Protoopalinae of subgeneric group II, and on to New Zealand, this migration from Asia to New Zealand being as early as the early Cretaceous period or earlier, for the route was interrupted later than this. They passed from northeastern China on north and east by way of the land strip connecting Asia with the Western Hemisphere, during the Cretaceous period when this route was in existence. By the Tertiary time, when the land strip fused with continental North America, they had deteriorated in vigor and did not spread beyond western portions of Washington, Oregon and California, which were parts of the land strip. One Bell-toad is still found near the eastern Himalayas, the probable place of origin of the family. Two very decadent representatives of this decadent family are found at the extreme northeastern and southeastern limits of the range of the family: *Ascaphus,* a retiring form, confined to western Californian and Washington mountains, where it lives near the edge of glaciers, and *Liopelma,* in similar habitat in New Zealand. Though *Liopelma* has now lost its larval stage, its eggs hatching under stones in young adult form, and so, of course, showing no Opalinids, which can infect only aquatic tadpoles, the ancestors of *Liopelma,* then in less degenerate condition when they were crossing Australia, had aquatic tadpoles and characteristic Bell-toad *Protoopalinae* of subgeneric group II, through which they infected Australian frogs of other families, as found to-day. The places and times of origin and the routes and times of spreading to Australia of these secondary hosts are indicated in the fuller paper.

Another example of the use of data: *Cepedea* developed from *Protoopalinae* of subgeneric group VIII, which show transition to the multinucleate condition of *Cepedea.* They developed in Asia-Malaysia (where these *Protoopalinae* are alone found) in *Rana,* and spread to eastern Lemuria in the early Tertiary, both *Rana* and *Cepedea* being abundant in Madagascar, the Seychelles and Ceylon. *Rana* did not carry *Cepedea* via the Pacific land strip to North and South America. They evolved too late, after this route was lost. *Rana* did cross from Siberia to Alaska with *Cepedea* during the Tertiary, and both hosts and parasites have become abundant in North America, evolving many species. *Rana* and not *Bufo* was the early host in which *Cepedea* evolved and passed to Lemuria, as is indicated by the complete absence of *Bufo* from Lemurian lands to-day.

Opalina, a flattened, multinucleate genus, did not evolve from *Zelleriella,* a flat, binucleated genus, as it seems it might well have done by merely acquiring multinucleation. This is indicated by the fact that *Zelleriella* and *Opalina* do not occur and never have occurred in the same locality. *Opalina* arose from *Cepedea* by flattening; where and when involves complicated reasoning.

Similar indications as to times and places of origin and spreading of every family (except the Gastrophrynidae), of many subfamilies and genera and of a goodly number of species of Anura, and of every genus and numerous species and groups of species of Opalinids, can be found in the available data, in spite of such lack of fossils as would at first thought make these groups seem especially unfavorable for study.

The agreement of the conclusions as to the frogs and Opalinids with the generally postulated hypotheses of paleocartography is a striking evidence of the probable correctness of these hypotheses. An exception is in the presence of *Rana* and *Cepedea* in Lemurian lands, which has necessitated uniting eastern Lemuria and Asia-Malaysia, perhaps briefly, in the Tertiary.

The data used are varied, abundant and for the most part unquestioned, except the paleocartography. But with groups of parasites in which the course of their evolution is less assuredly indicated than it is with the Opalinidae a great aid to this type of study would be wanting. With the frogs and Opalinids it is like putting together a dissected picture puzzle of very many pieces. But when the pieces (data) finally fall into place, they make a consistent and convincing picture.

As this little paper is designed to emphasize the value and workability of the method of study, perhaps enough has been said without listing more of the many conclusions and indications found. That must be left for the fuller paper.

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