

TAENIOCONGER KLAUSEWITZI, A NEW GARDEN-EEL FROM THE GALAPAGOS

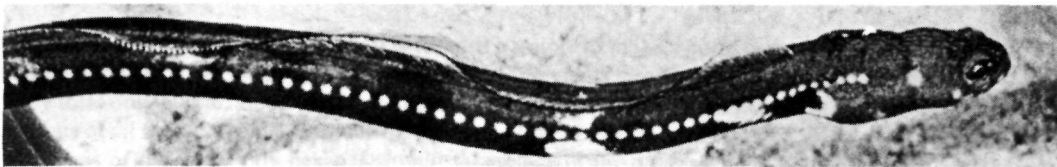
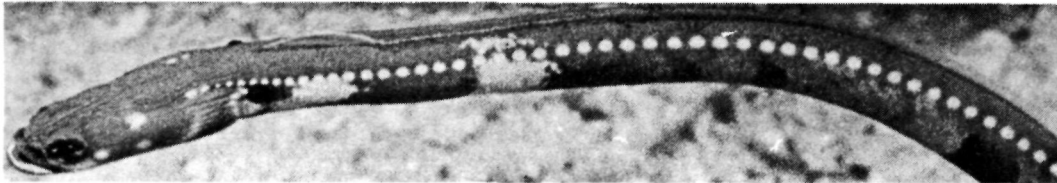
by

I. Eibl-Eibesfeldt and Friedemann Köster

Garden-eels are undoubtedly among the most specialized and interesting families of the large order of eels. Unlike all others, they lead a rather sessile life. Living in sand flats and mud bottoms in depths varying from a few meters down to a maximum of perhaps 50 meters, when observed by a diver they are seen to spend most of their time standing upright out of their vertical burrows, to roughly three-quarters of their length, facing the current and feeding on planktonic animals such as microscopic crustaceans that they pick out of the water drifting by. Groups varying from a few individuals to large colonies of hundreds or even thousands of these foot-to-arm-long eels, none thicker than a thumb, can be found in all tropical seas. Their eggs and larvae are believed to be pelagic. It is thought that, after drifting in the open water for some time, the larva changes into the adult form, returns to the sea bottom in suitable areas, burrows tail first into the ground and from then on leads an almost permanently sessile life. Despite much effort by recent observers, many mysteries remain concerning the life histories of Garden-eels.

While diving off the northwestern point of Gardner Island near Española (Hood), we discovered a colony of Garden-eels living on a gently sloping sand bottom at 20 to 22 meters depth. Surrounded by a large school of curious, yard-long Jacks, amidst clouds of sand stirred up by our frantic digging vigorously assisted by the Darwin Station's Marine Biologist, Gary Robinson, we managed eventually to collect four of these Garden-eels. A closer examination on board Beagle IV and later in the Forschungsinstitut and Naturmuseum Senckenberg at Frankfurt, W. Germany, revealed that they belong to a so far undescribed species of the genus *Taenioconger*. The new species's technical description is to be published in the *Senckenbergiana Biologiae*, so a more general portrayal is given here.

As an overall description, its color could be given as chocolate brown, varying from a lighter to a darker tone.



Galapagos Garden-eels, *Taenioconger klausewitzi*: observe their characteristic pigmentation and the undulating dorsal fin of the lower animal. The pictures were taken from the living specimens when kept in a tank aboard Beagle IV *Photos: Eibl-Eibesfeldt.*

Beginning just behind the head, a conspicuous row of circular, whitish dots extend along each side of the body towards the tail, each of these dots surrounding a lateral line pore. As they near the tail, these dots become less evident. Extending from the anterior region of the body towards the anus, beneath the lateral line, the sides and belly are marked by large white, irregularly sized and shaped blotches, the rest of the body being of the brown color seen on the upper side of the animal. In addition, to this pattern there are a pair of bright patches on each side of the head next to the gill openings, on occasion subdivided by an area of a darker color. At a distance of 7 to 10 lateral pores, another patch of white is evident, reaching up to the white dots of the lateral line as do the previous ones. At eye-level, between the eye and the gill opening, the otherwise brown head bears a conspicuous white spot on each side.

The iris of the eye is brown, crossed horizontally by a dark stripe. While the color of the tiny pectoral fins is black, the dorsal fin is transparent, showing a bright margin along the anterior third, bordered to the outside by a fine line of a brown color. The total length of the collected animals varies from 405mm to 444mm, with between 162 and 176 lateral pores. The Galápagos Garden-eel is closely related to the Californian Garden-eel, *Taenioconger canabus* McT. Cowan & Rosenblatt (1974), differing from this species, however, by the stouter structure of its body and its more colorful pigmentation. The latter characteristic makes this new species one of the most attractive Garden-eels known so far.

In honour of the wellknown ichthyologist, Prof. Dr. Wolfgang Klausewitz, who visited the Galapagos with the senior author in the 1950's, we decided to call the Galápagos Garden-eel, *Taenioconger klausewitzi* Eibl-Eibesfeldt and Köster.

The collected specimens are catalogued at the Forschungsinstitut and Naturmuseum Senckenberg, in Frankfurt a. M., West Germany:

Taenioconger klausewitzi n. sp.

Material: 4 specimens.

Type specimen: SMF 17700; Paratypes SMF 17701, 17702, 17703.

Locality: Pacific Ocean, Galápagos Archipelago, northwestern side of Gardner Island near Española on a sand slope in 20 to 22m depth, near shore at foot of cliff.

Leg.: I. Eibl-Eibesfeldt, 18.3.1982.