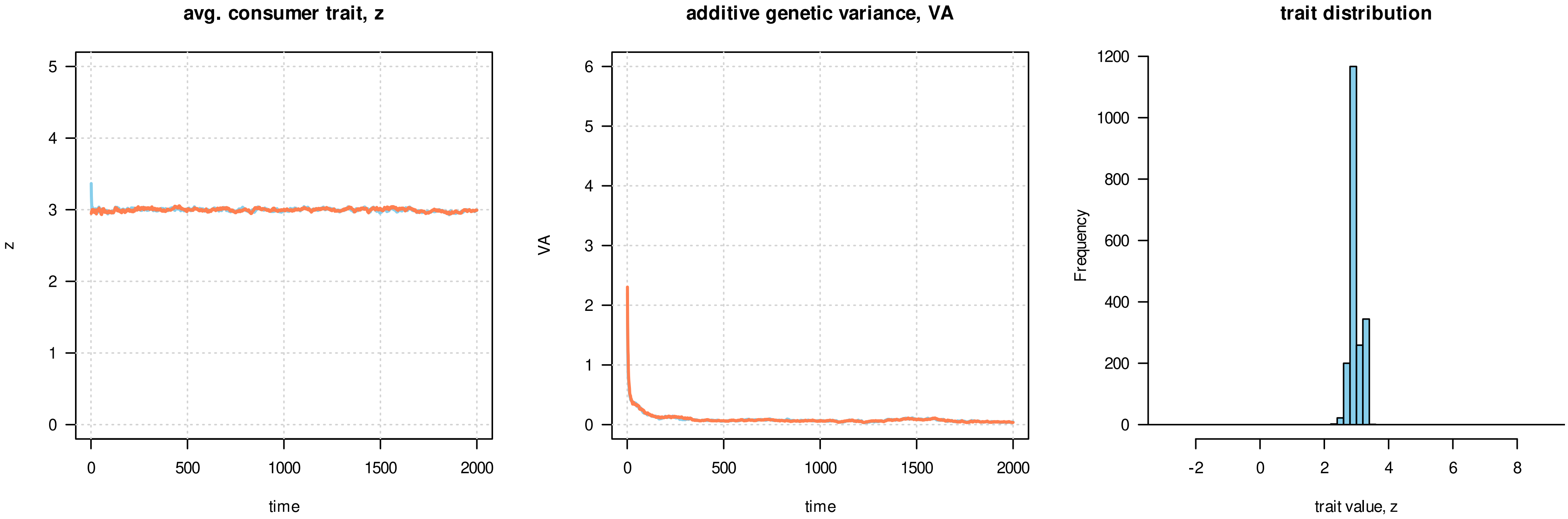
# for *small* levels of resource variation

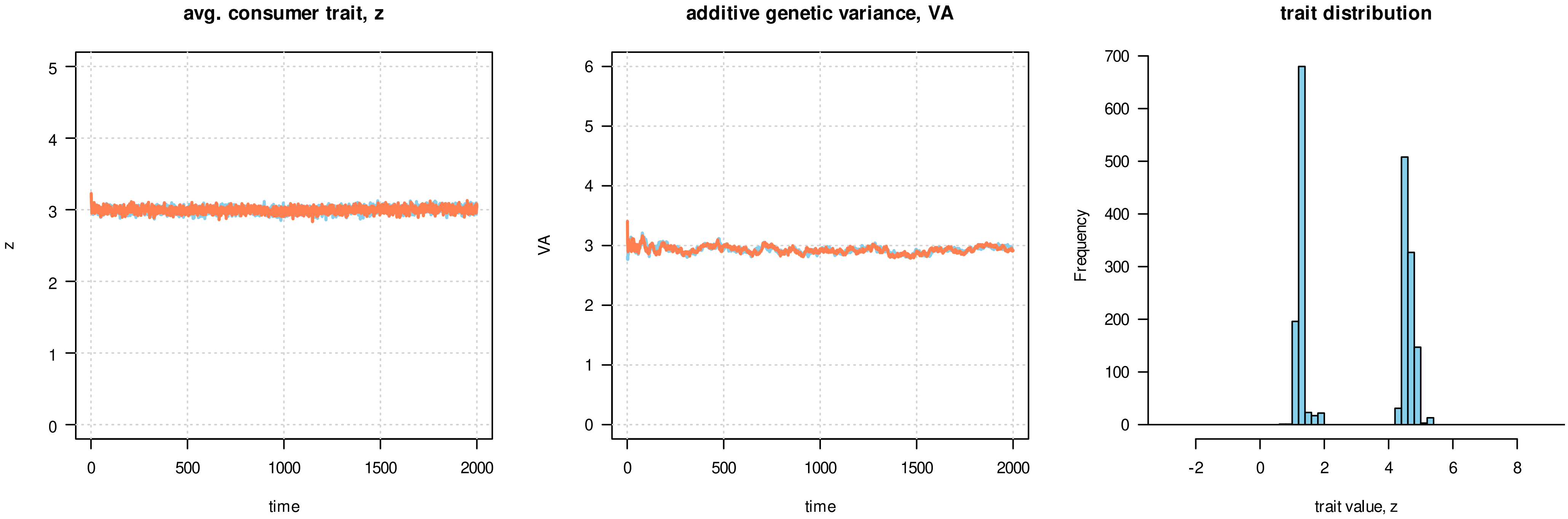



a) average trait value → adapts to the average resource property

b) low genetic variance

c) monomorphic trait distribution

# for *large* levels of resource variation

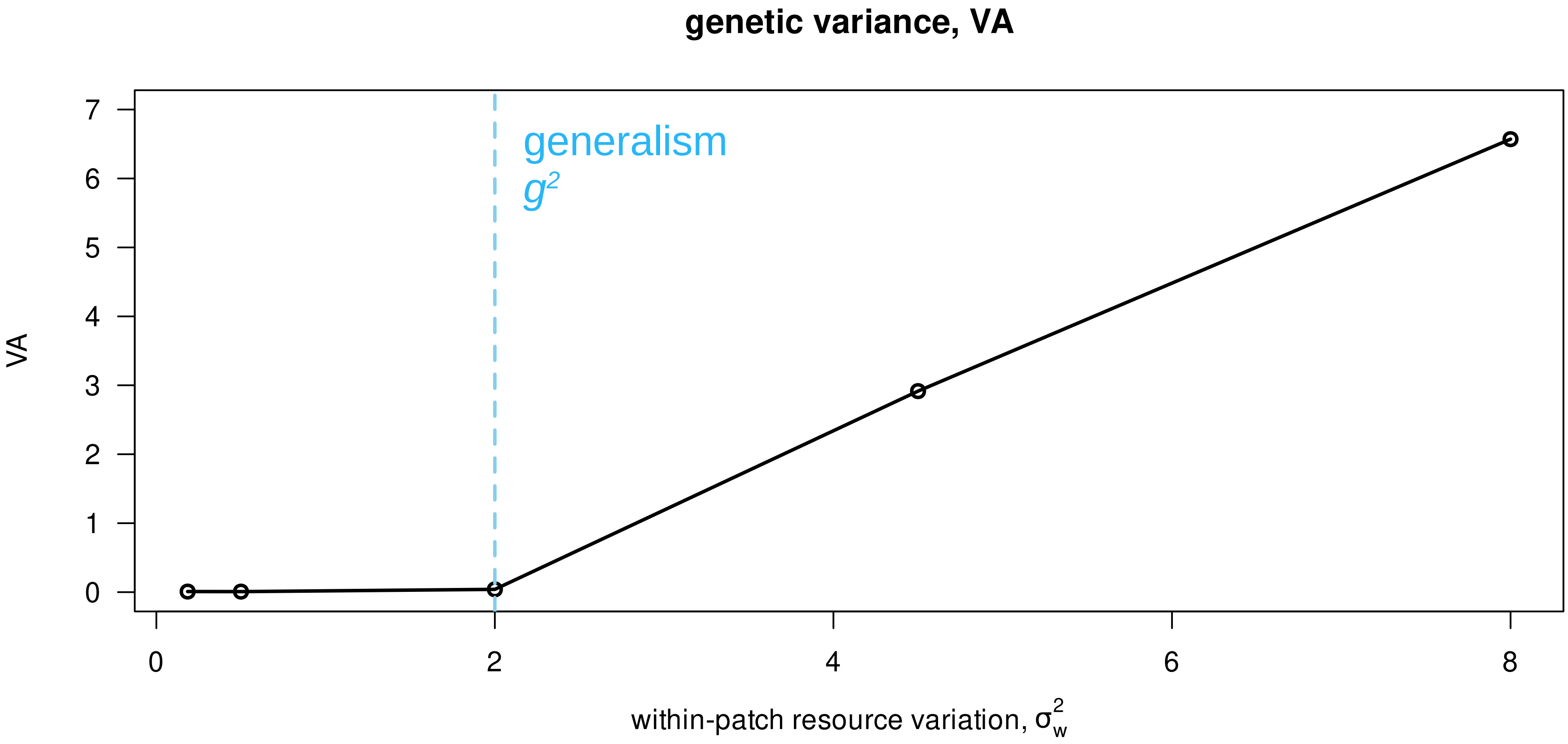



a) average trait value → adapts to the average resource property

b) *high* genetic variance

c) *polymorphic* trait distribution

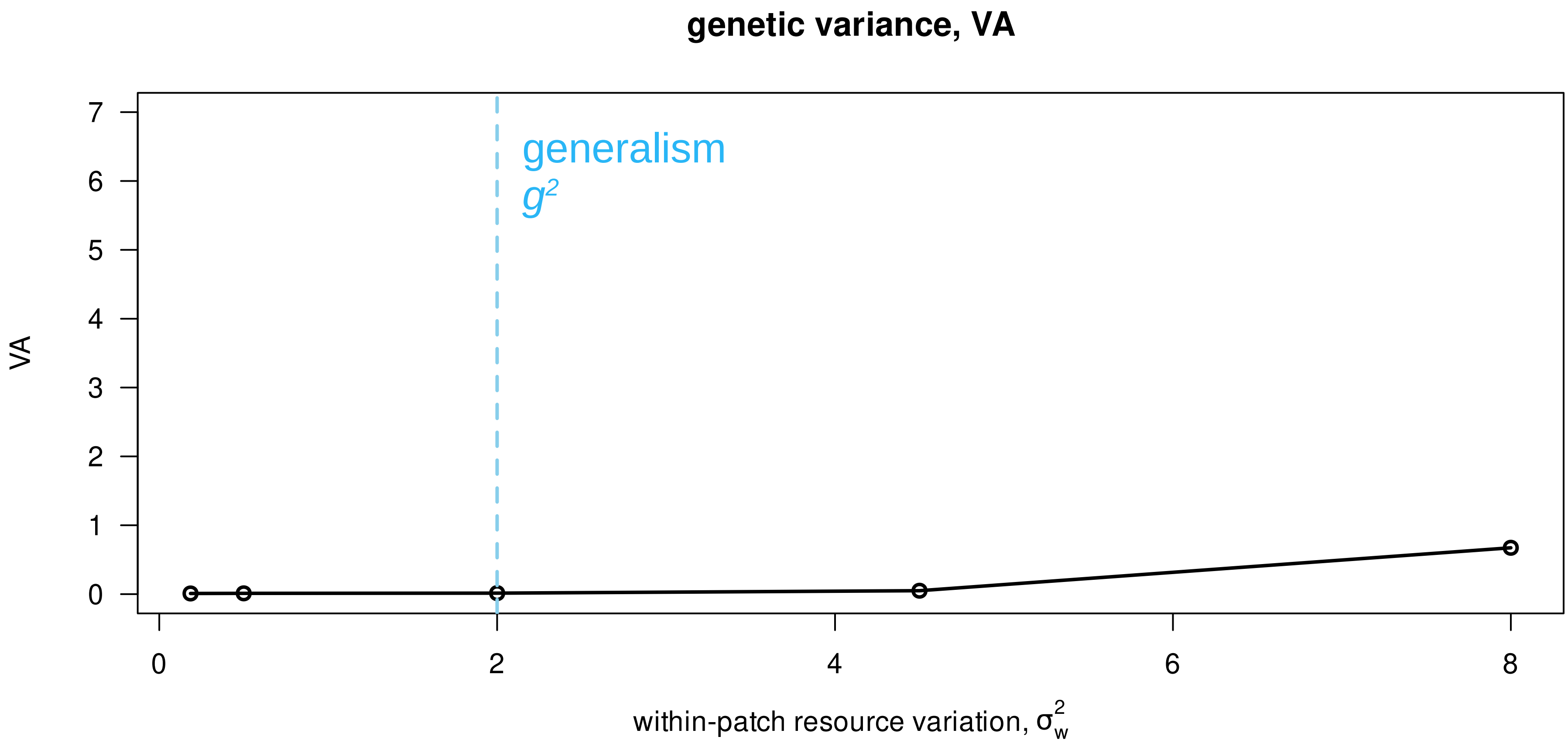
# local resource variation drives diversity




→ polymorphism evolves when: $\mathbf{g^2 < \sigma_w^2}$

Simulation job submitted. Results match theory.

# local resource variation *without competition*




→ polymorphism does not evolve

# How do we model exploitation competition ?

After solving eq. (1) and (2), we get individual fecundity

1) at long exploitation time (T → ∞):

$$f_i = f_{max} \sum_j p_j \frac{\alpha_i(z_i, q_j)}{\sum_{k=1}^{n} \alpha_k(z_k, q_j)}$$

→ exploitation of all resources
→ *intense* exploitation competition

2) at short exploitation time ($T \to 0$):

$$f_i = f_{max} \sum_j p_j \alpha_i(z_i, q_j)$$

→ resources never get scarce
→ *no* exploitation competition

# local resource variation drives diversity – with sexual reproduction