Sphenoid bone

The sphenoid bone (/ˈsfiːnɔɪd/; from Greek sphenoeides, “wedgelike”) is an unpaired cranial bone situated at the front middle of the skull in front of the temporal bone and basilar part of the occipital bone. The sphenoid bone is one of the seven bones that articulate to form the orbit. Its shape somewhat resembles that of a butterfly or bat with its sphenoid wings extended.

see sphenoidal sinus.

The superior surface of the body of the sphenoid bone is bounded behind by a ridge, which forms the anterior border of a narrow, transverse groove, the chiasmatic groove (optic groove, prechiasmatic sulcus), above and behind which lies the optic chiasma of cranial nerve 2 (the optic nerve).

The groove ends on either side in the optic foramen, which transmits the optic nerve and ophthalmic artery into the orbital cavity.

Greater wing of sphenoid bone

Lesser wing of the sphenoid bone

The lesser wings of the sphenoid bone or orbito-sphenoids are two thin triangular plates, which arise from the upper and anterior parts of the body of the sphenoid bone, and, projecting lateralward, end in sharp points.

The main features of the lesser wing are the optic canal, the anterior clinoid process, and the superior orbital fissure.

The superior surface of each is flat, and supports part of the frontal lobe of the brain. The inferior surface forms the back part of the roof of the orbit, and the upper boundary of the superior orbital fissure.

This fissure is of a triangular form, and leads from the cavity of the cranium into that of the orbit: it is bounded medially by the body; above, by the small wing; below, by the medial margin of the orbital surface of the great wing; and is completed laterally by the frontal bone.

It transmits the oculomotor nerve, the trochlear nerve, and the abducent nerve, the three branches of the ophthalmic division of the trigeminal nerve, some filaments from the cavernous plexus of the sympathetic nervous system, the orbital branch of the middle meningeal artery, a recurrent branch from the lacrimal artery to the dura mater, and the ophthalmic vein.

The anterior border is serrated for articulation with the frontal bone.

The posterior border, smooth and rounded, is received into the lateral fissure of the brain; the medial end of this border forms the anterior clinoid process, which gives attachment to the tentorium cerebelli; it is sometimes joined to the middle clinoid process by a spicule of bone, and when this occurs the termination of the groove for the internal carotid artery is converted into a foramen (carotico-clinoid).

The lesser wing is connected to the body by two roots, the upper thin and flat, the lower thick and triangular; between the two roots is the optic foramen, for the transmission of the optic nerve and ophthalmic artery.