

GEOLOGIC EPOCHS

RECENT

PLEISTOCENE

PLIOCENE

MIOCENE

OLIGOCENE

Eocene

THE GEOLOGIC STORY OF THE HORSE IS WELL KNOWN. IT IS ESSENTIALLY NORTH AMERICAN FOR THE HORSE EVOLVED HERE, ONLY INTERMITTENTLY EXTENDING ITS RANGE TO THE OLD WORLD. THE ENVIRONMENT IN WHICH IT LIVED CHANGED SLOWLY FROM TROPICAL RAINFOREST AND SAVANNA TO TEMPERATE SHORT-GRASS PRAIRIE. THE HORSE RAPIDLY ADJUSTED TO ITS PHYSICAL BACKGROUND AND HENCE IT CHANGED CONSIDERABLY IN STRUCTURE. THE PRINCIPAL CHANGES ARE ILLUSTRATED.



MERYCHIPPUS



PLIHIPPIUS



PLESIPPUS



EQUUS



MESHIPPIUS



HYRACOTHERIUM

THE DEVELOPING PRAIRIE-ENVIRONMENT PLACED A PREMIUM ON FLEETNESS OF FOOT. THIS FLEETNESS WAS ACCOMPLISHED IN PART BY THE ELEVATION OF THE FOOT SO THAT THE ANIMAL RAN ON THE TIPS OF ITS TOES. CHANGE IN FOOT POSTURE RESULTED IN A REDUCTION OF THE NUMBER OF TOES. THE FRONT FOOT SERVES AS AN ILLUSTRATION.

GREATER TOOTH WEAR IS PRODUCED BY A DIET OF PRAIRIE GRASSES THAN BY A DIET OF SOFT LEAVES AND SHOOTS FROM THE RAINFOREST FLORA. TO COMPENSATE FOR GREATER WEAR THE GRINDING TEETH BECAME LONG. THOSE HERE EXHIBITED ARE UPPER MOLARS.

TIME IN MILLIONS OF YEARS FROM PRESENT  
0 - EQUUS

1 - PLESIPPUS

10 - PLIHIPPIUS

20 - MERYCHIPPUS

35 - MESHIPPIUS

60 - HYRACOTHERIUM