Figure S4. Scheme of computational implementation of the SCSC method.
The scheme mimics an EM algorithm for clustering one-species data under a Gaussian-mixture model. (Supplementary Document 4)

Initialize clusters in each species: Ci,i'

E-step: Update cluster indicators Ci,i'
$$p(c_{i,i'} = (k,l)) \propto p(g_i, \theta_k) \times p(g_{i'}, \theta'_l) \times \hat{\pi}(k,l)$$

M-step: update cluster parameters
$$\theta_i \big| g_i, c_i \ , \ \theta_{i'} \big| g_{i'}, c_{i'}$$

Logistic regression step: re-estimate cluster proportions
$$\pi(k,l) \to \hat{\pi}(k,l)$$