_j - \alpha_j}{j} \right) \right) \left(- - \left(\frac{\beta_n}{n} \right) \right)$$

$a_0 > 0$ $\beta_n > 0$ ($\beta_n < 0$) $a(\beta)$ a_0

$\beta_i = \alpha_i$ ($i = \ldots, n-$) $\beta_n = 0$



3.1. *Data*

[illegible]

[illegible]	[illegible]	[illegible]	$\bar{r}$
β [illegible]	[illegible]	[illegible]	
β [illegible]	[illegible]	[illegible]	
β [illegible]	[illegible]	[illegible]	
β [illegible]	[illegible]	[illegible]	
β [illegible]	[illegible]	[illegible]	
β [illegible]	[illegible]	[illegible]	
β [illegible]	[illegible]	[illegible]	
β D	[illegible]	[illegible]	
β D	[illegible]	[illegible]	
β [illegible] $\times D$	[illegible]	[illegible]	[illegible]
β [illegible] $\times D$	[illegible]	[illegible]	[illegible]
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β [illegible] $\times D$	[illegible]	[illegible]	[illegible]
β [illegible] $\times D$	[illegible]	[illegible]	[illegible]
β [illegible] $\times D$	[illegible]	[illegible]	[illegible]

[illegible] $\bar{r}$) [illegible] $n =$ [illegible]

[illegible]

[illegible]	c	[illegible]	[illegible]
[illegible] D = D = [illegible]			
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
[illegible] D = [illegible] D = [illegible]			
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[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]			[illegible]
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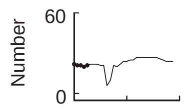
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

4. Simulation of the Darwinian dynamics model for comfort preening


60
Number
0

6. Discussion

6.1. *Inferential*

6.3. *Biological*

A

$(N > 0)$ … A …

$$N = \frac{a \; - \; / \; (u/ \;)}{d + d \, f(u)} \qquad \text{A}$$

$$N = \frac{-a(u/ \quad) \; - \; / \; (u/ \;)}{d \; f \; (u)} \qquad \text{A}$$

… A … A … (N^{*}, u^{*}) …

$$H(u) = \frac{-u}{\;} \qquad \text{A}$$

… H …

H

$J = 0$ … $J < 0$ … J … J

$$J = s\left(a\left(\frac{u}{\ }\right)\right.$$

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] $J =$ [illegible]					
[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	– [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	– [illegible]	[illegible]
A[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible] $J =$					