record j) was obtained from the same sensillum 4 min later. Again, a clear increase in firing frequency is seen with an increase in ATP concentration. The other two cells were silent in this sensillum.

RICE's morphological evidence[8] shows 3 dendrites in each LR7 sensillum, one of which is probably a mechanoreceptor[13]. No type of movement of the sensillum caused an increase in firing of any of the cells recorded from here, so the mechanoreceptor remains to be identified electrophysiologically.

On the basis of the evidence presented here, I believe that one of the cells is sensitive to ATP, though its specificity for ATP and related compounds remains to be determined. It is possible that the remaining cell is sensitive to salt (unpublished results). This cell is apparent in records a), c) and d)–h) in the Figure.

In conclusion, it should be mentioned that the preparation used in this study is far from ideal. Less than 50% of the preparations gave a response at all. A very small stimulus artifact, seen on application of the pipette, is often associated with these 'silent' sensilla, possibly indicating that the connection to the inside is very resistive. The LR7 sensilla have a single pore near the tip[14] through which chemicals gain entry and recordings are made. It is possible that this pore is at times occluded, preventing recordings. This idea gains support from the results on sensillae that do give a response. In many cases the spikes become reduced in amplitude after the first 2 or 3 applications, and shortly thereafter are unrecordable. This is often accompanied by reduction of the stimulus artifact and probably an increased resistance at the pore. Since in the non-feeding fly these sensilla are surrounded by the labellar lobes and probably saliva, the unnatural exposure to the relatively low R.H. (30–40%) under experimental conditions may cause them to dry out, thus explaining the above effects. A preparation involving a restrained animal, with head and haustellum intact, has been developed. This gives a higher percentage of successful preparations and is currently being used to study the specificity and other physiological aspects of the ATP-sensitive cell[14].

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Development of Thermoregulation in the Newborn Lesser Bushbaby (*Galago senegalensis moholi*, Smith 1839)

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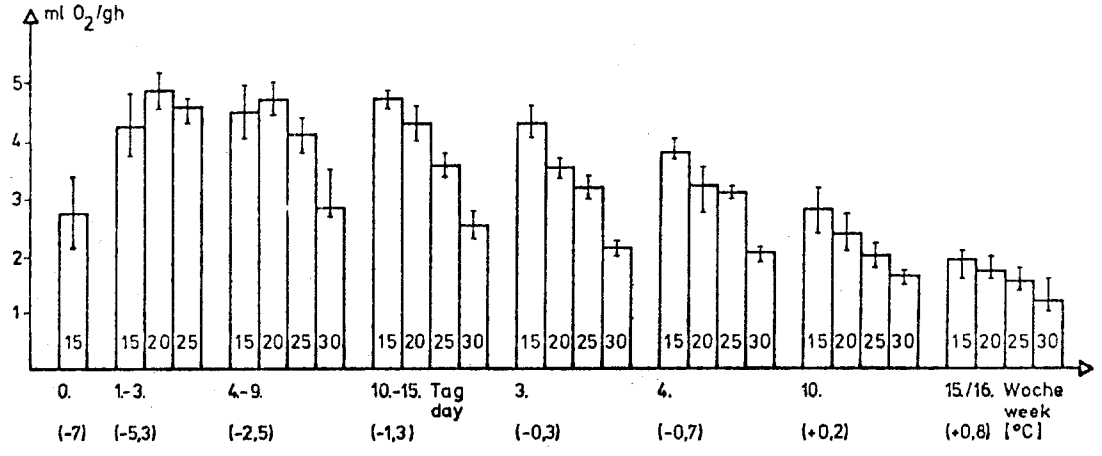
Summary. The temperature-regulating system in bushbabies operates from the 1st day of life. The postnatal metabolism decreases from the 5th (2.9 ml O_2/g · h) to the 140th day (0.7 ml O_2/g · h) to the level of the adults.

Within the Lorises, the *Galagos* attain the utmost degree of homeothermy. In this regard they hardly differ from the 'higher primates'. It was the purpose of this work to examine whether their thermoregulatory system operates immediately after birth, or if it only later developes or attains completion. To determine this problem I examined the oxygen consumption (Beckman Oxygen Analyzer G-2) and the body temperature (Rectal measurement with an electronic thermometer, Ultracust Inc.) during postnatal development of 3 young bushbabies born in captivity (twins and a single one). The birth weight of the twins was 12.6 and 13.0 g, that of the single one 14.6 g (the weight of the parents averages 156 g). During the first 6 weeks, the young bushbabies grew fast: by the 8th day the twins had doubled their birth weight. At the age of 35 days they reached 46% and on the 81st day 75% of the adult weight. Up to the age of 140 days, the young ones developed more slowly. The



O_2-consumption in *Galago* twins (means and extremes). To avoid risk to the newborns, only 1 cold exposure (15 °C) was carried out on day 0; on day 1–3 metabolism was measured at 15, 20 and 25 °C in all other age classes even at 30 °C. In brackets: Temperature difference between the beginning and the end of the experiments at 15 °C ambient temperature (30 min). Only in the 3rd week did body temperature decrease less than 1 °C at 15 °C ambient temperature.

newborn galagos have only thin fur on the back and a hairless belly. Their insulation is very poor. Not until the age of 3–4 weeks do bushbabies develop dense fur. Up to 20 days there was no kind of behavioral thermoregulation and the young ones depend on the thermal protection of their parents. Immediately after bring out of the nest box, the rectal temperature of the newborn bushbabies varied from 33.4 to 35.4 °C; at the 11th day it reached 36 °C, or a little more. The rectal temperature of the adults, however, averages 36.4 ± 0.5 °C during resting period. The newborn bushbaby has only a small range of temperature regulation. When removed from the nest box, body temperature drops down to 32 °C within 5 min (ambient temperature 25 °C). After a cold exposure of 30 min (15 °C ambient temperature) the newborns reacted with a decrease in body temperature of 7 °C and shivering was distinctly noticed. The metabolic rate at the 1st to 3rd day was higher than at the day of birth. The metabolic reaction to ambient temperatures from 25 to 15 °C is clearly developed: The maximum values are between 5 and 6 ml O_2/g · h; this is more than twice the basal metabolic rate measured at 30 °C. The RQ-values reached 0.7–0.8 and indicate a strong fat metabolism. During the following weeks, the metabolic reactions decrease and after 15 weeks are reduced by 50%. This is mainly caused by the reduction of heat flow in relation to body weight and by increased thermal insulation. After 140 days the metabolic rate of the twins reached the level of the adults (0.79 ml O_2/g · h, neutral temperature zone 26–35 °C) which is about 17% below the value calculated from the KLEIBER[2] formula. The difference of oxygen consumption between ambient temperatures of 25 and 20 °C is strongly reduced from the 4th week. Both indicate an expansion of the neutral temperature zone in the direction of lower ambient temperatures. Considering only the minimal metabolic values (30 °C ambient temperature) a steady decrease from the 5th day (2.9 ml O_2/g · h) to the 140th day (0.7 ml O_2/g · h) is noticed. Compared with the KLEIBER[2] curve, the minimal metabolic values lie above the curve from the 5th day to the 9th week; they reach and remain under the curve between the 10th and 11th week till the level of the adults is established.

Inspite of the intense increase of heat production in the first days of life, the large newborns (body weight of newborns: adult weight = 1:12) are unable to compensate the heat loss at ambient temperatures between 25–15 °C; as a consequence body temperature decreases. The unfavorable relation of surface/volume and the low thermal insulation necessitate 4 weeks to stabilize body temperature. The intensive heat production of the young ones, which agrees with the maximum metabolism of the adults in percent, leads to the conclusion that the temperature-regulating system already operates completely but with insufficient capacity and that it is developed in a similar way to that of human newborn infants[3–6].

[1] This work was undertaken with the aid of the Deutsche Forschungsgemeinschaft and Prof. Dr. E. KULZER.
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Meclofenamate Does not Reduce Chronic Hypoxic Pulmonary Vasoconstriction

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Summary. There was no reduction in the pulmonary pressor response to hypoxia following inhibition of prostaglandin synthesis in rats exposed to chronic hypoxia. A fall in left ventricular weight suggested that systemic pressure may have been reduced after inhibition of prostaglandin synthesis in normoxic rats.

Alveolar hypoxia induces pulmonary vasoconstriction. It is not known whether the reaction is a direct effect of hypoxia on the vascular smooth muscle or if it requires a chemical mediator. Possible mediators include histamine, norepinephrine, and 5-hydroxytryptamine. It has been proposed recently by LILJESTRAND[2], PIPER and VANE[3], and SAID et al.[4] that protaglandins (PG) also be considered. We have shown that PG's do not mediate the pulmonary pressor response to hypoxia in acute studies with the awake calf, anesthetized dog, and the isolated perfused rat lung, and they may even offer protection against it. This study examined the role PG's in the pulmonary vascular response to chronic hypoxia.

Method. In the experiment, 25 female Sprague Dawley rats weighing 70 to 100 g were used. They were divided into 4 groups: 1. 4 rats, normoxic and untreated (NN); 2. 4 rats, normoxic and treated with meclofenamate (NM); 3. 8 rats, chronically hypoxic and untreated (HN); 4. 9 rats, chronically hypoxic and treated with meclofenamate (HM).

Groups NM and HM were injected with 10 mg/kg meclofenamate i.p. twice a day in order to inhibit PG synthesis. This dose is in excess of that required to maintain a plasma level of meclofenamate sufficient to inhibit PG formation. Indomethacin is approximately 20 times as potent as aspirin in inhibiting PG synthesis in lung tissue[5]. Meclofenamate is considered more potent that indomethacin[6].

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