



PLATE 16

*Parajulus onychis* Pierce (Specimen BQ 19), length of specimen 18 mm.; uncoiled length about 39.4 mm.

## 9. FOSSIL PRIMITIVE INSECTS FROM ONYX-MARBLE

1951c

The newer material lent by Mr. J. W. Fisher contains a total of seven primitive insects, in the orders Archæognatha, Zygentoma, Dicellura, Rhabdura, and Phasmida.

Outside of Baltic amber no fossils in the first four orders are known, and these insects are the first to be described from onyx-marble. In Article No. 3 in this series *Onychojapyx schmidti*, in the Japygidæ, was described. Four more thysanurans are now to be added.

### ARCHÆOGNATHA Boerner 1904

#### MACHILIDÆ Grassi 1888

Although somewhat disintegrated by the calcareous liquid the ordinal identity of the first specimen is certain. The Zygentoma, or running silver fish have styli on abdominal sternites 7 to 9 or 8 to 9; while the Archæognatha, or jumping silver fish have styli

on segments 2 to 9. The posterior portion of the abdomen was cut off, but 3 styli, on the second and third segments remain. Characteristic of the Machilidæ are the long maxillary palpi and the thick labial palpi seen in this specimen.

This specimen (BQ 7) is white, and dorso-ventrally flattened, rather than laterally compressed. It has no indication of scales on the body.

#### ONYCHOMACHILIS, new genus

Although 9 genera of Machilidæ are now living in the Americas this species seems even more primitive, and has therefore been set off as a new genus, possibly to be assigned to the Meinertellinæ of Wygodzinski.

Antennal joints about twice as long as wide; maxillary palpal joints elongate. labial palpi stout. Tarsal joints 1/2 and 3 elongate (the diagonal separation of 1 and 2 cannot be seen); claws of posterior tarsi large and spreading outward. Styli of second segment with a strong spine at apical third posteriorly, appearing almost as a cleavage.

#### ONYCHOMACHILIS FISHERI, new species. (Figures 12, 15)

Type of genus.

Length of fragment 7 mm. from tip of antenna; of body portion 5.5 mm. Color white; no scales present (they may have been deciduous). The outlines in Figure 15 must not be considered as exact, because of the state of preservation. A living insect might have looked quite differently.

The antennæ are both broken, but the left one is longer. The last joint of the left maxillary palpus is missing. Anterior left leg has the third tarsal joint lying near by. The tarsus of the right leg is missing. Middle left leg is entire, but only the femur remains of the right leg. The posterior legs have been twisted, so that the femur of the left leg appears behind the right anterior leg; and the right posterior leg has swung over and appears on the left side, all parts present; the last tarsal joint turned upward presents the claws plainly.

#### ZYGENTOMA Börner 1904

#### LEPISMATIDÆ Escherich (*Lepismida* Lubbock 1873)

#### ONYCHOLEPISMA, new genus

A primitive silver fish, fossil in onyx-marble.

#### ONYCHOLEPISMA ARIZONÆ, new species (Figure 14)

Type of genus.

Fossil in onyx-marble, from Bonner Quarry, Kaibab National