



UNIVERSITY OF
SARGODHA

Tentorium

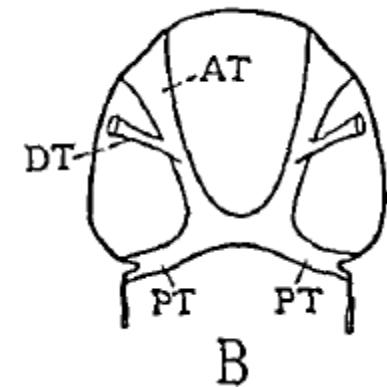
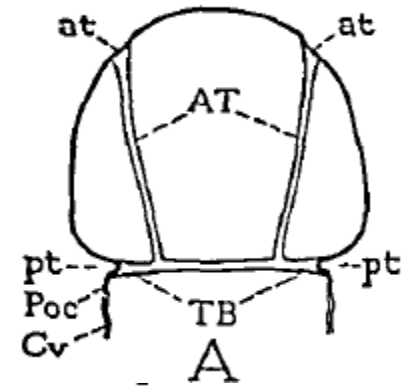
Dr. M. Asam Riaz

Assistant Professor

Entomology, College of Agriculture,
University of Sargodha, Sargodha, Pakistan

Tentorium

- **Tentorium** is formed by two pairs of cuticular invaginations that unite within the head to compose a framework
- **Anterior tentorial arms (AT)**- arise from anterior tentorial pits (at)
- **Posterior tentorial arms (PT)**- arise from posterior tentorial pits (pt)
- **Dorsal arms-(DT)** extend from anterior arms

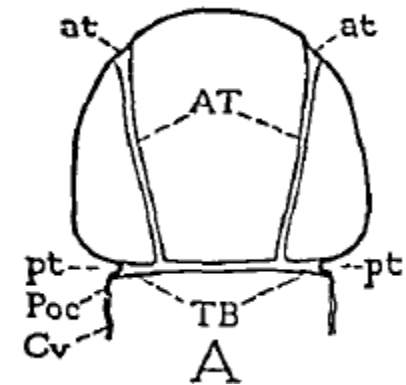
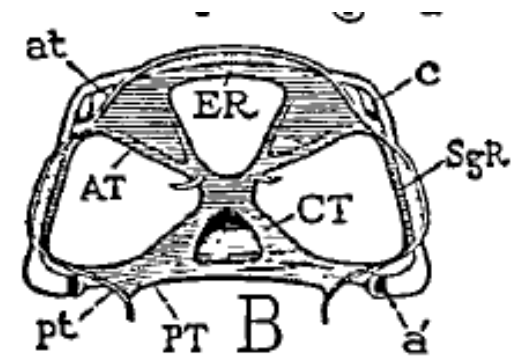


Function of tentorium

- to afford a basis for the **muscle attachment**
- to give **rigidity to the head**;
- to lend support to the **brain and foregut**;
- to strengthen the **points of articulation** of certain of the mouthparts.

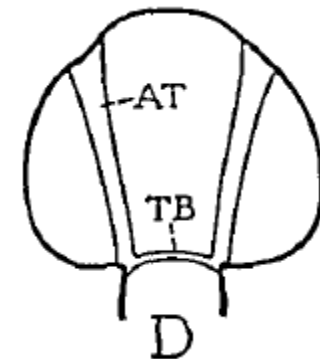
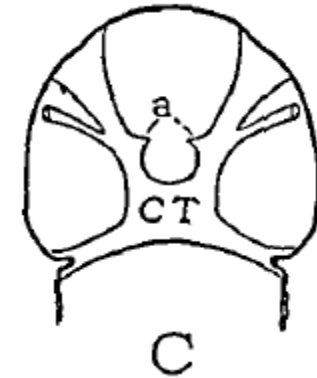
Type of tentorium

- **X-shaped** tentorium (Fig 76 B)-in orthopteroid insects, the tentorial arms unite in the middle of back part (e.g., grasshopper)
- **π -shaped tentorium** (Fig 62 A)-
 - Primitive type structure
 - Present in Apterygota
 - Inverted pie, posterior arms continuous in a transverse bar or tentorial bridge (TB)
 - Anterior arms (AT) attached near its outer ends



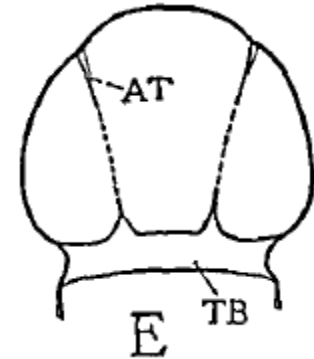
Modifications of tentorium

- 1. Corporotentorium** (Fig 62 C, CT)-central part form enlarged broad plate
- 2. Anterior arms** form strong braces (expanded against subgenal or epistomal sutures) bridge reduced to narrow bar (Fig 62 D, TB)



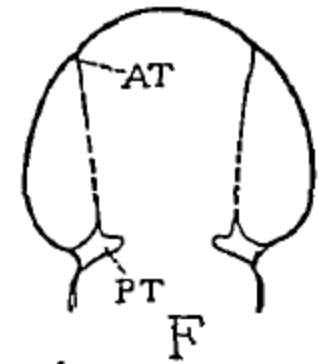
Modifications of tentorium

3. **Anterior arms (AT)** slender rods, **posterior arms** (tentorial bridge, TB) is large (E)

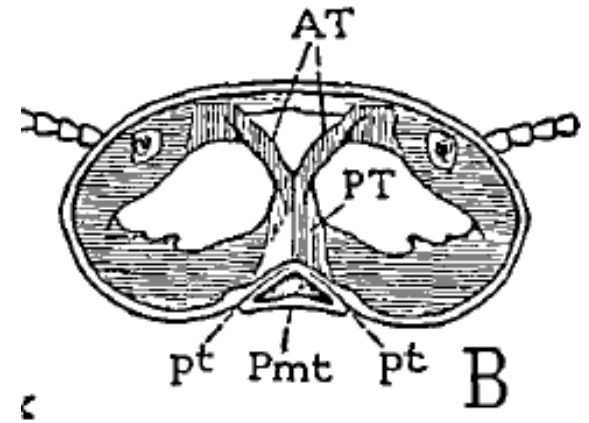


4. **Anterior arms (AT)** are reduced to threads, **posterior arms (PT)** are

- suppressed or incomplete
- form a pair of small processes on the anterior margin of bridge (Fig 62, F)



5. Anterior arms (AT) narrow and diverge to facial wall of head. **Posterior arms (PT)** well developed to form rooflike structure over labium (Pmt-postmentum Fig 69, A and C) (e.g., Termites)



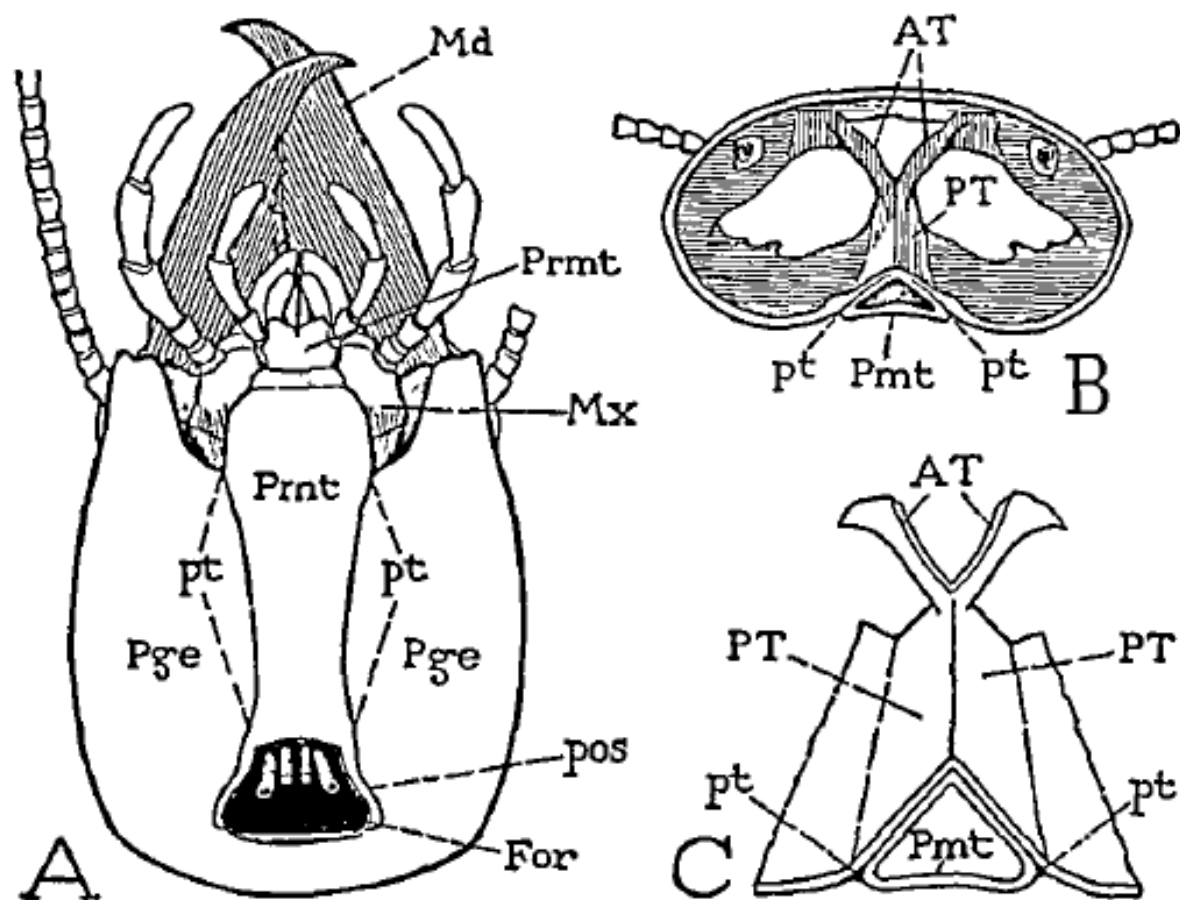


FIG. 69.—Head of *Termopsis*, soldier form. A, under surface of head showing long postmentum bounded by elongate posterior tentorial pits (*pt*). B, cross section of head showing tentorium. C, diagram of tentorium, seen from behind, showing posterior arms (*PT*) united to form the roof of a long ventral channel above the postmentum (*Pmt*).

Status of tentorium during moult

- When an insect moults, the **dorsal arms** of the tentorium are largely **dissolved** away by the moulting fluid, the tentorium splits medially, much of the **central body is dissolved** and the remainder is pulled out as **four separate pieces**, one from each tentorial pit (Sharplin, 1965).

Modification of tentorium

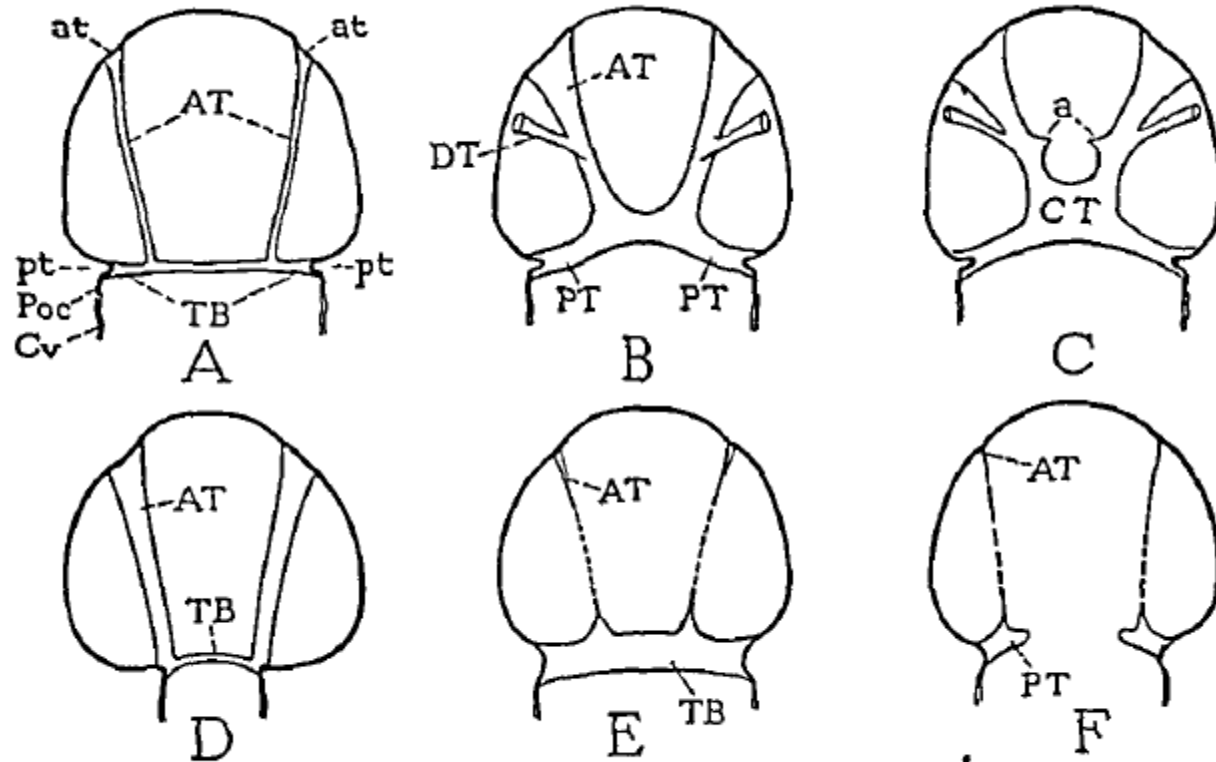


FIG. 62.—Various modifications of the tentorium. *AT*, anterior tentorial arms; *CT*, corporotentorium; *DT*, dorsal arms; *PT*, posterior arms; *TB*, tentorial bridge.

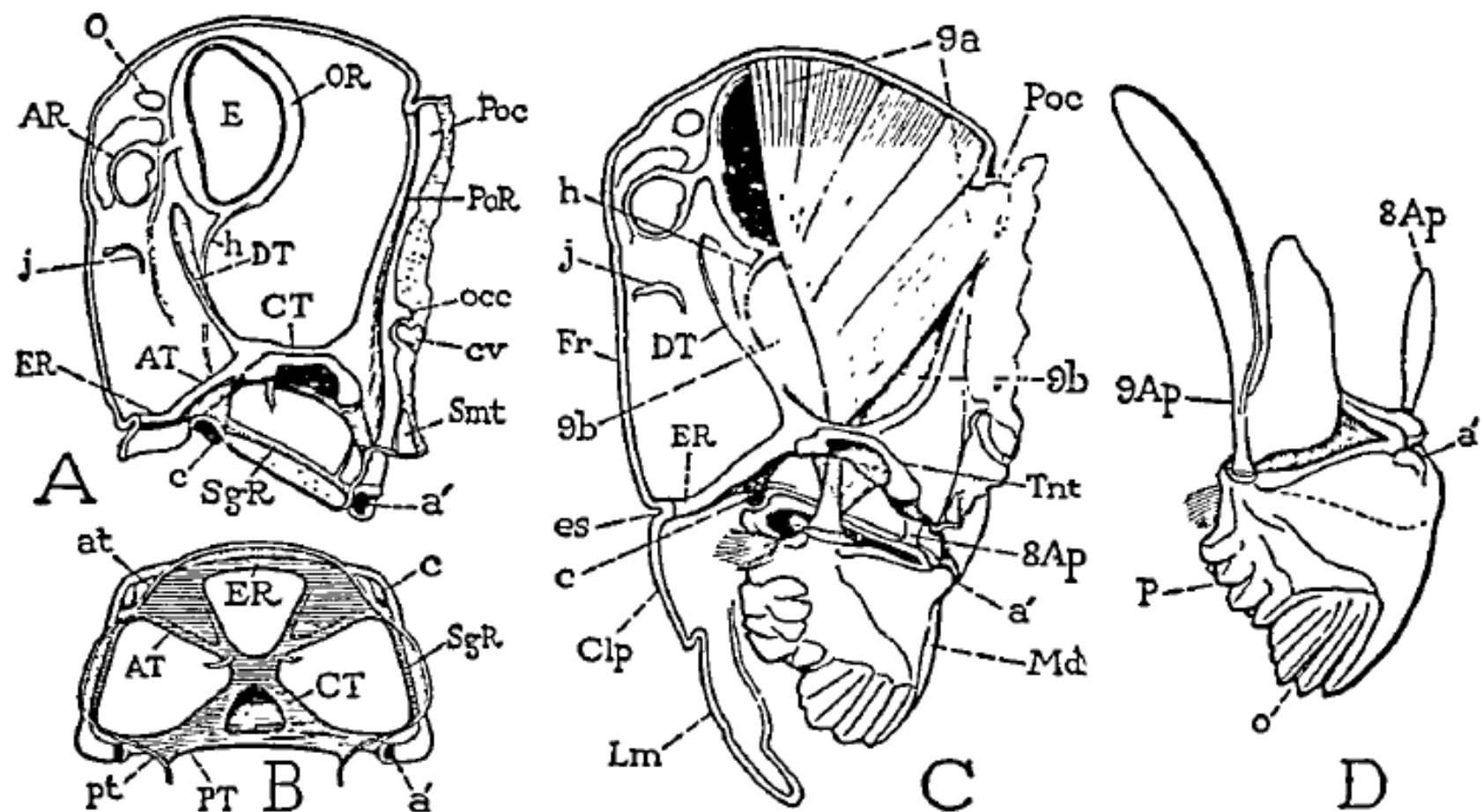


FIG. 76.—Endoskeletal structures of the cranium, and mandibles of a grasshopper, *Dissosteira carolina*. A, interior view of right half of cranium. B, the tentorium, ventral view. C, same as A, but with clypeus, labrum, and right mandible and muscles in place. D, right mandible and its apodemes, posterior view.