

Insects

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A REVISION OF
„CRUSTACEA ISOPODA TERRESTRIA“

WITH ADDITIONS AND ILLUSTRATIONS

BY

G. BUDDE-LUND.

1. EUBELUM.

The genus *Eubelum* was founded by me in the year 1885*) upon specimens friendly sent me from Mr. Eug. Simon at Paris, who had acquired them from Chinchoxo in Southwest-Africa. Almost at the same time visiting the Zoological Museum at Berlin I had opportunity of seeing specimens of the same species there, *Eubelum lubricum*, collected in an other locality, Laudana, in the vicinity of Chinchoxo. In the year 1892 three new species belonging to a new genus, *Mesarmadillo*, (*M. Alluaudi*, *M. marginatus*, *M. tuberculatus*), were described by Mr. A. Dollfus at Paris**). These three species were found by Mr. Alluaud in Abyssinia. Mr. Dollfus has been kind enough to let me have a specimen of his *Mesarmadillo tuberculatus*, and examining this I was convinced that the genus *Mesarmadillo* is very much allied to *Eubelum*. Last summer I have got a small collection of *Isopoda* sent from Dr. E. Lönberg for determination, they were collected in Kamerun by Mr. Y. Sjöstedt, and were given to the Museum at Upsala. In this last collection there were several new species belonging to this genus, and I also got new species from Abyssinia

*) Crustacea Isopoda Terrestria. Haunia 1885 p. 291.

***) Ann. Soc. ent. France. Paris 1892. v. 61 p. 385.

sent me among other Isopods by Dr. R. Gestro at Genoa. Still later I have described two new species here belonging procured by the Stuhlmann-Emin Pasha Expedition in East-Afrika *).

With these materials I have found it useful to take up to renovated examination all the species, so much the more as I mean, that I am able to refer here different species described by different authors, although I have not seen them.

On account of some relations particularly from the structure of the antennæ, the mouth and the first segment of the trunk I have conceived, that other much deviating characters, which by these animals to my present opinion give good generic characters, are here of lower value, and I have assembled in a new family or tribus animals although differing somewhat from each other in habitus, are among themselves closely related, and the extreme forms are so connected by intermediate forms that they might be regarded as forming a good limited group. The here enumerated 22 species, among which are 12 new ones, are certainly but forerunners for a swarm of forms, which the inner Africa shall bring to light. It shall be proved, that the *Eubelidæ* will have the same systematic value as all the *Armadillidæ* and *Porcellionidæ* taken together, and their terrestrial spreading is an argument more for the justness of the zoogeographical zone, Africa to the south of Sahara, and for an old union of this continent with South-America.

Eubelidæ.

Antennæ: Flagellum plerumque plus vel minus obscure triarticulatum, raro solum biarticulatum; scapi articulus 1 brevissimus, articulus 3 semper brevior quam 2, articulus 4 paulo longior quam 2, articulus 5 semper longissimus.

Oculi manifesti, congregati.

Caput: Epistoma lineam marginalem frontalem continuam, in medio sæpe deletam formans. Foramina anten-

*) G. Budde-Lund: Die Land-Isopoden Ost-Afrikas. Deutsch Ost-Afrika v. IV p. 8. Berlin 1898.

naria mediocria, tubercula antennaria parva, sæpe subdeleta. Clypeus brevis, subfornicatus, lateribus lobatus. Pleuræ capitis concretæ; linea marginalis verticalis marginem frontalem non attingens; linea inframarginalis verticalis nulla.

Os: Maxillulæ lacinia interior penicillis numerosis (5—15); maxillæ latiores, obscure bifidæ, lacinia exterior quam interior multo latior et major.

Truncus: Segmentum primum epimero crasso sulco suturali a medio segmenti discreto, margine laterali plerumque post fisso rarius integro. Pars anterior articularis (pronotum) segmentorum omnium (2—7) a posteriore parte segmenti manifesto discreta. Marsupium adest.

Cauda: Telson medio triangulo vel etiam quadrangulo producto, epimera segmenti præanalis non vel paulum superans. Exopodita priorum vel plerumque omnium pleopodum trachea instructa. Uropodes breves vel breviores, telsum non vel paulum superantes; scapus magnus, latus; exopoditum parvum vel minimum.

Conspectus subgenerum.

- a. Flagellum antennarum obscure triarticulatum.
 - b. Epimera segmenti primi trunci margine laterali ad longitudinem sulcato, post fisso.
 - 1. Eubelum. 6 species.
 - b b. Epimera segmenti primi trunci margine laterali ad longitudinem non sulcato.
 - c. Epimera segmenti primi trunci post fissa.
 - 2. Mesarmadillo. 4 species.
 - c c. Epimera segmenti primi trunci integra vel lacinia minore inferiore.
 - 3. Periscyphops. 8 species.
- a a. Flagellum antennarum manifesto biarticulatum.
 - b. Epimera segmenti primi trunci post integra.
 - 4. Hiallum. 1 species.
 - b b. Epimera segmenti primi trunci fissa.
 - 5. Ethelum. 3 species.

Subgenus 1. Eubelum.

Antennæ: Flagellum manifesto triarticulatum.

Maxillulæ: Lacinia interior penicillis numerosis (8—15).

Truncus: Segmentum 1 epimero crasso, supra sulco longitudinali a medio segmenti discreto, margine laterali ad longitudinem sulcato, post fisso. Segmentum 2 epimeris integris.

Cauda: Exopodita omnium pleopodum trachea instructa. Telsum tetragonum, medio sæpissime tetragono producto.

Uropodes telsum non superantes; scapus vix vel paulo longior quam latior; exopoditum minimum, fossæ superiori scapi apicis insertum.

The species of this subgenus are all inhabitants of Africa.

Conspectus specierum.

- a. Antennarum flagellum quam scapi articulus 5 manifesto brevius. Margo posterior segmentorum priorum trunci utrinque sinuatus.
 - b. Epistoma margine superiore valde arcuato in medio frontem nonnihil superante.

Caudæ epimera segmenti 5ti paulum convergentia.
1. Eubelum stipulatum.
 - b b. Epistoma margine superiore leviter arcuato in medio frontem non superante, subdeleto.

Caudæ epimera segmenti 5ti paulum divergentia.
2. Eubelum lubricum.
 - a a. Antennarum flagellum scapi articulo 5 æquale.

Margo posterior segmentorum priorum subtransversus.
 - b. Oculi parvi, subevanidi, ocelli pauci.

Trunci segmentum 1 supra sulco laterali minus manifesto. Telsum perbreve, medio non producto, post curvatum.
3. Eubelum pila.
 - b b. Oculi mediocres, ocelli satis numerosi.

Trunci segmentum 1 supra sulco laterali profundo. Telsum breve medio tetragono producto, post truncatum.
 - c. Telsum epimera segmenti præanalis longe superans.

Epimera caudæ segmenti præanalis minus convergentia, subparallela.
4. Eubelum quietum.
 - c c. Telsum epimera segmenti præanalis vix vel paululum superans.

Epimera caudæ segmenti præanalis convergentia.
 - d. Trunci segmentum primum margine laterali crasso, lato.

Epistoma margine superiore medio subdeleto.

5. *Eubelum Dollfusii*.

d d. Trunci segmentum primum margine laterali minus crasso, angustiore.

Epistoma margine superiore medio integro.

6. *Eubelum ignavum*.1. *Eubelum stipulatum*.

(Tab. I. fig. 1—16).

Suboblange ovale, valde convexum, læve, nitidum, punctatissimum.

Antennæ: Flagellum $\frac{2}{3}$ scapi articuli 5ti æquale; articulus primus secundo paulo brevior, tertio subæqualis.

Oculi majores; ocelli 28—30.

Epistoma margine superiore manifesto, frontem nonnihil superante.

Trunci segmentum primum margine laterali crasso, leviter sed manifesto ad longitudinem sulcato, post minus profunde fisso: lacinia interior angustior, subtriangula, paulo longior quam exterior. Margo posterior omnium segmentorum utrinque levissime sinuatus.

Cauda: Epimera segmentorum 3—4—5 subrectangula, epimera segmenti 5ti paulum convergentia.

Exopodita omnium pleopodum trachea instructa; exopoditum primi paris in mare post triangule retroductum.

Telsum multo latius quam longius, epimera segmenti 5ti paulum superans; pars apicalis brevis, subrectangula.

Uropodum scapus obliquus, subtrapezoidalis, quam telsum paulo brevior; exopoditum minutum, tamen manifesto majus quam in *Eub. lubrico*; endopoditum brevius, telsum non superans.

Color e griseo plumbeus; unicolor vel sæpe maculis parvis albidis in series longitudinales digestis ornatus.

Long. 13—15 m. m. Lat. 6—7 m. m.

Patria: Africa occidentalis. All the specimens that I have seen were taken by Mr. Y. Sjöstedt at Kamerun and at Bonge in the months from April to November. (Mus. Upsaliense).

2. *Eubelum lubricum*.

(Tab. II. fig. 1—8).

Eubelum lubricum B.-L. Crust. Isop. Terr. 1885. 292.

Ovale vel suboblange ovale, valde convexum, læve, nitidum, punctatissimum.

Antennæ: Flagellum $\frac{3}{4}$ scapi articuli 5ti æquale; articulus primus secundo fere duplo brevior, tertio subæqualis.

Oculi mediocres; ocelli circ. 22.

Epistoma margine superiore in medio subdeleto, frontem in lateribus satis, in medio non superante.

Trunci segmentum primum margine laterali crasso, leviter et minus manifesto ad longitudinem sulcato, post minus profunde fisso: lacinia interior subovalis, quam exterior aliquanto longior. Margo posterior omnium segmentorum utrinque levissime sinuatus.

Cauda: Epimera segmentorum 3—4—5 subrectangula, epimera segmenti 5ti divergentia.

Exopodita omnium pleopodum trachea instructa; exopoditum primi paris in mare post triangule retroductum.

Telsum multo, fere tertia parte, latius quam longius, epimera segmenti 5ti paululum superans; pars apicalis parte basali paululo longior, subquadrata.

Uropodum scapus obliquus, suboblange ovalis, brevior quam telsum; exopoditum minimum, teretiusculum; endopoditum breve brevius quam telsum.

Color e griseo plumbeus, in medio trunco maculis et striis minutis flavis, ad epimera tuberculo perlucente minimo.

Long. 14—15 m. m. Lat. 6,5—7 m. m. Alt. 3,5 m. m.

Patria: Africa meridionalis. Kongo: Laudana (Mus. E. Simon), Chinchoxo (Mus. Berolinense).

3. *Eubelum pila*.

(Tab. I. fig. 17—20).

Eubelum pila B.-L. Deutsch Ost-Africa. Landisopoden.

Ovale, valde convexum, opacum, sublæve vel minutissime squamatum.

Antennæ: Flagellum scapi articulo 5 æquale; flagelli articulus 1 brevissimus, articulus 2 paululo brevior quam 3.

Oculi parvi, subevanidi, depressi; ocelli 8—10 confluentes, nonnulli haud pigmentati.

Epistoma convexum, supra reflexum, margine superiore frontem paululum superans. Clypeus fornicatus, lobis lateralibus mediocribus, ovalibus.

Trunci segmentum primum margine laterali crasso, ad longitudinem satis profunde sulcato, post leviter fisso: lacinia interior ovalis, exteriore paulo longior. Supra sulcus lateralis tenuis. Epimera segmenti secundi ante crassiora. Margo posterior segmentorum priorum subtransversus, vix aut levissime utrinque sinuatus.

Cauda: Epimera segmentorum 3—4—5 acute rectangularia; epimera segmenti 5ti convergentia.

Exopodita omnium pleopodum trachea instructa.

Telsum subtrapezoidale, lateribus leviter incurvis, multo latius quam longius, margine postico leviter arcuato.

Uropodes telsum non superantes; scapus breviter subtrigonus, latere interiore oblique curvato. Exopoditum minutissimum, supra satis longe a margine posteriore scapi insertum; endopoditum telso vix brevius.

Unicolor, flavus.

Long. 15 m. m. Lat. 6,5 m. m.

Patria: Africa orientalis. In the bambooforest at Runsororo three specimens were taken by Mr. Stuhlmann the 9 June 1891. (Mus. Berolinense).

4. *Eubelum quietum*.

(Tab. II. fig. 12—14).

Ovale vel suboblange ovale, valde convexum, minute squamatum et punctatum.

Antennæ: Flagellum scapi articulo 5 subæquale, articulis ad apicem longitudine paululum crescentibus.

Oculi majores, subdeplanati; ocelli c. 20, subdistantes, posteriores paulo majores.

Epistoma transverse minus manifesto carinatum, supra

reclivum, margine superiore frontem in lateribus paulum in medio vix superante, subdeleto, infra utrinque levius excavatum. Clypeus lobis mediocribus, ovalibus.

Trunci segmentum primum margine laterali minus crasso, ad longitudinem minus manifesto sulcato, post leviter fisso: lacinia interior rotundate triangula paulo brevior quam exterior sed crassior. Supra sulcus lateralis profundus, ab angulo anteriore fere ad angulum posteriorem ductum. Epimera segmenti secundi ante paulo crassiora. Margo posterior segmentorum priorum subtransversus, utrinque levissime aut vix sinuatus.

Cauda: Epimera segmentorum 3—4—5 subrectangula; epimera segmenti 5ti paulum convergentia, vel subparallela.

Exopoditum omnium pleopodum trachea instructum. Exopoditum primi paris in mare paulum retroductum, rotundate triangulum.

Telsum nonnihil latius quam longius, epimera segmenti præcedentis longe superans; pars apicalis parte basali paulo longior, subquadrata.

Uropodes angustiores, breviores quam telsum; scapus obliquus, suboblange ovalis, latere interiore valde curvatus. Exopoditum minimum, fossæ superiori scapi apicis insertum, propius angulum internum. Endopoditum telso paulo brevius.

Subunicolor, griseus, lateribus pallidior.

Long. 8 m. m. Lat. 4 m. m.

Patria: Abyssinia. Dr. V. Ragazzi has taken it with *Eub. ignavum* at Let-Marefia in the Schoa District in March 1885. (Mus. Genuense.)

5. *Eubelum Dollfusii*.

(Tab. II fig. 15—18).

Breviter ovale, valde convexum, subopacum; tota superficies dense, maxime in capite et in trunci segmentis prioribus, squamate punctata.

Antennæ: Flagellum scapi articulo 5 subæquale; articuli duo ultimi subæquales, articulus 1 brevissimus.

Oculi mediocres, subdeplanati; ocelli c. 16--17, subdistantes, alii minores, alii, maxime posteriores et laterales, majores.

Epistoma transverse subcarinatum; carina utrinque sinuata; epistoma infra fortius excavatum, supra reclivum, margine superiore valde curvato frontem in lateribus nonnihil in medio vix superante, hic subdeleto. Clypeus lobis oblique rotundatis, brevioribus sed latioribus.

Trunci segmentum primum margine laterali crasso, lato, ad longitudinem delete sulcato, post fisso: lacinia interior ovalis paulo crassior et longior quam exterior. Supra sulcus lateralis maxime ante profundus. Epimera segmenti secundi ante crassiora. Margo posterior priorum segmentorum subtransversus, utrinque levissime aut vix sinuatus.

Cauda: Epimera segmentorum 3—4—5 oblique tetragona; epimera segmenti 5ti valde convergentia.

Exopodita omnium pleopodum trachea instructa.

Telsum aliquanto latius quam longius, epimera segmenti præcedentis paululum superans; pars apicalis brevior, subrectangula.

Uropodes telso vix breviores; scapus latere interiore curvato. Exopoditum minutissimum, apicem scapi non attingens. Endopoditum paulo brevius quam telsum.

Color e griseo brunneus; tuberculosa partes flaviores.

Long. 7,7 m. m. Lat. 4 m. m.

Patria: Abyssinia. Dr. V. Ragazzi has found two specimens in August 1885 at Antoto in the Schoa District. (Mus. Genuense.)

6. *Eubelum ignavum*.

(Tab. II fig. 9—11).

Breviter ovale, valde convexum, subopacum; tota superficies squamate punctata.

Antennæ

Oculi majores, leviter globosi; ocelli c. 19, dense congregati, subæquales.

Epistoma ut in Eub. Dollfusii; carina transversa tamen minus prominens, infra utrinque levius excavatum, pars superior recliva brevior, margo superior in medio integer.

Trunci segmentum primum margine laterali minus crasso, ad longitudinem paulo profunde sulcato, post leviter fisso: lacinia interior exteriore vix longior sed crassior. Supra sulcus lateralis satis profundus. Epimera segmenti secundi ante crassiora. Margo posterior segmentorum priorum subtransversus, utrinque levissime aut vix sinuatus.

Cauda: Epimera segmentorum 3—4—5 oblique tetragona; epimera segmenti 5ti convergentia.

Exopodita omnium(?) pleopodum trachea instructa.

Telsum multo latius quam longius, epimera segmenti præcedentis paulum superans; pars apicalis brevis, subrectangula.

Uropodes telso vix breviores; scapus latere interiore oblique curvato. Exopoditum minutissimum, apicem scapi non attingens; endopoditum telso vix brevius.

Unicolor, e griseo brunneus.

Long. 7,5 m. m. Lat. 4 m. m.

Patria: Abyssinia. In the District of Schoa at Let-Marfia three specimens have been found in March 1885 by Dr. V. Ragazzi. (Mus. Genuense.)

Subgenus 2. Mesarmadillo.

Antennæ: Flagellum triarticulatum; articulatione ultima interdum obscuriore.

Maxillulæ: Lacinia interior penicillis numerosis (6—12).

Truncus: Segmentum 1 epimero crasso, supra sulco longitudinali a medio segmenti discreto, margine laterali non sulcato, post fisso. Segmentum 2 epimeris integris.

Cauda: Exopodita omnium pleopodum trachea instructa.

Telsum plus vel minus triangulum vel medio triangulo producto.

Uropodes telsum paulum superantes; scapus aliquanto longior quam latior; exopoditum mediocre, apici scapi insertus.

All the species belonging to this subgenus are inhabitants of Africa.

Conspectus specierum.

- a. *Epistoma* margine superiore manifesto, integro.
 Telsum late triangulum, lateribus leviter incurvis, post late rotundatum.
1. *Mesarmadillo tuberculatus*.
 - (2. *Mesarmadillo marginatus*).
- a a. *Epistoma* margine superiore medio deleto.
 Telsum triangulum, lateribus fortius incurvis, ut medium productum fiat.
- b. *Epistoma* margine superiore medio solo deleto.
 Trunci segmentum 1 margine laterali post subæqualiter fisso.
3. *Mesarmadillo albicornis*.
 b b. *Epistoma* margine superiore fere toto deleto.
 Trunci segmentum 1 margine laterali post satis inæqualiter fisso.
 4. *Mesarmadillo quadrimaculatus*.

1. *Mesarmadillo tuberculatus*.

(Tab. II. fig. 19—27.)

Mesarmadillo tuberculatus Dollf. Ann. Soc. ent. France. v. 61. 1892.
 p. 387. t. 7 f. 3 & 4 f.*).

Ovalis, convexus, opacus, minutissime et densissime setigero-foveolatus. Caput tuberculis 5 in transversum positis ornatum; tuberculosæ partes laterales trunci magnæ, segmentum 1 ante in medio tuberculo majore instructum.

Antennarum flagellum $\frac{2}{3}$ scapi articuli 5 vix longius; articulus 1 articulo 3 nonnihil longior, articulo 2 paulo brevior.

Oculi majores, ocelli c. 23.

Epistoma medio convexiusculum, margine superiore fronti adpresso, frontem in medio vix in lateribus nonnihil superante. Clypeus lobis oblique ovalibus.

Trunci segmentum 1 margine laterali altecincto, subre-

*) The figure 4 f. by Dollfus l. c. certainly relating to this species he must by miswriting have placed it belonging to *Synarmadillo clausus*.

voluta, post profundius supra fisso: lacinia interior ovalis, rotundata, exterior acute triangula, utraque longitudine subæqualis; segmentum supra ad marginem lateralem sulco profundo, sinuato. Margo posterior segmentorum 1--2--3 utrinque leviter sinuatus, segmentorum 4--5 subrectus, segmentorum 6--7 medio leviter sinuatus.

Cauda: segmenta 3--5 epimeris subrectangulis, epimera segmenti 5 imprimis permagna. Telsum paulo latius quam longius, epimera segmenti præanalis paululum superans; pars apicalis a parte basali minus manifesto distincta, illi longitudine subæqualis, subquadrata, lateribus post paulum convergentibus, margine postico leviter rotundato. Exopodita omnium pleopodum trachea instructa. »Exopodite des pattes pléonales chez le mâle, à angle latéro-interne se prolongeant en pointe.« (sec. Dollf.) Uropodes breviores, telsum paulum superantes; scapus oblonge subovali-rectangulus, latere posteriore paulum incurvo; exopoditum »parvum«*), fossæ lateris posterioris articuli basalis insertum, endopoditum »breve«*).

Color flavorufus, sæpissime nigrofuscumaculatus.

Long. 22 m. m. Lat. 11 m. m.

Patria: Abyssinia. Mr. Ch. Alluaud has taken six specimens of this species in rubbish, »débris végétaux,« and by the favour of Mr. Dollfus at Paris I have had opportunity to get one of them.

2. *Mesarmadillo marginatus***).

Mesarmadillo marginatus Dollf. Ann. soc. ent. France. 61. 1892.
p. 387. t. 7. f. 2.

Habitus: Corps très convexe, presque lisse, couvert de poils courts, sauf sur les linéoles du pereion, et présentant une petite granulation perliforme sur chaque côté des somites pré-réiaux.

*) sec. Dollfus l. c.

***) The description after Dollfus l. c.

Antennæ: Antennes atteignant la moitié du corps, hérissées de poils courts; fouet à articles inégaux, le second étant deux fois plus long que le premier.

Oculi: Yeux moyens, environ 22 ocelles.

Epistoma: Ligne frontale sinueuse; prosépistome à tubercules peu distincts, obtusément quadrangulaires; saillie médiane à peine apparente.

Truncus: Coxopodites du premier segment formant, de chaque côté du segment, un rebord marginal large, se terminant en avant au niveau de l'extrémité antérieure des yeux, et très nettement séparé du tergum; le repli, sur la face inférieure, est bien accusé.

Cauda: Pleon offrant les mêmes dispositions que dans Mesarm. Alluaudi. Pleotelson aussi long que large, obtus au sommet. Base des uropodes dépassant un peu les parties latérales du 5e somite pléonal; exopodite très petit.

Color: Grise, avec linéoles et taches plus claires.

Long. 17 m. m. Lat. 7,5 m. m.

Patria: Abyssinia. Mr. Ch. Alluaud has but taken a single specimen. (Mus. Lutetiæ Parisiorum).

Obs. I have placed here this species, that I have not seen, but after the description of Mr. Dollfus seems to be very akin to Mesarm. tuberculatus, and I think, that by renewed examination a third joint in the flagellum shall be found.

3. Mesarmadillo albicornis.

(Tab. III. fig. 1—9.)

Oblonge ovalis, valde convexus, lævis, nitidus, punctatissimus.

Antennarum flagellum scapi articulo 5 paululo, vix quarta parte, brevius; articuli 1 et 3 subæquales, 2 longissimus.

Oculi majores, ocelli 23.

Epistoma convexusculum, margine superiore fronti adpresso, in medio deleto, in lateribus frontem paululum superante. Clypeus lobis obliquis, rotundate triangulis.

Trunci segmentum 1 margine laterali crasso, altecincto, non sulcato, post satis profunde supra fissio: lacinia interior ovalis, exterior rotundate subrectangula, utraque longitudine subæqualis; segmentum supra ad marginem lateralem sulco

profundo, longitudinali. Margo posterior omnium segmentorum, ultimo segmento, in medio sinuato, excepto et maxime segmenti primi utrinque sinuatus. Segmentum 2 epimeris integris.

Caudæ segmenta 3–5 epimeris subrectangulis. Telsum paulo latius quam longius, epimera segmenti præanalis nonnihil superans; pars apicalis parte basali multo longior, oblonge subrectangula, lateribus ad apicem paululum convergentibus, angulis posticis rotundatis. Uropodes breviores, telsum paulum superantes; scapus oblonge subrectangulus, latere posteriore paulum incurvo; exopoditum parvum, stili-forme, fossæ lateris posterioris scapi insertum. Rami operculares pleopodum primi paris in mare post triangulariter producti.

Color griseus vel plumbeus, sæpe in medio corpore maculis albidis distinctus; antennæ albidæ, articuli basales obscuriores.

Long. 15–16 m. m. Lat. 6–7 m. m.

Patria: Kamerun. This species has been collected among other species of this genus at N'dian in the month of June of 1891 by Mr. Y. Sjöstedt. (Mus. Upsaliense).

4. *Mesarmadillo quadrimaculatus*.

(Tab. III. fig. 13–17.)

Oblonge ovalis, valde convexus, lævis, nitidus, punctatissimus.

Antennarum flagellum scapi articulo 5 paulo, fere quarta parte, brevius; articuli ad apicem longitudine crescentes.

Oculi magni, ocelli plus quam 20.

Epistoma planiusculum, margine superiore in medio omnino deletò, in lateribus ante oculos paulum prominente. Clypeus lobis fere nullis.

Trunci segmentum 1 maximum, epimeris maxime ante crassis, margine non sulcato, post supra leviter fisso: lacinia exterior quam interior multo major et longior. Margo po-

sterior segmenti primi leviter, segmenti 2—3 levissime, utrinque sinuatus, segmenti 4—5—6—7 medio leviter incurvus.

Caudæ segmenta 3—5 epimeris oblique rectangulis ante rotundatis. Telsum epimera subparallela segmenti 5 satis superans, pars basalis brevis, pars apicalis lata, longe producta, apice rotundato.

Color griseo-plumbeus; in segmentis trunci secundo et septimo utrinque macula flava; flagellum cum dimidia ultima parte scapi articuli quinti album.

Long. 6. m. m. Lat. 2,5 m. m.

Patria: Kamerun. The described specimen is taken by Mr. Y. Sjöstedt. (Mus. Upsaliense).

Subgenus 3. *Periscyphops*.

Antennæ: Flagellum breve, triarticulatum, articulatione ultima obscuriore.

Maxillulæ: Lacinia interior penicillis numerosis (6—9).

Truncus: Segmentum 1 epimero ante crasso post tenui, supra sulco longitudinali, post desinente, a medio segmenti discreto, margine laterali non sulcato, post integro. Epimera segmentorum 1—2—3 subtus sæpe lacinia vel plica instructa.

Cauda: Exopodita omnium pleopodum trachea, sæpe rudimentaria, instructa.

Telsum triangulum, lateribus incurvis, medio plerumque fortiter producto.

Uropodes telsum superantes; scapus satis longior quam latior, latere interiore post valde producto; exopoditum medio-cre, apici scapi insertum.

The species of this subgenus are all inhabitants of Africa.

Conspectus specierum.

- a. Epimera segmenti primi infra lacinia vel plica minore.
 - b. Caudæ epimera segmenti quinti post divergentia.
- 1. *Periscyphops silvanus*.
 - b b. Caudæ epimera segmenti quinti post convergentia.
 - c. Trunci segmentum primum infra lacinia majore.

2. *Periscyphops tenellus*.
 - cc. Trunci segmentum primum infra plica minutissima.
3. *Periscyphops bizonatus*.
 - (4. *Periscyphops gibbosus*).
 - (5. *Periscyphops Alluaudii*).
- aa. Epimera segmenti primi infra integra.
 - b. Epimera caudæ segmenti quinti post divergentia.
 - Telsum medio longe producto, apice subacuto.
6. *Periscyphops squamatus*.
 - bb. Epimera caudæ segmenti quinti post convergentia.
 - Telsum medio mediocriter producto, apice subobtusio.
7. *Periscyphops squamosus*.
 - (8. *Periscyphops triarticulatus*).

1. *Periscyphops silvanus*.

(Tab. IV. fig. 1—29).

Ovalis vel oblonge ovalis, convexiusculus, lævis, opacus, vix punctatus.

Antennarum flagellum $\frac{2}{3}$ scapi articuli 5 paulo brevius; articuli inter se subæquales vel tertius paulo brevior.

Oculi majores, ocelli circiter 23.

Lacinia interior maxillarum penicillis 7—9.

Epistoma convexiusculum; linea marginalis frontalis medio omnino; in lateribus minus manifesto oblitterata, ad angulos manifestior, sub oculos utrinque subrecte producta; frons post oculos sulco vel fossa transversa, obliqua, sublunata munita; clypeus lobis fere nullis, tubercula antennaria fere nulla.

Trunci segmentum 1 margine laterali crasso, maxime ante altecincto, non sulcato; epimera post subtus levissime fissa: lacinia interior minima, obtusa, multis partibus minor quam exterior; segmentum supra ad marginem lateralem sulco longitudinali, profundo, ad marginem anteriorem ducto, procul a margine posteriore desinente. Margo posterior segmentorum 4 priorum, maxime primi, utrinque sinuatus, segmentorum 5—6 subrectus, segmenti septimi medio sinuatus. Epimera segmentorum 2—3 subtus levissime fissa.

Caudæ segmenta 3—4—5 epimeris subrectangulis; epimera segmenti 3 inprimis maxima. Telsum ejusdem fere

longitudinis et latitudinis, epimera segmenti præanalis longe superans; pars apicalis parte basali plus duplo longior, valde producta, triangula, apice acuto.

Uropodes mediocres, telsum satis superantes; scapus oblonge subrectangulus, latere posteriore oblique incurvo, angulo exteriori breviter, angulo interiore longe et acute producto; exopoditum mediocre, stiliforme, fossæ lateris posterioris scapi insertus; endopoditum telso paulo brevius. Rami operculares pleopodum primi paris in mare margine posteriore subtransverso.

Color griseus vel plumbeus ad latera non regulariter sparse albidomaculatus. Antennæ articulis duobus prioribus et ultima parte articuli quinti albæ, sæpe etiam flagellum et uropodum apex albida.

Long. 13—14 m. m. Lat. 6—6,5 m. m.

Patria: Kamerun. Mr. Y. Sjöstedt has taken this species in many localities, at Kitta, at N'dian, at Bonge, at Bibundi and at Kamerun in the months of April, June, October, November of 1891 chiefly under rubbish and leaves (Musea Upsaliense et Holmiense).

2. *Periscyphops tenellus*.

(Tab. III. fig. 25—27).

Convexus, lævis.

Antennæ in exemplo examinato desunt.

Oculi mediocres, ocelli c. 16—17.

Epistoma margine superiore a fronte in lateribus ante oculos discretum, in medio omnino cum fronte concretum.

Trunci margo lateralis segmenti primi ante satis crassus post tenuis; sulcus superior tenuis, paulo ante angulum posticum desinens; epimera subtus lacinia minuta ad angulum posticum. Margo posterior segmentorum priorum utrinque manifesto sinuatus.

Telsum triangulum, lateribus incurvis supra convexiusculum; pars apicalis brevis, apice acutiore.

Scapus uropodum brevis, subrectangulus, angulo postico

interiore satis producto; exopoditum mediocre, endopoditum satis longum, telsum superans. Epimera segmenti 5 convergentia.

Color nigrofuscus, epimera segmenti 2—3—6 flava.

Long. 3,5 m. m. Lat. 1,8 m. m.

Patria: »Togo«. I have seen but one specimen, dried up and fixed on a pin in the Museum at Berlin; it was taken by Mr. E. Baumann at Misahöhe in Togaland the 10 May 1894.

3. *Periscyphops bizonatus*.

(Tab. III. fig. 18—24).

Oblonge ovalis, convexiusculus, lævis, subopacus, vix punctatus.

Antennarum flagellum $\frac{2}{3}$ scapi articuli 5 vix longius; articuli duo priores subæquales, tertius brevissimus.

Oculi magni; ocelli circ. 25.

Epistoma minus convexum, supra reflexum, fronti in medio adcretum, ad latera minus manifesto discretum et sub oculos rotundate productum. Clypeus lobis fere nullis. Tubercula antennaria fere nulla.

Mala interior maxillulæ penicillis 7—8.

Trunci segmentum 1 margine laterali crasso, maxime ante tumido, altecincto, non sulcato, post integro; segmentum supra ad marginem lateralem sulco longitudinali, post minus profundo, a margine anteriore ad marginem posteriorem fere ducto. Margo posterior segmentorum 1—2—3 levissime utrinque sinuatus, segmentorum 4—5—6 subrectus, segmenti septimi medio sinuatus. Epimerum primum subtus plica minutissima.

Caudæ segmenta 3—4—5 epimeris subrectangulis, angulis anterioribus rotundatis; epimera segmenti tertii maxima. Telsum paulo, vix quarta parte latius quam longius, epimera segmenti præanalis satis superans; pars apicalis parte basali duplo longior, triangula, satis producta, apice acutiore. Uropodes mediocres, telsum satis superantes; scapus oblonge

subrectangulus, latere posteriore oblique incurvo, angulo exteriore breviter, angulo interiore longius et acutius producto; exopoditum mediocre, stiliforme, fossæ lateris posterioris scapi insertus; endopoditum telso æquale. Rami operculares pleopodum primi paris in mare post intus triangulariter producti.

Color nigrobrunneus, maculis albidis in series longitudinales dispositis plus vel minus evanescentibus ornatus, maxime in trunci segmentis 2 et 7 maculis majoribus, ut sæpe duæ zonæ transversæ fingantur. Antennarum articuli duo priores et ultima pars articuli septimi albida; etiam uropodes sæpe albidii. Exemplum subinde fere unicolor, griseum invenitur.

Long. 10—12 m. m. Lat. 4₅—5 m. m.

Patria: Kamerun. Mr. Y. Sjöstedt has taken several specimens among specimens of other species in the months April, August and November 1891 at Kitta and Bonge and at Bibundi under decaying leaves. (Mus. Upsaliense).

4. *Periscyphops gibbosus*.

(Tab. V. fig. 23—25).

Superficies minute setigera.

Caput in exemplo unico deest.

Trunci segmentum 1 margine laterali valde reflexo, infra plica brevi munitum; supra sulco profundissimo, longitudinali. Margo posterior segmentorum 1—2—3 valde utrinque sinuatus. Segmenta 2—3 epimeris subtus etiam ante plica brevi instructa. Pars posterior omnium segmentorum (2—7) transverse elevatior, linea curvata in epimera producta in tuberculo parvo finita.

Telsum subtriangulum, convexiusculum, lateribus ad basin incurvis, apice rotundate obtuso. Uropodum scapus oblonge tetragonus, exopoditum fossæ apicali scapi insertum; endopodita telso vix breviora.

Long. c 4. m. m. Lat. c 2. m. m.

Patria: Kamerun. Rudiments of one specimen were among specimens of other species from Bileundi, taken by Mr. Y. Sjöstedt in August 1891. (Mus. Holmiense).

5. *Periscyphops Alluaudii*. *)

Mesarmadillo Alluaudii Dollf. Ann. soc. ent. France. v. 61. 1892. p. 386. t. 7 f. 1.

Habitus: Corps convexe, lisse, couvert de ponctuations non poilues, avec linéoles réservées de part et d'autre de la ligne médiane du pereion. La femelle est plus grande que le mâle.

Antennæ: Antennes dépassant la moitié du corps, très finement poilues; les deux articles du fouet subégaux.

Oculi: Yeux grands, environ 22 ocelles.

Epistoma: Ligne frontal très sinueuse. Prosépistome à tubercules antennaires triangulaires, peu distincts; saillie médiane (écusson) à peine apparente.

Truncus: Coxopodites du 1er segment formant un rebord marginal bien net, mais moins large et moins franchement séparé du tergum que dans les espèces *M. marginatus* et *M. tuberculatus*. Le repli, sur la face inférieure, est à peine mieux indiqué que dans le genre *Armadillidium*.

Cauda: Processus latéraux du 5e somite du pleon presque parallèles. Exopodites de la première paire de pléopodes, chez le mâle, à angle postéro-interne non arrondi, mais non dirigé en arrière. Pleotelson plus long que large, se prolongeant en une pointe allongée et arrondie au sommet. Uropodes à base dépassant notablement les processus latéraux du 5e somite pléonal; l'exopodite, quoique petit, est un peu plus grand que dans *M. marg.* & *M. tuberc.*

Color: D'un gris brun, presque uniforme; bord des somites roux.

Long. 21 m. m. Lat. 10 m. m.

Patria: Abyssinia. In the collection of Mr. Alluaud were two specimens of this species, collected among »débris végétaux«.

6. *Periscyphops squamatus*.

(Tab. V. fig. 1—6).

Oblonge ovalis, minus convexus, opacus; superficies dense et minutissime squamata.

Antennæ corpore dimidio nonnihil breviores; flagellum dimidiam scapi articuli quinti æquans; articulis duobus ultimis subæqualibus, priore brevior.

Oculi majores, globosi; ocelli c. 20, condensati.

Epistoma convexusculum, supra in medio fronti adcre-tum, utrinque ad oculos margine brevi, ante oculos procurvo

*) The description after Dollfus l. c.

discretum. Clypeus integer, fornicatus, utrinque vix lobatus, vel lobis minimis.

Mala interior maxillulæ penicillis 6.

Trunci segmentum 1 margine laterali ante crasso, late altectincto, post tenui, subtus integro; sulcus superior satis longe ab angulo postico desinens. — Margo posterior segmenti 1—2—3 utrinque fortius sinuatus. Pedes graciles.

Cauda: Trachea paribus 5. Uropodes telsum paulo superantes; scapus oblonge subrectangulus, post incurvus, utrinque, maxime tamen intus productus; exopoditum mediocre, endopoditum quam telsum paulo brevius.

Telsum oblonge triangulum, medio longe producto, apice acutiore.

Color griseus, subuniformis.

Long. 7,5 Lat. 3,7.

Patria: Kamerun. I have seen two specimens taken by Mr. Y. Sjöstedt at Bibundi in August 1891. (Mus. Holmiense).

7. *Periscyphops squamosus*.

(Tab. V. fig. 7—10).

Oblonge ovalis, minus convexus, opacus; superficies fortius squamosa.

Antennæ corpore dimidio paulo breviores; flagellum $\frac{2}{3}$ scapi articuli 5 æquans; articuli flagelli subæquales.

Oculi magni, globosi; ocelli c. 20, condensati.

Epistoma convexiusculum, supra reflexum, in medio fronti aderetum, utrinque ad oculos margine brevi sinuato, ante oculos procurvo, extrorsum fronti discretum.

Trunci segmentum primum ante crassum, margine altectincto, post tenui; sulcus superior minus profundus satis ab angulo postico desinens. Margo posterior segmenti 1 fortius, segmenti 2—3 levius utrinque sinuatus.

Telsum epimera segmenti 5 caudæ paulum superans, triangulum, lateribus leviter incurvis, medio mediocriter producto, apice subobtusum, supra paululum concavo. Uropodes breviores, oblique tetragoni, angulo interno postico longe producto; exopoditum mediocre, endopoditum brevius.

Color griseus, subuniformis; uropodes pallidiores; antenarum articuli 3 priores cum ultima dimidia parte articuli 5 et articulus 1 flagelli albi.

Long. 8,5 m. m. Lat. 4. m. m.

Patria: Kamerun. This species is taken at Bibundi in August 1891 by Mr. Y. Sjöstedt. (Mus. Holmiense).

8. *Periscyphops triarticulatus**).

Periscyphis (subg. n. *Periscyphops*) *triarticulatus* Hilgend, Sitz. Ber. Gesell. naturf. Freunde 1893. 152.

Antennæ: Fühlergeißel dreigliedrig. Von den 3 Geißelgliedern ist das 1 und das gleich grosse 2 deutlich kleiner als das 3 (auch von dessen Endborste abgesehen), die ganze Geißel (ohne Borste) mag etwa $\frac{2}{3}$ des 5 Schaftgliedes messen.

Oculi: Auge mit etwa 14 Ocellen.

Caput: Epistom und Clypeus stimmen mit dem Typus von *Periscyphis*.

Truncus: Laterale Kante des 1 Rumpfssegmentes stimmt mit dem Typus von *Periscyphis*.

Uropodes: Von *Periscyphis trivialis* abweichend durch schmalere Uropoden, deren mediale Hinterecke weiter herausspringt als die laterale.

Color: Schwärzlich violettbraun mit drei Reihen heller Punkte, an den Antennen die 2 ersten Glieder, die Spitze des 5, sowie an der Geißel das 1 und die Spitze des 3 Gliedes weisslich.

Long. 12 m. m. Lat. 5 m. m. Alt. 2,5 m. m.

Patria: Africa occidentalis. Three specimens are found at Bismarckburg in Togo by Dr. Büttner in March 1891. (Mus. Berolinense).

Subgenus 4 *Hiallum*.

Antennæ: Flagellum biarticulatum.

Maxillulæ: Lacinia interior penicillis 5—6.

Epistoma: Margo superior integer.

Truncus: Segmenti 1 epimera crassiora, supra sulco longitudinali a medio segmenti discreto; margine laterali non sulcato, post integro. Segmentum 2 epimeris integris.

Cauda: Exopodita primi paris pleopodum trachea instructa. Telsum triangulum, medio leviter producto.

*) The description after Hilgendorf l. c.

Uropodes telsum superantes; scapus longior quam latior; exopoditum mediocre, apici scapi insertum.

Of this subgenus only one species is known from East Afrika.

1. *Hiallum Hilgendorffii*.

(Tab. V fig. 11—22).

Eubelum Hilgendorffii B-L. Ost-Africa IV. Landisopoden. Fig. 1—2.

Oblonge ovale, leviter convexum; tota superficies dense squamata.

Antennæ: Flagellum biarticulatum, quam scapi articulus 5 vix brevius: articulus prior altero triplo vel fere quadruplo brevior, alter apice seta longa instructus.

Oculi mediocres; ocelli c. 17—18, magni.

Caput: Clypeus lobis parvis, rotundatis. Epistoma supra paulum reflexum, margine superiore integro fronti adpresso hanc non superante.

Mala interior maxillulæ penicillis 5—6.

Truncus: Epimera segmenti primi latiora margine laterali crasso, sulco suturali satis profundo fere ad angulum posticum segmenti ducto; epimera subtus integra. Margo posterior segmenti primi utrinque levissime sinuatus, segmentorum 2—3—4 subtransversus, segmentorum 5—6—7 medio leviter incurvus. Pars anterior articularis omnium segmentorum, (2—7), magna. Anguli postici segmentorum 1—2—3 rotundate obtusi, segmentorum 4—7 rotundate subrecti.

Cauda: Epimera brevia, angulis posticis segmentorum 3—4 subrectis, angulis posticis segmenti 5ti acutioribus. Exopoditum primi paris pleopodum subtransversum, intus non retroductum.

Telsum epimera segmenti præanalis satis superans, medio subtriangulo producto, apice rotundate transverso.

Uropodum scapus oblongus, paulum convexus, quam telsum satis brevior; exopoditum mediocre, teres, telsum superans; endopoditum longum.

Color flavo-fuscus, maculis confluentibus obscurioribus in lineas tres longitudinales condensatis.

Long. 7—8 m. m. Lat. 3—3,5 m. m.

Patria: Africa orientalis. During the expedition of Emin Pasha and Stuhlmann in the bambooforest by Runsororo more specimens were found in the days from 9 to 13 June 1891. (Mus. Berolinense).

Subgenus 5. Ethelum.

Antennæ: Flagellum biarticulatum.

Maxillulæ: Lacinia interior penicillis 4*).

Truncus: Segmentum 1 epimero crasso, supra sulco longitudinali a medio segmenti discreto, margine laterali non sulcato, post fisso. Segmentum 2 epimeris manifestis.

Cauda: Exopodita omnium pleopodum trachea munita.

The three known species are all from West-India.

1. Ethelum Americanum.

(Tab. III. fig. 10—12).

Mesarmadillo Americanus Dollfus in Proc. zool. Soc. Lond. 1896. 397.

Oblonge ovale, valde convexum, læve vel potius minutissime squamatum.

Antennæ: Flagellum biarticulatum, scapi articuli quinti tertia parte vel magis brevius, articulus prior altero triplo brevior, alter apice seta longa instructus.

Oculi mediocres; ocelli c. 12.

Caput: Epistoma convexiusculum, supra in medio fronti aderetum, utrinque margine discretum.

Mala interior maxillulæ penicillis 4.

Truncus: Segmentum primum margine laterali crasso, post subæqualiter fisso; segmentum secundum epimero ante paulo crassiore; margo posterior segmentorum priorum utrinque leviter sinuatus.

Telsum: Pars basalis brevis, pars apicalis lata, producta, apice late rotundato, epimera segmenti quinti distantia paulum superans.

Uropodum scapus oblonge subrectangulus; exopoditum minutum in excisuram marginis postici positum, endopoditum quam telsum paulo brevius.

*) I have but examined one specimen of one species.

Subunicolor, brunneus.

Long. 6 m. m. Lat. 2,5 m. m.

Patria: St. Vincent, sugar-cane field, under decaying cane-leaves, March. Leeward, lowland near sea, under stones; May; under old boards, 250 feet, September; under rubbish, shady place, 500 feet. (sec. Dollfus). (Mus. Londinense).

2. *Ethelum modestum*.

Mesarmadillo modestus Dollfus in Proc. zool. Soc. Lond. 1896. 397.

"Body rather convex and narrow, smooth.

Antennæ short, flagellum very small, first joint three times shorter than the second.

Eyes moderate; ocelli about 16.

Prosepistoma plain, continuous with the forehead in the middle, and separated from it on both sides by a transverse, incomplete, preocular cut.

Truncus: first segment with the antero-median tubercle hardly perceivable; coxopodites distinct on the entire length of the edge of the segment, with the hind part diverging and covered by the posterior angle of the segment. Coxopodite of the second segment forming a nearly inconspicuous ridge before the leg.

Cauda: pleotelson triangular; sides feebly curved; apex pointed.

Uropodes: basis with a large oblong processus; endopodites extending beyond the apex of the pleotelson; exopodites small, placed at the top of the basal processus.

Color: grey or reddish, with small light lineolæ on the pereion; uropoda light.

Long. 6 m. m. Lat. 2,5 m. m."

Patria: St. Vincent, low ground S. E. of the island, under rubbish. (Mus. Londinense).

(Description copied after Dollfus).

3. *Ethelum reflexum*.

Mesarmadillo reflexus Dollfus in Proc. Zool. Soc. Lond. 1896. 398.

"Body slightly granulated, very convex, and narrowed backward, the side parts of the pereion (segments 2—7) and of the pleon bending downwards.

Antennæ short; flagellum small, first joint four times shorter than the second.

Eyes moderate; ocelli about 12.

Caput: prosepistoma with a shield-like triangular convexity; the

prosepistoma is continuous with the forehead in the middle and separated from it on both sides by a transverse, incomplete, præocular cut.

Truncus: first segment with the antero-median tubercle hardly perceivable; coxopodites distinct on the entire length of the edge of the segment. Coxopodite of the second segment hidden under the bent side part of the segment.

Cauda: the lateral parts being nearly folded underneath, the hind edge of segments 3—5 seems straight from a dorsal view. Pleotelson flat, with curved sides and a blunt, rather rounded apex.

Uropodes: basis with a large oblong processus; endopodite reaching to twothirds the length of the pleotelson; exopodite small, placed at the top of the basal processus.

Color: dark brown, flagellum whitish.

Long. 5 m. m. Lat. 2 m. m., (much decreasing backward).“

Patria: St. Vincent?, open swampy land, under rubbish, S. end of the Island. (Mus. Londinense).

(Description copied after Dollfus).

EXPLICATIO FIGURARUM.

Tabula I.

Fig. 1—16. Eubelum stipulatum B.-L.

1. Pars anterior capitis. $\frac{8}{1}$.
2. Caput, a latere sinistro exhibitum. $\frac{12}{1}$.
3. Apex laciniae interioris maxillulae sinistrae. $\frac{100}{1}$.
4. Maxillipedes, supini. $\frac{12}{1}$.
5. Pars apicalis maxillipedis dextri, supina. $\frac{70}{1}$.
6. Pars apicalis antennae dextrae. $\frac{25}{1}$.
7. Antenna pulli ex marsupio. $\frac{70}{1}$.
8. Latus dextrum segmenti primi trunci, pronum. $\frac{8}{1}$.
9. id., supinum. $\frac{8}{1}$.
10. Latus dextrum segmenti secundi trunci, pronum. $\frac{8}{1}$.
11. id., supinum. $\frac{8}{1}$.
12. Latus dextrum segmenti tertii trunci, supinum. $\frac{8}{1}$.
13. Segmentum septimum trunci cum cauda, supinum. ♂. $\frac{10}{1}$.
14. Cauda, supina. ♀. $\frac{5}{1}$.
15. Telson cum uropodibus, pronum. ♂. $\frac{6}{1}$.
16. Uropus sinister, pronus. ♂. $\frac{12}{1}$.

Fig. 17—20 Eubelum pila B.-L.

17. Apex laciniae interioris maxillulae dextrae. $\frac{70}{1}$.
18. Antenna dextra. $\frac{12}{1}$.
19. Telson cum uropodibus, pronum. ♂. $\frac{10}{1}$.
20. Uropus sinister, pronus. ♂. $\frac{15}{1}$.

Tabula II.

Fig. 1—8. Eubelum lubricum B.-L.

1. Maxillula sinistra, supina. $\frac{20}{1}$.
2. Apex laciniae interioris maxillulae sinistrae. $\frac{70}{1}$.
3. Pars posterior dextra segmenti primi trunci, supina. $\frac{8}{1}$.
4. Articulus 1—2—3 pedis septimi paris. ♂. $\frac{8}{1}$.
5. Pleopus sinister primi paris, supinus. ♂. $\frac{12}{1}$.

6. Ejusdem pars basalis, prona. $35/1$.
7. Telsum cum uropodibus, pronum. ♂. $7/1$.
8. Uropus sinister, pronus. ♂. $12/1$.

Fig. 9—11. Eubelum ignavum B.-L.

9. Apex laciniae interioris maxillulae dextrae. $70/1$.
10. Telsum cum uropodibus, pronum. $12/1$.
11. Uropus sinister, pronus. $12/1$.

Fig. 12—14. Eubelum quietum B.-L.

12. Pars apicalis antennae dextrae. $25/1$.
13. Pleopus sinister primi paris, supinus. ♂. $12/1$.
14. Telsum cum uropodibus, pronum. ♂. $8/1$.

Fig. 15—18. Eubelum Dollfusii B.-L.

15. Caput, pronum. $8/1$.
16. Caput a latere sinistro exhibitum. $12/1$.
17. Latus dextrum segmenti primi trunci, pronum. $12/1$.
18. id., supinum. $12/1$.

Fig. 19—27. Eubelum tuberculatum (Dollf.).

19. Pars anterior capitis. $5/1$.
20. Caput a latere sinistro exhibitum. $8/1$.
21. Mandibulae sinistrae apex, pronus. $25/1$.
22. Antennula. $25/1$.
23. Pars apicalis antennae dextrae. $8/1$.
24. Latus dextrum segmenti primi trunci, supinum. $5/1$.
25. id., pronum. $5/1$.
26. Pleopus dexter primi paris, supinus. ♀. $8/1$.
27. id., pronus. $12/1$.

Tabula III.

Fig. 1—9. Eubelum albicorne B.-L.

1. Apex laciniae interioris maxillulae dextrae. $25/1$.
2. Pars apicalis antennae dextrae. $12/1$.

3. Latus dextrum segmenti primi trunci, pronum. $8/1$.
4. Latus dextrum ejusdem segmenti, supinum. $8/1$.
5. Pleopus sinister primi paris, supinus. ♂. $10/1$.
6. Telsum cum uropodibus, pronum. $5/1$.
7. Uropus sinister, pronus. $12/1$.
8. Endopoditum uropodis sinistri, a latere dextro exhibitum. $25/1$.
9. id., a latere sinistro exhibitum. $25/1$.

Fig. 10—12. Eubelum Americanum (Dollf.).

10. Apex laciniae interioris maxillulae dextrae. $130/1$.
11. Antenna sinistra. $25/1$.
12. Flagellum antennae sinistrae. $70/1$.

Fig. 13—17. Eubelum quadrimaculatum B.-L.

13. Antenna dextra. $12/1$.
14. Caput cum duobus segmentis prioribus, a latere sinistro exhibitum. $12/1$.
15. Telsum cum uropodibus. $12/1$.
16. Pleopus dexter primi paris. ♂. $25/1$.
17. Pars basalis pleopodis quinti paris, prona. ♂. $70/1$.

Fig. 18—24. Eubelum bizonatum B.-L.

18. Lacinia interior maxillulae dextrae. $100/1$.
19. Latus dextrum segmenti primi trunci, pronum. $8/1$.
20. id., supinum. $8/1$.
21. Latus dextrum segmenti secundi, supinum. $8/1$.
22. Telsum cum uropodibus. $7/1$.
23. Uropus sinister, pronus. $12/1$.
24. Pleopus sinister primi paris. ♂. $15/1$.

Fig. 25—27. Eubelum tenellum B.-L.

25. Caput cum duobus segmentis prioribus, pronum. $12/1$.
26. Latera sinistra segmentorum trium priorum, supina. $25/1$.
27. Telsum cum uropodibus, pronum. $25/1$.

Tabula IV.

Fig. 1—29. Eubelum silvanum B.-L.

1. Pars anterior capitis. $^{12}/_1$.
2. Caput a latere sinistro exhibitum. $^{12}/_1$.
3. Caput, pronum. $^{12}/_1$.
4. Lacinia interior maxillulæ sinistrae. $^{100}/_1$.
5. Antenna dextra. $^8/_1$.
6. Pars apicalis antennæ dextræ. $^{40}/_1$.
7. Segmentum primum trunci, pronum. $^8/_1$.
8. Latus dextrum segmenti primi, pronum. $^8/_1$.
9. Latus dextrum ejusdem segmenti, supinum. $^8/_1$.
10. Latus dextrum segmenti secundi, pronum. $^8/_1$.
11. id. ejusdem segmenti, supinum. $^8/_1$.
12. Latus dextrum segmenti tertii, supinum. $^8/_1$.
13. id. segmenti quarti, supinum. $^8/_1$.
14. id. segmenti quinti, supinum. $^8/_1$.
15. id. segmenti sexti, supinum. $^8/_1$.
16. id. segmenti septimi, supinum. $^8/_1$.
17. Pes dexter primi paris. ♂. $^{12}/_1$.
18. Pes dexter septimi paris. ♂. $^{12}/_1$.
19. Articulus ultimus cum ungue pedis septimi paris. ♂. $^{130}/_1$.
20. Pedis primi paris articuli quarti margo inferior. ♂. $^{130}/_1$.
21. Telson cum uropodibus, pronum. $^5/_1$.
22. Uropus sinister, supinus. $^{12}/_1$.
23. Uropus sinister, pronus. $^{12}/_1$.
24. Pleopus sinister primi paris, supinus. ♂. $^{12}/_1$.
25. id. ejusdem paris, pronus. $^{12}/_1$.
26. Pleopus sinister secundi paris, supinus. ♂. $^{12}/_1$.
27. id. ejusdem paris, pronus. $^{12}/_1$.
28. Pleopus sinister primi paris, supinus. ♀. $^{12}/_1$.
29. id. secundi paris, supinus. ♀. $^{12}/_1$.

Tabula V.

Fig. 1--6. Eubelum squamatum B.-L.

1. Pronum. $^5/_1$.
2. Lacinia interior maxillulæ dextræ. $^{70}/_1$.

3. Antenna dextra. $^{12}/_1$.
4. Latus dextrum segmenti primi trunci, pronum. $^{12}/_1$.
5. Telsum cum uropodibus, pronum. $^{12}/_1$.
6. Uropus dexter, pronus. $^{25}/_1$.

Fig. 7--10. *Eubelum squamosum* B.-L.

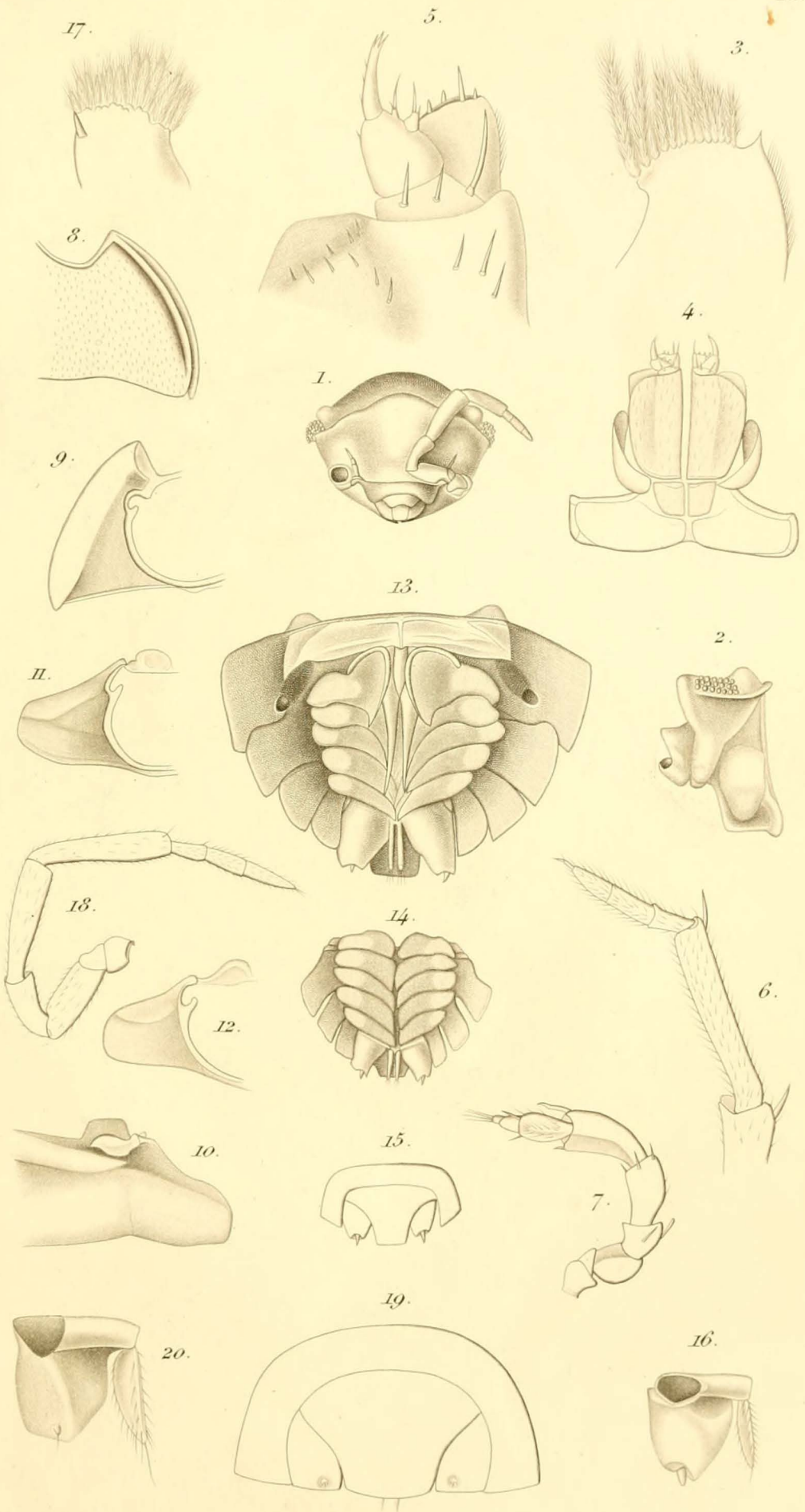
7. Latus dextrum segmenti primi trunci, pronum. $^{12}/_1$.
8. Telsum cum uropodibus, pronum. $^{12}/_1$.
9. Uropus sinister, pronus. $^{25}/_1$.
10. Pleopus sinister primi paris. ♂. $^{12}/_1$.

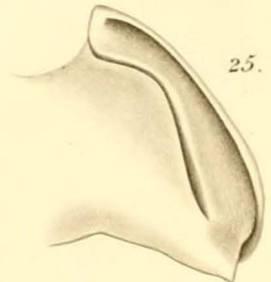
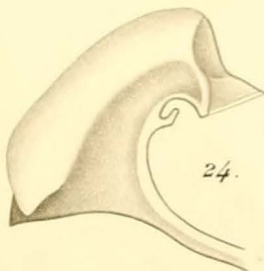
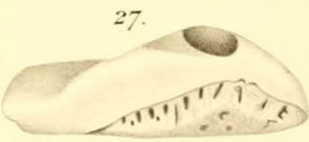
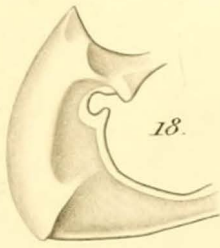
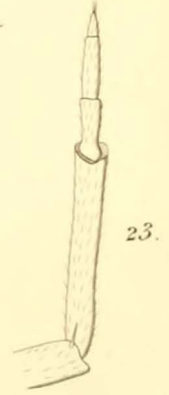
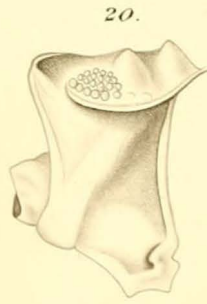
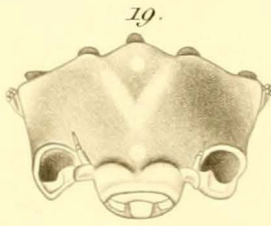
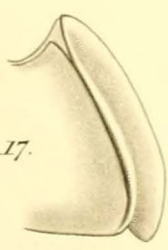
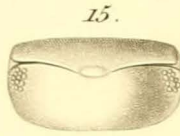
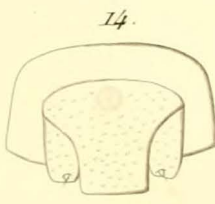
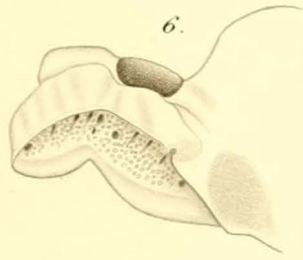
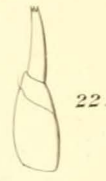
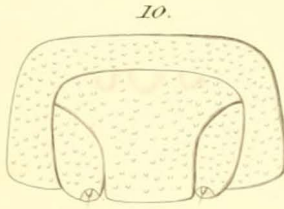
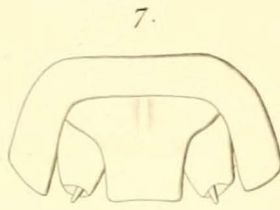
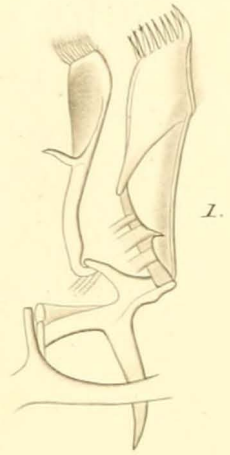
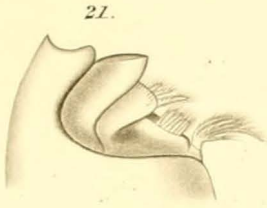
Fig. 11—~~12~~². *Eubelum Hilgendorffii* B.-L.

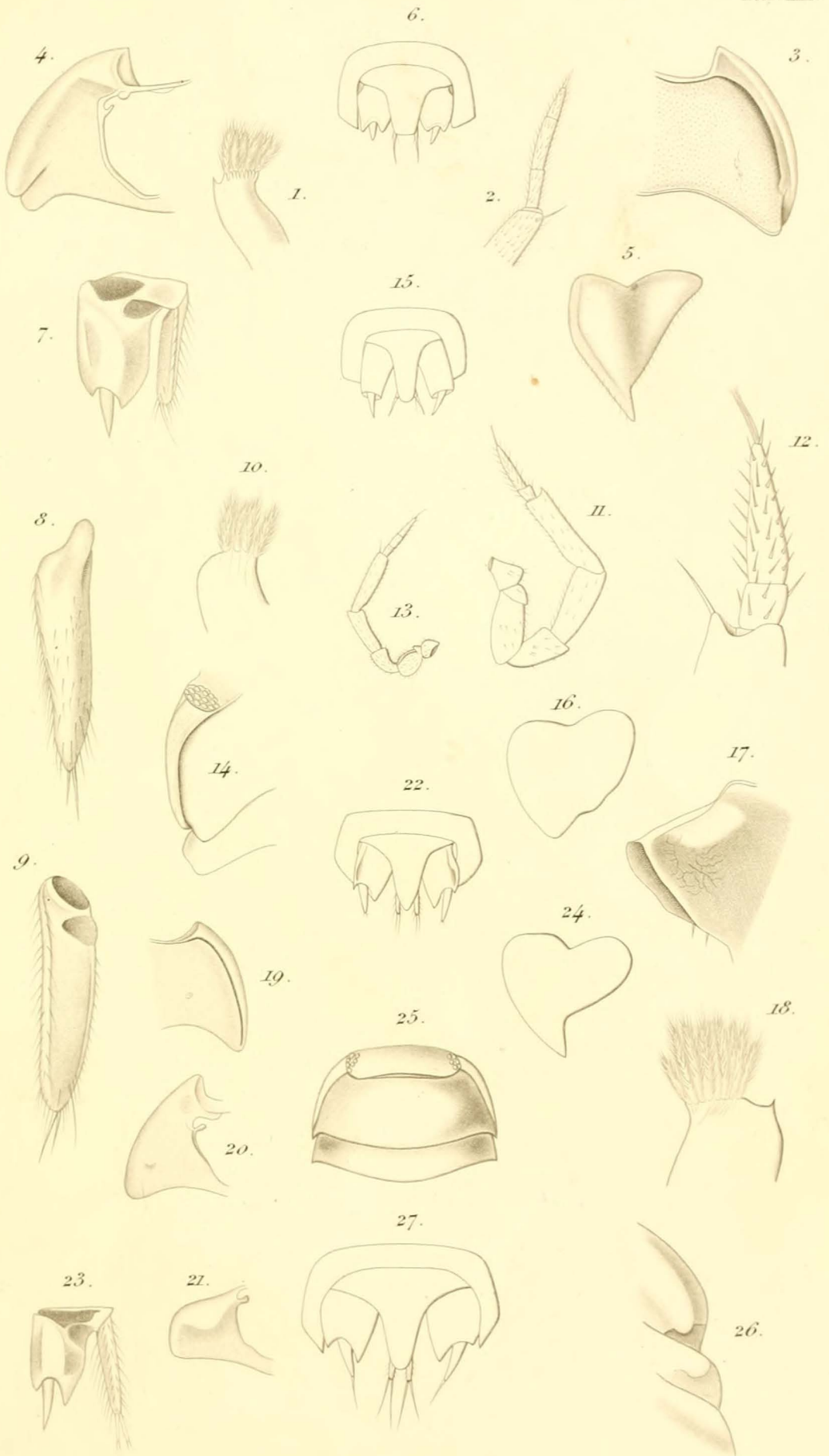
11. Caput. $^{12}/_1$.
12. Lacinia interior maxillulæ sinistrae. $^{130}/_1$.
13. Apex laciniae exterioris maxillulæ sinistrae. $^{130}/_1$.
14. Antennula. $^{70}/_1$.
15. Pars apicalis antennæ. $^{25}/_1$.
16. Latus dextrum segmenti primi trunci, pronum. $^{12}/_1$.
17. id., supinum. $^{12}/_1$.
18. Pars apicalis pedis primi paris. ♂. $^{35}/_1$.
19. Telsum cum uropodibus. $^{12}/_1$.
20. Uropus sinister, pronus. $^{25}/_1$.
21. Pleopus dexter primi paris, supinus. ♂. $^{25}/_1$.
22. id., pronus. ♂. $^{25}/_1$.

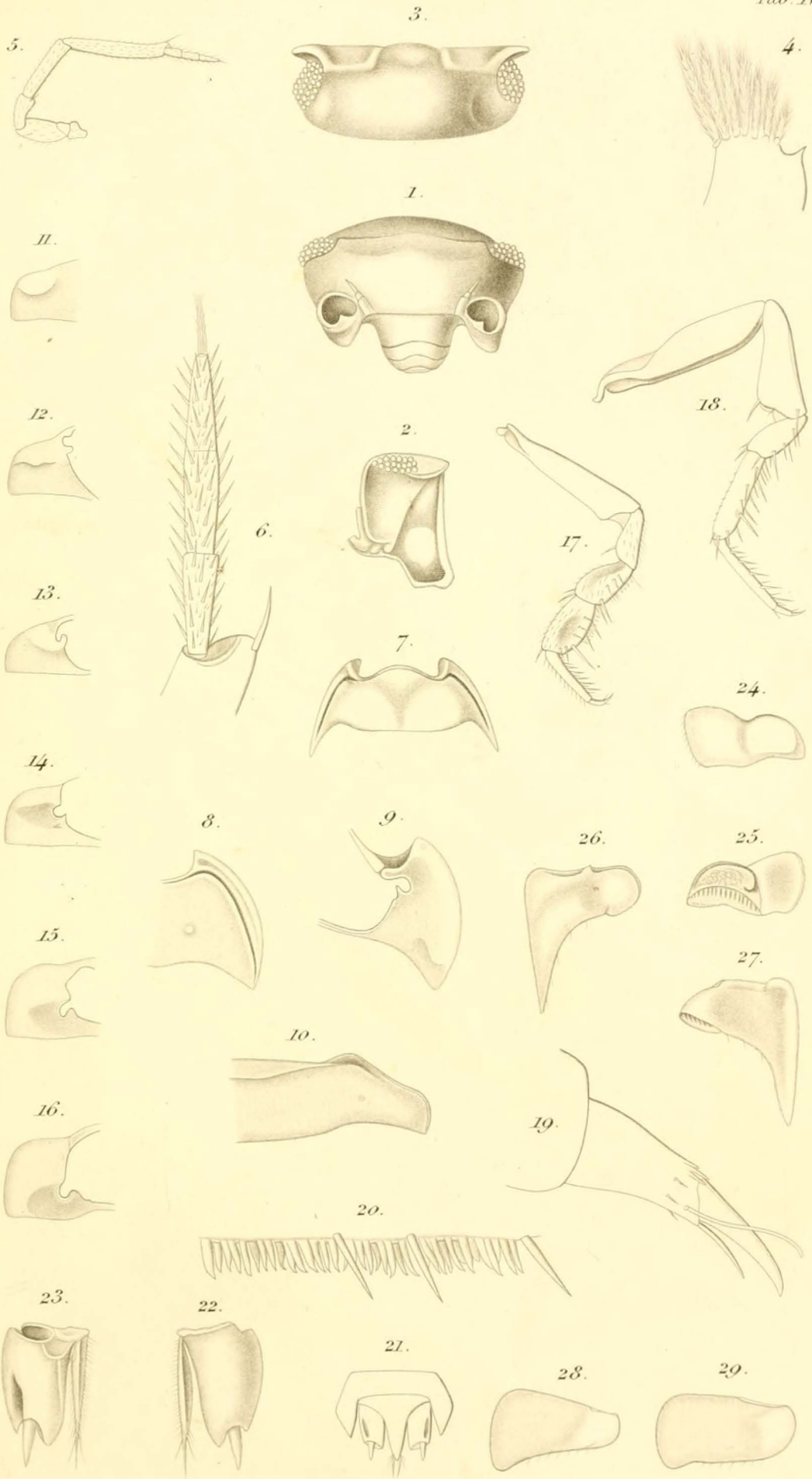
Fig. 23—25. *Eubelum gibbosum* B.-L.

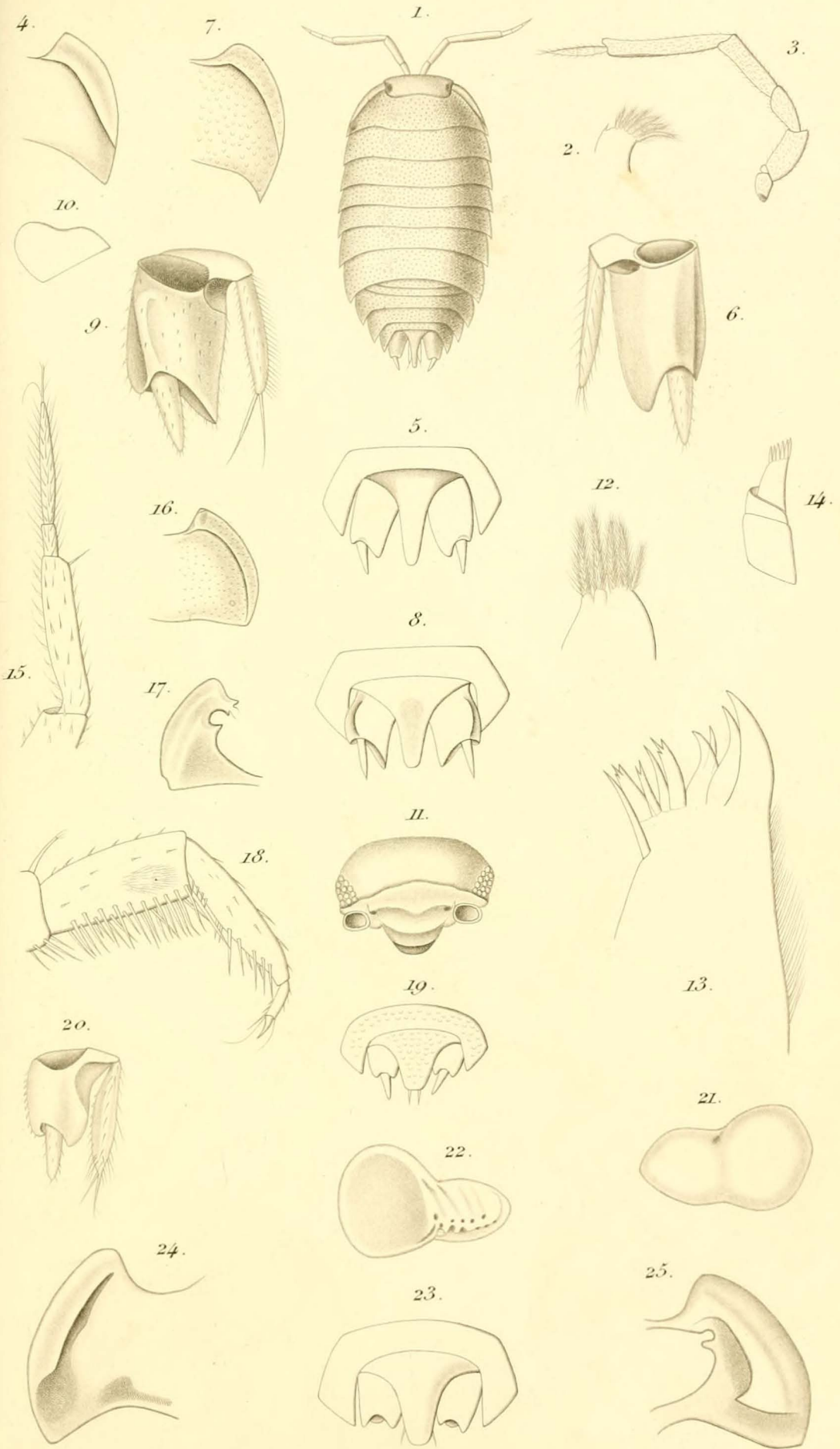
23. Telsum cum uropodibus, pronum. $^{25}/_1$.
24. Latus sinistrum segmenti primi trunci, pronum. $^{25}/_1$.
25. Latus sinistrum ejusd. segm., supinum. $^{25}/_1$.











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