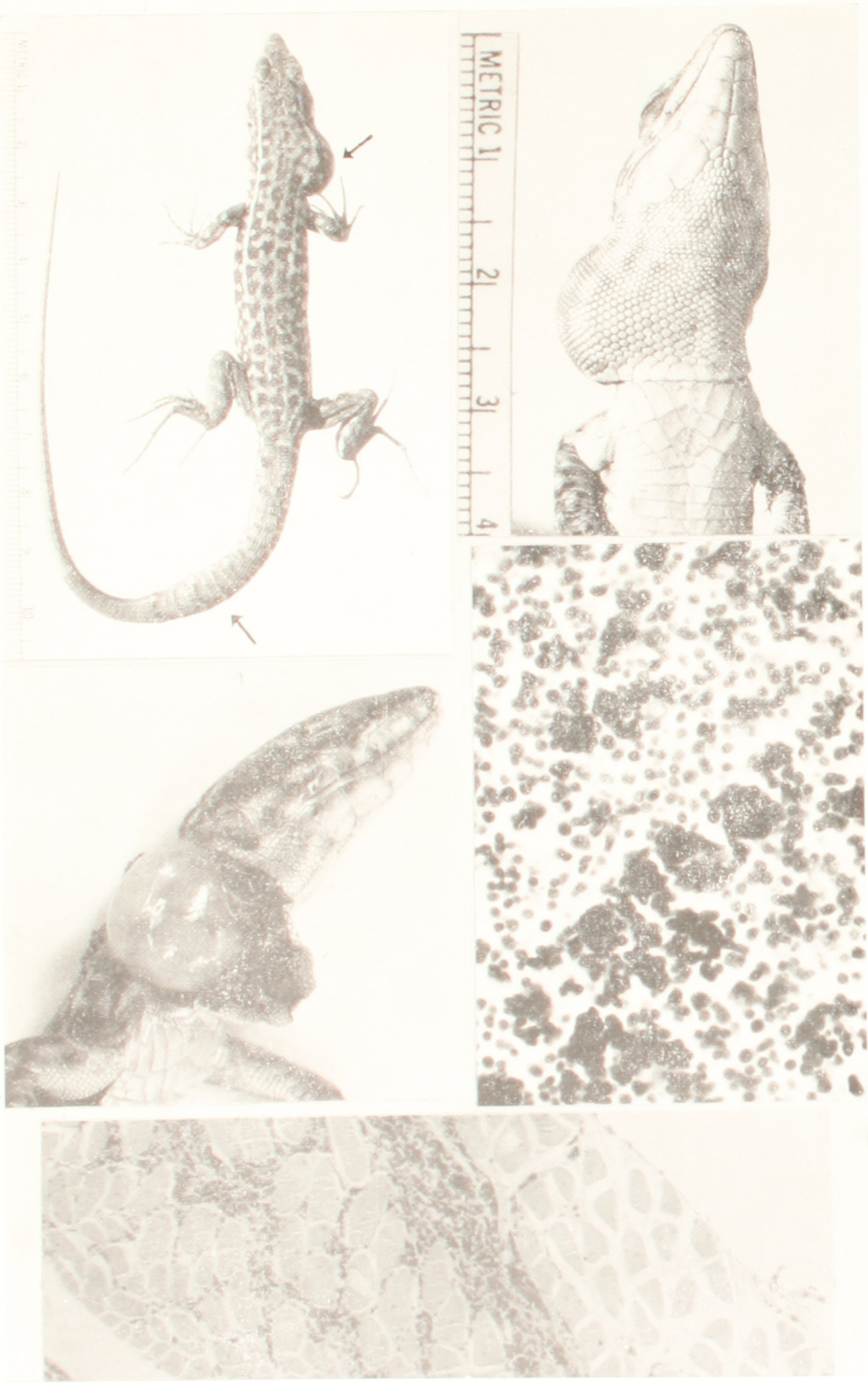

Top. *Lacerta sicula cetti*, in life, showing appearance of growths.
Middle left. Exposed tumour in situ.
Middle right. Section through tumour showing lymphoid nature of cells. (x500)
Bottom. Section of muscle showing infiltration by tumour cells (dark areas). (x180)

A MALIGNANT NEOPLASM WITH METASTASES IN THE LIZARD *Lacerta sicula cetti* Cara

By

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Reported instances of neoplasia in reptiles are few. Schlumberger & Lucke (1948) in their monograph "Tumours of fishes, amphibians, and reptiles," have assembled abstracts of all the records in the literature dealing with tumours in these classes of animals. Of all the tumours of reptiles, those of lizards are as follows :

a. *Varanus dracoena*	Enchondroma
b. *Lacerta agilis*	Papilloma
c. *Lacerta muralis fiumensis**	Papilloma
d. *Lacerta viridis*	Papilloma
e. *Tupinambis teguixin*	Squamous cell carcinoma
f. *Tupinambis nigropunctatus*	Squamous cell carcinoma

To this list must be added :

g. *Cyclura cornuta*	Chondro-osteo-fibroma† Rodhain(1949)
h. *Heloderma horridum*	Squamous cell carcinoma Schlumberger (1958)

It can be seen from the above that, of these eight tumours, five are of a benign nature : a, b, c, d, and g (see footnote †). It is interesting to note that this is true of all the instances of neoplasia in the lizards of the genus *Lacerta*. Of the three malignant tumours, e, f, and h, all had infiltrated adjacent tissues to the primary sites, but in none were metastases found. Metastasizing tumours have been reported in crocodilians and Serpentes and possible cases in chelonians, by Schlumberger and Lucke.

The lizard we are concerned with is an adult male of the Sardinian lacertid, *Lacerta sicula cetti* Cara. It was received on June 18th, 1961, along with a shipment of other lacertids as exchange material from a dealer in Holland. When received, the lizard was of normal appearance, with a complete tail.

It was placed in an indoor terrarium along with other lacertids where it at first fed well and appeared to be thriving. However, after approximately one month a slight bulging of the right lateral aspect of the neck was noted. During the next three weeks this bulge increased rapidly in size, and a second bulge was seen to be forming in the tail (See Plate). This was in the median portion where the diameter was increased 2mm. in excess of the greatest diameter of the proximal third. The swelling extended for about 10mm. along the length of the tail, and distal to this the tail had a thin and withered appearance.

* Presumably *Lacerta melisellensis fiumana* Werner.

† Multiple tumours of the bone in two specimens of *Cyclura cornuta* had infiltrated surrounding muscles.

About this time is was decided to sacrifice the animal for pathological studies. Photographs were taken, and pending their development the lizard was replaced in the terrarium. About a week later and before the photographs had been developed, the lizard expired; this was on October 9th, 1961. During the whole of the time that the lizard was alive it was normally active, and no abnormalities in behaviour were noted. It had continued to feed well but had not been seen to eat on the last four days preceding death.‡

At autopsy the lizard was found to have a snout to vent measurement of 69mm. and a total length of 195mm. An "H" shaped incision was made over the bulge in the neck, and the skin was peeled back to reveal a tumourous mass which was photographed *in situ* (See Plate). It extended from 1mm. behind the external auditory opening almost to the shoulder. The tumour mass was then removed. It measured $10 \times 9 \times 4$mm. and was ovoid in shape, creamish white in colour, and moderately soft in consistency. It was only very loosely adherent to the overlying skin and underlying tissues, and it did not appear to be encapsulated. Gross examination of the organs of the thoracic and abdominal cavities revealed no abnormalities to the naked eye. No other tumour masses were found.

Microscopic examination of sections prepared from the tumour revealed it to be composed of mainly lymphoid cells, and it was assessed to be a malignant lymphoma. At the periphery of the mass there was in places a thin covering of muscle; here the tumour had heavily infiltrated between the individual bundles (See Plate). It was evident from the histological examination of the tissues and organs that the tumour was extremely widespread. Much of the musculature of the tail had been replaced by tumour; there was much necrosis of the remaining intact muscle tissue; blood vessels were plugged with tumour, resulting in infarction; and all tissues of the distal two-thirds of the tail were completely necrotic.

Muscles from many other parts of the body had been invaded, as had the kidneys and spleen. The liver was very heavily infiltrated, and there were large areas of necrosis. Of the tissues examined, only the brain and posterior half of the spinal cord appeared unaffected.

Richter describes malignant lymphomas as tumours that almost invariably arise either from lymphoid cells or from reticuloendothelial cells or their derivatives. In view of the difficulty of classifying the varieties of such tumours, the inclusive term "malignant lymphoma" may be used.

It is difficult to say in this case where the tumour originated. Lymph nodes as defined in the mammalian body are sparsely represented in reptiles. It is said that the pharyngeal tonsils, the thymus, and the spleen are organs of this nature (Bellairs). The thymus in lacertilians is represented by paired glands which are situated in the neck, one pair on each side, and which are placed one behind the other (Adams 1939).

Scott and Beattie have reported on a neoplasm with metastases in a salt water crocodile (*Crocodilus porosus*). From their microscopic findings the authors concluded that the tumour was a round cell sarcoma. However, Schlumberger and Lucke (*lit. cit.*), after perusal of the photomicrographs, have suggested that the tumour probably originated in the blood-forming tissues and is comparable to lymphosarcoma in man.

‡ The empty gut found at autopsy would tend to support this.

SUMMARY

An instance of a malignant tumour with metastases in a saurian has been reported. This is apparently the first of this type in the literature.

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