Pleiotropic genes.

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These type of gene which possess multiple effects in controlling the expression of a number of genes. These means these genes have more than one phenotypic effect.

For example —, in Drosophila the gene which controlls wings size also exerts influence on eye colour, dorsal ~~bristle~~ bristle and shape of the spermatheca.

The phenomenon of multiple effect of a single gene is called pleiotropism.

Ex.

(1) In Drosophila recessive gene for vestigial wings cause vestigial wings in homozygous condition. However a careful observation show that 2 TUE other traits as well are affected

(i) the tiny wings-like balancer behind the wings. (ii) certain bristles.
(iii) The structure of the reproductive organ. (iv) Egg production is lowered (v) Longivity is reduced.

(2) In human the gene for disease phenylketonuria has pleiotropic ~~effect~~ & produced various abnormal phenotypic traits. collectively

Notes

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called syndrome. For ex —,
3 WED the affected individual secrete excessive quantity of amino acid phenylalanine in their urine, & blood. They become short stature, mentally defficient, with widely spaced incisors with pigmented patches on ~~of teeth~~ skin, with excessive sweating, and with non pigmented hairs and eyes.

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Most of the gene have their
4 THU multiple effects and are called pleiotropic gene. The phenomenon of multiple effect of a single gene is called pleiotropism.

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