

by the much longer antennæ, red tarsi, &c. From *M. agilis* it is known by the black hair on scutellum, red tarsi, &c. ; from *M. floris* by the longer antennæ, wings not yellowish, &c. ; from *M. montana* by the much smaller size, abdomen less covered with hair, &c.

Hab. Mesilla, New Mexico, at flowers of *Parosela scoparia*, July 25 (*Cockerell*).

University of Colorado,
Boulder, Colorado, U.S.A.,
March 16, 1905.

LXIX.—*The Systematic Arrangement of the Fishes of the Genus Arges.* By C. TATE REGAN, B.A.

IN my monograph* of the Loricariidæ I included nineteen species in the genus *Arges*. Messrs. Evermann and Kendall†, who have received some fishes of this genus from Ecuador, have written a short paper in which they consider the characters which I have used for the distinction and arrangement of the species as of very little value.

With regard to the structure of the adipose fin, Messrs. Evermann and Kendall, describing the specimens they have received, write: "When first received these examples revealed no trace of an adipose fin excepting what was soon discovered to be a short spine, sometimes naked but in most cases concealed under the skin, evidenced only by a slight elevation, which was at first regarded as a 'short adipose fin'; but in alcohol there gradually appeared on the back a low, thick, fleshy fold which increased in resemblance to a thick adipose fin with their continuance in the preservative, and, in the smaller individuals, became thin and very much like an adipose fin in appearance." They proceed to quote Steindachner's descriptions of the adipose fin in *Arges sabalo*, *A. longifilis*, *A. prenadilla*, and *A. peruanus*, and they then state: "These descriptions show conclusively that what has been so regarded is not a true adipose fin, which conclusion our specimens substantiate. It is evident that the presence of the supposed adipose fin on the different species is simply due to the action of the preservative and that there is no true adipose; and the smaller the individual and the longer

* Trans. Zool. Soc. xvii. pt. iii. pp. 191-324, pls. ix.-xxi. (1904).

† Proc. Biol. Soc. Washington, xviii. pp. 91-106 (1905).

its stay in the preservative, the more like an adipose fin the fold may become."

Sufficient has been said to show that Messrs. Evermann and Kendall regard the structure of the adipose fin as of little value for the distinction of species. They state that their specimens undoubtedly belong to one species and yet that individuals fall respectively into several of my main divisions (based on the structure of the adipose fin), the only condition unrepresented being that of a well-developed adipose fin without trace of a spine, which they would hardly expect to find in specimens which have been only so recently submitted to the action of alcohol.

The position of the ventral fins is a character to which I have attached considerable importance for the distinction of species, but the authors quoted above state that in the males the ventrals are inserted farther forward than in the females, and they give figures of a male fish in which the insertion of the ventrals is below the origin of the dorsal, and of a female with the ventrals inserted below the middle of the dorsal. They continue: "In the males, as already remarked, the ventrals are inserted farther forward than in the females; therefore, comparison of extent of pectorals with ventrals or ventrals with proximity to vent is of no value. In fact, there is such a range of variation in these characters, regarded by Regan as showing specific differences, that there arises a serious distrust of the value of any of them for that purpose."

They conclude that the number of species should be considerably reduced, suggesting that the five alleged Peruvian species may be one, or at the most two. They consider *A. prenadilla* and *A. Eigenmanni* to be synonyms of *A. cyclopum*, suggest that *A. homodon* may be the male of *A. Guentheri*, and think that the characters given for the distinction of *A. Whymperi*, *A. fissidens*, *A. sabalo*, *A. Taczanowskii*, and *A. Vaillanti* are scarcely sufficient.

On receiving Messrs. Evermann and Kendall's surprising paper I at once proceeded to re-examine all the specimens of *Arges* * in the British Museum Collection, with the result that I must entirely adhere to my original arrangement, Messrs. Evermann and Kendall's views being evidently the result of a hasty study of insufficient material.

I maintain my grouping of the species according to the structure of the adipose fin. The first division, to which the *Pimelodus cyclopum* of Humboldt most certainly

* 85 specimens, representing 16 or 17 species, from Peru, Ecuador, Colombia, and Venezuela.

belongs, is characterized by the presence of a well-developed, freely movable spine, as represented in my figures of *Arges homodon* and *A. Guentheri*, and in Boulenger's of *A. Boulengeri*. In the three specimens of *A. Boulengeri* and the eight of *A. Guentheri* which I have examined this feature is constant. The next group, comprising *A. Eigenmanni*, *A. Whymperi*, and *A. Vaillanti*, is characterized by a weak or moderate, sometimes scarcely distinct, rather elongate adipose fin, with a small but distinct spine constantly present*, more or less projecting in very young specimens and completely imbedded in the adult. This description applies to the single specimen of *A. Whymperi*, the three of *A. Vaillanti*, and the nineteen of *A. Eigenmanni*, varying in length from 33 to 100 mm., which I have examined. From these *A. orientalis* and *A. brachycephalus* differ in the absence of the spine, although what appears to be a nodule-like rudiment may rarely be present in the former. I have examined ten specimens of each of the two last-mentioned species.

I am quite unable to see any discrepancy between Steindachner's descriptions of *A. sabalo* and *A. longifilis* and his figures of those species, which are both described and represented as having an elongate and well-developed adipose fin. Such an adipose fin is also characteristic of other species allied to these and represented in the British Museum Collection.

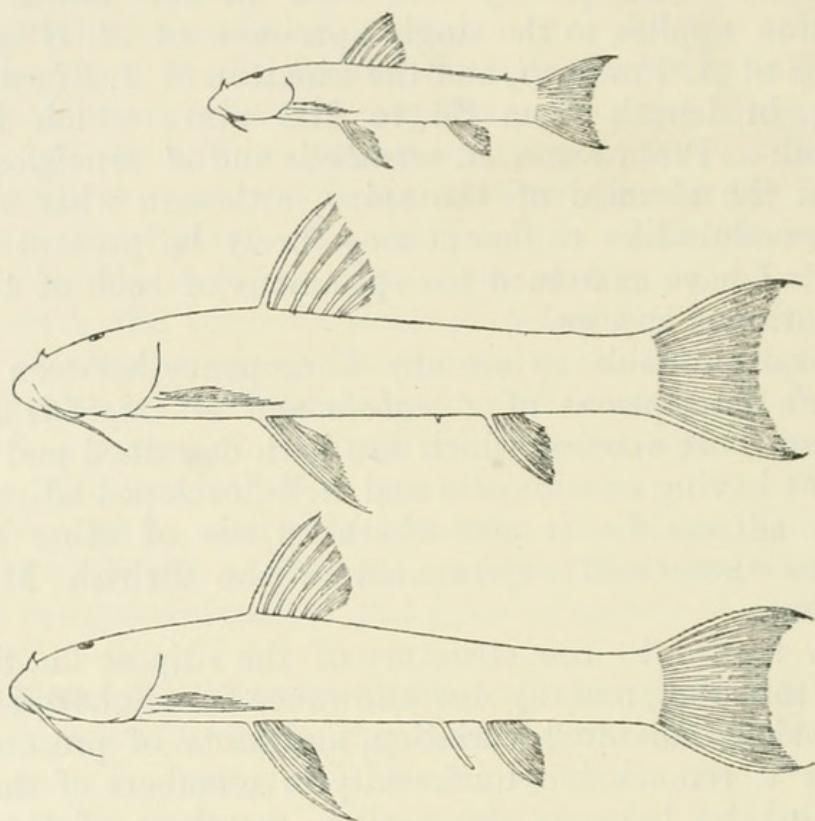
With regard to the structure of the adipose fin, then, it may be said that, making due allowance for slight differences due to size, individual variation, and state of preservation, there is a remarkable uniformity in members of the same species, whilst between the various members of the genus considerable differences exist, which form a convenient basis for the arrangement of the species.

I have been able to examine and compare male and female examples in each of the following species:—*A. Guentheri*, *Boulengeri*, *Eigenmanni*, *orientalis*, *brachycephalus*, *festæ*, and *peruanus*. In none of them can I find the slightest difference between the sexes in the position of the ventral fins, which vary only slightly as to their point of insertion in individuals of the same species, but without regard to sex. Consequently I still attach considerable importance to the position of the ventral fins for the distinction of the species of this genus, whilst the other characters which I have

* It can always be detected by running the finger-nail along the adipose fin from the tail towards the head.

regarded as specific still appear to me to have the same value as before.

With regard to the suggested reduction in the number of species: I have never seen an *Arges* with the ventral fins inserted under the middle of the dorsal, as in the fish figured by Evermann and Kendall * and as in Steindachner's figure of *Arges prenadilla*. In nearly all the specimens I have seen of *A. Eigenmanni* the insertion of the ventral fins may fairly be described as exactly opposite to the origin of the dorsal, in a few it is slightly in advance of the origin



Arges Eigenmanni: male, female, and immature examples.

of the dorsal, and in one specimen (a male) it falls in the vertical from between the bases of the first and second dorsal rays. Consequently I am quite unable, at any rate until I have seen examples corresponding to *Arges prenadilla*, to accept the view of the specific identity of *A. Eigenmanni* and *A. prenadilla*.

A comparison of the figures given here of *A. Eigenmanni*

* The female fish described and figured by Messrs. Evermann and Kendall may be a specimen of *Arges prenadilla*. If their statement that there is no slit behind the last gill be correct, this fish is certainly very different from *A. Eigenmanni*, in which there is a well-developed slit behind the fourth gill. If their description of the relative proportions of interorbital width, distance from eye to nostril, &c. be correct, their figure of the upper surface of the head must be hopelessly inaccurate.

with those published of *A. homodon*, *Guentheri*, and *Boulengeri* and with that of Humboldt's *Pimelodus cyclopus*, will show with sufficient clearness that the first-named species differs very considerably from the others in the structure of the adipose fin and that there cannot be the least doubt that *A. Eigenmanni* is not identical with Humboldt's fish. *A. homodon* is most certainly not a male example of *A. Guentheri*, from males of which species it differs not only in the much more anterior insertion of the ventrals, but also in the much more posterior position of the vent, the more posterior situation of the spine of the adipose fin, and in other characters also.

The suggestion that the Peruvian species, viz. *A. longifilis*, *sabalo*, *Taczanowskii*, *peruanus*, and *Simonsii*, in reality represent only one or two, cannot be entertained. *A. peruanus* and *A. Simonsii* present so peculiar a dentition that I was in doubt as to whether they ought not to constitute a distinct genus, and as the latter species is represented by larger specimens (5 in number) in which the barbel is nearly twice as long as in the smaller examples of *A. peruanus*, there can be no question as to the validity of these two species. The other three differ from each other so widely that there can be no excuse for confounding them, and I need only refer to my synopsis of the species and to the published descriptions and figures.

In the whole genus the only point as to which I entertain some doubt is as to whether *A. Eigenmanni* is distinct from *A. Whymperi*. The latter is based on a single specimen and it is probable that the somewhat shorter ventral and more posterior vent may be due only to individual variation. *A. Vaillanti*, based on three specimens (not one only as stated by Messrs. Evermann and Kendall) with a much shorter caudal peduncle ($6-6\frac{1}{2}$ in the length of the fish, instead of $4\frac{2}{3}-5$ as in *A. Eigenmanni*), is certainly distinct.

Some other points in Messrs. Evermann and Kendall's paper call for comment. They consider that the elongate anal papilla of the male fish represents the first anal ray of the female. This view is completely negatived by the structure of the papilla, by the fact that it is constantly present in the female, although smaller, and by the obvious homology between the first subspinous ray of the anal fin in the two sexes. Moreover, difference in the number of anal rays is either individual or specific, not sexual.

The American authors prefer the generic name *Cyclopus* to *Arges*, whatever the objections which may be urged against it on the ground of its formation. This, of course, is

a matter of opinion, but they afterwards state: "But whatever view may be held on this ground, Mr. Regan's contention does not hold in the case under consideration. *Cyclopium* is not the genitive plural of *Cyclops*, as he imagines, but the neuter form of the adjective *cyclopius*." I do not know what reasons Messrs. Evermann and Kendall may have for this assertion, but Swainson's * own words, as quoted by me (and not as misquoted by them), seem to establish beyond any doubt that he merely took the specific name, without alteration, and used it for his new genus.

The statement that I object to the family name Argiidae of Gill is hardly correct. On the contrary, I should consider it a most excellent name for the group if it is to be regarded as a distinct family. Provided that they be correctly defined and their relations made clear, it appears to me to be a point of comparatively small importance whether the Argiinae or Argiidae be regarded as a specialized group of Loricariidae or as a distinct family. I am inclined to believe, however, that the practice of making every somewhat abnormal or peculiar genus the type of a family tends to obscure its relationships.

LXX.—*On some Oriental Aphodiid Coleoptera of the Rhyparus Group, with Description of a new Genus.* By GILBERT J. ARROW.

THE British Museum having recently received from Mr. George Lewis a very remarkable minute beetle having no close ally among known genera, I have founded for it a new genus which can only be associated with *Rhyparus*. In the course of studying its affinities I have made a few notes upon certain other species of this peculiar group which I publish at the same time.

STEREOMERA, gen. nov.

Corpus breviter rectangulum, depressum; caput magnum, clypeo late arcuato; antennae 9-articulatae, articulo primo longo, lunato, in fossa profunde volvente, secundo breviter cylindrico, tertio fere ad tria sequentes conjuncta aequale, his inter se aequalibus, tribus ultimis clavam brevem formantibus; palpi maxillares longi, graciles; oculi elongati; coxae anteriores quatuor laminibus

* Swainson, of course, misquoted Humboldt, substituting *Pimelodus cyclopium* for *Pimelodus cyclopus*.



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