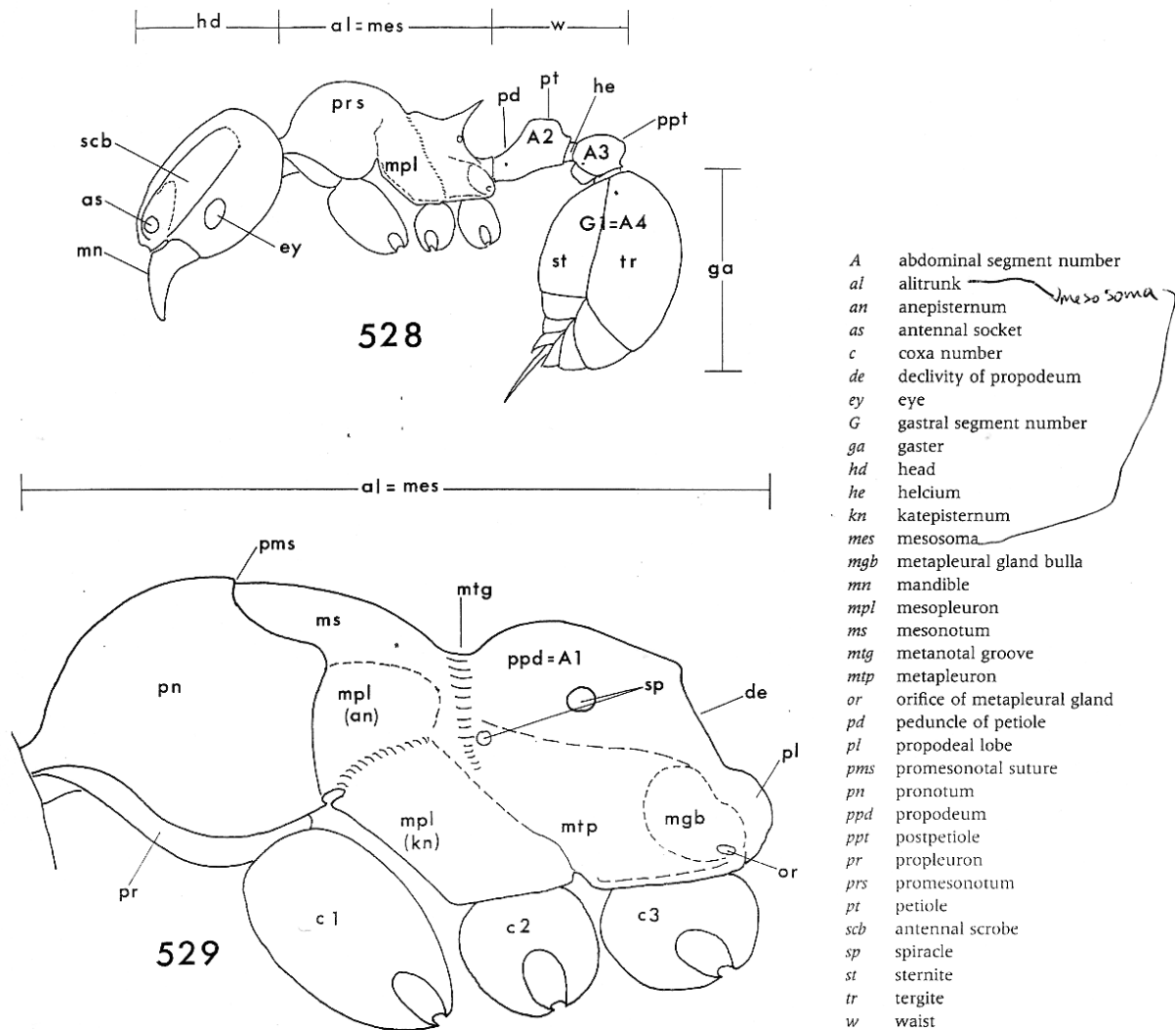


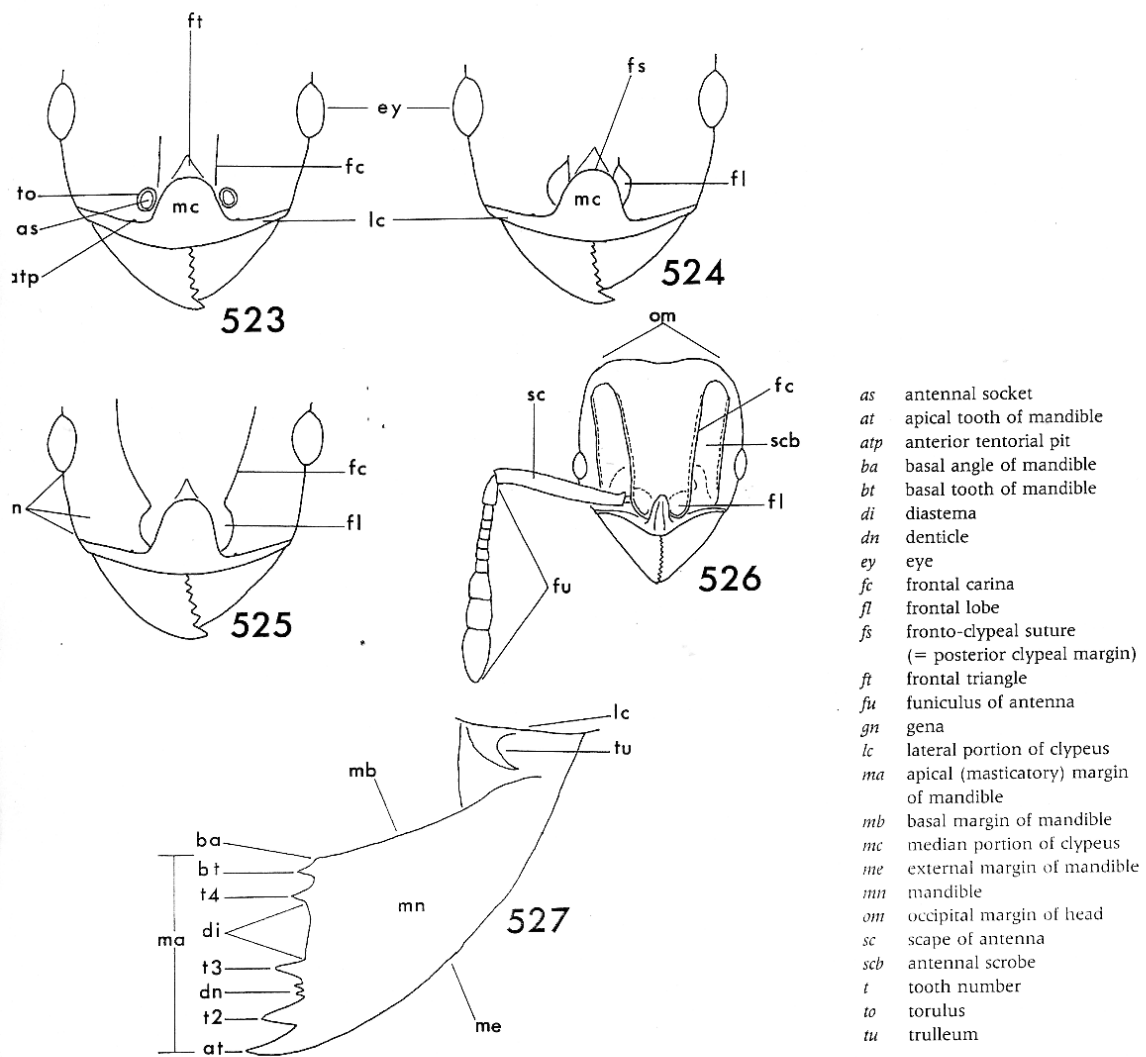
Glossary of ant morphological terms in English and Malay

Compiled from the book *The Ants* (1990) by Holldobler and Wilson



Figures 528–529 Morphological features of ants. Drawings are composite, not based on any particular species; sculpture and pilosity omitted. Fig. 528, whole ant in profile, legs below coxae omitted. Fig. 529, alitrunk (= mesosoma) in profile, legs below coxae omitted.

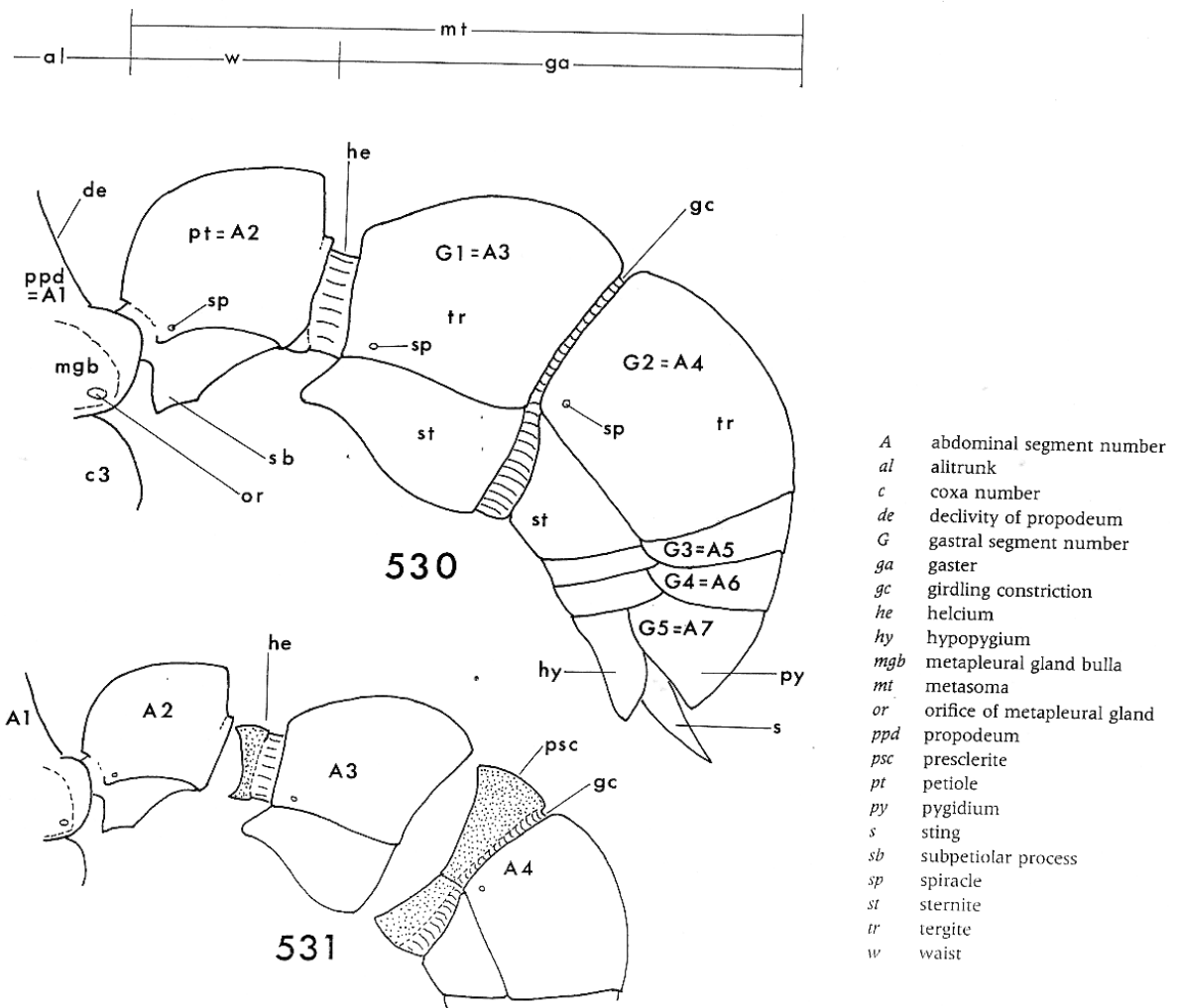
Figure reproduced from the book *The Ants* by Holldobler and Wilson 1990



- as antennal socket
- at apical tooth of mandible
- atp anterior tentorial pit
- ba basal angle of mandible
- bt basal tooth of mandible
- di diastema
- dn denticle
- ey eye
- fc frontal carina
- fl frontal lobe
- fs fronto-clypeal suture
(= posterior clypeal margin)
- ft frontal triangle
- fu funiculus of antenna
- gn gena
- lc lateral portion of clypeus
- ma apical (masticatory) margin
of mandible
- mb basal margin of mandible
- mc median portion of clypeus
- me external margin of mandible
- mn mandible
- om occipital margin of head
- sc scape of antenna
- scb antennal scrobe
- t tooth number
- to torulus
- tu trulleum

Figures 523–527 Morphological features of ants. Drawings are composite, not based on any particular species; sculpture and pilosity omitted. Figs. 523–525, anterior halves of head in full-face view, antennae omitted. Fig. 526, whole head in full-face view, left antenna omitted. Fig. 527, fully opened triangular left mandible.

Figure reproduced from the book *The Ants* by Holldobler and Wilson 1990



Figures 530–531 Morphological features of ants. Drawings are composite, not based on any particular species; sculpture and pilosity omitted. Fig. 530, waist and gaster in profile. Fig. 531, waist and gaster in profile with abdominal segments 2–4 disarticulated to show concealed portions of presclerites (stippled).

Figure reproduced from the book *The Ants* by Holldobler and Wilson 1990

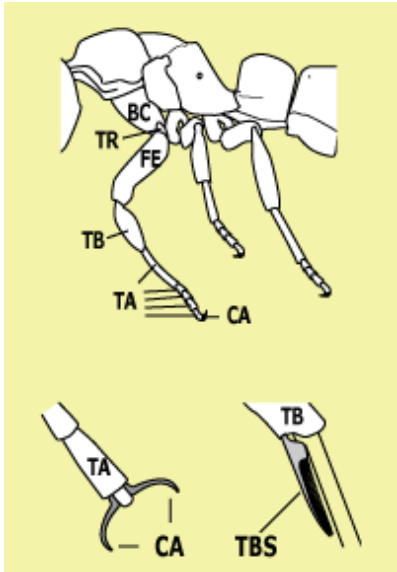


Figure 1

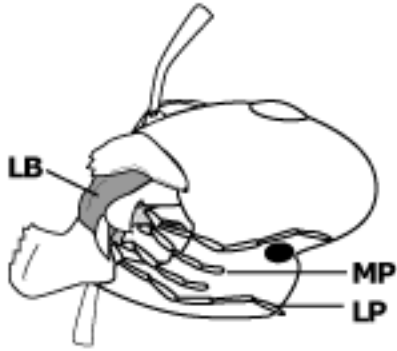


Figure 2

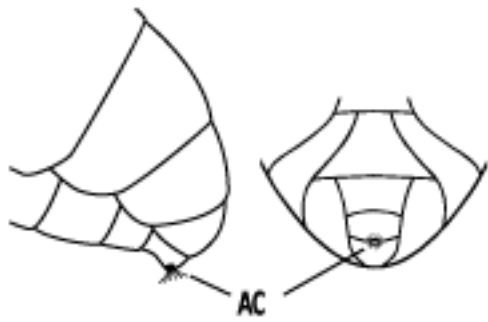


Figure 3

Acidopore - The orifice of the formic acid projecting system, found only in the subfamily Formicidae. Found at the end of the gaster, often surrounded by a fringe of hairs (Fig 3 AC).

Lubang di mana formik asid dikeluarkan dari system badan, hanya terdapat pada subfamily Formicidae. Terletak pada hujung gaster, biasanya dikelilingi oleh rambut (Fig 3 AC).

Anepisternum - Plate of cuticle on the side of the mesosoma (Fig 529 an).

Lapisan kutikel pada sisi mesosoma (Fig 529 an).

Antenna – The antenna of ants consists of one long thin segment, the scape (Fig 526 sc) plus 3-11 smaller segments at the end of the scape (the funiculus) (Fig 526 fu).

Sesungut, satu segmen panjang dan kurus yang terdiri daripada scape (Fig 526 sc) dan 3-11 segmen (ruas) kecil pada hujung scape (dikenali sebagai funiculus)(Fig 526 fu).

Antennal scrobe – A groove, impression or excavation on the upper surface of the head, into which the antenna or part of the antenna can be accommodated. Can be either above or below the eyes (Fig 526 scb, 528 scb).

Berupa seperti galur dalam, atau lekukan halus atau parit pada permukaan atas kepala, dimana antenna atau separuh daripada antenna terletak. Kedudukan samada diatas atau dibawah mata (Fig 526 scb, 528 scb).

Apical – The end of an appendage furthest from the main body of the ant.

Hujung anggota badan yang paling jauh dari badan semut.

Buccal cavity – The cavity on the underside of the head at the front, between the sites where the mandibles join the head, which also contains the palps.

Rongga dibawah kepala pada bahagian hadapan, berada di antara mandible, juga dimana palps terletak.

Carina (plural carinae) – A ridge or keel-like crest

Jalur seperti jambul keras.

Clypeus (adjective – clypeal) – The sclerite at the front of the top surface of the head, the last one before the mandibles (Fig 523,524 lc+mc).

(Kata sifat – clypeal). Kepingan pada bahagian hadapan dan depan kepala sebelum mandible (Fig 523, 524 lc+mc).

Coxa – The segment of the leg that joins with the thorax (Figure 529 c1-c3, Fig 1 BC)

Segmen kaki yang bersambung dengan thorax (Fig 529 c1-c3, Fig 1 BC).

Dimorphic – Ants with two different shapes or sizes of workers (see also Monomorphic, Polymorphic).

Semut yang mempunyai pekerja dengan dua saiz berbeza (juga lihat Monomorphic, Polymorphic).

Femur (plural femora) – The first long segment of any leg (Fig 1 FE). This is actually the third segment after the coxa (BC) and the tiny trochanter (TR).

Segmen kaki pertama yang panjang (Fig 1 FE). Segmen ini adalah segmen ketiga selepas coxa (Fig 1 BC) dan trochanter (Fig 1 TR).

Frontal carinae – A pair of ridges running from between the antennal insertions towards the back of the head (Figs 523,525,526 *fc*). Variable in length and height. The end by the antennal insertions can form expanded lobes (frontal lobes Figs 524,525,526 *fl*) which can conceal the antennal insertions.

Sepasang galur yang bermula dari tengah lubang antenna hingga ke belakang kepala (Fig 523, 525, 526 fc). Berbeza panjang dan kedalaman. Permulaan galur pada lubang antenna boleh berbentuk cuping yang melebar (frontal lobes Fig 524, 525, 526 fl), yang mana ia juga boleh melitupi lubang antenna.

Frontal lobes (see Frontal carinae)

Cuping hadapan (lihat Frontal carinae).

Funicular – relating to the funiculus (see Antenna)

Seperti funiculus (lihat Antenna).

Gaster – The last major body segment, after the petiole or post-petiole (Fig 528 *ga*)

Segmen badan utama yang terakhir, selepas petiole atau postpetiole (Fig 528 ga).

Labial palps – The outer of two pairs of articulated sensory appendages arising from the buccal cavity (Fig 2 LP)

Sepasang deria rasa yang muncul dari buccal cavity. Pasangan yang paling luar (seperti lidah) (Fig 2 LP).

Labrum – Mouthpart sclerite that hinges on the front of the clypeus, usually not visible from above (Fig 2 LB).

Lelangit yang berada di depan clypeus, biasanya tidak kelihatan dari atas (Fig 2 LB).

Mandibles – A pair of appendages used to manipulate an ant's environment, attached to the front of the head (Fig 527 *mn*)

Mulut semut (Fig 527 mn).

Masticatory margin – the inner margin of the mandible, used for processing food. Often with a series of small or large teeth (Fig 527 *ma*)

Bahagian dalam mandible, digunakan untuk memproses makanan, biasanya terdiri dari beberapa siri gigi kecil atau besar (Fig 527 ma).

Maxillary palps - The inner of two pairs of articulated sensory appendages arising from the buccal cavity (Fig 2 MP).

Sepasang deria rasa yang muncul dari buccal cavity. Pasangan yang paling dalam (seperti lidah) (Fig 2 MP).

Mesosoma (also called the alitrunk) – the middle section of an ant's body, between the head and the petiole (Fig 528, 529: *al=mes*). Consisting of the prothorax (Fig 529: *pn+pr*), mesothorax (*ms+mpl*), metathorax (*mtp+mgb*) and propodeum (*ppd*).

Juga dikenali sebagai alitrunk. Bahagian pertengahan badan semut, berada diantara kepala dan petiole)Fig 528, 529: al=mes). Terdiri daripada prothorax (Fig 529: pn+pr), mesothorax (ms+mpl), metathorax (mtp+mgb) dan propodeum (ppd).

Mesothorax – second segment of the mesosoma after the prothorax (see Mesosoma).

Segmen kedua mesosoma selepas prothorax (lihat Mesosoma).

Metanotal – relating to the upper sclerite of the metathorax, which is often reduced to a groove (the metanotal groove Fig 529 *mtg*), dividing the mesonotum and the propodeum.

Sebahagian atas lapisan metathorax, yang biasanya berupa garisan/galur (metanotal groove Fig 529 mtg). Memisahkan mesonotum dan propodeum.

Metapleural gland – gland on the metapleuron, consisting of a swollen bulb (the bulla Fig 529 *mgb*) and an opening (Fig 529 *or*).

Kelenjar pada metapleuron, terdiri daripada bengkakan kecil berbentuk bulat (Bulla, Fig 529 mgb) dan bukaan (Fig 529 or).

Metathoracic – relating to the metathorax (see Mesosoma).

Berkaitan metathorax (lihat Mesosoma).

Metathoracic tubercular spiracles – openings for breathing on the metathorax, taking the form of tubes that protrude slightly from the body.

Bukaan untuk bernafas yang terletak pada metathorax, kelihatan seperti tiub yang timbul.

Monomorphic – having workers of only one shape and size (see also Dimorphic and Polymorphic)

Kumpulan semut pekerja yang terdiri daripada satu saiz sahaja (lihat juga Dimorphic dan Polymorphic).

Palps (see Labial palps and Maxillary palps).

(Lihat Labial palps dan Maxillary palps).

Pectinate – comb-like

Seperti sisir

Petiole – the segment attaching directly to the alitrunk and articulating the gaster. May or may not be followed by a post-petiole (Fig 528 *pt*).

Segmen yang melekat pada alitrunk dan menggerakkan gaster. Mungkin mempunyai postpetiole (Fig 528 pt).

Polymorphic – having workers with more than two morphologically distinct forms (see also Monomorphic, Dimorphic).

Kumpulan semut pekerja yang terdiri daripada lebih dua saiz yang berbeza (lihat juga Monomorphic dan Dimorphic).

Post-petiole – discrete segment separating the petiole from the gaster (Fig 528 *ppt*). Only present in some subfamilies of ant.

Segmen yang jelas memisahkan petiole dari gaster (Fig 528 ppt). Cuma terdapat pada beberapa subfamili semut.

Preapical – the segment, tooth etc. one before the last one i.e. the penultimate one before the final one at the end of the antenna, mandible etc.

Segmen sebelum segmen terakhir (segmen ke-2 terakhir) samada pada hujung antenna, mandible, gigi atau sebagainya.

Promesonotal suture – the join between the pronotum and the mesonotum (Fig 529 *pms*). Can be either articulated, or not.

Sambungan antara pronotum dan mesonotum (Fig 529 pms). Boleh bergerak atau tidak.

Pronotal – relating to the pronotum.

Berkaitan dengan pronotum.

Pronotum – the upper sclerite of the prothorax (Fig 529 *pn*).

*Kepingan atas prothorax (Fig 529 *pn*).*

Propodeum – the rear-most upper plate of the alitrunk (Fig 529 *ppd*).

*Kepingan/segmen atas paling hujung pada alitrunk (Fig 529 *ppd*).*

Pygidium – The rearmost upper segment of the gaster (Fig 530 *py*).

*Segmen atas paling hujung pada gaster (Fig 530 *py*).*

Scape (see Antenna).

Lihat Antenna.

Sclerite – a single plate of the exoskeleton.

Satu kepingan kulit rangka luar.

Setae – hair (singular is seta)

Rambut keras

Subpetiolar process – any protrusion from the underside of the petiole.

Sebarang tonjolan pada permukaan bawah petiole.

Sternite – the lower sclerite of a segment e.g. the propleuron (Fig 529 *pr*) is the sternite of the prothorax.

*Kepingan segmen bawah. Contohnya, propleuron (fig 529 *pr*) adalah sternite untuk prothorax.*

Tergite – the upper sclerite of a segment e.g. the pronotum (Fig 529 *pn*) is the tergite of the prothorax.

*Kepingan segmen atas. Contohnya, pronotum (Fig 529 *pn*) adalah tergite pada prothorax.*

Tibia – The second long segment of any leg, the fourth overall (Fig 1 TB) (plural tibiae)

Segmen kaki kedua panjang selepas femur, nombor 4 mengikut susunan (Fig 1 TB)(kata majmuk: tibiae).

Tubercle – A small rounded prominence or protuberance.

Benjolan yang berbentuk bulat dan kecil.