Table 2. Musculature of anterior abdominal segments in Aculeata.

Muscle No.	Origin	Insertion	Function
1, 8	Dorsal median part of T2, 3	Anterodorsal median ege of T3, 4	Retractor of tergum
2, 9	Posterodorsal part of T2, 3	Apodeme of T3, 4	Protractor of tergum and holding the apodeme of posterior tergum to the side of the anterior tergum
3, 10	Dorsolateral part of T2, 3	Exterior-lateral edge above apodeme of T3, 4	Pronator of tergum
4, 11	Dorsolateral part of T2, 3	Lateral margin of S2, 3	Compressor of abdomen
5, 12	Ventral median part of S2, 3	Anterovental median ege of S3, 4	Retractor of sternum
6, 13	Posteroventral part of S2, 3	Anterior apodeme of S3, 4	Protractor of sternite and holding the apodeme of posterior sternum to the side of the anterior sternum
7, 14	Ventrolateral part of S2, 3	Anterior apodeme of S3, 4	Pronator of sternum
15	Ventral edge of T3	Lateral apodeme of S3	Dilator of abdomen

T: Tergum. S: Sternum. 2, 3, 4: Segment numbers.

Results

Skeletal structures

1) Ground plan: In most Aculeata, each abdominal segment consists of tergum and sternum which are semicircular plates in cross-section (i.e., tergal plates from an arch above and the sternal plates form a concave floor beneath), connecting by thin flexible membrane. The presclerites are poorly developed on the abdominal segments, represented only by the thickened anterior rims (Figs. 1 & 19). Apodemes, or internal cuticular process, are well developed both on the anterior margins of the tergurm and sternum (Fig. 30).

2) Modifications: Members of Tiphiidae, Mutillidae and Scoliidae have well developed pretergum and presternum on the third abdominal segment which are separated distinctly from the posttergum and poststernum by a constriction respectively. The presternum in these aculeates forms a flat sternal plate, and the pretergum is expanded slightly below the pretergosternal juncture level (Figs. 2 & 9). The two sclerites are immovably attached, but not actually fused (Fig. 20).

In the members of Vespidae and Formicidae, the same skeletal modifications are found, but anterolateral corners of the pretergum are more broadly and