> Notes on XIX $^{\text {th }}$ Series $\left.^{1}\right)$. (Acari

By Dr. A. C. Oudemans, Arnhem.
(With 17 figures.)

1. Pterolichus pavonis Oudms. (Fig. 1-6.)
2. Pterolichus pavonis nov. sp. Oudms. in Entom. Bericht., nr. 21, p. 210.

This species is closely allied to Pt. obtusus Rob. and Pt. bisubulatus Rob.

Larva (Fig. 1-3). Length $216 \mu$. -- Colour pale; even the dorsal shield is pale, only the capitulum and the legs may be called slightly darker. Shape. The larva remembers us of Dermoglyphus elongatus Mégn. and $D$. arami Oudms., except as to the form of the dorsal shield and the length of the legs, which strenghthens my supposition of the close relation of Pterolichus and Dermoglyphus (See Notes on Acari, $\mathrm{XV}^{\text {th }}$ Series, Tijdschr. v. Entom., v. 51, p. 51). It is elongate, two and a half times longer than wide, only provided with an anterior dorsal shield, which bears two long prosomatic hairs, two minute ones and two vertical hairs; all the other dorsal hairs are minute; abdomen rounded posteriorly.


Fig. 1-3.

Texture. The shield, Pterolichus pavonis Oudms. Larva.
$\left.{ }^{1}\right)$ Series XI in Tijdschr. v. Entom., v. 46, p. 93-134. - 13, I, 1904. XII , Tijdschr. d. Ned. Dierk. Ver., v. 8, ser. 2, p.202-239. 18, I, 1905.
XIII , Tijdschr. v.Entom., v. 47, p. 114-135. - 14, I, 1905.
 XVII "Zool". Jahrb., Abet. f. Syst. etc., v. 26, p. 567-590. 20, VIII, 1908.
XVIII \#Tijdschr. v. Entom., v. 53 (not yet published).
The Series are independent one from another.
the capitulum and legs are finely porate; all the weak parts are finely wrinkled.

Dorsal side (Fig. 1). Anterior shield occupying the whole space before the line which goes through the proximal ends of the trochanteres II; its posterior margin is nearly accoladeshaped with medial top backwardly.

Hairs. Vertical hairs rather long, yet not reaching tops of mandibles; long prosomatic hairs standing on the posterior margin of the shield, widely separate from each other, nearly as long as the width of the body, fine ; short prosomatic hairs minute, inwardly of and close to the long ones. Almost in the middle of the body a pair of minute marginal hairs directed outwardly. Before the line going through these marginal hairs, a pair of minute hairs remoted from the median line and from the lateral edge of the body with almost equal distance. Just behind the marginal minute hairs, close to them and a little more inwardly a pair of minute hairs. Before the line that goes through the proximal ends of trochanteres III a pair of minute hairs close to the median line. On a level with the distal ends of trochanteres III a pair of minute hairs close to the lateral margin. Behind these hairs the openings of the nephridia. On the posterior margin, laterally a pair of minute hairs directed outwardly; finally exact on the posterior edge a pair of trailing hairs as long as the width of the body.

Ventral side (Fig. 2). Epimera I free, as long as capitulum; epimera II parallel to epimera I, slightly shorter; epimera III still shorter, straight, narrow, proximally nodded inwardly. No shields. Hairs. Inwardly of the proximal ends of epimera II a pair of very short hairs. Inwardly of epimera III a pair of ditto. Outwardly of epimera III quite on the edge the lateral hair, about as long as two thirds of the width of the body, and a short bristle a little before and inwardly of it. Anus terminal.

Mandibles normal (Fig. 1).
Maxillae (Fig. 3). Coxae united together without trace of junction (probably also fused with trochanter, femur and genu), forming together the underside of the head which is smooth, shining and porate, and bears a pair of coxal hairs a little before the centre, and behind the triangular median slip. Malae or trophi of usual shape, obliquely blunt. Tibia with one ventral (Fig. 3) and one dorsal hair (Fig. 1). Tarsus with one ventral and one dorsal hair, and ventrally with an oval marking. Even with oil-immersion I could not detect the real nature of this
oval spot; is it an appendage? is it a rudimental tarsus, and are the other joints genu and tibia?

Legs (Fig. 1). Legs I: slender, longer than the width of the body. Genu dorsally with one distal hair. Tibia with one distal tactile hair. Tarsus with one hair, one olfactoric hair, one inner distal hair, and one outer distal hair which distally is clavate. Legs II: slender, shorter than the width of the body and relatively narrower. Genu without hair, tibia and tarsus like in leg I. Legs III: slender, as long as the width of the body; femur and tibia proximally constricted. Genu distally with short hair. Tibia distally with tactile hair. Tarsus with three distal hairs of which the inner one is distally clavate. Ambulacra small, narrower than the legs.


Fig. 4-6. Pterolichus pavonis Oudms. 오.
Female (Fig. 4-6). Length $435 \mu$. - Colour pale brown; shields slightly darker, especially the posterior dorsal shield. - Shape diamond shaped, broadest between legs II and III; posteriorly a little excavate in the middle. - Texture like in the larva.

Dorsal side (Fig. 4). Shields. Anterior dorsal shield not occupying the space between the edges of the body, surrounded by a narrow band or margin of weak skin, widened before the prosomatic hairs, constricted between these hairs, and finally again widened behind the hairs, being here as wide as the body. - Posterior dorsal shield divided in a large middle shield and a small posterior one. The middle shield is separated from the anterior one by a wide band of weak skin; from the edges of the body it is also separated by a margin of weak skin; this margin is narrower anteriorly; posteriorly the shield touches the edges by two rounded outgrows; posterior edge of the shield excavate or concave and separated from the posterior shield by a narrow streak of weak skin. The shape of the shield is more or less trapezoidal, much longer than wide; widest anteriorly. Posterior shield nearly semicircular, covering the top of the abdomen, and provided in its centre with a small oval weak spot. Hairs. Vertical hairs widely separate from each other, short, bristly. Long prosomatic hairs nearly as long as the width of the body. Inwardly of these hairs stand the minute small prosomatic hairs. On the anterior margin of the middle dorsal shield a pair of minute hairs, separate from each other more than the long prosomatic hairs. On the lateral margins of the middle shield, on a level with the distal ends of femura III a pair of minute hairs. On the posterior lateral rounded outgrows of the middle shield a pair of minute hairs. On the edge of the shoulders a short hair. On the anterior margin of the posterior shield near the lateral edge a pair of minute hairs. On the lateral margins a pair of short hairs. On the posterior margin of it two pairs of trailing hairs about as long as the width of the body (the inner pair longer than the outer one) and a pair of inmost small hairs.

Ventral side (Fig. 5). Epimera I free; epimera II slightly shorter, parallel to epimera I; epimera III still shorter, straight, parallel to each other, distally provided with short external epimerite, standing perpendicularly to the epimera. Epimera IV like epimera III, but a little convergent forwardly. Shields. In the angles formed by the epimera III and IV with their epimerites there are almost square extracoxal plates. Hairs. Inwardly of the proximal ends of epimera II a pair of short hairs. Inwardly of the ends of the epigynium a pair of ditto. Behind this pair another pair of ditto. Between the ends of the epigynium and the epimera III a pair of ditto. Between the epimera IV a pair of ditto. Aside of the anterior end of the anal split a pair of ditto. On the extracoxal plates III the
outer long lateral hair as long as two thirds of the width of the body at that level, and the inner short lateral hair half as long as the long one. - Epigynium more than semicircular, nearly horse-shoe-shaped, yet its ends do not converge. - Vulva not transversal, nor longitudinal, but a simple round imagination forwardly as is distinctly shown by the direction of the finely wrinkled skin. - Anus terminal.

Mandibles (Fig. 4) normal.
Maxillae (Fig. 6) with a pair of short coxal hairs behind the triangular median slip, which partly covers the tridentate lingua. Malae or trophi blunt with wavy distal edge. Tibia with central dorsal (Fig. 4) and proximal ventral hair (Fig. 6). Tarsus with central dorsal hair and ditto ventral olfactoric hair, and ventral oval marking.

Legs (Fig. 4). Legs I: genu with proximal and distal hair ; tibia with distal inner hair and distal dorsal tactile hair; tarsus with 3 dorsal hairs (of which one is olfactoric) one ventral and two distal smaller ones. - Legs II: genu with a proximal hair and a distal short rod; tibia with a distal little protuberance on which a long tactile hair; tarsus with a central small protuberance on which a tactile hair and a smaller one, and three distal short hairs. - Legs III: tibia with a distal ventral and a distal dorsal hair; tarsus distally with one dorsal and 4 ventral hairs. - Legs IV: tibia distally with a dorsal tactile hair; tarsus distally with an outer tactile hair, two dorsal smaller ones and one inner bristle. - Ambulacral suckers small, narrower than the legs.

Habitat: In the squills of Pavo cristatus.
Patria: Probably the geographical distribution is the same as that of the bird.

Found by Prof. Heller in Kiel.
Type in collection Oudemans.

## 2. Mégninia pavonis Oudms. (Fig. 7-17.)

1905. Mégninia pavonis nov. sp. Oudms. in Entom. Bericht., nr. 21, p. 210.

This species is closely allied to $M$. cubitalis (Mégn.).
Larva (Fig. 7-8). Length $185 \mu$. Colour white or pale. - Shape elongate, two and a half times longer than wide, immediately recognizable as a larva of an Analgid, as the anterior legs already show the outer and ventral triangular outgrows, and the posterior legs already show their short femur and their being gradually narrower towards the tarsus. - Texture.

The shields, head and legs are smooth and finely porate; the remainder skin is finely wrinkled.
:- Dorsal side (Fig. 7). There is but one, anterior dorsal, shield; it is elongate, almost equal in width throughout, yet slightly constricted in the middle, anteriorly and posteriorly with straight edges. Hairs. Vertical hairs close together, reaching


Fig. 7-8.
Mégninia pavonis Oudms. Larva. tips of mandibles, very fine. Prosomatic hairs outside of posterior end of shield; short ones minute; long ones as long as the shield. A little more backward and near the lateral edge of the body a pair of short hairs. At the level of femora III near the lateral edge of the body a pair of ditto. Quite on the posterior edge of the abdomen a pair of trailing hairs twice longer than the width of the body.

Ventral side (Fig. 8). Epimera I widely apart from each other. Epimera II widely separate from epimera I, as long as these and parallel to them. Epimera III short, rodlike, convergent forwardly. - Shields. There is a pair of small triangular extracoxal shields III. - Hairs. Inside of the proximal half of epimera II a pair of short hairs. On the extracoxal plates III the two lateral hairs; the longer one longer than the width of the body and quite on the edge of the body; the shorter one a little longer than epimera III, more inwardly and slightly forwardly. - Anus terminal.

Mandibles (Fig. 7) normal.
Maxillae with two long maxillar hairs close to the beginning of the palpi (Fig. 8), and two interior point-shaped chitinisations behind these hairs (attachments of musculi flexores capitis). Tibia with dorsal and ventral hair. Tarsus with dorsal hair and ventral olfactoric hair.

Legs (Fig. 7). The genu and tibia I and II already show the ventral and outer triangular outgrow of the adults. Legs I:
genu with dorsal and ventral short hair ; tibia with dorsal distal tactile hair; tarsus with dorsal olfactoric hair in the middle, ventral hair, and two distal short hairs; praetarsus wide, slightly S-shaped. - Legs II: femur with long ventral hair; genu with long ventral hair; tibia with long dorsal tactile hair; tarsus with proximal dorsal olfactoric hair, ventral short hair and two distal short hairs; praetarsus like praetarsus I. - Legs III: trochanter outwardly partly covering femur; femur very short; genu with dorsal distal short hair; tibia with dorsal distal tactile hair; tarsus with two minute distal hairs; praetarsus short and wide. Ambulacral suckers minute.


Fig. 9-11. Mégninia pavonis Oudms. Nympha I.
Protonympha (Fig. 9-11). Length 200-280 $\mu$. Colour pale yellowish. - Shape, elongate, but wider than the larva, being twice longer than the greatest width of the body, which is between legs II and III. Anterior portion of body, before legs II almost triangular; sides between legs II and III
convex ; abdomen tapering backwardly from legs III; posterior portion of abdomen with oblique sides; posterior edge a little excavate in the middle. - Texture like in the larva.

Dorsal side (Fig. 9). Shields. Anterior dorsal shield extending from the front-edge to the prosomatic hairs, trapezoidal, nearly twice longer than wide, wider posteriorly; lateral edges straight, posterior edge slightly convex. Behind trochanteres II a pair of small shoulder-shields. - Hairs. Vertical hairs (Fig. 11) close together, very thin, reaching beyond the tips of the mandibles. Prosomatic hairs behind the posterior corners of the anterior shield; the long ones slightly longer than the shield; the shorter ones minute. A little behind the shouldershields a pair of short hairs. On a level with femora III a pair of short hairs on equal distance from the median line and the edge of the body. In the posterior angles of the abdomen a pair of short hairs. On the posterior margin of the abdomen a pair of still shorter hairs, and quite on the posterior edge three pairs of hairs of which the outmost are the longest, longer than the greatest width of the body; then a pair of shorter ones, slightly longer than half of this width; finally inmost a pair of very short hairs.

Ventral side (Fig. 10). EpimeraI wide apart; extending forward to the head; epimera II parallel to epimera I, running forward to trochanteres I along the edge of the body; epimera III short, straight, slightly convergent forwardly; epimera IV short, proximally nodded inwardly. Shields. Outward of epimera III there is a small triangular extracoxal plate, on which the lateral hairs are planted. Hairs. Inward of the proximal halfs of epimera II a pair of short hairs. Inward of epimera III and a little distant from them a second pair of short hairs. On a line with trochanteres IV near the median line a third pair of ditto. A fourth pair of ditto flanks the anterior end of the anal split, and a fifth pair is planted on the posterior margin of the abdomen. On the two extra-coxal plates III the two lateral hairs are planted, of which the longer ones exactly on the edge of the body, whilst the smaller ones, extremely fine and short, a little more inward and forward. Genital suckers. I found but one pair, exactly before the pair of short hairs on the same level with trochanteres IV. Anus touching the edge of the abdomen.

Mandibles normal.
Maxillae normal, with triangular under-lip. (Fig. 10), blunt outer malae, and two-jointed palpi, each joint bearing a ventral and a dorsal short hair.

Legs (Fig. 9). The anterior legs already show the ventral
triangular outgrows more developed than in the larva. Legs I: genu with a short proximal hair and a long distal one; tibia with a long distal tactile hair; tarsus with a curved olfactoric hair in the middle of the proximal half and three short distal hairs. In my figure leg I is drawn stretched straight forward, so that the ventral triangular outgrows of genu and tibia are invisible; so too the $S$-shape of the tarsus is indiscernible. Legs II: femur with a very short dorsal hair and a long ventral one; genu ditto; tibia with a long distal tactile hair; tarsus slightly S-shaped, dorsally with a proximal short olfactoric hair and a distal short hair, ventrally with a proximal long hair and a shorter hair in the middle, laterally with two very short distal hairs. Legs III: genu and tibia each with a distal tactile hair; tarsus with a short inner lateral hair and two short lateral distal hairs. Legs IV: tibia with a distal tactile hair; tarsus with two distal lateral short hairs. Praetarsi wide and curve ventralward. Ambulacral suckers small.

Deutonympha (Fig. 12-13). Length 240-320 $\mu$. Colour pale, though slightly darker than protonympha. Shape more or less oblong quadrangular, laterally however distinctly constricted opposite to femora III ; and posteriorly with a median more or less concave edge and two oblique lateral edges; body exactly twice longer than wide. Texture of the shields smooth and finely porate, of the soft skin finely wrinkled.

Dorsal side (Fig. 12). Shields. Anterior shield trapezoidal, twice longer than the greatest width; posteriorly widest, with slightly concave lateral and posterior edges. Shouldershields with convex posterior edge. Hairs. Vertical hairs close together, fine, extending beyond the tips of the mandibles. Long prosomatic hairs as long as the width of the body, planted in the posterior corners of the anterior shield. Short prosomatic hairs minute, inside of the long ones. A considerable distance behind the shoulder-shields a pair of short stiff bristles. On a line with femora III a pair of ditto, between the edge of the body and the median line. A third pair of ditto submarginal, near the posterior angles of the abdomen. On the posterior margin, near the median line a pair of very short and fine hairs. Quite on the posterior edge three pairs of hairs, of which the outmost one very short and fine, the middle one nearly as long as the body, and the inmost one as long as the width of the body.

Ventralside (Fig. 13). EpimeraI long, extending forward reaching the base of the head, wide apart; epimera II long, extending forward till trochanteres I, parallel to epimera I; epimera III and IV short, thick, proximally nodded and distally
provided with inner short and thick epimerite against trochanter III. - Shields. Outside of epimera III a small extracoxal plate III. - Hairs. Inside of epimera II a pair of short hairs; inside of epimera III and before the proximal end of epimera IV a pair of ditto; inside of epimera IV and close to


Fig. 12-13. Mégninia pavonis Oudms. Nympha II.
the 4 genital suckers a pair of ditto; behind the genital suckers a pair of short and stiff bristles of the same strength as the dorsal ones; aside of the anterior end of the anus a pair of short and fine hairs; on the posterior margin before the two trailing hairs a pair of ditto. The lateral hairs are planted on the extra-coxal plate III; the long ones are longer than the half of the width of the body and are planted quite on the edge;
the smaller ones are very short and fine and are planted more inward and forward.

Mandibles normal.
Maxillae normal, with a pair of coxal hairs (Fig. 13), a triangular under-lip, blunt outer malae, and two jointed palpi, of which each joint bears a dorsal and a ventral hair.

Legs (Fig. 12). The ventral triangular outgrows of genu and tibia I and II are still more developed than in the protonympha. The tarsi I and II are sligthly S-shaped. Legs I: genu dorsally with proximal thorn and distal hair, ventrally with middle long fine hair ; tibia with distal tactile hair ; tarsus dorsally with curve olfactoric hair in the middle of the proximal half, one ditto distally and a very short distal hair; laterally with two distal fine and short hairs; ventrally with a short and fine hair in the middle of the proximal half. Legs II: femur ventrally with a long fine hair in the middle; genu dorsally with a proximal thorn and a distal very short hair; tibia with a distal tactile hair ; tarsus like tarsus I. Legs III : genu and tibia each with a distal tactile hair; tarsus with 3 inner short and fine hairs, one outer and distal ditto and one dorsal and distal ditto. Legs IV: tibia dorsally and distally with a tactile hair; tarsus like tarsus III. Praetarsi long, wide, curve ventralward; ambulacral suckers small.

Female (Fig. 14-15). Length $264-320 \mu$. Colour slightly darker than the dentonympha. Shape elongate, nearly twice longer than the greatest width; with triangular portion between the anterior legs; widest before legs III; from this point slightly becoming narrower forwardly, sooner becoming narrower backwardly, posteriorly almost rounded. Texture of the shields smooth and finely porate, of the weak skin fine wrinkled.

Dorsal side (Fig. 14). Shields. Anterior dorsal shield trapezoidal, twice longer than its greatest width; widest posteriorly, where it is twice wider than anteriorly; lateral edges straight, only slightly concave posteriorly; posterior edge slightly convex. Shoulder-shields triangular, with rounded inner posterior angle. Hairs. Vertical hairs close together, fine, extending slightly beyond the tips of the mandibles. Long prosomatic hairs longer than the greatest width of the body, proximally thick, gradually becoming extremely fine towards the free end, planted in the posterior corners of the anterior shield. Short prosomatic hairs minute, inside of the long ones. Close behind the shoulder-shields a pair of stiff bristles, sharply pointed and as long as the half of the width of the body. On a line before the trochanteres III a pair of ditto, between the edge of the body and the median
line. On a line with genu IV a pair of ditto between the edge of the body and the median line. On the posterior margin two pairs of very short and fine hairs, one pair inside and one pair outside of the trailing hairs. Quite on the posterior edge and


Fig. 14-15. Mégninia pavonis Oudms. 아.
on short papillae two pairs of trailing hairs of which the outer are as long as the body, the inner as long as the width of the body.

Ventral side (Fig. 15). EpimeraI slightly S-shaped, extending forward till the head; their proximal ends close to
each other; with a very short outer epimerite behind trochanter I. Epimera II less curve, extending forward till trochanter I, and widened here inward, extending backward beyond the epigynium. Epimera III short, slightly curve, convergent forward. Epimera IV longer than trochanter IV, curve, still more convergent forward than epimera III. - Shields. There are real coxal plates III and IV; these are narrow, more or less triangular, with concave inner edge, wider posteriorly. There are also small extra-coxal plates III and IV ; these are more or less quadrangular and reach the lateral edges of the body. - Hairs. Between epimera II and the proximal ends of epimera I a pair of short and fine hairs. Between the proximal ends of epimera II and the anterior end of the $\Lambda$-shaped chitinous edges of the vulva a pair of ditto. Outside of the genital suckers a pair of ditto. Inside of epimera III and before epimera IV a pair of ditto. Before the two long trailing hairs a pair of marginal ditto. Aside of the anterior end of the anal split a pair of longer fine hairs. Behind the vulva a pair of long hairs extending beyond the anterior end of the anal split. On the anterior edge of extra-coxal plates III the short lateral hairs, and on the lateral margin of the same plates the long lateral hairs, which are a little shorter than the half of the width of the body. Epigynium small, crescentshaped. The margins of the vulva are well chitinised and form together a $\Lambda$, of which the ends of the branches bear an epimerite like a hook. On these hooks are placed the minute genital suckers. The anus touches the posterior edge of the abdomen.

Mandibles normal (Fig. 14).
Maxillae normal, with median triangular under-lip, blunt external malae, and two-jointed palpi, of which each joint is provided with a dorsal and a ventral hair. On the underside the base of the rostrum is well chitinised and between these chitinisations two smaller ones are discernible. Before these interior knobs a fine line, curved forward, unites the two basal chitinisations.

Legs (Fig. 14). Legs I: genu dorsally with proximal thorn, and distal tactile hair, ventrally scarcely provided with triangular outgrow. Tibia dorsally with distal tactile hair, ventrally with sharp and strong triangular outgrow. Tarsus dorsally with an olfactoric hair between the first and second third part, a tactile hair between the second and third third part, and a distal minute hair; laterally with two minute distal hairs; ventrally with a short hair between the first and second third part and a ditto between the second and third third part. Legs II:
genu dorsally with a distal and a proximal thorn, ventrally with a low triangular outgrow on which is planted a short fine hair. Tibia and tarsus like those of legs I. Legs III: genu with a distal tactile hair; tibia with a ditto; tarsus with an internal short hair and two distal ditto. Legs IV: tibia and tarsus like those of legs III.

Male. One single specimen was under my examination. The description of it is as follows (Fig. 16-17). Length $330 \mu$. from the anterior edge of the body to the posterior ends of the articulated abdominal lobes. - Colour pale yellow, yet somewhat darker than the female. - Shape. The dorsal portion of the body between legs I and II is rather triangular, but on a lower level, more ventrally two triangular wing - like portions are visible which bear legs I. Behind legs II the body gradually widens till just before legs III where it is widest; then in very soon becomes less wider, till legs IV, from here it tapers backwards but slightly till the articulated abdominal lobes, where it is abruptly truncated, having however a deep median incision. This incision proceeds on the dorsal side far more forward than on the ventral side. Aside of this incision two trapezoidal lobes ornament the body; they themselves are excavate at their posterior ends. The greater part of the incision and of the space between the lobes is filled by a thin transparent membrane, which itself is again incised. - Texture like in the other above described forms.

Dorsal side (Fig. 16). Shields. Anterior dorsal shield more or less trapezoidal, at least twice longer than the greatest width, which is quite posteriorly. Quite anteriorly the shield is a little widened, and quite posteriorly the angles are acute. The shoulder-shields are small transverse rectangular parallelogramms. - The posterior dorsal shield, extending even over the abdominal lobes, is trapezoidal, widest anteriorly; here it has a wavy or crenulate edge. It is separate from the anterior and shoulder - shields by a wide band of unprotected skin. - Just before legs III a small portion of the (ventral) extra-coxal plates III has become dorsal. - Hairs. The vertical hairs are close each other, fine and extend beyond the tips of the mandibles. The long prosomatic hairs are planted on the posterior convers of the anterior shield and nearly reach the abdominal lobes. The small prosomatic hairs are short and fine and are situated inside of and close to the long ones. Exactly behind the shouldershields a pair of long hairs, reaching the femora III. On the small dorsal portions of the (ventral) extra-coxal plates III, just before the legs III the so-called small lateral hair is planted,
which too has become dorsal; it is, however, not short but long, reaching femora III. In the anterior margin of the posterior dorsal shield a pair of very fine and short hairs is situated,


Fig. 16-17. Mégninia paronis Oudms. ©T.
nearly on a same distance from the median line as from the lateral edge of the body. Behind these fine hairs another pair is planted which, however, is long, it nearly reaches the abdominal lobes. On a level with the proximal ends of trochanteres IV a
pair of long hairs, which reaches the posterior ends of the abdominal lobes. In the posterior corners of the two abruptly truncate abdominal portions two pairs of hairs are planted (before the lobes) which are nearly twice longer than the lobes. Each of these bear two long trailing hairs, longer than the length of the creature, one in the anterior and outer corner, and one in the posterior excavation of the lobes.

Ventral side (Fig. 17). Epimera I long, extending forward to the base of the rostrum, slightly curved medialward, free. Epimera II long, extending forward to trochanteres I, thick, and proximally widened and nearly reaching the proximal ends of epimera III. Epimera III long, transverse, two times slightly nodded, so that they are almost crescent-shaped, at least curved forward, provided with a short external epimerite which limits the anterior and internal edge of the small triangular extra-coxal shields. Epimera IV long, strong, convergent forward, nearly reaching the proximal ends of epimera II and III. - Shields. The extra-coxal shields III small, triangular; a small portion is sufflexed on the dorsal side. The coxal shields III are much larger, triangular, and by the singular position of the epimera III they are not directed medialward, but more or less backward, against the lateral edge of the body on which the legs III are implanted. The coxal shields IV are narrow and strongly chitinised. There is also a large ventral shield covering the whole ventral side of the abdomen, inclusive the lobes. - Hairs. Inside the middle of epimera II a pair of short and fine hairs. Inside (behind) the middle of epimera III a pair of strong and long hairs, extending beyond the articulation of the abdominal lobes. On the proximal ends of the narrow coxal shields IV a pair of short and fine hairs. In the distal half of the same shields a pair of ditto. Behind the $\Lambda$-shaped chitinous genital apparatus a pair of ditto. In the posterior and external corners of the truncated abdomen a pair of thick hairs, twice longer than the abdominal lobes. On the triangular extra-coxal plates III the long lateral hairs, longer than the half of the greatest width of the body. (As already mentioned above, the so-called short lateral hairs have a dorsal position.) - Genital apparatus $\Lambda$-shaped, small, between epimera IV. Genital suckers outside of the genital apparatus. Penis minute, at least not discernible in the specimen examinated. Anus apparently tubular and situated between the two well developed anal suckers which are situated before a line that goes transversely through the anterior top of the abdominal incision.

Mandibles normal (Fig. 16).

Maxillae normal, like in the female.
Legs (Fig. 16). Legs I and II: like in the female, except that the ventral triangular outgrows of the tibiae are enormously developed, narrow, curve, and simulate thorns. Legs III: enormously developed, gradually tapering distalward. Trochanter with long ventral distal and external hair, reaching the tarsus. Genu with dorsal distal and internal hair reaching the middle of the tarsus. Tibia with dorsal distal external hair extending beyond the empodium, and a ventral distal external long hair, as long as the leg itself. Tarsus with a dorsal proximal internal short and fine hair, a dorsal distal internal much shorter ditto, two ventral thorns, a proximal one and a middle one, and a distal fine and short hair. Legs IV: half as long as legs III, gradually tapering distalward. Tibia with dorsal distal median short and fine hair, and with ventral central thorn. Tarsus only with ventral central thorn.

Habitat in the quills of Pavo cristatus.
Patria. The geographical distribution probably is the same as that of the bird.

Found by Prof. Dr. A. Heller at Kiel.
Types in collection Oudemans.

## Neue Arten der Gattung Hemisphaerota Spaeth. (Col., Cassidae).

## Von Dr. Franz Spaeth, Wien.

Hemisphaerota crassicornis nov. spec.
Ovato-subquadrata, convexa, minus nitida, nigrocoerulea, antennis, ore, pedibus abdomineque ferrugineis, prosterno et pectore nigris; prothorax antice utrinque anguste flavomarginatus, disco inaequali basi utrinque impresso, medio elevato, sparsim, lateribus profundius crebriusque punctatis; elytra subparallela, humeris dente parvo, disco profinde punctatostriato, tricostato; anternae sat breves, crassae.

Long. : $4,5 \mathrm{~mm}$, lat. $3,5 \mathrm{~mm}$. - Paraguay.
Tief schwarzblau oder dunkelblau, der Mund, die Mundteile, die ganzen Fühler, die Beine samt den Trochantern und der Hinterleib gelbrot, die Brust und das Prosternum schwarz oder pechbraun. Hochgewölbt, mäfsig glänzend, länglich viereckig, fast doppelt so lang als breit, an den Seiten nahezu parallel, hinten breit verrundet. Die Fühler sind sehr dick und reichen nicht ganz bis zu den Schulterecken; die ersten zwei Glieder sind

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Jahr/Year: 1910
Band/Volume: 1910
Autor(en)/Author(s): Oudemans A. C.
Artikel/Article: Notes on Acari. 39-55

