

passive locomotion at the surface of the sea, that they cannot compress their chambered air-sac. It is conceivable that, the exertion of any active locomotion being impossible, both male and female sexual animals are set free in the form of small medusæ, namely *Chrysomitres*.

To summarize briefly, in conclusion, our judgment as to the cyclical process of development of the Siphonophora, I do not hesitate to assert that it shows a close relation to the locomotion. Where numerous energetically acting nectocalyces occur, as among the Polyphyridæ (*Hippopodius*) and Physophoridæ, the sexual animals remain sessile and often degenerate into medusoid gemmæ. Where only one (Monophyridæ) or two nectocalyces (Diphyridæ) produce a comparatively feeble locomotion, the diffusion of the species is provided for by the remarkable process of *Eudozia*-formation. Nay, it may happen, as I have shown in the case of *Monophyes primordialis*, that the first nectocalyx is replaced by a second heteromorphous one, which is better fitted to carry along the long trailing stem with the *Eudozia*-clusters. From the primitive organization of this *Monophyes* the life-history of the species therefore appears to be spread over three generations, proceeding one from the other. Lastly, if, as in the most highly organized Siphonophora the Pneumatophoridæ and Discoidæ, the locomotive organs are wanting and locomotion takes place only passively, the diffusion of the species is rendered possible by the sexual animals being rendered motile. There is an alternation of generations that intervenes, as an element of polymorphism, in the course of development of the Siphonophora, and indeed of their highest representatives, in this fashion, that on a polymorphic nurse generation anthomedusæ are produced by gemmation, either females alone (Pneumatophoridæ), or males and females (Discoidæ), which only attain sexual maturity after their separation.

EXPLANATION OF PLATE V.

General Indications:—*g.sch.*, genital nectocalyx; *v.*, vulva; *ε*, fluid-receptacle; *m.*, stomachal sac; *f.*, tentacle; *st.*, stem; *d.*, bract; *rh.*, ectoderm; *en.*, endoderm.

Cyclical development of *Monophyes primordialis*.

- Fig. 1. First generation: *Monophyes primordialis*, Chunn, X 45. *r.*, bud of the *Muggiea*-calyx; *β*, wing-like gelatinous ridges.
 Fig. 2. Second generation: *Muggiea Kochii*, Willk & Busch, X 45. *R.*, edges of the calyx. On the last group of individuals the rudiment of the reserve genital calyx is already visible (*r*).
 Fig. 3. Third generation: *Eudozia Eschscholtzii*, Busch, ♀, X 45. The large genital nectocalyx (*g.sch.* 1) had evacuated the ova from

the genital manubrium on the previous day. The second genital nectocalyx (*g.sch.* 2) has become developed within eighteen hours from a simple bud into a nectocalyx already containing the egg-germ; and near it appears the bud-rudiment of the third genital nectocalyx (*g.sch.* 3).

Fig. 4. *Monophyes primordialis* in connexion with the *Muggiea*-calyx, X 45.

Fig. 5. The young *Muggiea*-bud, with the first foundation of a cluster of individuals and the uppermost part of the stem, X 210. *g.*, lateral vessel; *g₂*, median vessel; *st₁*, subumbrella; *rh.*, annular canal; *y.*, ruptured place of attachment to *Monophyes primordialis*.

Fig. 6. Embryo bud from ova of *Eudozia Eschscholtzii* on the second day, with the rudiments of the nectocalyx, of the netting-thread, and of the stomachal sac, X 135. *ga.*, jelly; *st₁*, subumbrella; *st₂*, endodermic fluid-cell; *en.*, definitive endoderm.

Fig. 7. Larva of the third day, which has already attained the form of *Monophyes primordialis*, X 67. *st₂*, adherent group of fluid-cells.

XXI.—On *Rhynchota* from Mergui.

By W. L. DISTANT.

The small collection of Rhynchota to which this short paper refers was recently made by Dr. Anderson in Mergui, and was placed in my hands for identification by Mr. Wood-Mason. Of course it is quite insufficient to give any estimate of the affinities which this most interesting fauna will ultimately exhibit when adequately worked, but is interesting as affording the first knowledge of the Rhynchota of this little-worked and entomologically little-known zoological district.

HEMIPTERA-HETEROPTERA.

Fam. Pentatomidæ.

Catacanthus incarnatus, Drury.

Cinex incarnatus, Drury, Ill. ii. p. 67, pl. xxxvi. f. 5 (1779).

Fam. Coreidæ.

Anoploenemis grossipes, Fabr.

Lygæus grossipes, Fabr. Syst. Rhynq. p. 205. n. 11 (1803).

Ann. & Mag. N. Hist. Ser. 5. Vol. xi.

Homocercus tinctus, n. sp.

Ochraceous, thickly covered with fine dark punctures. Antennae pale castaneous; first joint robust, shorter than second, which is longest, third and fourth subequal in length, second and third slightly infuscated near their apices, fourth, excluding basal third and apex, subinfuscated. Membrane pale smoky hyaline, with the internal basal area black. Rostrum pale ochraceous, with the third and fourth joints subequal, its apex about reaching the intermediate coxae. Abdomen above pale reddish. Body beneath and legs pale ochraceous. Pronotal angles subprominent and obtusely angulated.

Long. 14-16 millim.

This species is allied to *H. aliventris*, Dall., from which it differs by its much more robust form, different colour of the abdomen above, the basal area of the membrane more infuscated, &c. One specimen alone contained in this collection; I possess a second from Penasserim.

Fam. Reduviidae.

Ectrychotes atripennis, Stål, var. ?

This variety agrees with Stål's description, save in wanting the black spots "maculis tribus magnis lateribus pectoris," but differing also in having the apices of the tibiae black.

As Stål's species (which I do not possess) was received from Malacca, I have thought that this may possibly be but a varietal form, and have therefore refrained from describing it as a distinct species.

HEMiptera-Homoptera.

Fam. Cicadidae.

Cosmopsaltria Andersoni, n. sp.

♂. Head olivaceous. Lateral margins of front, area of ocelli, and a small spot on each side of same black. Pro- and mesonotum olivaceous, the first with a central longitudinal ochraceous fascia, bordered with black, widest anteriorly, and compressed about centre, and with a small curved black line behind the eyes; mesonotum with two obconical spots bordered with black on anterior margin, on each side of which is a small discal black streak and a long curved black spot on each side of base near anterior angles of cruciform elevation, which are also black. Abdomen dull, dark ochraceous.

Underside of body pale ochraceous; annulation to anterior femora near their apices, upper surfaces and apices of anterior tibiae, bases and apices of intermediate and posterior tibiae, tarsi, apex of rostrum, and apical portion of last abdominal segment black. Tegmina and wings pale hyaline, the first with the costal membrane and basal portion of venation ochraceous, remaining portion of venation more or less shaded and marked with black or olivaceous and with a black claval streak; wings with the veins black or ochraceous, and outer claval margin and an inner claval streak fuscous.

The body is broad and somewhat depressed, the abdomen above moderately pilose. The head, including outer margins of eyes, is subequal in width or a very little narrower than base of pronotum. The rostrum about reaches the centre of first abdominal segment. The opercula are long, strongly compressed and concave near base, and then widened and convex on each side, but narrowing at their apices, which reach the base of the last abdominal segment. The face is swollen and tumid, with a narrow central longitudinal sulcation and strong transverse striations, the interstices of which are very broad.

Long. 32 millim., exp. tegm. 88 millim.

This species is allied to *C. cognata*, Dist., from which its smaller size and greater length of opercula at once distinguish it.

Fam. Jassidae.

Tettigonia ferruginea, Fabr.

Cicada ferruginea, Fabr. Syst. Rhynch. p. 69. n. 36 (1803).

Fam. Fulgoridae.

Phromnia marginella.

Fulgora marginella, Oliv. Enc. Méth. vi. pp. 563, 575. n. 43 (1791).

Phromnia rubicunda, n. sp.

Tegmina dull reddish, becoming slightly paler towards apex; the basal, marginal, and apical areas above somewhat irregularly tinged and spotted with chalky white; beneath more evenly and palely tinged with the same colour. Wings white. Body pale ochraceous, the pronotum somewhat darker in hue. Legs pale ochraceous, anterior and intermediate tibiae and tarsi black, posterior tarsi with the apical joint black.

Tibiae strongly sulcated, posterior tibiae armed with three prominent spines.

Exp. tegm. 62 millim.

This species is allied to *P. tricolor*, White, from which it differs by the longer tegmina and different colour of the same, different colour of the tibiae, &c.

Cerynia maria.

Pecolopera maria, White, Ann. & Mag. Nat. Hist. xviii. p. 25, pl. i. t. 3 (1846).

XXII.—On some African Species of the Homopterous Genus *Platypleura*. By W. L. DISTANT.

[Plate II. figs. O & D.]

IN his excellent revision of the Cicadidae (Hem. Afr. iv.), by which the late Dr. Stål for the first time placed the genera of this interesting family of Homoptera on a scientific basis, and cleared up much of the synonymy relating to the African species, he not unnaturally made some errors. Evidently trusting to the notes made when he visited the British Museum and with so much success rectified a considerable portion of the Rhyngotal work of the late Mr. F. Walker, he subsequently (Hem. Afr. iv. p. 19) stated that the *Tettigonia strumosa*, Fabr., = the *Oxypleura contracta*, Walk., and belonged to the genus *Platypleura*. Mr. Butler, in a list of the species of the genus (Cist. Ent. i. p. 183), in which he uses Stål's revisions, likewise follows him in this course. I have lately, through the kindness of Dr. Aurivillius, been allowed to inspect a typical specimen of the Fabrician species, and find it to be quite distinct from the *P. contracta*, Walk., and that it is the species which I, relying on Stål's identification, had described as *P. aerea*.

The following appears to be the correct synonymy:—

Platypleura strumosa. (Pl. II. fig. C.)

Tettigonia strumosa, Fabr. Syst. Rhyng. p. 34 n. 7 (1830).

Cicada strumosa, Walk. List Hom. i. p. 120. n. 61 (1851).

Platypleura Afzeli, Stål, Öf. Vet.-Ak. Förh. 1854, p. 241.

Platypleura strumosa, Stål (part.), Hem. Afr. iv. p. 19. n. 12 (1866);

Butl. (part.), Cist. Ent. i. p. 191. n. 83 (1874).

Platypleura aerea, Dist. Trans. Ent. Soc. 1881, p. 632.

It is singular that all the specimens which I have been able to examine are females, and consequently it is impossible at present to describe the male opercula and tympana.

The species appears to be distributed in western tropical Africa from Sierra Leone to Calabar.

I now add the description of an undescribed but closely allied species.

Platypleura Rutherfordi, n. sp. (Pl. II. fig. D.)

Head ochraceous; front with a central subtriangular black spot; vertex with a \neg black mark before the eyes; area of the ocelli and a central basal spot also black. Pronotum greenish ochraceous, with the following black markings:—a central discal black line, dilated on each side anteriorly, not reaching much beyond centre posteriorly, from which two oblique straight lines extend to behind the eyes; and from near the centre of these a longitudinal black streak is emitted; a curved and somewhat dentate line behind the eyes; a central linear spot; and the lateral dilated margins are also black. Mesonotum with two small obconical black spots on anterior margin, on each side of which is a much larger subconical spot of the same colour, and a central longitudinal fascia and two small basal spots also black; basal cruciform elevation pale ochraceous. Abdomen greenish ochraceous, with the basal segmental margins black. Body beneath greenish ochraceous, somewhat spotted with black; dilated pronotal margins and anterior and intermediate tarsi black. Tegmina pale hyaline; costal membrane and basal fourth dull ochraceous and opaque; the last with the extreme base, an oblique broad terminal fascia, and claval area pale fuscous; a spot at the extremity of the radial area anastomoses with some small adjacent spots near extremities of second and third ulnar areas, and a double submarginal series of small spots placed on the apices of the veins fuscous. Wings pale hyaline, with the basal third obliquely fuscous and a small spot at extremity of radial area fuscous.

The head, including outer margin of eyes, is about equal in width to the anterior margin of the mesonotum; the lateral margins of the pronotum are amply and subacutely produced; the rostrum (the apex of which is fuscous) extends to the first abdominal segment; the opercula are short, broad, and rounded.

Long. ♂, 24 millim., exp. tegm. 76 millim.

Hab. West Africa, Calabar (*D. G. Rutherfordi*); Isabu.