

Mendelian Characters in Plants, Animals and Man.

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The year 1866 marks an epoch in the history of Evolution. In that year Mendel published in this journal his classical memoir on heredity. More than a quarter of a century elapsed ere Mendel's remarkable contribution attracted the attention of the scientific world, and in the meantime the great man passed away unknown to the world of science. The simultaneous discovery of Mendel's memoir by de Vries, Correns and Tschermak, early in the year 1900, is one of the romances of Science.

Since 1900, Mendel's fame has increased by leaps and bounds until at the present moment the cult of Mendelism is spread far and wide over the civilized world. When one considers that the Mendelian principles of heredity were based on a few simple experiments with the common garden pea, this rapid development is indeed remarkable. The living power and truth of Mendelism can only be due to the fact that the experiments of Mendel, simple though they be, were conceived, completed, and interpreted by a master mind.

Mendel's great discovery was the reality of segregation. Other observers had noted the phenomenon of Segregation in both plants and animals, but Mendel was the first to perceive its reality, and to realise its true meaning.

While others were content to regard segregation merely as irregular variation, Mendel perceived that segregation implied a regular mode of inheritance that was not only qualitative but quantitative, and the demonstration of the Mendelian ratios led naturally to Mendel's conception of differential characters.

In his experiments with garden peas Mendel found seven pairs of differential characters, viz: — Rounded and wrinkled seeds, yellow and green cotyledons, coloured and white seed coats, inflated and constricted seed-pods, distributed and bunched flowers,

and tall and dwarf stems. Mendel demonstrated that all these differential characters truly segregated after crossing.

During the last few years, many experimenters, in many lands, have applied the Mendelian principles to many kinds of plants and animals, including Man himself. These experiments have yielded a heavy harvest of facts which fully confirm Mendel's original conceptions of the nature of heredity.

In illustration of this, a list of characters in plants, animals and Man, which have been found to be subject to Mendel's law of segregation, is given below, together with the names of the experimenters and observers concerned in their determination. This list, though fairly comprehensive, is by no means complete, and new characters are being added almost every day.¹⁾

¹⁾ In compiling this list of Mendelian characters no attempt has been made to detail the germinal factors concerned in the formation of the visible characters noted in the list. In certain cases, therefore, characters included may be merely different reactions of the same germinal factors, while others may be due to various combinations of unit-factors.

List of Characters subject to Mendel's Law.

a) Plants.

Agrostemma.

Purple, and pale coloured flowers. (de Vries.)

Amarantus.

Red, and green foliage. (de Vries.)

Anagallis.

Red, and blue flowers in the Pimpernel. (de Vries, & Tschermak.)

Antirrhinum.

Tall, short, and dwarf habit of growth in the Snapdragon.

Green, yellow, white, and variegated leaves.

Normal, and peloriate flowers.

Pure white (weiß), „White Queen“, ivory (elfenbein), and yellow (gelb) flowers.

Pale (bläß), intermediate (mittel), and deep (dunkel) coloured forms of rose-doré (chamois-rosa auf elfenbein), bronze (chamois-rosa auf gelb), magenta (rot auf elfenbein), and crimson (rot auf gelb) flowers.

Tinged (fleischfarbig), self-coloured (ganz), Delila, striped (gestreifte) and marbled (picturatum) forms of each of the above 4 colours. (de Vries, Wheldale, Baur, & Hurst.)

Aquilegia.

Green, and variegated leaves in the Columbine. (Baur.)

Aster.

Coloured, and white flowers. (de Vries.)

Atropa.

Red, and green stems, brown, and yellow flowers, black, and yellow fruits in the Nightshade. (de Vries, Bateson & E. R. Saunders.)

Avena.

Black, yellow, grey, and white glumes in Oats.
Presence and absence of ligules. (John Wilson, and Nilsson-Ehle.)

Berberis.

Hairy, smooth, 3 spined, and 5 spined stems, yellow, and orange flowers.
Revolute, flat, glaucous, green, & purple leaves. (C. E. Saunders, and Hurst.)

Brassica.

White, and yellow flesh in Swedes & Turnips.
Bulbing, and non-bulbing stems.
Lacinate Kale, Swede, Kohl Rabi, and Cabbage foliage.
Green, and purple leaves. (Sutton, and Hurst.)

Bryonia.

Red, and black fruits, monoecious, and dioecious flowers, male and female sex. (Correns, Bateson and E. R. Saunders.)

Bursa (Capsella).

Angular, and rounded capsules. Heteris, tenuis, rhomboidea, and simplex forms of *B. bursa-pastoris* and *B. Heegeri*. (Shull.)

Campanula.

Blue, and white flowers.
Normal, and monstrous calyx. (de Vries, and Correns.)

Canavalia.

Tall, and semi-dwarf habit of growth.
Pink, and white flowers.
Red, and white testa. (Lock.)

Cattleya.

Purple, and white (albino) flowers. (Hurst.)

Chelidonium.

Normal, and laciniate leaves & petals. (de Vries.)

Chrysanthemum.

Yellow, and white flowers. (de Vries.)

Clarkia.

Magenta-red, salmon-pink, and white flowers. (Bateson, Punnett, and de Vries.)

Coreopsis.

Yellow, and brown flowers. (de Vries.)

Cucurbita.

Size, and shape of fruits. (Emerson.)

Datura.

Red, and green stems.

Violet, and white flowers.

Prickly, and smooth fruits. (de Vries, Bateson, E. R. Saunders, and Baur.)

Delphinium.

Single, and semi-double flowers.

Blue, pink, and white flowers. (Bateson, & Hurst.)

Dendrobium.

Purple, and white (albino) flowers. (Hurst.)

Dianthus.

Single, semi-double, and double flowers in the Carnation. (Norton.)

Digitalis.

Normal, heptandrous, and campanulate flowers in the Foxglove. Magenta, and white flowers.

Red, and yellow spots of flowers. (Keeble, Pellew, Jones, E. R. Saunders, and Hurst.)

Epilobium.

Red, and white flowers.
Grey-green, and yellow pollen. (Correns.)

Fragaria.

Various characters in *F. virginiana* & *F. elatior*.
Red, and tinged-white fruits of strawberries.
Garden, and alpine forms. (Strasburger, & Hurst.)

Gerbera.

Red, and yellow flowers. (Bateson, and Lynch.)

Geum.

Red, and yellow flowers. (de Vries.)

Gossypium.

Branched, unbranched, tall, and short habit of growth in the
Cotton plant.
Early, late, and continuous flowering-habit.
Light green, dark green, red spotted, and faintly spotted leaves.
Glabrous, and hirsute petiole of leaf.
Pointed, and rounded leaves.
Red, yellow, lemon, creamy-white, purple spotted, and unspotted
petals.
Tubular, and campanulate corolla.
Long, short, rich-yellow, pale-yellow, and buff coloured anthers.
Long and short style.
Green, brown, cream, white, long, short, regular, irregular, even,
uneven, fine, and coarse lint.
Large, small, fuzzy, naked, loose, and adhering seeds. (Fletcher,
Balls, Fyson & Leake.)

Helianthus.

Branched, and unbranched habit of growth in the Sunflower.
Purple, and yellow disc of flower. (Shull.)

Hordeum.

Lax, dense, hooded, normal, beardless, bearded, 2-rowed, 6-rowed,
simple, and compound ears in the Barley.

Various degrees of sterility in lateral florets.

Broad, and narrow glumes.

Black, and white paleae. (Biffen, Tschermak, Johannsen, and John Wilson.)

Hyoscyamus.

Annual, and biennial habit of growth.

Dark, and pale flowers. (Correns, and de Vries.)

Lathyrus.

Tall, bush, prostrate cupid, and erect cupid habit of growth in the Sweet Pea.

Flat, hooded, waved, and snapdragon standards of flowers.

Purple, red, white, cream, crimson, rose-pink, scarlet, orange, salmon, and blue flowers.

Self-coloured, bicolor, picotee edged, and flaked flowers.

Long, and round pollen-grains.

Fertile, and sterile anthers.

Dark, and light coloured seeds and axils of stems.

(Bateson, E. R. Saunders, Punnett, Biffen, Cuthbertson, Thoday, and Hurst.)

Linaria.

Orange, and yellow palate of flowers. (de Vries.)

Lunaria.

Green, and variegated (albo-marginata) leaves. (Correns, and Baur.)

Lychnis.

Annual, and perennial habit of growth.

Hairy, and smooth Leaves.

Reddish-purple, bluish purple, and white flowers.

Curved and straight capsules.

(de Vries, Bateson, E. R. Saunders, Punnett, and Shull.)

Lycopersicum.

Tall and dwarf habit of growth in the Tomato.

Normal-cut-leaf, entire, tripinnate, smooth, rough, green, and yellow leaves.

Many-celled, 2-celled, round, pyriform, conic, compressed, smooth, tomentose, red, pink, and yellow fruits.

Red, and yellow flesh of fruits.

Yellow, and white skin of fruit.

(Price, Drinkard, East, and Hurst).

Matthiola.

Branched, and unbranched habit of growth in Stocks.

Hoary, glabrous, glandular, and glandless leaves.

Annual, and biennial habit of growth.

Single, and double flowers.

Purple, red, blue, white, cream, sulphur-white, crimson, terracotta, flesh, rose, lilac, violet, copper, and plum coloured flowers.

Green, and brown seeds.

(E. R. Saunders, Bateson, Punnett, Correns, Tschermak, and Wheldale.)

Melandrium.

Green, and white leaves. (Baur.)

Mimulus.

Normal, and monstrous flowers. (Correns.)

Mirabilis.

Tall, and short habit of growth.

Green, variegated, and yellow (chlorina) leaves.

Crimson, yellow, white, pale yellow, magenta, orange-red, white-flaked-magenta, magenta rose, white-flaked-yellow, pale yellow-flaked-yellow, and magenta-rose-flaked-orange-red flower colours. (Correns, Marryat, and Baur.)

Nicotiana.

Purple, red, pink, yellow, and white flowers.

Blue, and grey-white pollen.

Inflated, and funnel-shaped corolla.

(Lock, Haig-Thomas, and Hurst.)

Odontoglossum.

Yellow, cream, white, blotched, and plain flowers. (Hurst.)

Oenothera.

Long, and short style.
Rubricalyx, and rubrinervis forms.
(de Vries, and Gates.)

Papaver.

Tall, and dwarf habit of growth in Poppies.
Purple, red, white, single, and double flowers.
Various colour types and patterns of the „Shirley“ Poppy.
Black, and white basal spot in petals of flower. (de Vries, Bateson,
Shull, and Hurst.)

Paphiopedilum (Cypripedium).

Purple, and albino forms.
Spotted, and striped colour-patterns in the dorsal sepal of the
flower.
Yellow, and green plastid colours in the flowers. (Hurst.)

Pelargonium.

Green, yellow-green, variegated (albo-marginata), and yellow
leaves.
Light red, rose-pink, salmon-pink, tinged white, and pure white
flowers. (Baur, and Hurst.)

Petunia.

Single, and double flowers. (de Vries, & E. R. Saunders.)

Phaseolus.

Tall, and dwarf habit of growth in Beans.
Green, and white leaves.
Purple, red bicolor, and white flowers.
Constricted, inflated, stringy, stringless, blunt, pointed, axial,
terminal, green, and yellow pods.
Purple, yellow, brown, orange, dark-red, black, and white seeds.
Size, shape, and weight of seeds.
Self coloured, bicolor, and mottled seeds.
Hypo-geal, and epi-geal cotyledons.
(Emerson, Tschermak, Shull, and Johannsen.)

Phyteuma.

Violet, blue, and white flowers. (Correns.)

Pisum.

Tall, half dwarf, and dwarf habit of growth in Peas.
Long, and short internodes, thick, and thin stems.
Early, and late flowering and ripening.
Purple, red, and green axils.
Purple, pink, and white flowers.
Distributed, and bunched flowers.
Normal, and fasciated stems.
Green, and yellow unripe pods.
Inflated, constricted, blunt, pointed, wide, and narrow pods.
Round, indent, and wrinkled seeds.
High, and low absorptive capacity of seeds.
Long, round, simple, and compound starch grains in seeds.
Yellow, and green cotyledons.
Dark, and pale hylum of seed.
Purple spotted, reddish dotted, mapled, grey, and white seed-coats.
(Correns, Tschermak, Bateson, E. R. Saunders, Punnett, Lock,
Gregory, Darbishire, Keeble, Pellew, and Hurst.)

Polemonium.

Blue, white, and yellow flowers. (de Vries, and Correns.)

Primula.

Palm-leaved, fern-leaved, ivy-leaved, and parsley-leaved forms
in the Chinese Primrose.
Dark red, pale red, and green stems.
Pure white, tinged white, flaked white, flesh coloured, salmon-
pink, rose-pink, red, crimson, magenta, lavender, and blue
flowers.
Small-eyed, large-eyed, dark-eyed, and light-eyed flowers.
Imbricate (*sinensis*), and stellate (*stellata*) petals.
Normal, and giant forms of *stellata*.
Short style with large pollen grains and „thrum-eye“, long style
with small pollen-grains and „pin-eye“, and homostyled.
Red, and green stigmas.

Petalody of sepals.

Single, and double flowers.

(Bateson, Gregory, Keeble, Pellew, and Hurst.)

Prunus.

Hairy, and smooth fruits in Peaches and Nectarines.

Large, and normal flowers.

Reniform glands, round glands, and glandless petioles of leaves.
(Rivers, and Bateson.)

Ranunculus.

Spiny, tuberculated, and smooth fruits. (Bateson, E. R. Saunders
and Punnett.)

Salvia.

Purple, red, and white flowers. (Bateson and E. R. Saunders.)

Secale.

Winter, and Summer varieties of Rye.

Blue-green, and yellow-green grain.

(Tschermak, and Ruëmker.)

Silene.

Red, rose, and white flowers. (de Vries.)

Solanum.

Strong, medium, and weak-coloured stems in the Potato.

Normal, and twisted leaves.

Round, oval and long tubers.

Deep, and shallow-eyed tubers.

Purple, red, and tinged-white tubers.

Coloured, and pure white flowers.

Self-coloured, and tongued-pattern of flowers.

Sterile, and fertile anthers.

Immunity, and susceptibility to disease.

(Salaman, and East.)

Trifolium.

Red, and white flowers.

Five-leaved, and three-leaved clover.

(de Vries.)

Triticum.

Winter, and spring habit in wheat.

Thick-hollow, thin-solid, angular, circular, bristly, and smooth stems.

Rough, smooth, broad and narrow leaves.

Beardless, bearded, compact, and dense ears.

Felted, smooth, keeled, rounded, large, and small glumes.

Red, white, and grey chaff.

Red, white, long-narrow, and short-round grains.

Hard-translucent, soft-opaque endosperms.

Strong, and weak quality of flour.

High, and low yield of grain.

Early, and late ripening of grain.

Susceptibility and immunity to yellow rust.

(Spillmann, Tschermak, Biffen, John Wilson, and Nilsson—Ehle.)

Tropaeolum.

Tall, and dwarf habit of growth.

Red, and yellow flowers. (Weiß.)

Ulmus.

Opposite, alternate, small, and large leaves.

Long, and short petioles in the Elm. (Henry.)

Urtica.

Much serrated, and little serrated edges of leaves in the Nettle.

Green, and yellow-green (Chlorina) leaves. (Correns, and Baur.)

Verbascum.

Yellow, and white flowers. (Shull.)

Veronica.

Blue, and white flowers. (de Vries.)

Viola.

Dissected, undissected, pubescent, and glabrous leaves in the Violet.

Blue, and white flowers.

Purple, and green capsules.

Brown, buff, black, and pale yellow seeds. (de Vries, and Brainerd.)

Zea.

Flint, dent, and sweet corn in Maize.

Purple, white, yellow, and red seeds.

Large, and small grains.

Long, and short stalks.

(de Vries, Correns, Lock, East, Shull, and Emerson.)

b) Animals.

Abraxas.

Typical, light (lacticolor), and dark (Varleyata) forms of moths in *A. grossulariata*. (Currant Moth.)

Male, and female sex.

(Doncaster, Raynor, Bateson, & Newman.)

Amphidasys.

Typical, and black (doubledararia) forms of moths in *A. betularia*. (Peppered moth.) (Bateson, Main, and Harrison.)

Aglia.

Typical, and dark (lugens) forms of moths in *A. tau*.

(Bateson, Standfuss, and Castle.)

Angerona.

Typical-reticulated, and dark-banded (sordiate) forms of moths in *A. prunaria*. (Doncaster.)

Arion.

Black, brown, red, and striped slugs. (Collinge, and Cockerell.)

Athene.

Yellow, and black eyes in *A. noctua* (Little Owl). (Bateson, and Giglioli.)

Axolotl.

Dark, and light larvae. (Häcker.)

Bombyx.

Dark, and light moths in *B. mori* (Silkworm).

Dark, white, self-coloured, light-striped, and dark striped larvae.

Black, red, blue, and brindled worms.
Salmon-coloured cocoons.
Yellow, and white silk.
(Coutagne, Toyama, and Kellogg.)

Bos.

Polled, and horned cattle.
Red, black, red-roan, blue-roan, white, brown, brindled, dun, and yellow coat-colours in Cattle.
White face in Hereford cattle.
White back-stripe in Longhorn cattle.
Long, and short faces.
Stout-short-legged, and slender-long-legged breeds. (Dexters and Kerries.)
Hollow, and round rump. (Shorthorn & Angus.)
(Bateson, Spillman, and James Wilson.)

Callimorpha.

Red, and yellow hind wings in *C. dominula*. (Bateson, Standfuss, and Newman.)

Canis.

Black, and red coat-colour in Retriever dogs.
Brindle, and wheaten coat in Scottish terriers. (Hurst.)

Capra.

Horned, and hornless goats. Lop (Indian), and Erect (Irish) ears.
Presence, and absence of neck-wattles.
(Bateson, Boys-Smith, and Davenport.)

Cavia.

Short, and long (Angora) hair in Guinea-pigs.
Rough-rosetted (Abyssinian), and smooth coats.
Agouti, yellow-agouti, silver-agouti, black, blue, red, black-red, yellow, cream, cinnamon, yellow-cinnamon, silver-cinnamon, chocolate, and silver-fawn coat-colours.
White with black points, white with chocolate points, white with red points (albinos).

Brindled, and spotted coat-colour patterns.
Dark, ruby, and pink eyes.
(Castle, Forbes, Sollas, and Mac Curdy.)

Coccinella.

Red, and melanic types. (Johnson.)

Columba.

Normal, and webbed feet in pigeons.
Plain head, and „shell“ feathers. (Nun.) Blond, and white doves.
Barb and Tumbler black, blue (Rock), red, Tumbler-white,
Fantail-white, black and white, blue and white, ticked
white, and tricolor plumage.
Chequered, blue, and white rumps.
Pigmented, and unpigmented beaks and claws.
Red, and flesh-coloured eye-wattles.
White („pearl“), orange, and black („bull“) eyes.
(Staples-Browne, Bond, Bonhote, Strong, and Cole.)

Crioceris.

Dark, and light forms of Asparagus Beetles. (Lutz.)

Drosophila.

Long, short, veined and scalloped wings of Vinegar Flies.
High, and low productiveness, dwarfness.
Red, and white eyes.
Male and female sex.
(Morgan, Lutz, Castle, Carpenter, Clark, Mast, and Barrows.)

Equus.

Trotting, and pacing gait in horses.
Bay-brown, shire-black, liver-chestnut, yellow-chestnut, white-grey,
roan-grey, and dun coat-colours.
Concave, and convex faces.
Straight, and curved thighs and hocks.
Prick-ear, drooping-ear, forward-droop, and outward-droop of ears.
Sprinters, and stayers.
Liability to cataract-blindness, breaking blood-vessels, and paralytic
roaring.

Long-back, and short-back.

(Bateson, Robertson, James Wilson, Bunsow, and Hurst.)

Felis.

Short, and long (Persian) hair in Cats.

Short (Manx), and long tail.

Red, cream, black, blue, and tortoise-shell coat-colours.

Striped, and blotched tabby-patterns.

(Doncaster, Bateson, Davenport, Pocock, & Hurst.)

Gallus.

Rose, pea, single, walnut, Y, V, Breda, and silky combs.

Leghorn, Dorking, Wyandotte, Rock, Silky, Rosecomb-Bantam, Andalusian, Breda, and other dominant and recessive kinds of white plumage.

Black, and blue plumage of Andalusians and Bredas.

Buff, black and red plumage of various breeds.

Self-coloured, barred (Cuckoo), pencilled, spangled, laced, mottled, and pile patterns of plumage colour.

Gold and silver-Duckwing patterns.

Black and white Crests.

Brown-striped, and pale brown down-colour.

Crested, muffed, bearded, and plain-heads.

Normal, extra-toed, vulture-hocked, rumpless, wingless, and web-footed birds. Cerebral hernia, low-narrow, and high-wide nostrils.

Plain, silky and frizzled feathers.

Red, and white ear-lobes.

Red, black, dark brown, pearl, and daw eye-colours.

Black, white, yellow, willow, and horn-coloured, feet, shanks, and mandibles.

White, yellow, blue, and Silky-black skin-colour.

Shrieking, and non-shrieking voices.

Broody, and non-sitting habits.

(Bateson, Punnett, Davenport, Spillman, Pearl, Surface, Goodale, and Hurst.)

Gastroidea.

Blue-black, and bright-green forms of *G. dissimilis*. (McCracken.)

Gryllus.

Wing dimorphism in *Gryllus*. (Lutz.)

Helix.

Unbanded, and five-banded types of snails (*H. hortensis* and *H. nemoralis*).

Yellow, red, and brown ground-colour. (Lang.)

Hemerophila.

Dark-coloured variety, and type in *H. abruptaria*. (Bateson and Harris.)

Hippodamia.

Spotted patterns of elytra in *H. quinquesignata*, *lecontei*, *convergens*, *extensa*, and *glacialis*. (Johnson.)

Leptinotarsa.

In the Colorado Potato-beetle, typical *L. decemlineata* and its varieties *pallida*, *melanicum*, *tortuosa*, and *rubrivittata*.

Typical *L. multitaeniata* and its varieties *melanothorax* and *rubicunda*. (Tower.)

Lepus.

Short fur, and long (Angora) hair in rabbits.

Grey, black, white-tailed-yellow (Silver Fawn), blue-tailed-yellow (Tortoiseshell-Dutch, and Sooty Lop), blue-grey (Dutch), blue (Dutch), cream, blue-fawn (Dutch), and pale-sooty (Lop), coat-colours.

Pure-white (Polish), and Himalayan-white albinos.

Selfcoloured, English-spotted, Dutch marked, spotted Dutch, and black and tan coat-colour patterns.

Plain and silvered-coats.

Fertility and partial sterility in Lops. (Castle, Punnett, and Hurst.)

Lasiocampa.

Red, and white fur in *L. quercus sicula* and *L. q. meridionalis*. (Bateson, Bacot and Warburg.)

Lina.

Spotted, and self-coloured-black elytra in *L. lapponica*.
(Mc. Cracken.)

Melasoma.

Spotted, intermediate, and self-coloured-black elytra in *M. scripta*. (Mc. Cracken.)

Mus.

Agouti-grey („brown“), Alexandrian-black, Norway-black, and albino coat-colours in Rats.

Irish, hooded, and self-coloured coat-colour patterns in Rats.

Hairy and naked skin in Mice.

Normal and waltzing Mice

Yellow, grey (agouti), black, chocolate, cream, blue-grey, pale-grey (Chinchilla), blue, pale-blue, cinnamon, pale-cinnamon, pale-chocolate, lilac, pale-lilac, and pure white (albino) coat-colours in Mice.

Self-coloured, dominant piebald, and recessive piebald coat-colour patterns in Mice.

Black (dark-brown), ruby (chocolate), and pink eyes in mice.
(Bateson, Doncaster, Mudge, Morgan, Mac Curdy, Castle, Campbell, Darbshire, Allen, Cuénot, Durham, Little, Schuster, and Hagedoorn.)

Numida.

Pearl-coloured, and white plumage in Guinea-fowls. (Davenport.)

Ovis.

Horned, and hornless sheep.

White, and black wool.

White, black, and speckled faces.

Woolly, and bare heads.

Black, blue, and white, skin and faces in Wensleydale sheep.

Normal and otter breed (Ancon).

(Wood, Bateson, Davenport, Robertson, and Dwight.)

Serinus.

Full crested, half crested, plain-headed, and bald-headed canaries.
Green, cinnamon, „Jonque“, and „Mealy“ plumage-colour.

Clear, pied, mottled, and ticked colour-patterns.

Lizard-cap-and-lacings, shoulder-stripping, black-wing, olive-breast,
and white-laced remiges.

Black, and pink (juvenile) eyes.

Male, and female sex.

(Bateson, Davenport, Noorduijn, & Durham.)

Sus.

Yorkshire-white, Berkshire-black, and Tamworth-red colours
in pigs.

Self-coloured-black, and white-belted-black (American) colour-
patterns.

Mule-foot, and normal feet.

(Spillman, Bateson, Staples-Browne, & Simpson.)

Triphaena.

Melanic, and reddish forms of *T. comes*. (Bateson, Bacot, and
Prout.)

Xanthorhoe.

Purplish-banded, and black-banded forms of *X. ferrugata*.
(Doucaster, and Prout.)

c) Man.

Brown (Self Duplex), Grey (Ringed Duplex), and blue (Simplex),
eye-colours.

Fiery-red, auburn, (brown-red), and flaxen (yellow) hair colours.
Straight, wavy, and curly hair-forms.

Dark (Brunet), fair (Blond), and intermediate skin-colours in
„white“ races.

Various grades of skin-colours in mulattos and „whites“.

Pale, fresh, and coloured complexions in „white“ races.

Normals, and various grades of „albinos“ in black and „white“
races.

Short, and Tall stature in Filipinos.

Round, and long heads in Filipinos.

Broad, and narrow noses in Filipinos.

Musical, and non-musical temperaments.

Immunity, and susceptibility to various kinds of diseases.

Various inherited deformities and defects.

Dominant hereditary malformations and diseases include: Brachydactyly, aborted fingers, split-hand and split-foot, Cataract, Tylosis palmaris et plantaris (Keratosi), Epidermolysis bulbosa, Xanthoma, Multiple Teleangiectasis, Hypotrichosis congenita familiaris, Monilithrix, Porokeratosis, Enlarged spleen, Diabetes insipidus (polyuria), Hermaphroditism, Hereditary Chorea, Stationary night-blindness, and the Sex-limited diseases. Haemophilia, Colour-blindness, Pseudo-hypertrophic muscular paralysis (Gower's Disease), and certain kinds of night-blindness.

Recessive hereditary diseases include Retinitis pigmentosa, alkaptonuria, certain forms of Deaf-mutism, insanity and Imbecility.

(Farabee, Bateson, Punnett, Davenport, Gossage, Drinkwater, Mudge, Nettleship, Garrod, Bean, Grover, and Hurst.)

The above list will serve, better than any words of mine, to illustrate the great and growing importance of Mendel's discovery, and will give the general reader some idea of the remarkable developments that have taken place during the last few years in the application of Mendelism to plants, animals, and man. Thanks largely to the labours of Bateson and his co-workers, a new science — the science of Genetics — has been built up on a Mendelian basis. This science, with its modern methods of factorial analysis, and pure-line breeding, promises to provide solutions to many problems of heredity and variation, hitherto obscure.

Notwithstanding the short time that has elapsed since Mendel's memoir was discovered, the influence of Mendelism is already being felt, not only in the academic world of Biology, but also in the practical Arts and Industries related thereto.

In the ancient arts of Agriculture and Horticulture, for instance, new races and strains innumerable are being built up and isolated by the aid of the Mendelian principles, and it is impossible to estimate the vast economic results that may result therefrom.

In the old science of Medicine and the new science of Eugenics, the Mendelian principles have already, in certain cases, shed a clear light where before was utter darkness.

In the systematic sciences of Botany, Entomology, Ornithology, and Zoology, systematists are already beginning to utilise the Mendelian principles to assist them in the determination of their species and varieties.

The influence of Mendelism in modifying the Darwinian conceptions of Evolution, is already considerable, and the reflex of this influence must, sooner or later, be felt in the more remote regions of Philosophy.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Verhandlungen des naturforschenden Vereines in Brünn](#)

Jahr/Year: 1910

Band/Volume: [49](#)

Autor(en)/Author(s): Hurst C. C.

Artikel/Article: [Mendelian Characters in Plants, Animals and Man 192-213](#)