view, the simplest explanation for the increase in ATP seems to be the existence of an enzymatic activity which produces ATP from phosphate and ADP under light stimulation. This hypothesis is consistent with the results presented here. Additional arguments in favor of this enzymatic mechanism include the sensitivity of the cell free extracts to heat on detergents, and the fact that they are protected by low temperature and SH bonds.

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Plasma albumin patterns of the species *Rana ridibunda* in Greece

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Summary. Serum electrophoretic studies on the species *Rana ridibunda* displayed one new albumin band D and a total of 6 albumin patterns B, BC, C, BD, CD, BCD. The albumin patterns found are compared with those reported from Central and Northern Europe.

The species *Rana ridibunda* Pallas 1771, which occurs in great abundance in Greece[2], occurs in Central Europe in broad sympatry with the species *Rana lessonae* and *Rana esculenta.* During recent years breeding experiments among these 3 forms[3] have revealed that *R. ridibunda* and *R. lessonae* breed true and that *R. esculenta* is a hybrid between them. Moreover, the hybrid origin of *R. esculenta* was confirmed by electrophoretic comparisons of serum proteins[4]. From the above facts it is obvious that the species *R. ridibunda* belongs to a very interesting systematic group. Our study also indicates that in Greece this species shows a great external polymorphism.

The purpose of this paper is to study the serum albumins of 2 frog populations.

Materials and methods. Adult individuals of *R. ridibunda* (a total of 94 frogs) were collected from 2 localities (Chalastra and Gallikos river) at a distance of about 40 km around the city of Thessaloniki. The frogs were anaesthetised and blood was taken from the heart ventricle. Serum was separated from the clotted blood the next day and frozen immediately at $-20\,°C$. Sera were mixed with 20% sucrose solution before use. Then horizontal starch gel elctrophoresis was carried out, according to the method of Weitkamp et al.[5]. After electrophoresis, gels were stained with 1% amido-black. As standards for the different albumin patterns we used sera which were kindly provided by Dr H. Wijnands.

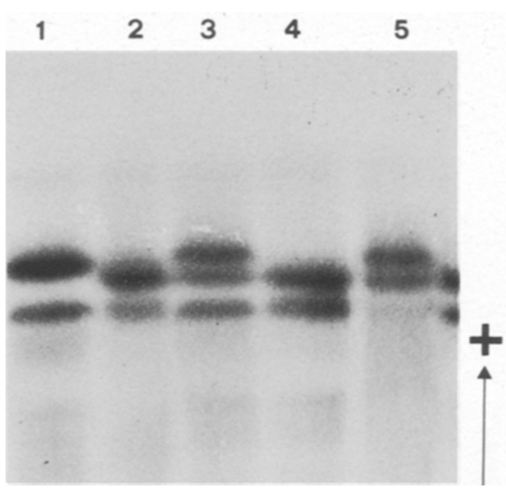
Results and discussion. Serum electrophoresis showed 6 albumin patterns B, BC, C, BD, CD and BCD (figure).

Frequency distribution of the albumin patterns of frogs from two different localities

Collecting station	Albumin pattern B	BC	C	BD	CD	BCD	Total
Chalastra	17	30	22	1	1	–	71
Gallikos river	3	6	4	4	3	3	23

Apart from the bands B and C which are already known in the Netherlands[6] and in Central Europe[4] one new band was found, which we called D. The band D moves more slowly than the C band, and bands C and D have relative mobilities compared with B of 0.77 and 0.93 respectively (figure). The distribution of our 6 patterns is shown in the table. There is an obvious difference between the 2 populations examined in the distribution of the albumin patterns. Moreover, our frequency distribution of the known patterns B, BC and C is quite different from that of Wijnands[6]. He states that in France the frequency of the pattern B is greater than that of pattern BC and that in the Netherlands he found only 1 specimen with the albumin pattern C.

It is a problem to explain the pattern with the 3 albumin bands BCD. Perhaps we can adopt the same hypothesis as



Electrophoretic albumin patterns of the species *Rana ridibunda* (1 = BD, 2,4 = CD, 3 = BCD, 5 = BC).

Rao and Lakshmipati[7] did for the species *R. tigrina.* According to this hypothesis there are several alleles producing different electromorphs of serum albumin in these frogs, but the multiple bands specific to each pattern are probably due to the binding of substances of smaller molecular weight to the different allelic products. We think that it is still too early to propose a different hypothesis without more genetic and biochemical studies.

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Pulse-train synchronous pair-stridulation by male *Sigara striata* (Heteroptera, Corixidae)

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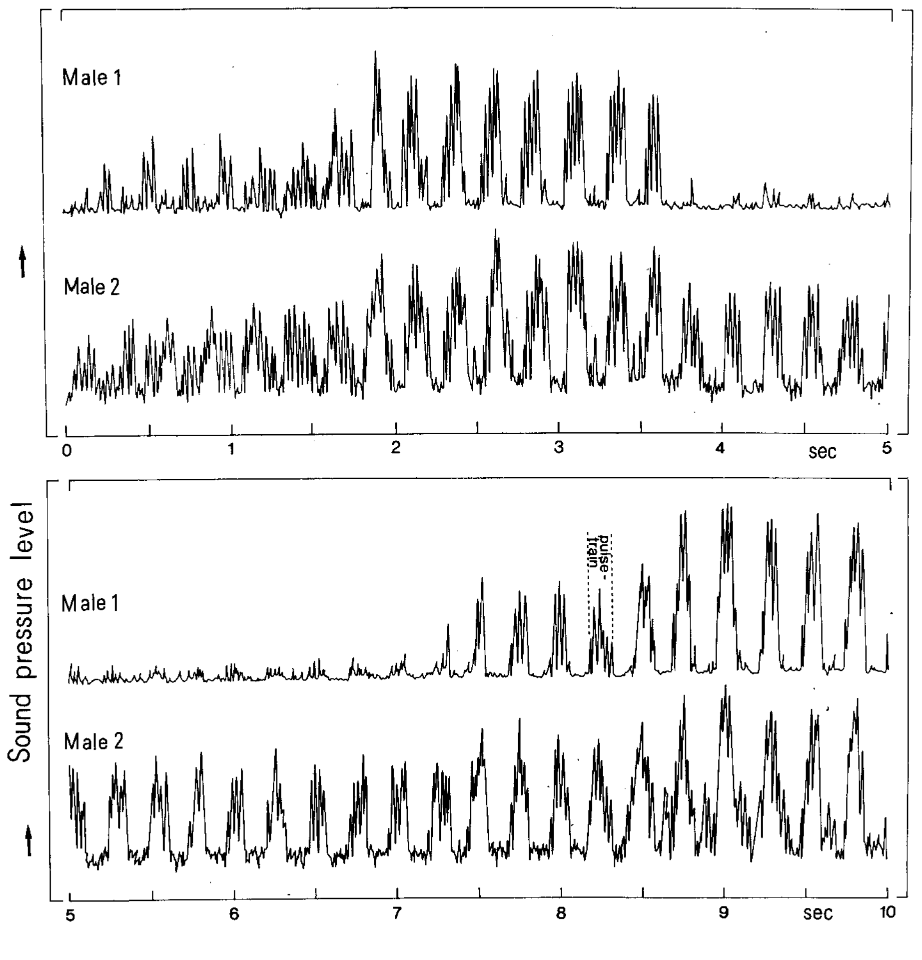
Summary. Two by two, stridulating males of *Sigara striata* are able to synchronize the time structure of their calls (pulse-train synchronous stridulation).

Many species of the Corixids stridulate under water. Their calls, which are important in behaviour leading to copulation[2], are produced by stridulatory pegs, situated on the medial sides of both prothoracic femora and rubbed against the sharp edges of the head between antennae and labium. In the species *Sigara striata*[3,4], *Corixa panzeri, Corixa dentipes*[5], *Corixa punctata*[5] 2 or more males often stridulate in chorus. Hearing this 'chorus-stridulation' of *Corixa panzeri* or in particular of *Sigara striata* one very often gets the impression that the animals within these



Sound pressure level recording of 2 males *(Sigara striata)* stridulating together. The signals of the single animals were separated with suitable one-third octave filters.