

**Appendix 1.** A priori candidate model set.

```
mod[[1]]<-glmmTMB(Type ~ 1 + (1|name), data=roost1, family=binomial)
```

```
mod[[2]]<-glmmTMB(Type ~ Avg_Height + (1|name), data=roost1, family=binomial)
```

```
mod[[3]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2)+(1|name), data=roost1,  
family=binomial)
```

```
mod[[4]]<-glmmTMB(Type ~ Forb + (1|name), data=roost1, family=binomial)
```

```
mod[[5]]<-glmmTMB(Type ~ Forb + I(Forb^2)+(1|name), data=roost1, family=binomial)
```

```
mod[[6]]<-glmmTMB(Type ~ Litter + (1|name), data=roost1, family=binomial)
```

```
mod[[7]]<-glmmTMB(Type ~ Litter + I(Litter^2)+(1|name), data=roost1, family=binomial)
```

```
mod[[8]]<-glmmTMB(Type ~ Bare_Ground + (1|name), data=roost1, family=binomial)
```

```
mod[[9]]<-glmmTMB(Type ~ Bare_Ground + I(Bare_Ground^2)+(1|name), data=roost1,  
family=binomial)
```

```
mod[[10]]<-glmmTMB(Type ~ Invasive_G + (1|name), data=roost1, family=binomial)
```

```
mod[[11]]<-glmmTMB(Type ~ Invasive_G + I(Invasive_G^2)+(1|name), data=roost1,  
family=binomial)
```

```
mod[[12]]<-glmmTMB(Type ~ Native_G + (1|name), data=roost1, family=binomial)
```

```
mod[[13]]<-glmmTMB(Type ~ Native_G + I(Native_G^2)+(1|name), data=roost1,  
family=binomial)
```

```
mod[[14]]<-glmmTMB(Type ~ Avg_Height + Bare_Ground + (1|name), data=roost1,  
family=binomial)
```

```
mod[[15]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground + (1|name),  
data=roost1, family=binomial)
```

```
mod[[16]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground +  
I(Bare_Ground^2) + (1|name), data=roost1, family=binomial)  
mod[[17]]<-glmmTMB(Type ~ Avg_Height + Bare_Ground + Forb + (1|name), data=roost1,  
family=binomial)  
mod[[18]]<-glmmTMB(Type ~ Avg_Height + Bare_Ground + Litter + (1|name), data=roost1,  
family=binomial)  
mod[[19]]<-glmmTMB(Type ~ Avg_Height + Bare_Ground + Litter + Forb + (1|name),  
data=roost1, family=binomial)  
mod[[20]]<-glmmTMB(Type ~ Avg_Height + Bare_Ground + Forb + I(Forb^2) + (1|name),  
data=roost1, family=binomial)  
mod[[21]]<-glmmTMB(Type ~ Avg_Height + Bare_Ground + Litter + I(Litter^2) + (1|name),  
data=roost1, family=binomial)  
mod[[22]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground + Forb +  
(1|name), data=roost1, family=binomial)  
mod[[23]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground + Litter +  
(1|name), data=roost1, family=binomial)  
mod[[24]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground +  
I(Bare_Ground^2) + Forb + (1|name), data=roost1, family=binomial)  
mod[[25]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground +  
I(Bare_Ground^2) + Litter + (1|name), data=roost1, family=binomial)  
mod[[26]]<-glmmTMB(Type ~ Avg_Height + I(Avg_Height^2) + Bare_Ground +  
I(Bare_Ground^2) + Litter + Forb + (1|name), data=roost1, family=binomial)
```

```
mod[[27]]<-glmmTMB(Type ~ Native_G + Bare_Ground + Forb + Litter + (1|name),
data=roost1, family=binomial)
mod[[28]]<-glmmTMB(Type ~ Native_G + Bare_Ground + Litter + (1|name), data=roost1,
family=binomial)
mod[[29]]<-glmmTMB(Type ~ Native_G + Bare_Ground + Forb + (1|name), data=roost1,
family=binomial)
mod[[30]]<-glmmTMB(Type ~ Invasive_G + Bare_Ground + Forb + Litter + (1|name),
data=roost1, family=binomial)
mod[[31]]<-glmmTMB(Type ~ Invasive_G + Bare_Ground + Litter + (1|name), data=roost1,
family=binomial)
mod[[32]]<-glmmTMB(Type ~ Invasive_G + Bare_Ground + Forb + (1|name), data=roost1,
family=binomial)
mod[[33]]<-glmmTMB(Type ~ Native_G + Bare_Ground + (1|name), data=roost1,
family=binomial)
mod[[34]]<-glmmTMB(Type ~ Native_G + I(Native_G^2) + Bare_Ground + (1|name),
data=roost1, family=binomial)
mod[[35]]<-glmmTMB(Type ~ Invasive_G + Bare_Ground + (1|name), data=roost1,
family=binomial)
mod[[36]]<-glmmTMB(Type ~ Invasive_G + I(Invasive_G^2) + Bare_Ground + (1|name),
data=roost1, family=binomial)
mod[[37]]<-glmmTMB(Type ~ Native_G + I(Native_G^2) + Bare_Ground + Litter + Forb +
(1|name), data=roost1, family=binomial)
```

```
mod[[38]]<-glmmTMB(Type ~ Native_G + I(Native_G^2) + Bare_Ground + Litter + (1|name),  
data=roost1, family=binomial)
```

```
mod[[39]]<-glmmTMB(Type ~ Native_G + I(Native_G^2) + Bare_Ground + Forb + (1|name),  
data=roost1, family=binomial)
```

```
mod[[40]]<-glmmTMB(Type ~ Invasive_G + I(Invasive_G^2) + Bare_Ground + Litter + Forb +  
(1|name), data=roost1, family=binomial)
```

```
mod[[41]]<-glmmTMB(Type ~ Invasive_G + I(Invasive_G^2) + Bare_Ground + Litter +  
(1|name), data=roost1, family=binomial)
```

```
mod[[42]]<-glmmTMB(Type ~ Invasive_G + I(Invasive_G^2) + Bare_Ground + Forb +  
(1|name), data=roost1, family=binomial)
```

```
mod[[43]]<-glmmTMB(Type ~ Avg_Height+I(Avg_Height^2) + Bare_Ground + Litter +  
I(Litter^2) + (1|name), data=roost1, family=binomial)
```