

XXXIV.—*Descriptions of some Indian Species of Longicorn Coleoptera.* By C. J. GAHAN, M.A., Assistant, Zoological Department, British Museum.

*Monohammus auratus*, n. sp.

Fuscus, dense aureo-flavo, sericeo pubescens; articulis antennarum a tertio apicibus fuscis; prothorace dorso leviter inæquali, antice et postice transverse bisulcato; elytris pubescentia undulata, apicibus oblique truncatis vel subrotundatis.

Long. 21–29 mm., lat. 7–9½ mm.

*Hab.* Silhet.

Dark brown, closely covered by a dense golden-yellow, somewhat silky pubescence; the pubescence darker and duller on the head, antennæ, and legs; no punctures are anywhere visible. The prothorax is slightly uneven on the disk, and is crossed by four transverse grooves—two anterior and two posterior—which are distinct enough. The wavy pubescence of the elytra gives the idea that the latter are longitudinally carinate; but this is not the case. The antennæ, more than twice the length of the body in the male and not quite twice the length in the female, with the apices of the joints from the third and the middle of the eleventh fuscous; the cicatrix of the scape broad and distinct, but its bordering-rim not quite complete.

*Monohammus bimaculatus*, n. sp.

Fuscus, griseo-brunneo pubescens; scutello fulvo; elytris ad basin punctatis, singulo ad medium macula magna nigro-velutina, apicibus rotundatis.

Long. 14–19 mm.

Dark brown, with a greyish-brown pubescence. Head and prothorax almost impunctate, with a scanty greyish or tawny pubescence. The thorax even on the disk, the transverse grooves indistinct. Scutellum fulvous. Elytra somewhat coarsely punctured at the base, the punctures disappearing towards the apex; on the middle of each elytron a large, more or less rounded, velvety black spot, margined with pale grey. The legs and underside of the body dark grey, minutely speckled with brown. The antennæ, of which the scape has a distinct, broad and completely margined cicatrix, are in the male about twice the length of the body, in the

female about half as long again as the body. The sternal processes simple.

*Monohammus amicator* (White, MS.).

Castaneus, breviter griseo pubescens; capite impunctato; prothorace antice et postice bisulcato, dorso æquali vix punctato; elytris ad basin granuloso-punctatis, postice gradatim attenuatis, apicibus subsinuato truncatis; tibiis mediis non emarginatis; prosterno angustissimo; antennis (♂) articulis 3° et 4° paulo incrassatis. Long. 26 mm., lat. 9 mm.

*Hab.* N. India (Silhet).

With a reddish-brown derm, clothed with a very short greyish pubescence. Head rather strongly exerted, impunctate. Prothorax with a few small granulate punctures on each side of the middle of the disk. Elytra somewhat coarsely punctate at the base, the punctures not visible beyond the middle, the apices obliquely and somewhat sinuately truncate. Antennæ reddish brown, with the scape dark grey and the bases of the third to eighth or ninth joints pale grey; the third and fourth joints, in the male, thick. The prosternal process very narrow. The mesosternal process with a feeble carinate tubercle behind. Middle tibiæ without any notch or groove.

This species bears in the British-Museum collection the name which I have adopted. I have not been able anywhere to find a description of it.

*Monohammus griseatus*, n. sp.

*M. amicatori* similis, sed differt capitis fronte sparse punctata, prothorace dorso punctato; elytris non granulosis, usque apicem punctatis.

Long. 25 mm., lat. 7½ mm.

*Hab.* India.

Resembles the last species, but is slightly more pubescent. There are a few scattered punctures on the head. The punctures on the thorax are more numerous, and are shallow and depressed. The shallow punctures of the elytra are largest at the base, and gradually diminishing in size backwards extend up to the apex. The middle tibiæ, as in *M. amicator*, are without notch or tubercle; the sternal processes are narrow, especially the prosternal; and the mesosternal is very feebly carinate. The antennæ in the female about twice the length of the body.

*Monohammus ocellatus*, n. sp.

Fuscus, cervino-pubescent; capite impunctato, lobis oculorum inferioribus magnis; prothorace dorso impunctato, leviter inæquali; elytris foveis sparsis ocellatis, apicibus oblique vel sinuato truncatis; antennis fuscis, (♂) corpore plus quam duplo longioribus, (♀) corpore sesqui-longioribus.

Long. 17-25 mm., lat. 5-8 mm.

*Hab.* N. India and Penang.

Dark brown, with a dark grey or fawn-coloured pubescence. The head impunctate, pubescent. The lower lobes of the eyes large. The prothorax somewhat uneven above, closely pubescent, with a few minute granules on each side of the disk behind the middle; the transverse grooves, two anterior and two posterior, not very distinct. Elytra with scattered, broad, shining, ocellate punctures, which are smaller, closer, and somewhat asperate towards the base; the apices obliquely and more or less sinuately truncate, with the outer angles in some specimens very feebly produced. Antennæ in the male dark brown, nearly three times as long as the body, with the scape greyish and somewhat rugulose along its outer border; in the female dark brown, about half as long again as the body, and with the scape greyish and smooth; the "cicatrix" with a complete rim. The legs and underside of the body pubescent like the upper. The middle tibiæ without a notch or groove. The intercoxal process of the mesosternum with a feeble tubercle in front.

*Synonymical Remarks.*

The genus *Cacoscapus* of Thomson ('Revue et Magasin de Zoologie,' 1878, p. 47) is evidently, from its description, identical with the genus *Stratioceros* of Lacordaire, which stands first among the Monohammides in that author's great work, the 'Genera des Coléoptères.' Thomson's type species, *Mouhotii*, is also, as far so I can judge from his description, synonymous with the *princeps* of Lacordaire. The same locality is given for each. M. Thomson's blunder is the less excusable since the genus is not only well-marked, but the species is, as Lacordaire justly said, one of the finest in the group.

In the same paper Thomson describes, under the name of *Leprodera arista*, a species which was previously described by Pascoe as *Leprodera verrucosa*.

*Monohammus Fredericus*, White, agrees in every respect with the description of Thomson's *Monohammus deperatus*; the

latter name has the priority of date, and of the two localities given for the species, viz., India and New Holland, the second is no doubt erroneous.

The Fabrician species *Lamia rotator* (*Monohammus rotator* of the Munich Catalogue) is, as I find from the type in the Banksian Cabinet, identical with the North-American species *Goes tigrinus*, Degeer. The locality—India or.—given by Fabricius, is of course wrong. As both descriptions—the Fabrician and that of Degeer—appeared in the same year, it is doubtful which has priority of date. Degeer's name being better known, and his description being fuller and accompanied by a figure, there is no reason why it should not be retained, and the Fabrician name sunk into a synonym.

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XXXV.—*Researches at the St. Andrews Marine Laboratory (under the Fishery Board for Scotland).—On the Embryology of the Retina of Teleosteans.* By Dr. R. MARCUS GUNN, M.A., M.R.C.S., Surgeon to Moorfields Hospital, London.

IN the investigations hitherto made on the development of the eye in the bony fishes the ova of freshwater forms have been employed. I am indebted to Professor M'Intosh, F.R.S., for an opportunity of examining carefully prepared sections of embryos of marine Teleosteans, which he had succeeded in maturing in the St.-Andrews Marine Laboratory.

Several causes combine to render accurate results more difficult of attainment in the case of fish than in other instances where ova can be watched during maturation. Not only do the ova of fish vary much in the rapidity with which they mature after impregnation in different genera and species, but even in the same species, according to external conditions, especially the temperature of the water. Indeed, Professor M'Intosh tells me that in the same series of ova, matured under identical conditions, some individuals develop more quickly than others. Great diversity, moreover, obtains in the stage of development attained before hatching in different fish, and even to some extent in different individual ova of the same fish.

I have consequently been obliged to base my calculations of advance in development simply on histological features