

Appendix A. Glossary of technical terms.

adhesive setae (of male tarsi) — ventral setae fit to adhere to surfaces.

adventive — not native; an organism carried into a new habitat by natural means, or by man.

aedeagus — the tubular intromittent structure of the male genitalia, analogous to the mammalian penis and usually containing an eversible internal sac.

aeneous — with a copper or brass appearance.

allopatric — of or pertaining to taxa occupying different and disjunct geographical areas.

ambulatory setae (of abdomen) — specialised pairs of setae occurring ventrally on the abdomen.

anisochaetous (of protibia) — with one apical and one subapical spur.

antennal cleaner (of protibia) — comb-like structure situated on the inner side of the protibia and used to clean an antenna.

antennal grooves (of head) — pair of grooves situated ventrally on each side of the head, each used to receive an antenna.

antennal scape — see scape.

antennal socket — cavity in which each antenna is set.

antennomere — each antennal segment.

anterior bead (of pronotum) — raised transverse border situated at the apex of the pronotum, close to the head.

anterolateral angles (of pronotum) — angles situated at the front of and on each side of the pronotum.

apex — end or extremity of a structure or organ.

apical — related to the apex.

appendages — the antennae, palpi, and legs together.

apterous — without membranous wings.

armed — displaying scales, spines, or teeth.

attenuate — gradually tapering toward the apex.

auxiliary — additional.

basal — related to the base.

base — the beginning or point of attachment of a structure or organ.

bead — a raised border.

bidentate — with two teeth.

bifid — cleft or divided into two parts.

bilobed — divided in two lobes.

biostatus — status of an organism based on its geographic origin relative to its occurrence in

a particular region, e. g. , endemic, native, adventive.

biseriately — disposed in two rows.

bisetose — with two setae.

buccal fissure — a lateral mouth opening beneath the eye area.

carina (plural, **carinae**) — a keel or ridge.

carinate — keeled; ridged.

catenulate — shaped like a fine chain.

cavernicolous — living in caves.

circular foveae (of mentum) — paired eye-like foveae situated on the mentum.

cleft — divided longitudinally.

closed (of procoxal cavities or procoxae) — completely surrounded by the prosternum posteriorly.

clypeo-ocular prolongations — deep lines situated between the clypeus and the eyes.

coalescent — united; combined.

compressed — flattened as though subjected to lateral pressure.

constricted — narrowed.

contiguous — next to each other or touching each other.

convergent — approaching each other.

cordate — shaped like a heart.

crenulate — finely scalloped; with fine rounded teeth.

deflected — turned abruptly downward.

dentate — toothed.

depigmented — with weak pigmentation (appearing pale in colour).

depressed — flattened as though subjected to dorsal pressure.

diagnosis — the most important characters separating a taxon from other taxa.

digitate — shaped like a finger.

dilated — widened; expanded.

disc — the dorsal central area of a body part.

discal — related to the disc.

discal setiferous punctures (of elytron) — seta-bearing punctures usually inserted on interval or stria 3, rarely on 2, 5, 7.

diurnal — active during the day.

dorsal — pertaining to the upperside of a part or structure.

elliptical — with the ends equally rounded.

elytral — related to the elytron.

emarginate — having a notched or concave (inwardly curved) edge.

emargination — notched edge; sharp cut.
endemic — restricted to a geographic area.
entire — with an unbroken margin; without emargination, excision, or projection.
epigeal — living on the surface of the ground.
epilittoral — living on the sea shore, over the high tide line.
epipleuron (plural, **epipleura**) — recurved ventral outer side of each elytron.
equidistant — equally distant.
excavated — with a cavity or depression.
explanate — spread and flattened.
facet — lens-like division of each compound segment.
family — a category in the taxonomic hierarchy, that includes one or more genera or tribes of common phylogenetic origin, separated from other such groups by a decided gap.
filiform — shaped like a thread.
forebody — the head and thorax together.
fovea — small pit or depression.
foveate — with fovea(e).
free — not fused; mobile.
frontal furrows (of head) — longitudinal deep lines, often paired, situated on the frons, between the eyes.
furrow — see groove, sulcus.
furrowed — see grooved, sulcate.
fusiform — shaped like a spindle.
genus (plural, **genera**) — a category in the taxonomic hierarchy, that includes one or more phylogenetically related, and morphologically similar species.
geographic distribution — the distribution related to the geography, i. e. , districts, regions.
glabrous — without hair or seta(e).
globose — shaped like a sphere or ball.
gonocoxae (singular, **gonocoxa**) — paired terminal segments of the female genitalia.
groove — long narrow channel or depression.
grooved — with groove(s).
head capsule — the fused sclerites of the head.
hindwings — posterior wings.
hirsute — shaggy; with coarse, stiff long hairs or setae.
holotype or **type** — the single specimen designated or indicated as the type specimen of a species by the original author at the time of publication or, if no type was specified, the only existing specimen seen by the author.

impressed — well marked (as being produced by pressure).
indigenous — see native.
inflated — swollen; distended.
inner — situated close to the center.
inserted (of a moveable part) — attached to a point.
intertidal — living between the low and high tide levels.
interval (of elytron) — space between two striae.
iridescent — displaying a rainbow-effect colour.
isochaetous (of protibia) — with two spurs in terminal position.
lamina — thin flat scale-like structure.
lateral beads (of pronotum) — paired longitudinal raised beads, situated on the outer side of the pronotum.
lateral depressions (of pronotum) — paired longitudinal widened depressions situated on each side of the pronotum.
laterobasal — situated both on each side and at the base; lateral and basal together.
laterobasal foveae (of pronotum) — foveae situated both on each side and at the base of the pronotum.
lectotype — type specimen selected from the syntypes by a subsequent author in the absence of a holotype.
lobate — shaped like a lobe.
lowland — of or pertaining to land located below the montane zone and generally reaching up to the limit of rimu (*Dacrydium cupressinum*), e. g. , about 500m in central New Zealand.
medially — situated in the middle.
—mere (as a suffix) — segment.
metallic lustre — a reflection like polished metal (e. g. , brassy, bronze, coppery, aeneous).
micropore — microscopic hole or depression.
moniliform — shaped like a necklace composed of beads.
monophyletic — derived from the same ancestral taxon.
native — occurring naturally in the area in question.
neck (of head) — the narrowed part situated behind the eyes and connecting the head to the thorax.
nocturnal — active during the night.
obliterated — completely removed.
oblong — longer than wide; with longitudinal diameter more than twice the transverse one.
obsolete — indistinct, almost absent.

open (procoxal cavities or procoxae) — not completely surrounded by the prosternum posteriorly.

orbicular — circular or spherical.

ostium — the membranous opening of the aedeagus.

outer — situated on the outside or far from the center.

outer apical prolongation (of protibia) — prolongation situated at the tip, along the outer side.

ovate — shaped like an egg.

palpomere — each segment of a palp or palpus.

peduncle — stalk-like structure between the thorax and the abdomen.

pedunculate (of body) — with a peduncle between the thorax and the abdomen; taxa with a pedunculate body have the scutellum placed directly on a visible peduncle (between pronotum and elytra) or placed partly between and above elytral bases. Note: Taxa without a pedunculate body have the scutellum inserted entirely between elytral bases.

penis — see aedeagus.

penultimate — next to the last; second from the end.

phytophagous — feeding on plant material.

plica — fold.

plurisetose — with four setae or more.

polyphagous — eating many types of food.

posterior bead (of pronotum) — raised transverse border situated at the base of the pronotum, close to the elytra.

posterolateral — situated both behind and on each side; posterior and lateral together.

posterolateral angles (of pronotum) — angles situated behind and on each side of the pronotum.

posterolateral carinae (of pronotum) — carinae situated behind and on each side of the pronotum, near the posterolateral angles.

predaceous — eating live animals.

produced — prolonged.

prominent — standing out.

prosternal lobe — posterior prolongation of the prosternum between the anterior legs.

pubescence — covering of hairs or setae.

pubescent — covered with hairs or setae.

punctate — marked with punctures or points.

puncture — microscopic pit similar to that made by a needle.

quadrate — square or nearly so.

radial field (of elytron) — the outer area extending from the lateral margin to, and including, the interval bearing the umbilicate series of setiferous punctures (usually interval 9).

recurrent (of stria 1) — curving back like a hook at the tip of the elytron.

reinstatement — the act of restoring a taxonomic name to a previous status.

rudimentary — imperfectly developed; represented by a vestige.

scape — the first segment of the antenna or antennomere 1.

sclerite — a hardened plate surrounded by sutures.

scree — accumulation of loose stones on a slope.

scrobe (of mandible) — lateral longitudinal depression in the wall of the mandible.

scrubland — vegetation unit with dense cover and about 1–2 metres tall.

scutellar — related to the scutellum.

scutellar setiferous pore (of elytron) — seta-bearing pore situated next to the scutellum.

scutellar stria (of elytron) — short stria situated next to the scutellum.

scutellum — small triangular sclerite situated basally between the elytra or on a peduncle between thorax and abdomen. See peduncle.

secondary sexual characters — characters owned by one sex, not the other sex.

securiform — shaped like an axe or hatchet.

semi—(as a prefix) — half.

serrate — toothed like a saw.

seta (plural, **setae**) — hair-like projection surrounded basally by a small cuticular ring.

setiferous — bearing seta(e) or bristle(s).

setiferous puncture — puncture bearing seta(e) or bristle(s).

setiform — shaped like a seta or bristle.

setose — covered with setae.

shoulder (of elytron) — the outer anterior angle.

simple — not modified.

sinuation — a wavy form.

socket — opening in which something is set.

species — a taxon of the rank of species, the category below the genus in the taxonomic hierarchy; naturally occurring populations with a common heredity; groups of actually or potentially interbreeding populations which are reproductively isolated from other such groups.

spongily — in a sponge-like formation.

spur — large spine, articulated at its base.

sternum (plural, **sterna**) — the ventral surface of each segment of the abdomen.

stria (plural, **striae**) — longitudinal impressed line or row of punctures on the dorsal surface of the elytron.

striate — with stria(e).

striolate — with striae(s).

stria — a short stria.

sub—(as a prefix) — rather, almost; part of.

subapical — situated near the apex.

subapical sinuation (of elytron) — sinuation of the side, near the apex.

subequal — almost or rather equal in shape, size, or length.

suborbital — situated beneath the eye.

subulate — linear at base and attenuate at the apex; tapering to a point.

sulci (singular, **sulcus**) — furrows; grooves.

sulciform — shaped like a sulcus.

supraorbital — situated above the eye.

suture — line of contact between two sclerites or parts.

suture (of elytra) — line of contact between the inner sides of the elytra.

synonym — one of two or more scientific names applied to a single taxon.

tarsomere — each segment of a tarsus.

taxon (plural, **taxa**) — a taxonomic grouping of any rank (e. g. , a family, a genus, a species) including all its subordinate groups.

terminal — situated at the tip or extremity; last in a series.

testaceous — reddish brown.

transverse — wider than long; in a crosswise direction.

tribe — a category in the taxonomic hierarchy below a subfamily, that includes one or more genera of common phylogenetic origin, separated from other such groups by a decided gap.

tridentate — with three teeth.

trisetose — with three setae.

truncate — cut off rather squarely at the tip.

twisted (of epipleura) — condition of the epipleura with an inner fold near apex.

type or **name-bearing type** — the specimen(s), species or genus that serves as the objective standard of reference determining the application of a name to a taxon.

type locality — the precise geographical site where the type of a species or subspecies was collected.

type species — the species designated as the type of a genus or subgenus.

type specimen — a specimen (e. g. , holotype, lectotype, neotype) or one of a series of specimens (syntypes) designated as the type of a species or subspecies.

umbilicate — shaped like a navel.

umbilicate series (of elytron) — row of seta-bearing punctures situated along the outermost interval (usually interval 9).

unguitractor plate — ventral sclerite (usually short) arising between the claws and bearing their tendon and muscle.

unicolourous — with a single colour throughout.

valid name — the name for a particular taxon that is correct according to the provisions of the Code of Zoological Nomenclature.

variegated — varied in colour, with different coloured markings.

ventral — pertaining to the underside of the abdomen or of another part or structure.

vestigial — represented only by a remnant or vestige; rudimentary.

violaceous — violet-coloured, with a mixture of blue and red.

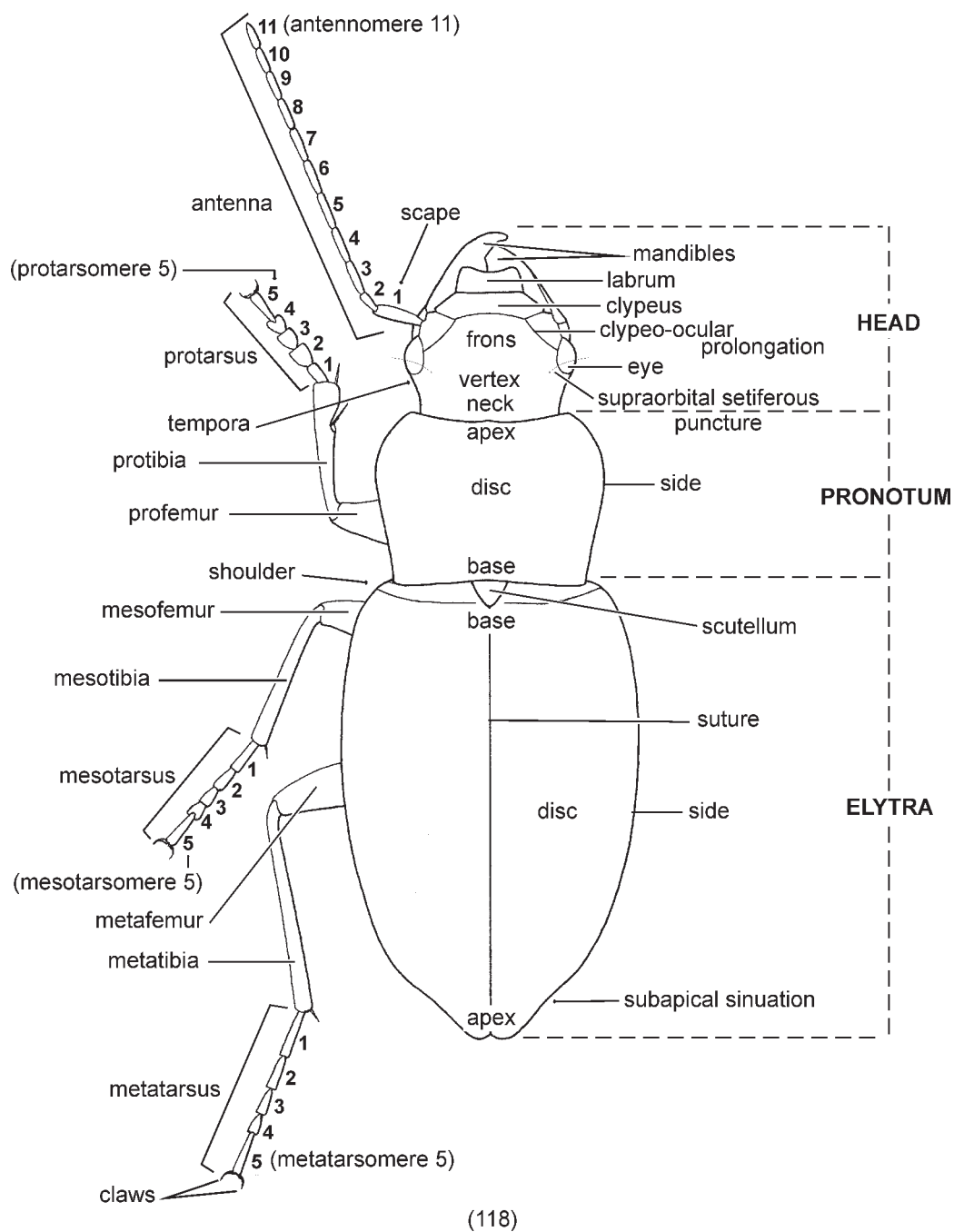
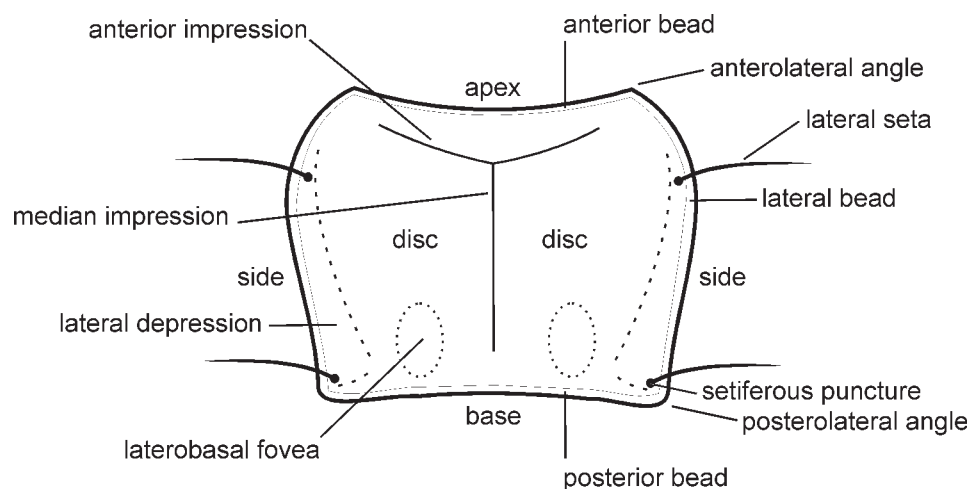
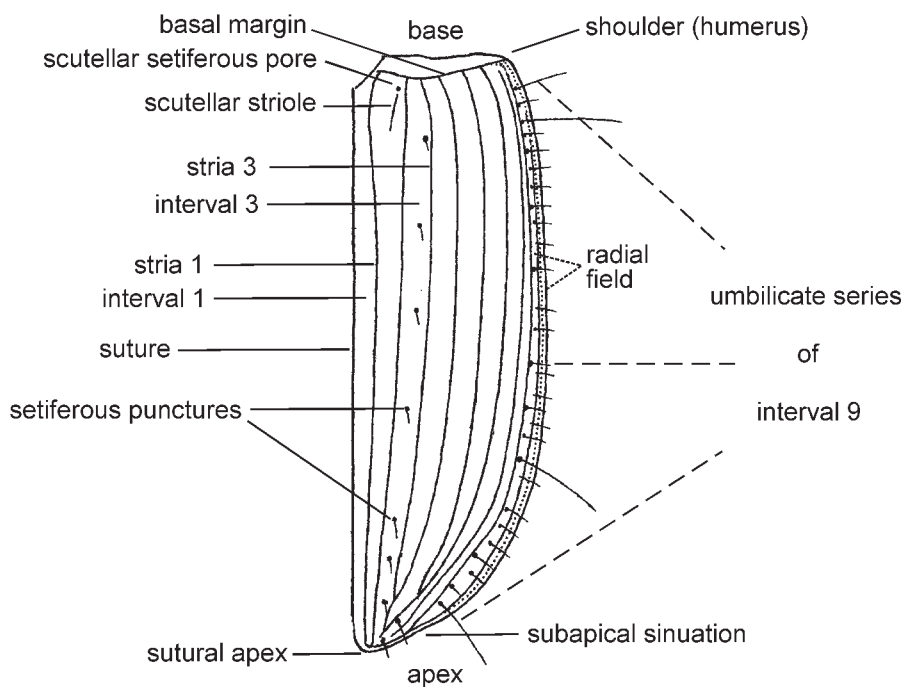


Fig. 118 Schematic dorsal view of carabid.



(120)



(121)

Fig. 120–121 Schematic view: (120) pronotum; (121) right elytron.

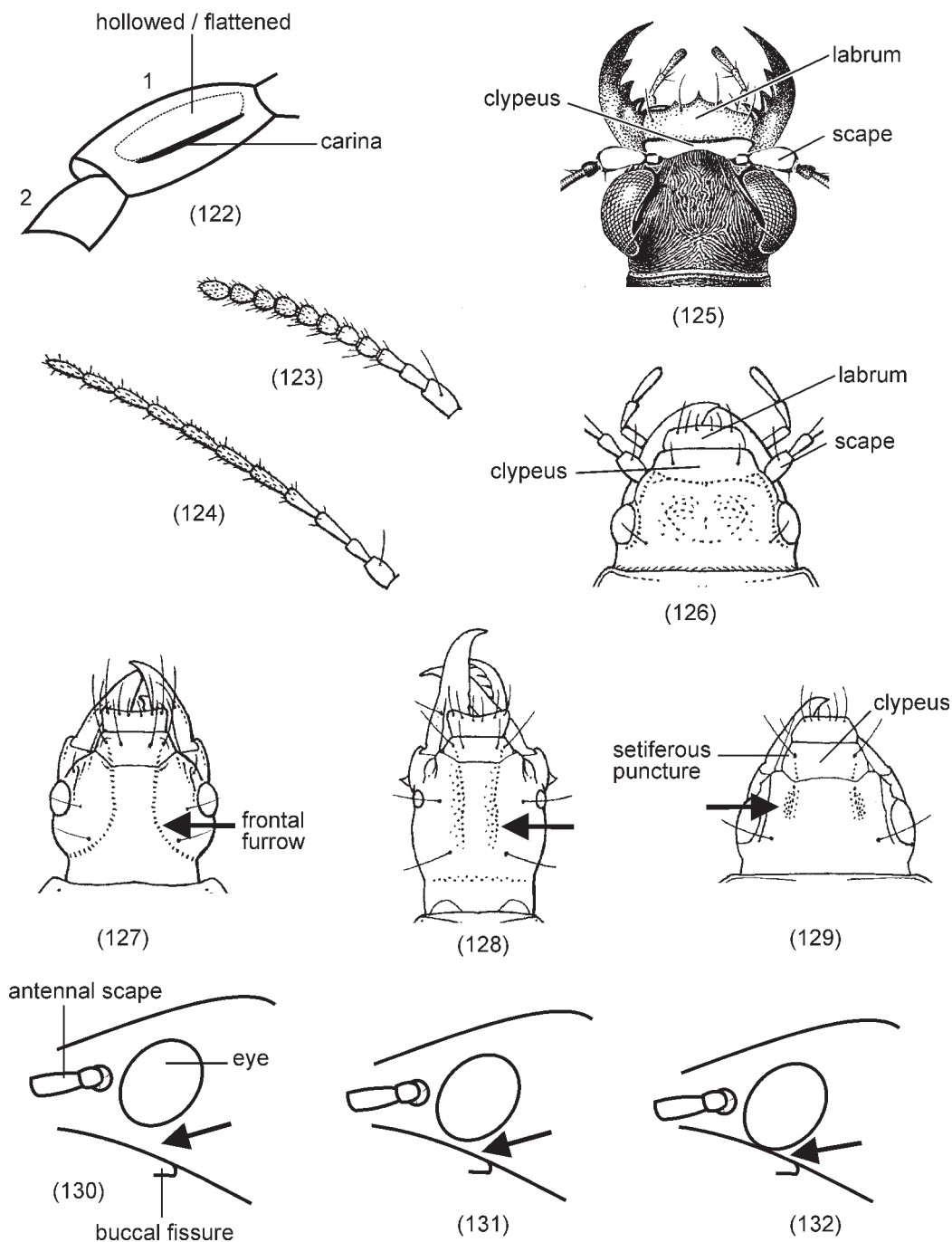


Fig. 122–132 (122) Left antenna, posterodorsal view: antennomere 1 subcarinate, hollowed or flattened dorsally. (123–124) Antennal shape: (123) moniliform; (124) filiform. (125–126) Head, dorsal view: labrum, clypeus, and right antennal scape. (127–129) Frontal furrows: (127–128) long; (129) short. (130–132) Eye and buccal fissure, lateral view: (130) widely separated; (131) narrowly separated; (132) touching (eye reaching buccal fissure).

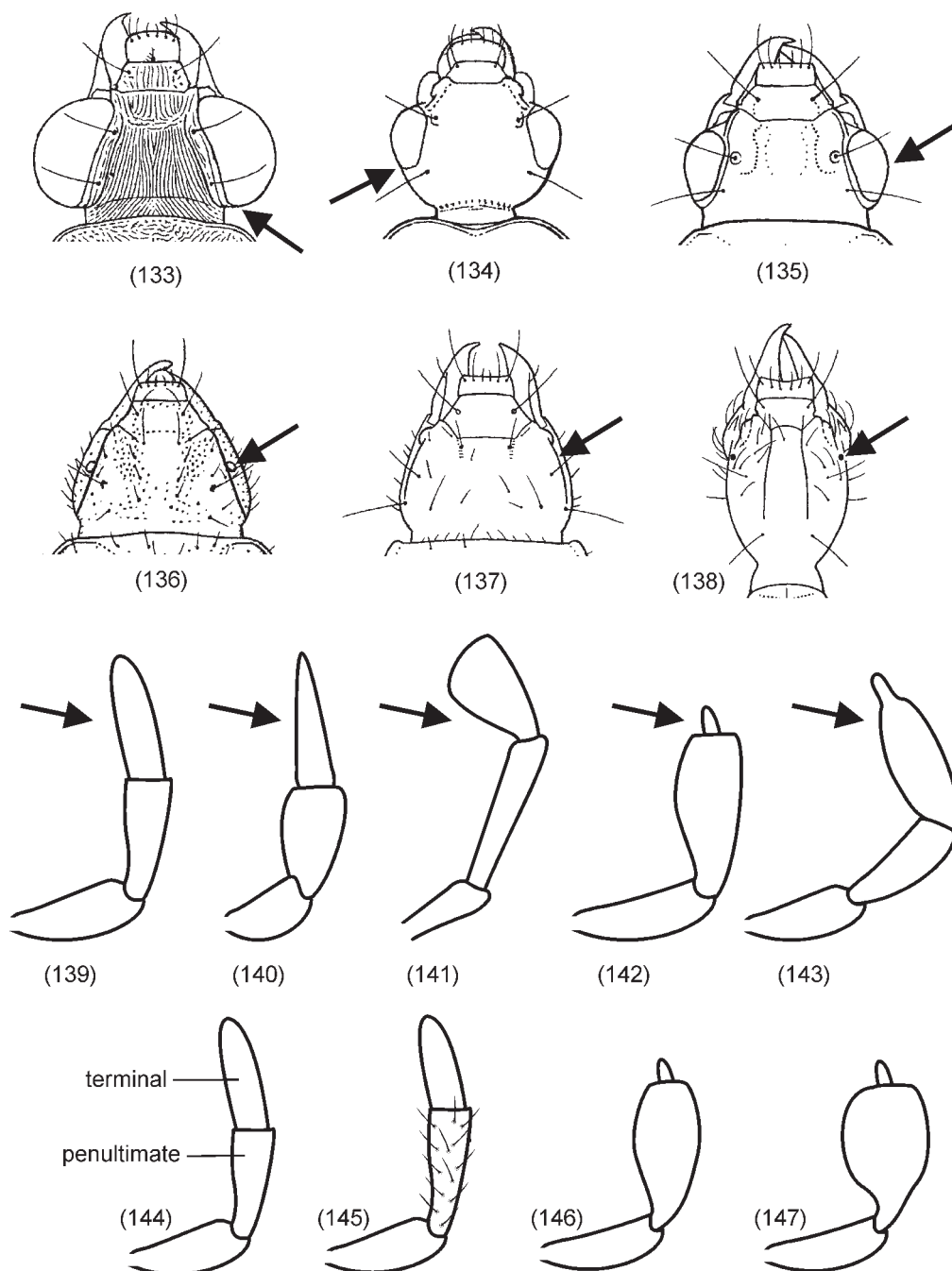


Fig. 133–147 (133–138) Eyes: (133) strongly developed; (134–135) normally developed; (136, 138) strongly reduced; (137) absent. (139–143) Maxillary palpi with terminal segment: (139) fusiform; (140) conical; (141) securiform; (142) entirely subulate; (143) partially subulate. (144–145) Palpi with penultimate and terminal segments: (144) subequal in length; (145) unequal in length. (146–147) Maxillary palpi with penultimate segment: (146) fusiform; (147) ovate.

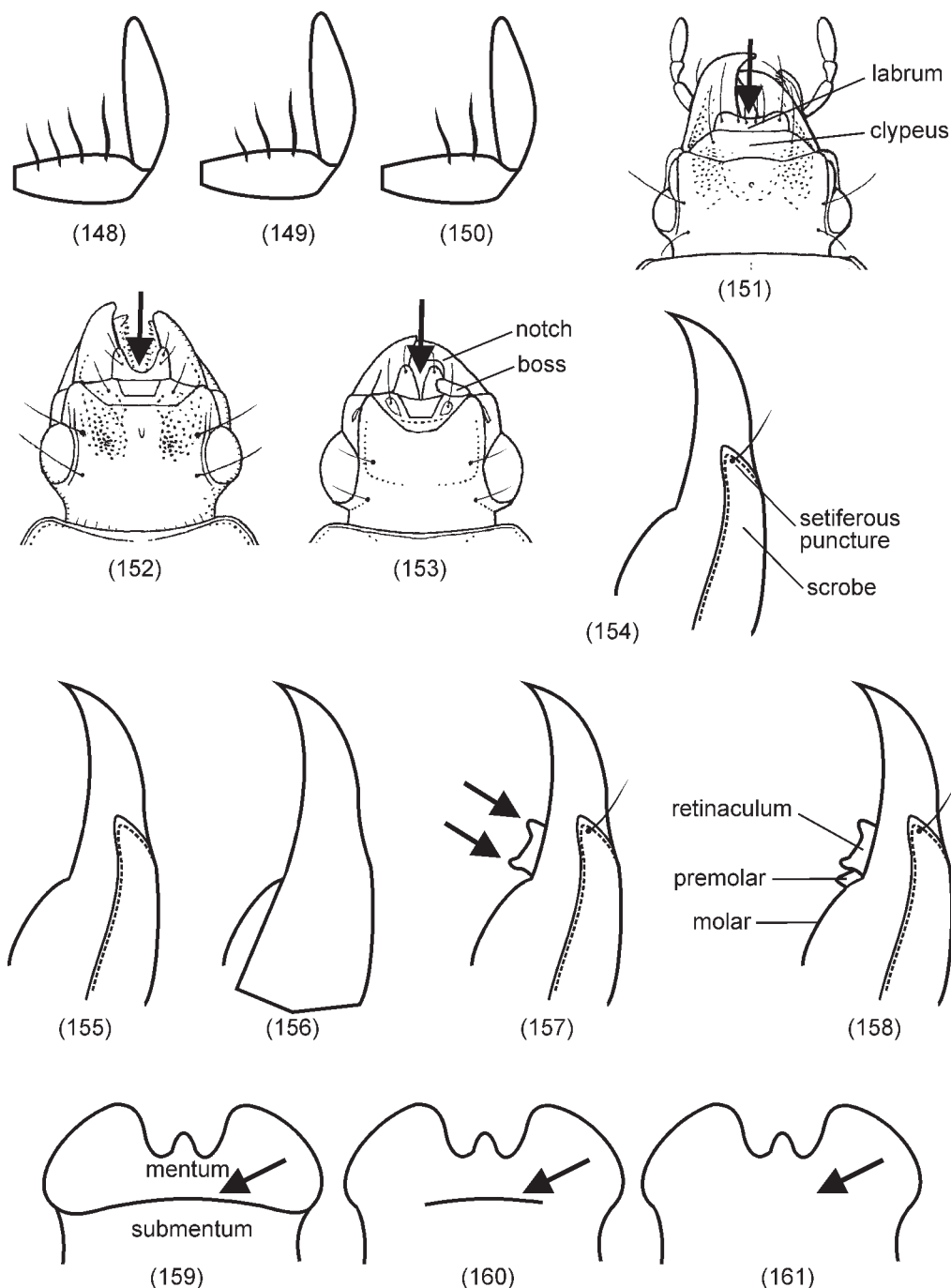


Fig. 148–161 (148–150) Pubescence on anterior margin of penultimate segment of labial palpi: (148) plurisetose; (149) trisetose; (150) bisetose. (151–153) Labrum, anteriorly: (151) moderately emarginate; (152) deeply emarginate; (153) cleft almost to base. (154–158) Right mandible, laterodorsal view: (154) with setiferous puncture in scrobe; (155) without setiferous puncture in scrobe; (156) without setiferous puncture and scrobe; (157) bidentate (without premolar); (158) tridentate (with premolar). (159–161) Transverse suture between mentum and submentum: (159) complete; (160) incomplete laterally; (161) lacking.

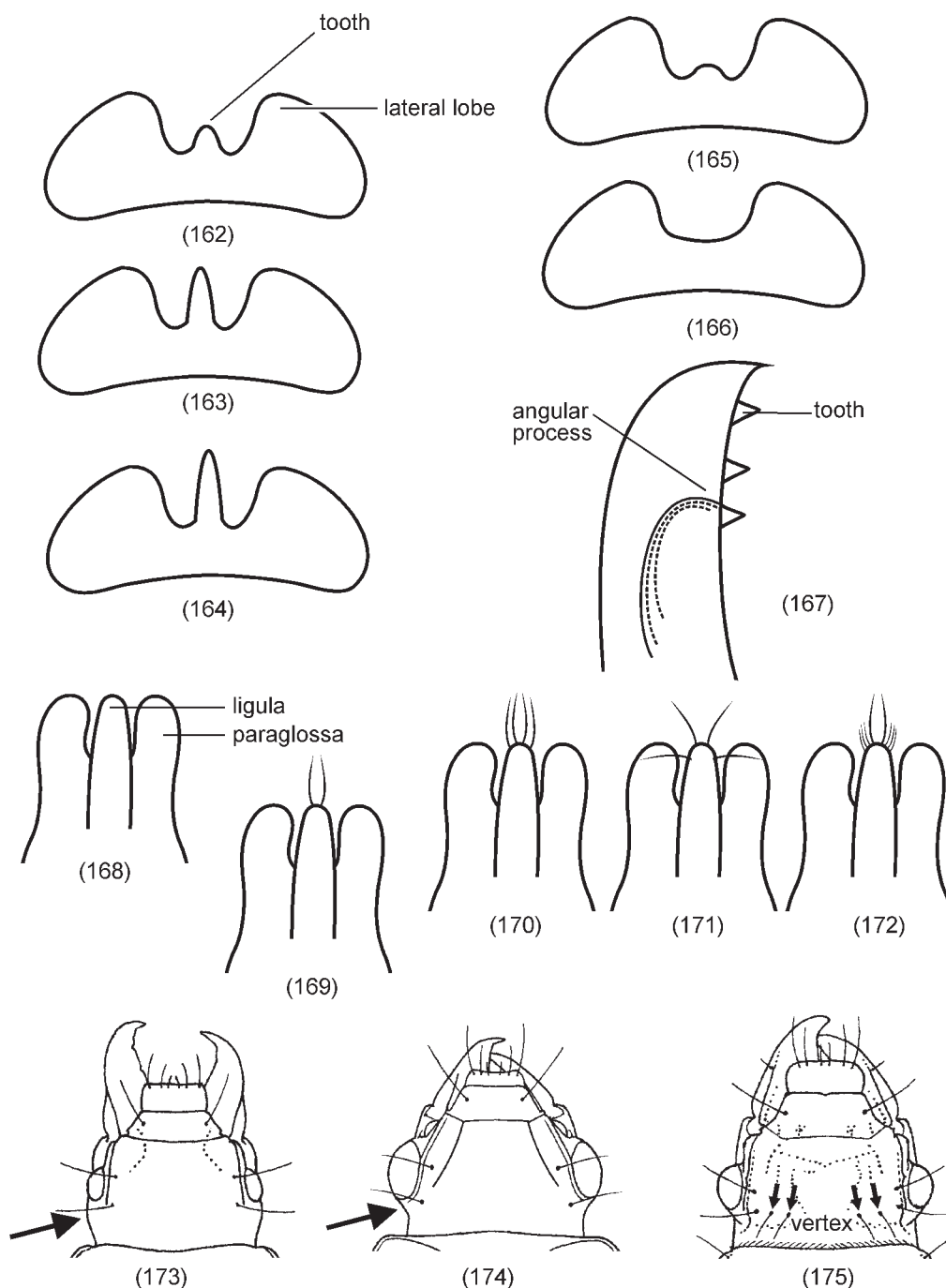


Fig. 162–175 (162–166) Medial tooth of mentum: (162) moderately long; (163) as long as lateral lobes; (164) longer than lateral lobes; (165) very short; (166) lacking. (167) Left mandible, dorsal view: teeth and angular process. (168–172) Ligula: (168) as long as paraglossae; (169) with 2 setae; (170–171) with 4 setae; (172) with 8 setae. (173–175) Head, dorsal view: (173) tempora inflated; (174) tempora not inflated; (175) vertex with line of setiferous punctures.

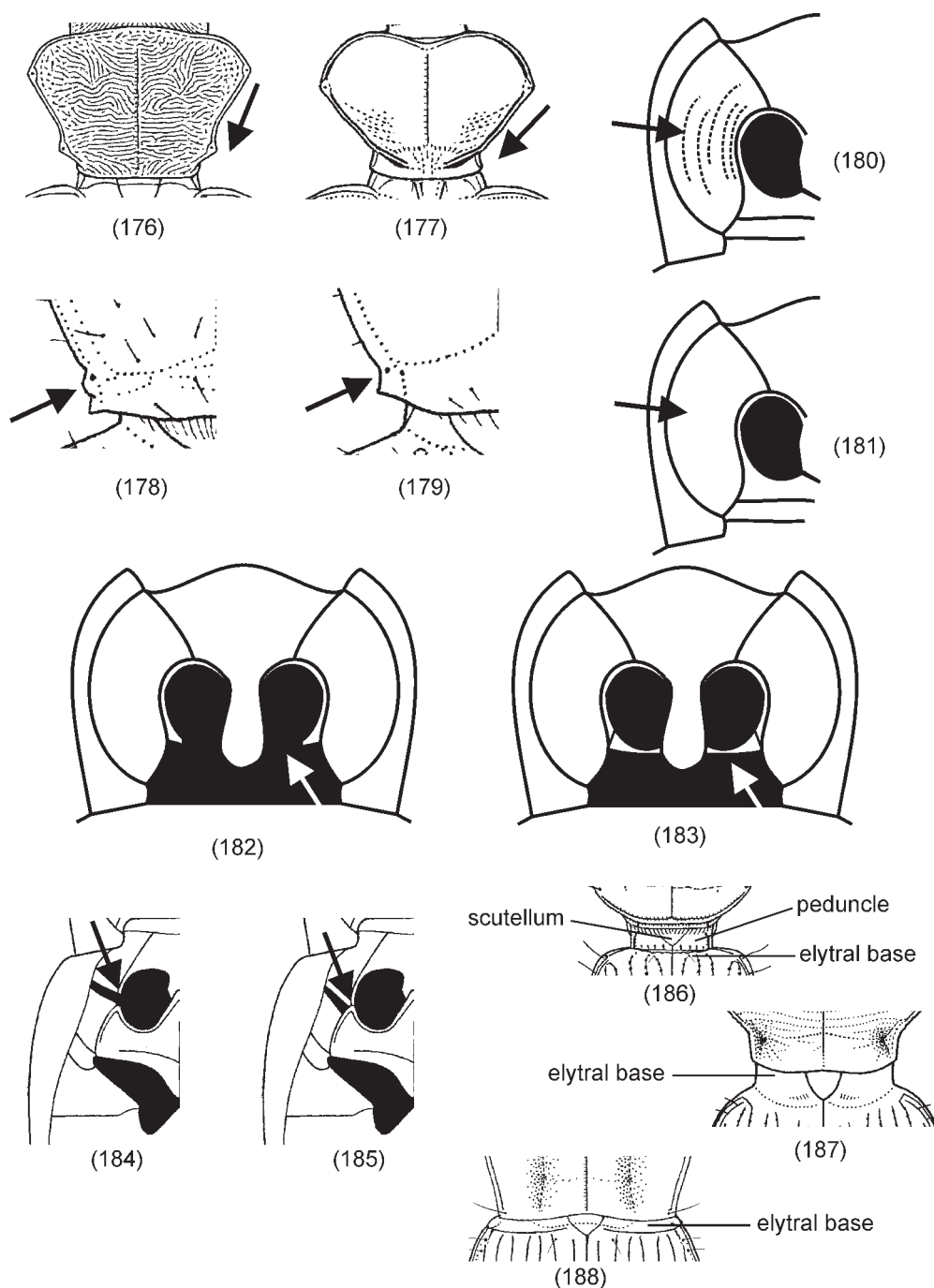


Fig. 176–188 (176–177) Pronotal sides, posteriorly: (176) not strongly convergent; (177) strongly convergent. (178–179) Pronotal auxiliary tubercle: (178) present; (179) lacking. (180–181) Right propisternum: (180) striate; (181) not striate. (182–183) Procoxal cavities, posteriorly: (182) open; (183) closed. (184–185) Right mesepimeron: (184) reaching mesocoxal cavity; (185) not reaching mesocoxal cavity. (186–188) Body, dorsal view: (186–187) pedunculate; (188) not pedunculate.

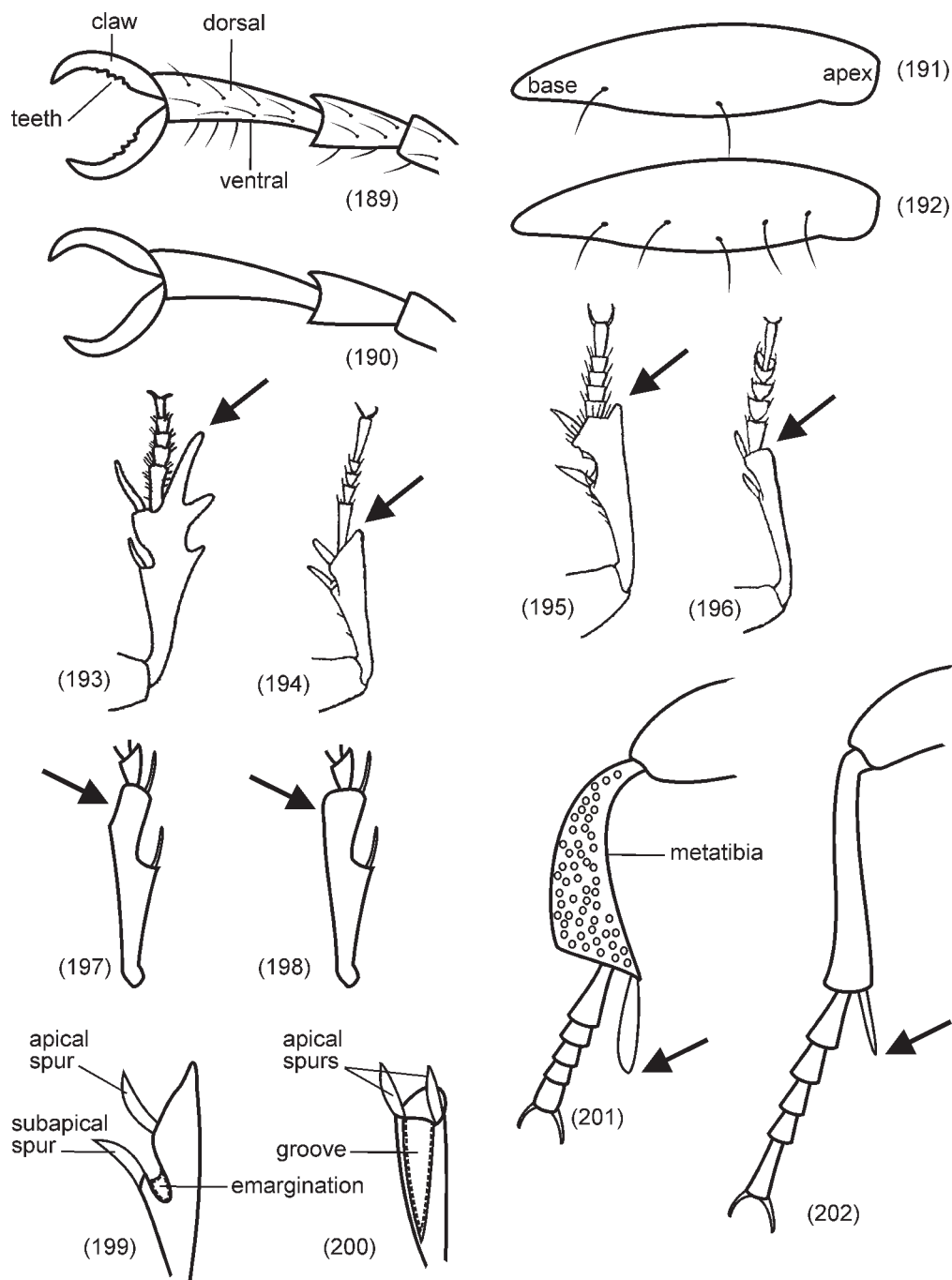


Fig. 189-202 (189-190) Tarsi, lateral view: (189) claws serrate, pubescence present dorsally and ventrally; (190) claws not serrate, pubescence lacking. (191-192) Metafemora, posterior view: (191) with 2 setae; (192) with 5 setae. (193-196) Outer apical prolongation of protibia, anterior view: (193-195) present; (196) absent. (197-198) Protibia, anterior view: (197) obliquely truncate; (198) not obliquely truncate. (199-200) Protibia, posterior view: (199) spurs apical and subapical, antennal cleaner emarginate; (200) spurs terminal, antennal cleaner grooved. (201-202) Metatibia: (201) triangular and strongly curved, apical spur long; (202) straight or almost so, apical spur short.

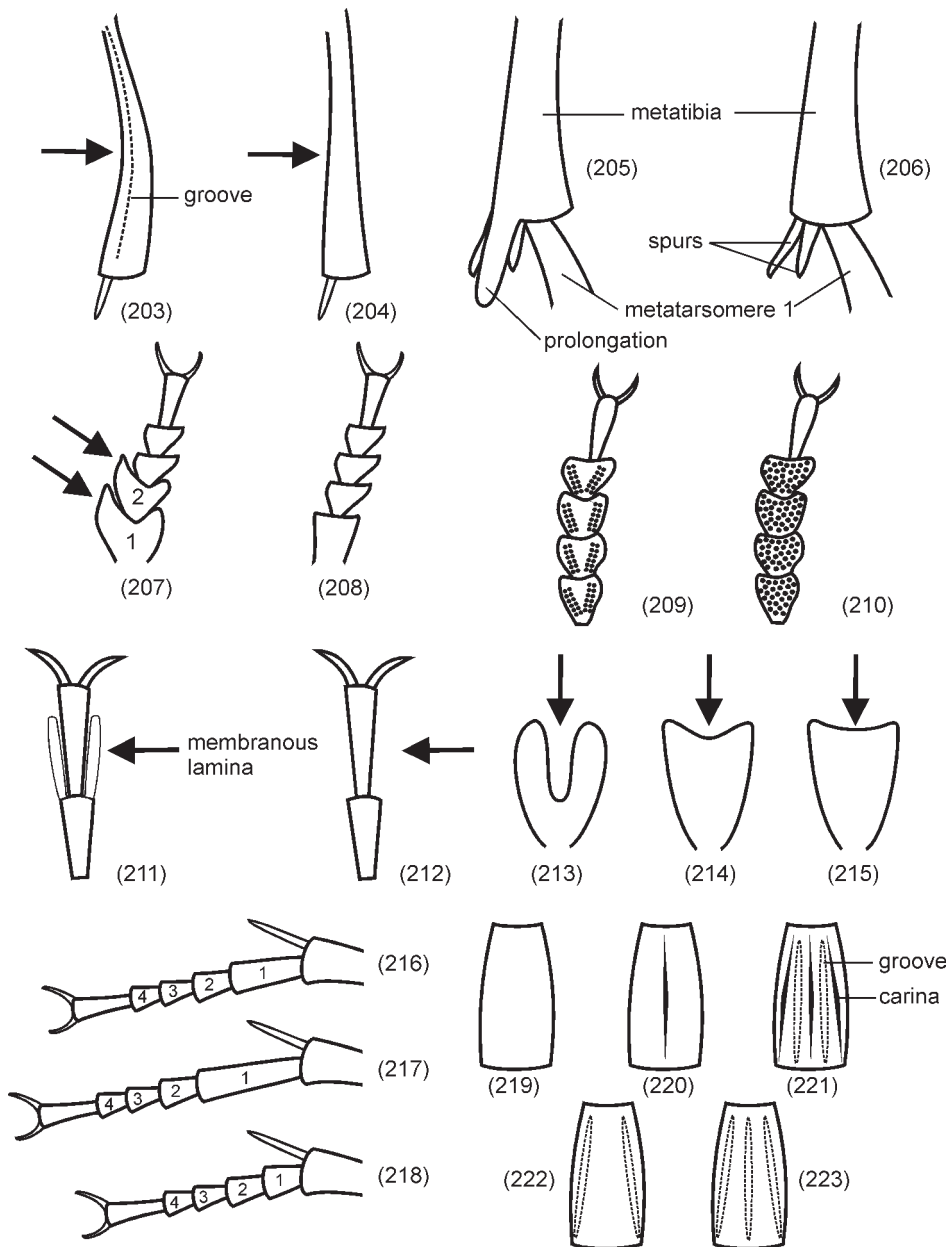


Fig. 203–223 (203–206) Metatibia, posterior view: (203) curved and grooved; (204) straight or almost so, not grooved; (205) with inner apical prolongation; (206) without inner apical prolongation. (207–208) Segments 1 and 2 of male protarsi, dorsal view: (207) asymmetrical, dentate and dilated on inner side; (208) symmetrical, neither dentate nor dilated on inner side. (209–210) Male protarsi, ventral view: (209) biserially pubescent; (210) spongiy pubescent. (211–212) Membranous laminae of pro- and mesotarsomeres 4: (211) present; (212) lacking. (213–215) Metatarsomere 4, anteriorly: (213) bilobed; (214–215) not bilobed. (216–218) Metatarsomere 1: (216) as long as metatarsomeres 2+3 combined; (217) as long as metatarsomeres 2+3+4 combined; (218) about as long as metatarsomere 2. (219–223) Meso- and metatarsomeres 1, dorsal view: (219) neither carinate, nor grooved; (220) with one carina; (221) with three carinae and two grooves; (222) with two grooves; (223) with three grooves.

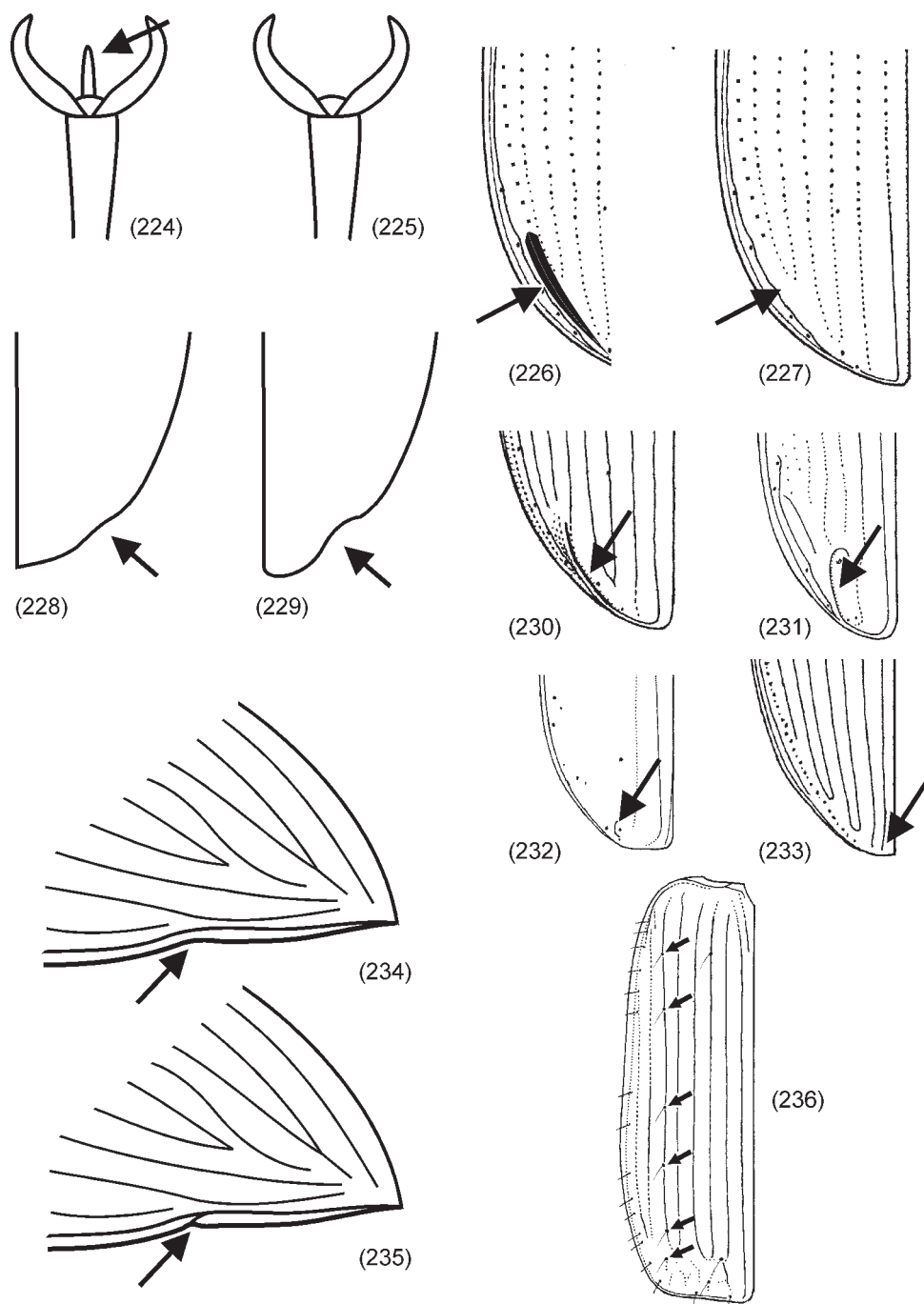


Fig. 224–236 (224–225) Unguitractor plate: (224) visible, long; (225) invisible. (226–227) Penultimate outer interval of left elytron, apical view: (226) carinate; (227) not carinate. (228–229) Subapical sinuation of right elytron: (228) weak; (229) strong. (230–233) Stria 1 of left elytron, apically: (230–232) recurrent; (233) not recurrent. (234–235) Epipleuron of left elytron, dorsolateral view: (234) simple near apex; (235) twisted near apex. (236) Stria 6 of left elytron with 6 setiferous punctures.

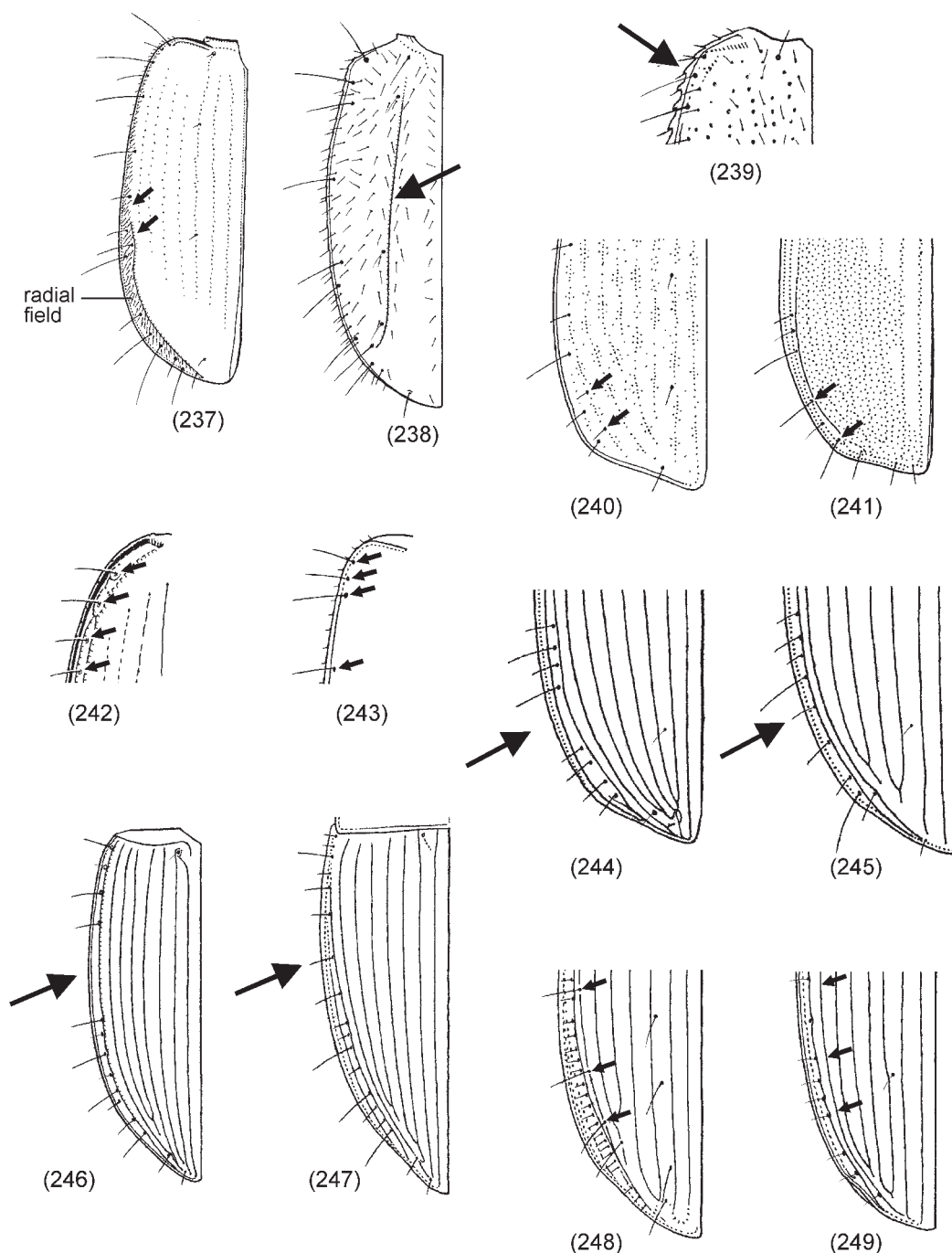


Fig. 237–249 (237–239) Left elytron: (237) radial field with short dense pubescence, outermost stria poorly impressed anteriorly; (238) with oblique longitudinal sulcus; (239) with serrate shoulder. (240–247) Umbilicate series of elytron: (240) with setiferous punctures not in line near apex, (241) in line near apex; (242) with setiferous punctures of anterior group equidistant, (243) not equidistant; (244) with setiferous punctures of posterior group divided into two subgroups, (245) not divided into two subgroups; (246) with setiferous punctures divided into two groups, (247) not divided into two groups. (248–249) Elytral interval or stria 7: (248) with a series of setiferous punctures; (249) without setiferous punctures.

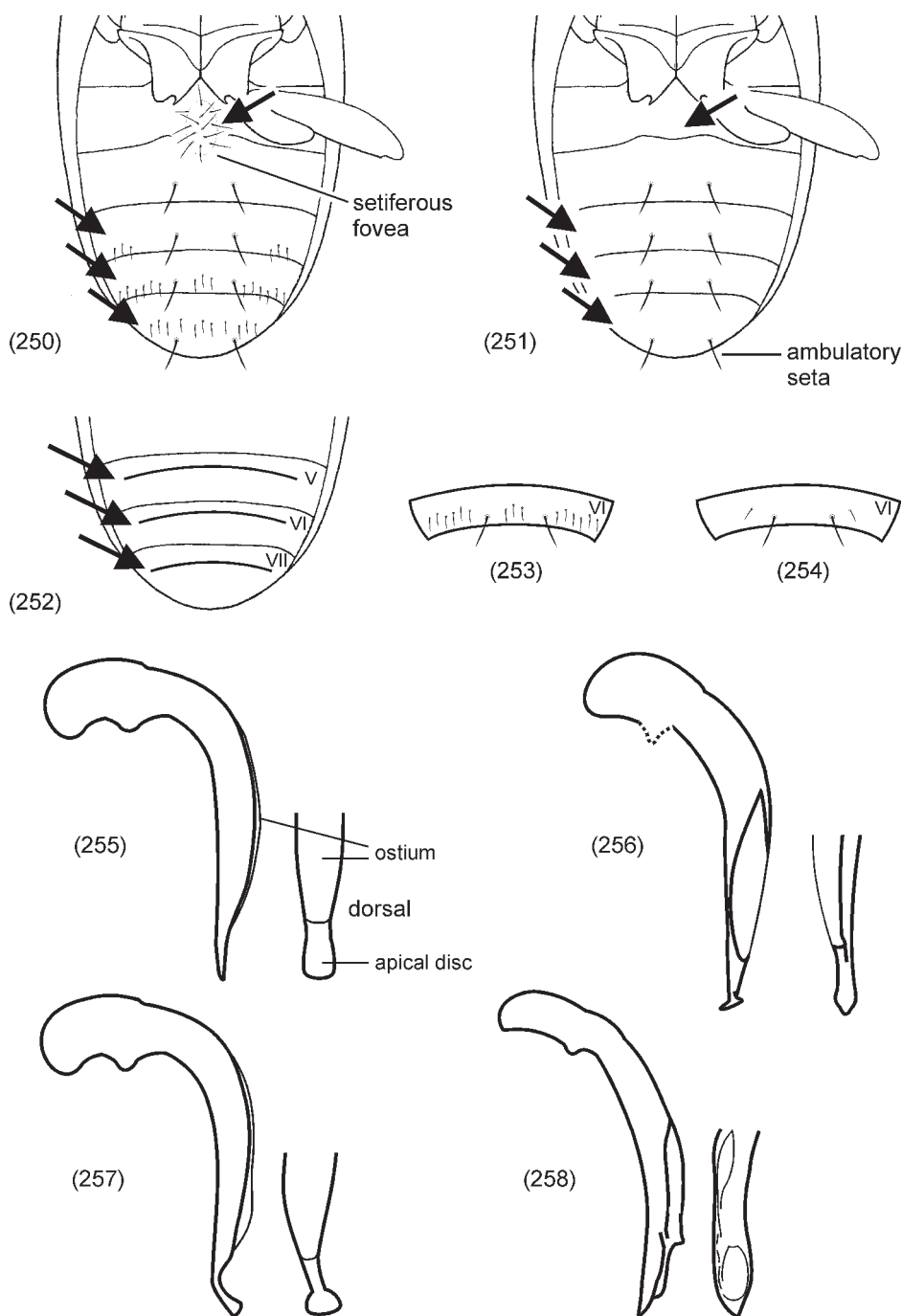


Fig. 250–258 (250–251) Pubescence of venter: (250) paired ambulatory setae, numerous short setae, and male setiferous fovea; (251) paired ambulatory setae only. (252) Abdominal sterna V–VII transversely grooved anteriorly. (253–254) Abdominal sternum VI: (253) with 6–20 setiferous punctures; (254) with 4 setiferous punctures. (255–258) Aedeagus, lateral and dorsal views: (255) symmetrical, with ostium dorsal; (256) asymmetrical, with ostium deflected to the left; (257) asymmetrical, with ostium deflected to the right; (258) asymmetrical, twisted.