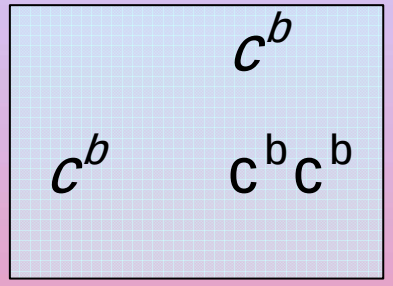
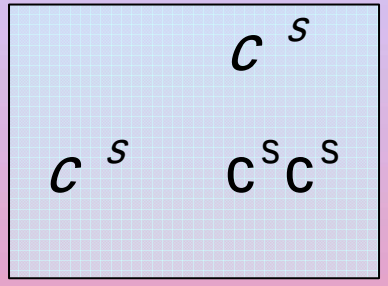
The burmese/siamese (albino) locus

- 5 alleles. In order of dominance:
  - C, full color
  - c^b burmese color (sepia), c^s siamese color (pointed)
  - c^a, blue eyed albino
  - c, pink eyed albino
- c^b and c^s are at the same level of dominance (partial dominance)

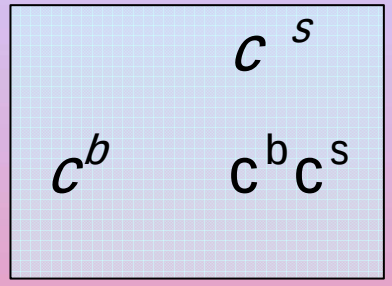
Sepia and mink colors



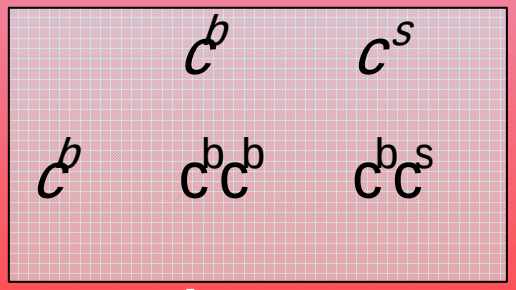
sepia x sepia



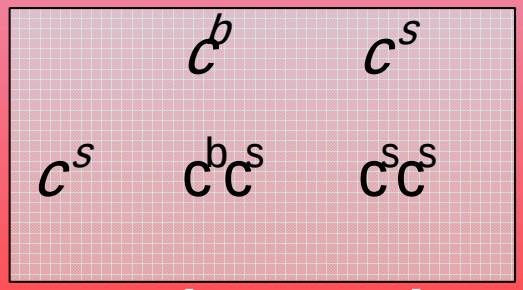
pointed x pointed



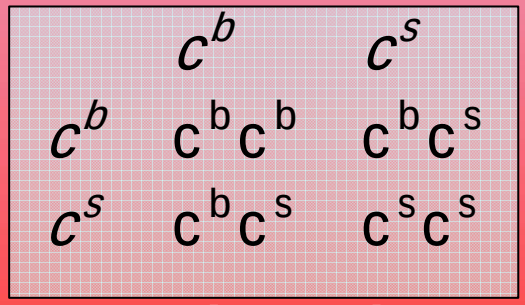
sepia x pointed



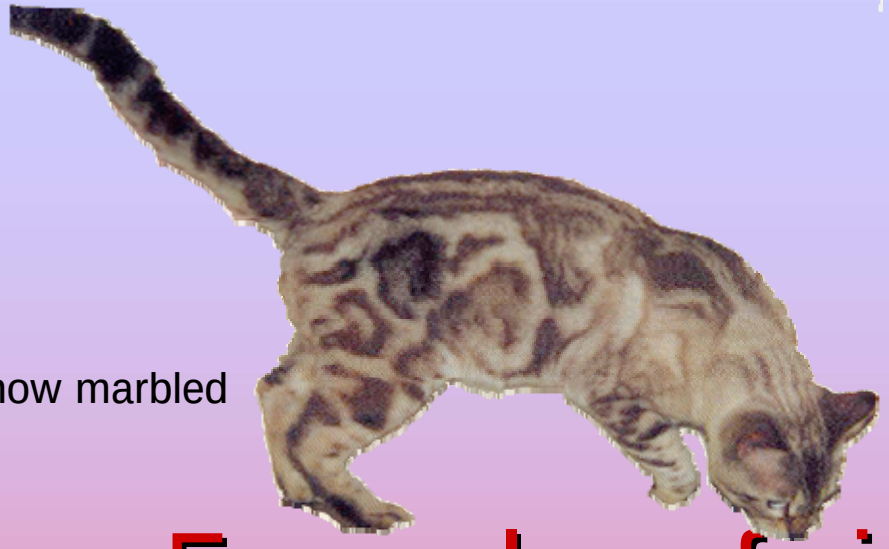
mink x sepia



mink x pointed



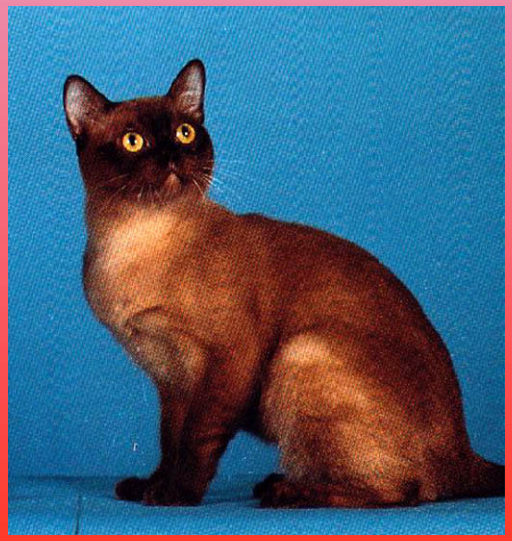
mink x mink



snow marbled

seal point

Examples of siamese, burmese, and tonkinese colors



chocolate sepia

lilac sepia

chocolate, lilac, seal and blue mink

Breeding minks (tonkinese)

- Breeding two minks we have:
  - 25% sepia (burmese colors)
  - 50% mink
  - 25% pointed (siamese colors)
- To allow the Tonkinese to be bred without outcrosses, TICA recognizes Tonkinese in all of these three Categories. The breed is determined by its morphology, not its color.

Albinos

- Albinos: no pigmentation
- c^a gives blue eyed albinos
- c gives pink eyed albinos (no pigment in the eyes: the pink color is the color of blood vessels)
- c^a is partially dominant over c. They are both recessive to all other alleles at the pointed locus.

Litters of sepia, pointed and albinos

- A mink stud is bred to a pointed queen. Can there be any albino kittens?
- A sepia stud is bred to a pointed queen. Can there be any albino kittens? If the answer is affirmative, which parent must carry albino genes?
- A black stud is bred to a seal point queen. Can the litter consist of blacks, seal points and albinos?

The Ojos Azules gene

- A dominant gene which produces blue eyes and a white tail tip, with no other effects on color. Not at the pointed locus.
- Dangerous effects on health occurred in early breedings

Genes of coat length

- Longhair gene l: the dominant allele L produces short hair
- Hairless gene hr: the dominant allele Hr produces normal coat, the recessive hr gives rise to the Sphynx
- Anther hairless gene, at a different locus, produces the Peterbald and the Donskoy. It is partially dominant: in heterozygotic form may produce brush coat. See next slide.

Two sphynx genes

- Hairless gene hr: the dominant allele Hr produces normal coat, the recessive hr gives rise to the Sphynx
- Another hairless gene, at a different locus and dominant, produces the Don Sphynx. The domination is incomplete: heterozygotic genotypes can produce brush coat.
- The same hairless gene of the Don Sphynx is active in the Peterbald.

Genes of coat structure

- Wirehair gene Wh: it produces wiry coat. Its recessive allele wh produces normal coat
- Rex genes:
  - Cornish rex gene r: the dominant allele R produces straight hair
  - Devon rex gene re: the dominat allele Re produces straight hair
  - Selkirk rex gene Rs: the recessive allele rs produces straight hair
  - Laperm gene
- The rex genes are at different loci

Litters of heterozygotic Devon Rex and Sphynx

	Re Hr	*re Hr*	*Re hr*	*re hr*
Re Hr	Re Re Hr Hr	Re re Hr Hr	Re Re Hr hr	Re re Hr hr
re Hr	Re re Hr Hr	re re Hr Hr	Re re Hr hr	re re Hr hr
Re hr	Re Re Hr hr	Re re Hr hr	Re Re hr hr	Re re hr hr
re hr	Re re Hr hr	re re Hr hr	Re re hr hr	re re hr hr

(Devon in red, Sphynx in blue)

Litters of heterozygotic Cornish and Devon Rex

	Re R	*re R*	*Re r*	*re r*
Re R	Re Re R R	Re re R R	Re Re R r	Re re R r
re R	Re re R R	re re R R	Re re R r	re re R r
Re r	Re Re R r	Re re R r	Re Re r r	Re re r r
re r	Re re R r	re re R r	Re re r r	re re r r

(Devon in red, Cornish in blue)

Genes of the ear structure

- American curl Ac: a dominant gene; its recessive allele produces straight ears
- Scottish fold Fd: a dominant gene, lethal if homozygotic, and dangerous in all cases; its recessive allele produces straight ears.
- These two genes are at different loci