Table 1

aa aa

С

0

n

d

it

i

0 n

Desc

ripti

on

Evidence

٧

а

ri

а ti

0

n

Indiv

idual

s in a popu

latio

n or grou

р

diffe

som

е

trait of

inter

est.

Melanini sm is a commo n

mutatio

n across

many animals

Larger populati

ons

probabl

y have

some

dark

colored

mice

due to

the

commo

n-ness

of

melanini

sm

Black

mice

likely exist in

the

populati

on

Ι

n h

е

ri

t a

n

c e

The

varia

tion

in

the

trait of

inter

est

is at

parti

ally

inher

ited

(pas

sed

from

pare nts

+0

to

offsp ring).

The

varia

tion stem

S from rand om muta tions and the reco mbin ation that acco mpa nies sexu al repro ducti on. The gene tic varia tion may have arise n man У gene ratio ns in the

> Melanini sm is a genetic mutatio n, meaning it is

past.

genetic

ally

inherita

ble -

Fur color is governe d by genetics

Mutatio

ns in genetics are

inherita

ble

D

if

f e r е n ti а S u r ٧ ٧ а а n d r е р r 0 d u С ti

More offsp ring are born than can survive,

resul ting in com petiti

o n

on amo ng indivi dual s withi

popu latio n.

n a

Som e indivi

dual s with a

parti cular trait are more

likely to survi

ve and/ or have relati vely more offsp ring com pare d to indivi dual S that do not have that trait. Sele ction depe nds on the spec ific cont ext of a spec ies. Trait S that are bene ficial in one envir onm ent may caus е probl ems in anot her envir onm ent.

> Mice likely do not

> > have a sexual

preferen

ce when it comes

to fur color

Dark mice are

more likely to survive in a dark environ ment as they blend in to their environ ment, making it hard to predate on them

Dark

mice

have a

natural

environ

mental

pressur

е

favoring

them

Α

d a

p ti

0

n

The

frequ

ency

of

the

trait that

help

s indivi

dual

S

survi

ve or leave

more

offsp

ring

will incre

ase

in

the

popu

latio n

over time,

as

will the allele s that affec t the trait. This proc ess can take man У gene ratio ns and exte nd over very long perio ds of time.

> Dark mice are more likely to survive in dark areas

dark fur is inherita ble its

Since

ble, its increase d

fitness
will be
more
likely to
pass on
to the
next
generati
on

 Over time, more mice will be dark furred as they are more fit for the environ ment