

of ♀ to spinners; *h*, length of ♀ to extremity of abdomen; *f*, length of ♂ to extremity of abdomen; *g*, length of ♂ to spinners; 16 *b*, profile of cephalothorax; 16 *c*, abdomen of ♂ on upperside; 16 *e*, abdomen of ♀ in profile.

Fig. 17. *Argyrodes obtusa*, sp. n., Spider in profile.

*b*, profile of cephalothorax; *c*, caput from in front; *j*, length of Spider to extremity of abdomen; *k*, length of Spider to spinners.

17 *a'*. *Argyrodes amplifrons*, sp. n., Spider in profile.

*d'*, length of Spider to spinners; *e'*, length of Spider to extremity of abdomen; 17 *b'*, profile of cephalothorax; *c'*, caput from in front; *d'*, profile of spider (♀); *e'*, extremity of abdomen (♂); *f'*, extremity of abdomen (♂), from below; *g*, length of ♀ to spinners; *h*, length of ♀ to extremity of abdomen.

13. *Argyrodes sextuberculata*, sp. n., Spider in profile.

*a*, profile of cephalothorax; *b*, abdomen from above; *c*, length of Spider to extremity of abdomen.

14. *Argyrodes ululans*, sp. n., Spider in profile.

*a*, profile of caput; *b*, caput from in front; *c*, length of Spider (♂) to spinners; *d*, length of Spider (♂) to extremity of abdomen; *e*, length of ♀ to extremity of abdomen; *f*, length of ♀ to spinners.

18. *Argyrodes infelix*, sp. n., Spider in profile.

*a*, abdomen on upperside; *b*, length of Spider to spinners; *c*, length of Spider to extremity of abdomen.

19. *Argyrodes felix*, sp. n.

*a*, Spider in profile; *b*, length of Spider to spinners; *c*, length of Spider to extremity of abdomen.

20. *Argyrodes nigra*, sp. n.

*a*, Spider in profile; *b*, Spider in profile, from upperside; *c*, length to spinners; *d*, length to extremity of abdomen.

#### 4. On the Shells of Lake Tanganyika and of the Neighbourhood of Ujiji, Central Africa. By EDGAR A. SMITH.

[Received April 6, 1880.]

(Plate XXXI.)

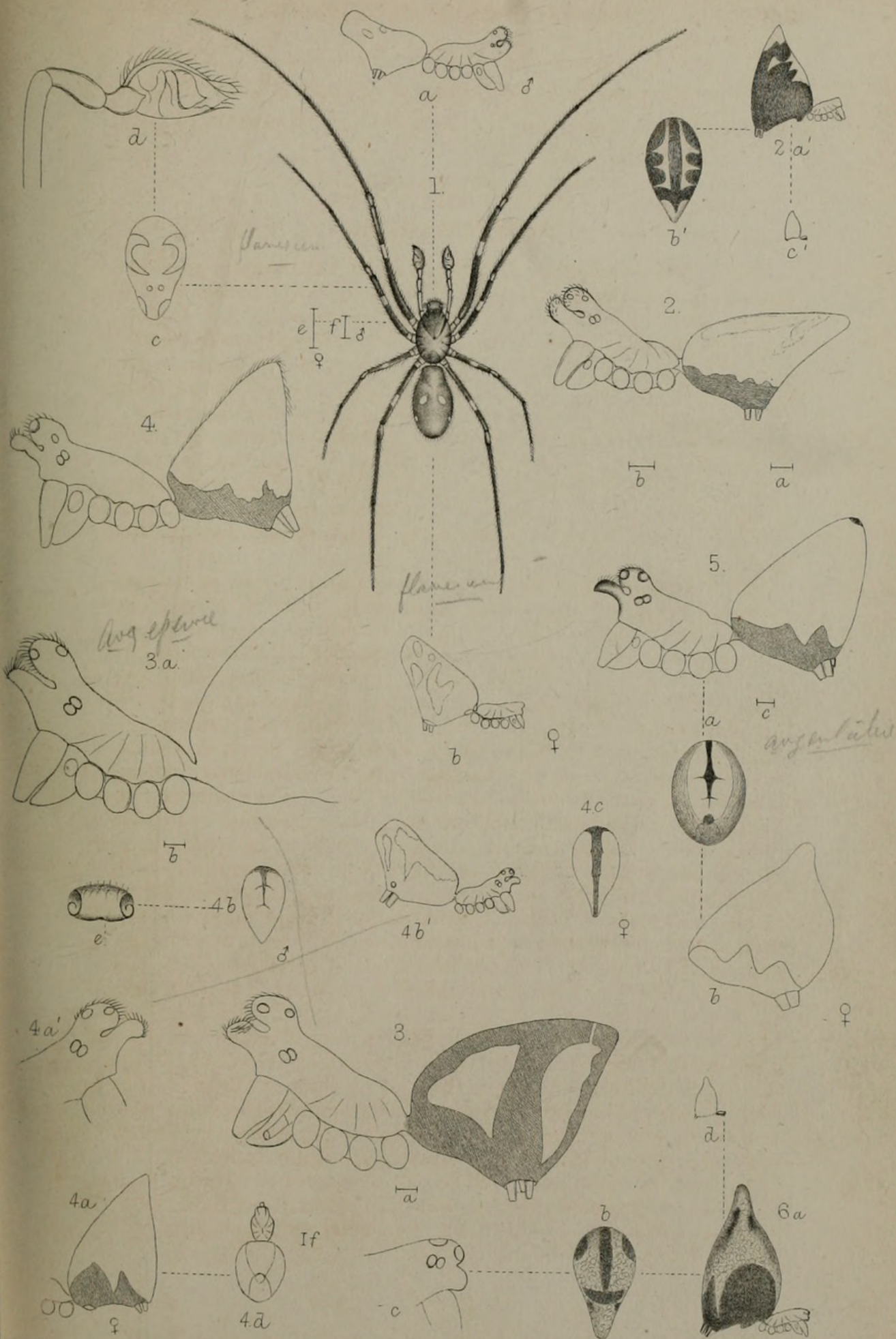
In the year 1877 I had the pleasure of communicating to the Society a paper on the shells found in Lake Nyassa. It is now my privilege to lay before it an account of the known mollusks inhabiting another of the large African lakes, namely Tanganyika.

Mr. Edward Coode Hore, of the London Missionary Society's Tanganyika Mission, stationed at Ujiji, sent a collection of shells to his brother, Mr. John Coode Hore; and the latter has liberally presented them to the British Museum in his brother's name.

The only shells hitherto recorded from this particular region were collected by Captain Speke some twenty years ago, and described in these 'Proceedings' (1859) by Mr. S. Woodward; they were four in number, viz. *Pleiodon spekei*, *Lithoglyphus zonatus*, *Melania nassa*, and *Unio burtoni*. The last of these is the only form not included in Mr. Hore's collection.

The latter comprises twenty-one species, nine of which are new and interesting forms. Of these I would particularly call attention to *Tiphobia horei* and *Neothauma tanganyicensis*, both of which are new





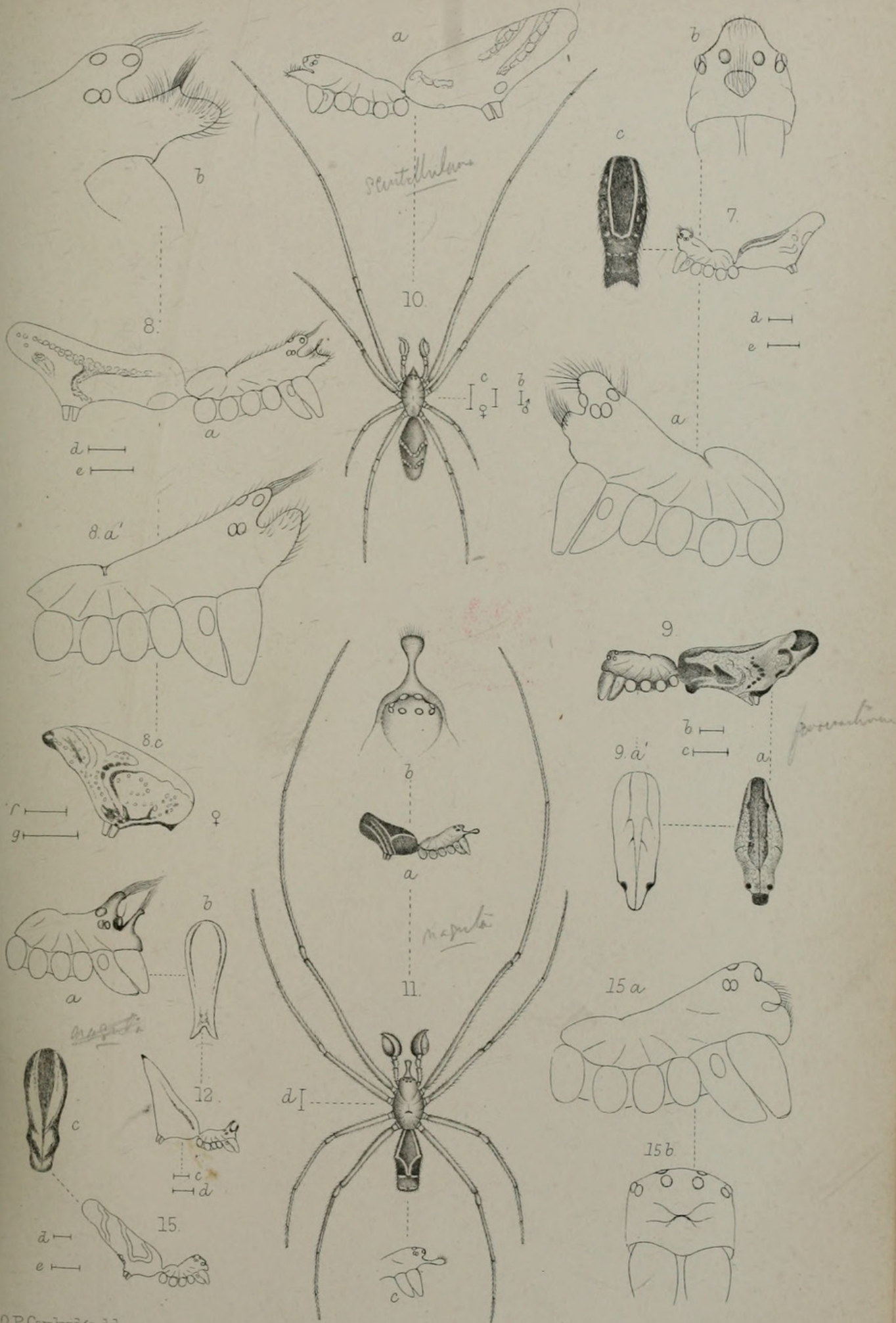
O.P. Cambridge del.  
E. Carter lith.

Mintern Bros imp.

Spiders of the genus *Argyrodes*.







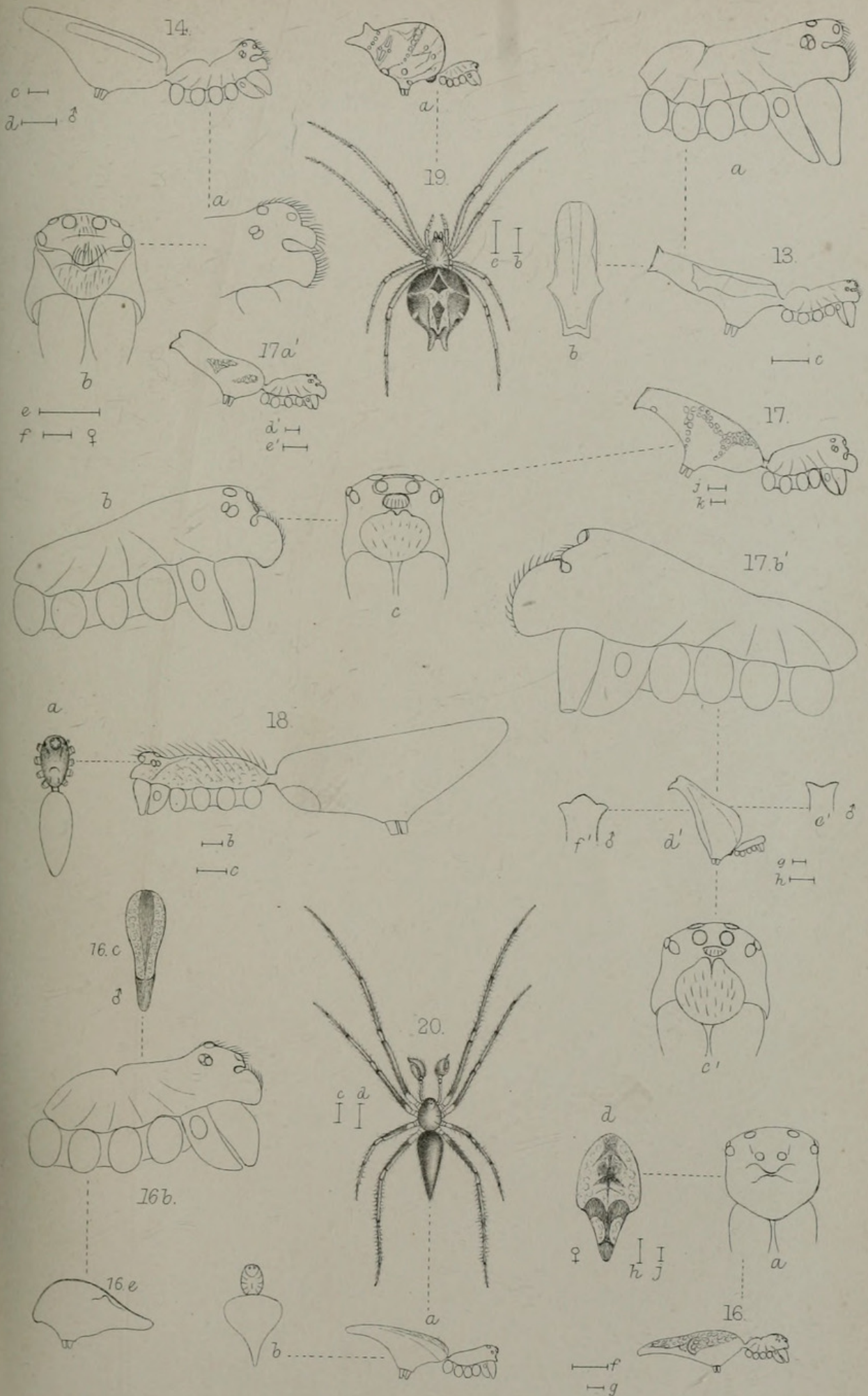
O.P. Cambridge del.  
 E. Carter hfh.

Mintern Bros. imp.

Spiders of the genus *Argyrodes*.







OE Cambridge del.  
E. Carter lith.

Mintern Bros imp

Spiders of the genus *Argyrodes*.





generic forms and unlike any other, either recent or fossil. The former with its spine-bearing whorls calls to mind certain marine rather than lacustrine genera; and the latter, although very *vivipariform*, yet differs from all the species of that family in possessing a sinuated outer lip and an effuse base to the aperture. Of the terrestrial shells one, *Limicolaria nilotica*, has previously been recorded from more northern Nilotic regions; and the same observation applies to five species from the lake, viz. *Ampullaria ovata*, *Planorbis sudanicus*, *Mutela exotica*, *Unio niloticus*, and *Ætheria elliptica*.

1. ACHATINA (LIMICOLARIA) NILOTICA, Pfeiffer.

*Bulimus niloticus*, Pfr. P. Z. S. 1861, p. 24; Mal. Blät. 1861, p. 14; Mon. Hel. vi. p. 86; Mon. Hel. viii. p. 268 (*Limicolaria nilotica*).

*Achatina (Limicolaria) nilotica*, Pfr.; Martens, Mal. Blät. 1865, p. 196, 1870, p. 32 (as *Achatina nilotica*); Novitates Conch. iv. pl. 110. f. 1-3.

This species appears to be common in the Upper-Nile region. It was first collected in the White-Nile district, and subsequently by Dr. Schweinfurth near the Gazelle River.

A narrowly ovate specimen is 111 millims. in length and only 50 in diameter, and the aperture occupies only a little more than half the length, whilst in a specimen from the White-Nile district it equals  $\frac{7}{10}$  of the total length.

2. ACHATINA (LIMICOLARIA) MARTENSIANA, sp. nov. (Plate XXXI. figs. 1, 1a).

Shell rimate, rather solid, oblong, turreted, reddish towards the apex, elsewhere dark purple-red or almost black, variegated with oblique, more or less zigzag, opaque creamed-coloured stripes, some of which extend from suture to suture, others only a short distance from the top of the whorls. The latter are  $7\frac{1}{2}$  in number, scarcely convex or almost flat, and very feebly constricted beneath the suture. The upper ones are finely granosely decussated, the last and the penultimate being smooth and merely marked with the oblique incremental striæ. All exhibit a fine plication or puckering beneath the suture, beneath which an impressed line is sometimes observable upon the last and preceding volutions. Aperture bluish within, displaying more or less of the external striping, vertical, equalling about two fifths of the shell's length. Columella suberect, bluish and dark violet, scarcely forming any angulation at the base with the lower margin of the peritreme. Length 36 millims., diam. 17; aperture  $14\frac{1}{2}$  long, 8 wide.

This handsome shell approximates very closely to *A. heuglini* of Martens in form, but has certain differences in colour and sculpture, which, however, may prove to be only varietal. *A. heuglini*, from South Abyssinia and the Gazelle River, is said to be regularly striated, and of a horny lutescent colour flamed with red. *A. martensiana*, on the contrary, is finely granosely decussated upon the spire, and the coloration is very rich and striking. The dark purplish red, which



in some specimens is almost black, predominates; and the opaque, obliquely somewhat zigzag stripes upon the back of the body-whorl in several shells are abruptly terminated in an oblique line which marks a period of growth. Between the larger creamy stripes which reach from suture to suture in the upper whorls, and extend over the whole extent of the last, there are minor streaks and spots flowing only a short distance beneath the suture.

I feel much pleasure in naming this species (perhaps only a variety, but a very interesting one) after Professor Martens, of the Berlin Museum, who, amongst his innumerable and valuable conchological papers, has written several upon the fauna of the Nilotic region.

3. *ACHATINA* (*LIMICOLARIA*) *RECTISTRIGATA*. (Plate XXXI. fig. 2.)

Shell oblong, cylindrically conical, narrowly perforate, whitish or of a pale rosy tint, varied with oblique brown stripes, which at times become broader or blotchy at the lower part of the whorls. The latter are 8 in number, rather convex and slowly enlarging, obliquely striated by the lines of growth, divided by a simple subhorizontal suture. Last volution oblong, a little attenuated at the lower part. Aperture inversely subauriform, whitish or pale rose within, equalling rather more than one third of the entire length of the shell. Peristome (viewed laterally) oblique, a little tortuous, thin at the edge, and inconspicuously thickened within. Columella spirally contorted, bluish, and reflexed over the perforation at the upper part, brownish inferiorly, and gradually curving into the basal margin of the aperture. Paries coated with a thin callosity. Length 44 millims., diam. 17; aperture 16 long, 8 wide.

The peculiarity of this species consists in the ornamentation taking the form of defined stripes, and not exhibiting a wavy or zigzag tendency so common to most of the species of this group of *Achatina*. *L. cailliaudi*, Pfeiffer, and *L. sennaariensis*, Shuttleworth, are allied forms.

4. *BULIMUS* (*BULIMINUS*) *PTYCHAXIS*. (Plate XXXI. fig. 3.)

Shell elongate, turreted, perforate, thin, dirty white, covered with a very thin, pale, sordid olive epidermis. Spire elongate-conical, with a rather obtuse apex. Whorls 9, somewhat convex, divided by a deepish suture, bearing fine, regular, oblique and slightly flexuous costulae, which, upon the last whorl, become less pronounced from the middle downwards. Aperture vertical, occupying about one third of the length of the shell. Columella erect, reflexed over the umbilicus, bearing a fine oblique plait a little below the middle; outer lip thin and feebly expanded. Length 27 millims., diam.  $10\frac{1}{2}$ ; aperture 9 long, 5 broad.

*B. kirki* of Dohrn, from Mozambique, is sculptured very similarly to this species. It is, however, much shorter, and does not possess a columellar fold. The latter is even more distinct in the young shell than in the adult; and the last whorl in the former exhibits a faint





Smith, E. A. 1880. "4. On the Shells of Lake Tanganyika and of the Neighbourhood of Ujiji, Central Africa." *Proceedings of the Zoological Society of London* 1880, 344–352. <https://doi.org/10.1111/j.1469-7998.1880.tb06564.x>.

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