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# A Suggestion to Revise Some Morphological Terms in Insect External Structure

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# 몇 가지 곤충 외부구조 명칭의 재조정 제안

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**ABSTRACT:** Subgena and clypeus are a continuous plate, so should be collectively called as peristoma. Subsequently, subgenal sulcus is revised into peristomal sulcus or cranio-stomal sulcus. Ptilinal suture on dipteran adult head is revised into ptilinal fissure. Notal and pleural wing processes are revised into notal and pleural process, respectively. The lower plate of abdomen is ventum, while that of thorax is sternum.

**Key words:** Peristoma, Peristomal sulcus, Ptlinal fissure, Notal and pleural process, Ventum

**초 록:** 곤충 머리에 있는 subgena (아랫뺨)와 clypeus (두순)는 연속된 피부판으로 통칭하여 peristome (입둘레판)으로 일컫는다. 따라서 subgenal sulcus (아랫뺨선)는 peristomal sulcus (입둘레홈) 또는 cranial-stomal sulcus (두개-입선)로 개정한다. 집파리류 성충 머리에 있는 ptilinal suture (이마주머니선)는 ptilinal fissure (얼굴주름)로 개정한다. 가슴에 있는 wing process (날개돌기)는 등판에 있는 것은 notal process (등판돌기), 옆판에 있는 것은 pleural process (옆판돌기)로 각각 개정한다. 곤충 몸 아래쪽을 지칭하는 영역을 복부는 ventum (배판), 가슴은 sternum (가슴판)으로 각각 지칭한다.

**검색어:** Peristoma, Peristomal sulcus, Ptlinal fissure, Notal and pleural process, Ventum

A few terms for the external parts of insects seem to better be rearranged.

## Cranium

Insect head is a strongly sclerotized scull-like cranium, and it bears the mouth parts (Chapman, 2013). Snodgrass (1935) subdivided the cranium into frontoclypeal area, parietals, occiput, postocciput and subgenal areas. However, the clypeus and subgena are an undivided continuous plate to which all mouthparts (labrum, mandibles, maxillae and labium) are attached. And, then, it becomes a properly functioning mouth. In other words, without that long plate, it could never be a proper mouth. Therefore, the clypeus and subgena are better treated as the basic frame of the mouth, and termed as the "peristoma" as Snodgrass named firstly (Snodgrass, 1935). Then the cranium includes frons, parietals, occiput and postocciput only, and the mouth includes peristoma with the original mouthparts.

Following the above change, the term subgenal sulcus also better be changed to peristomal sulcus or cranio-stomal sulcus (Supplementary Fig. 1).

## Ptilinal suture

Ptilinal sulcus is a transverse groove that crosses just above the antennal base and extends down laterally, in the form of an inverted U, towards the clypeus in adult schizophoran Diptera (Torre-Bueno, 1989). Though some workers treated it the same as the frontal suture in their books (Borror et al., 1976; Gillott, 1980; Imms, 1957; Torre-Bueno, 1989), it never be a suture because it does not fit any one of three categories (seam, sulcus, and ecdysial line in Matsuda (1965)) of Snodgrass (1960)'s definition. It is just an epidermal fold formed when the ptilinum is withdrawn after the adult emergence. Thus, it is better to follow the new term, ptilinal fissure (Colless and McAlpine, 1991).

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### Wing process

Snodgrass (1935) defined the wing process in his glossary as the wing support of the pleuron, or the lobe of the lateral margin of the alinotum supporting the axillary sclerite of the wing base. Process is described as the projection from the surface, margin or appendage (Gordh and Headrick, 2001). The wing processes are not a part of the wing but to which wings are attached. Therefore, the notal and pleural wing processes should be corrected into notal or pleural process, respectively (Chapman, 2013) (Supplementary Fig. 2).

### Body plate

Body plates on upper sides are termed tergum and particularly that of thoracic segments are termed notum. However, the plates on lower sides are all termed sternum which is originally meaning breast or breastbone in Greek (Borror, 1960). Lawrence and Britton (1991) used a new term "Ventrite" for the abdominal lower plates of beetles which means under side or belly in Latin (Supplementary Fig. 3).

The term ventrite sounds meaning a subdivision, because the terms sternite and tergite is meaning subdivisions of sternum and tergum. So, it is better to suggest a new term "ventum" instead of ventrite.

## Supplementary Information

Supplementary data are available at Korean Journal of Applied Entomology online, http://entomology2.or.kr/.

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