The VICTORIA NATURALIST

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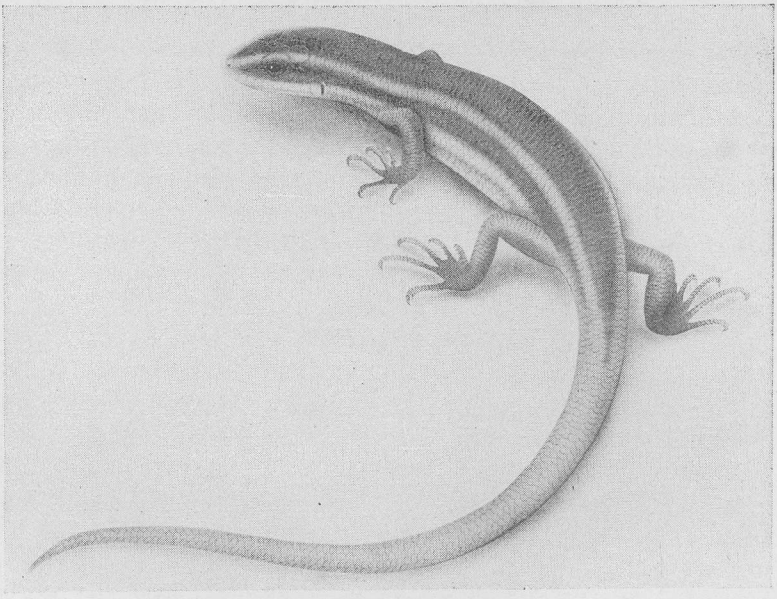

Western skink.

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DECEMBER MEETING

The regular meeting was held in the Provincial Library at 8 p.m. on December 11th, but in rather cramped quarters. The main reading room is being redecorated so it was necessary to find accommodation in one of the smaller rooms. The good fortune of the Society in having Dr. L.C. Coleman as guest speaker assured us of a successful meeting wherever it was held.

Calling upon his wide experience as Director of Agriculture for the state of Mysore, Dr. Coleman gave a most illuminating review of conditions of rural life in that State which is fairly representative of the rest of India, or at least southern India. Living conditions are so primative that sanitation, education, or the most rudimentary comforts of life are practically unknown. Yet class and religious prejudice, based on a civilization twice as old as our own, hinders practically every effort at improvement. The present government in introducing equal suffrage legislation has to deal with sex distinctions, observed for thousands of years, which will not stand for the women even eating with the men. Efforts to improve livestock and broaden the diet run up against age old religious belief in reincarnation and a most strict taboo against the killing of anything even insects. This last can also pose a problem for the sanitary engineer.

Devoted scientists like Dr. Coleman have been able to make some improvements by the introduction of better breeds of cattle and sheep. The Brahman cattle, while more resistant to disease are poor milkers and refuse to be milked at all if their calf is not at hand. This is so definite a trait that if a calf dies the skin must be stuffed and placed beside the cow before she will let down any milk. The first cross with western breeds lose this trait together with the humped back. Dr. Coleman was also able to improve both the yield and quality of wool from the native sheep population by introducing breeding stock from Australia.

Rapidly increasing population is building an ever in-

creasing pressure against inadequate food supplies in India but such men as Dr. L.C.Coleman have layed a foundation upon which at least partial relief may be built.

H.D.R.S.

GROUP MEETINGS

BIRD GROUP - Over forty members gathered at the home of the Misses Panton to hear Mr.E.R. Patrick and his sound picture "Meet the Ducks". After explaining how he, a hydraulic engineer, came to be mixed up in "Ducks Unlimited", an effort to increase the duck population, he gave an outline of the methods used. The philosophy of "Ducks Unlimited" was aptly but rather unwittingly expressed when Mr.Patrick spoke of his great love for the birds and how he loved to get out in the fall and shoot them! The object is to increase the number of targets for duck shooters and any useful conservation that may be achieved is incidental and unintentional.

The film, which was designed to acquaint the observer with the distinguishing feature of the various species of ducks that occur in Canada, accomplished its object most admirably. The description of each species was accompanied by paintings of the birds by Angus Short which slightly exaggerated their distinguishing features. The adults, nests and young had then been filmed in their natural habitat and in flight. To the writer, this was the most pleasant and painless method yet encountered for identifying water birds. Let us hope some one will do the same for waders and shore birds, particularly if we can view them in such pleasant surroundings as the Panton home. After thanking Mr. Patrick for his most interesting talk, Mr.Clay told the meeting of the information given to him by the Wild Life Department regarding the distribution of poisoned grain over reforestation projects of the McMillan Company. By dyeing the grain green the birds are supposed to be discouraged from eating it. Let us hope there is some scientific basis for this action and not some vague test coloured by wishful thinking.

If the attendance at group meetings continues to increase as it has done, it is going to pose quite a problem in accommodation. Spacious rooms such as have been available for the last two house meetings are few and far between.

The Bird Group is loud in its appreciation of the Panton hospitality.

MARINE BIOLOGY: In spite of being a foul night about twenty-five members filled the laboratory tables when Professor Cunningham called the first meeting of this group to order at the Victoria College Biology Building on Tuesday night, December 4. It was decided to devote this winter's meetings to a study of the systematic classification of invertebrates which are generally found on the collecting trips during the summer. Skipping the Protozoa (single-celled animals) as needing too elaborate equipment, Professor Cunningham started by picking a specialized group from the Metazoa - the Porifera or Sponges. While this group has not been very intensively studied, it has advantages for elementary study in that it has characteristics which separate it quite distinctly from the other many-celled invertebrates. Particularly, it is the only metazoan group that has collared flagella-bearing mobile cells within its structure.

In a lecture lasting exactly one hour and a quarter (by Mr. Stewart's timing) the Professor described the general structure and gastric processes of the sponges, the difference between the three types, Ascon, Sycon, and Leucon; and their methods of forming silicate or calcareous spicules and spongon. The next lecture will be devoted to classification, which is accomplished by the study of spicule arrangements which make up the skeleton. Incidentally, the framework of spongon is all you get when you buy a commercial sponge.

W.T.

THE HORSE CLAM IN WINTER

At this time of the year, when gales often make us fear for the safety of our homes, marine biologists cannot help but wonder how the seashore creatures are faring. Let us consider, for example, the conditions which the horse clam encounters when there are high winds and low tides, and note how the structure of the animal enables it to react to these conditions. A number of specimens collected at Sandy Beach, opposite Brentwood, tend to throw light on these problems. A bit of clam anatomy will be necessary, however, before we proceed. (see diagrams)

The two halves or valves of a clam shell are secreted by a membrane, the mantle, one lobe of which lies beneath each valve. Between these lobes a muscular extension of the body, the foot, by which the clam digs, may be protruded. The siphon, commonly termed the "neck" of the clam, is formed by the mantle lobes extending beyond the shell and uniting to form two tubes which become covered by muscles. At the base of the siphon, on each side, the mantle becomes modified to form a large muscle, the retractor of the siphon, which pulls the siphon, at least partially, within the shell. The horse clam, unlike most others, cannot withdraw the siphon entirely -- a portion protrudes and the shell "gapes" around it. Herein, we shall see, lies a great weakness. On each side of the body, beneath the mantle lobe, is a gill, consisting of two ridged bag-like plates with numerous tiny pores through their walls. The beating of minute thread-like structures (cilia) covering the gills causes water to be drawn in through one tube of the siphon and to be expelled, after passing through the pores into cavities of the gills, by way of the other tube.

Mantle lobes and retractor muscles both adhere closely to the shell. Any irritating substance which finds its way between them and the shell becomes covered by a secretion of shelly material, forming a pearl -- porcelain-like, and not lustrous, in the case of most of our clams.

Examination of the valves of specimens from one part of Sandy Beach reveals a curious condition - - the region of the siphon retractor and adjacent to it, so that the whole area may occupy more than half of the valve, is a great "blister pearl". When this blister is broken through we find a layer (one-sixteenth inch or so) of sand, then another blister and another layer of sand: one specimen showed nine such blisters and accompanying deposits of sand.

Ordinarily, it would seem, the horse clam lives in a sandy region where it can dig down for two feet or so, sending its siphon towards the surface so that water with its contained food (microscopic organisms and detritus) and oxygen is taken in and waste materials expelled. Upon being disturbed, it pulls in the siphon, and if further disturbed, as by shifting sand, digs still deeper. It

has been very fortunate in its free swimming youth when it settled down to follow a sedentary life.

Specimens with the blisters, however have grown in a region where there is not, at the utmost, a foot of sand. Beneath this is hard mud and gravel into which the clams cannot dig. At times of low tide and heavy winds, waves shift this sand. As the animal cannot dig to safety, nor withdraw the siphon within the shell, sand is forced in, at the base of the siphon, under the retractor muscles and beneath the mantle lobes. During the succeeding summer this mass of sand is covered by a blister of shell. Fate has dealt scurvily with these clams, dealing out a life precarious in winter and filled with the summer toil of repairing winter ravages. As an old Indian friend of mine remarked: "Yakah delate mamook" (They work very hard).

Jeffree A. Cunningham.

Explanation of Diagrams:

A. Horse clam with left valve thrown back.

1. Hinge ligament - - springs shell open.
2. Hinge teeth (ridges and grooves) - - keeps the valves from shifting longitudinally.
3. Adductor muscles - - close shell.
4. Mantle - - secretes shell.
5. Retractor muscle, pulls siphon partially within shell.
6. Siphon - - water is taken in and expelled through this (See B.1 and 5).
7. Mantle muscle - - the two unite and guard the opening around the foot which leads to the mantle cavity (B.2).
8. Foot - - by which the animal digs.

9. Scars of adductors.

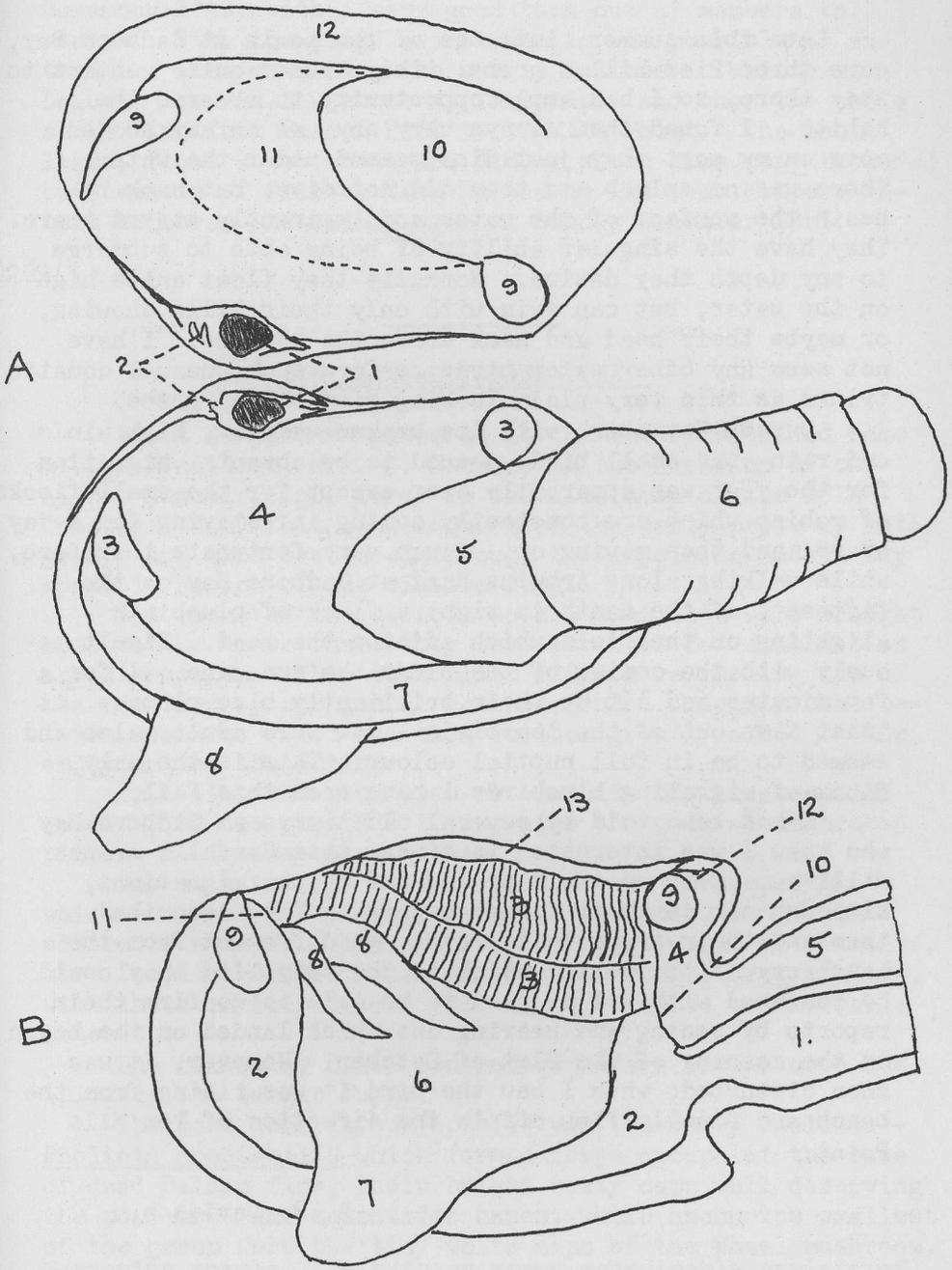
10. Scar of the retractor of the siphon.

11. Area of "blister pearl" if present.

12. Scar of mantle muscle.

B. Clam removed from shell, mantle lobe removed, and section made through siphon.

1. Incurrent canal of siphon - - leads to mantle cavity.
2. Mantle cavity - - the space between the mantle lobes.
3. Gill - - beating of the cilia drives water through pores into spaces within the gill chambers, from which it proceeds to the cloacal cavity. The gills are also mucus covered, food catches in this mucus, and along with the mucus is wafted by cilia to the palps. (see 8 below)
4. Cloacal cavity - - receives water from gill chambers and faeces from the digestive tract.
5. Excurrent canal of siphon - - leads from cloacal cavity.
6. Body (visceral mass).
7. Foot.
8. Palps - - mucus covered and ciliated flaps which catch food and convey it to the mouth.
9. Adductor muscles.
10. Partition separating mantle and cloacal cavities.
11. Mouth (not shown, but in this region).
12. Anus (not shown, but in this region)
13. Part of the mantle remaining, i.e., not cut away.



BIRD NOTES

Late this summer, into one of the pools at Cadboro Bay, came three Pied-billed grebe. They seemed quite content to stay there, so I had ample opportunity to observe their habits. I found them always very shy, as on any sudden move on my part they just disappeared under the water. There was no splash and they did not dive, but sank beneath the surface of the water and apparently stayed there. They have the singular ability of being able to submerge to any depth they desire. Normally they float quite high on the water, but can swim with only their bills showing, or maybe their head and neck above the surface. I have not seen any other water birds perform such unusual aquatic tricks as this very plain looking pied-billed grebe.

During November, with its broken weather, high winds and rain, the small birds seemed to be absent. Migration for the year was apparently over except for the small flocks of robins which are constantly coming in, staying for a day or so, and then moving on. I was very fortunate therefore, while walking along Arbutus Road at Cadboro Bay on the fifteenth of the month to sight a flock of bluebirds alighting on the field which adjoins the road. Simultaneously with the coming of the birds the sun came out for a few minutes and lit up their brilliantly blue plumage. At least five out of the ten birds I saw were adult males and seemed to be in full nuptial colour. This is the only flock of migrating bluebirds I have seen this Fall.

I had been told by several old-timers at Cadboro Bay who knew I was interested in birds, that Sandhill cranes still came here on their spring and autumn migrations, although not in their former numbers. They described them and their trumpet-like call, so different from the harsh cry of the heron, which is the only bird they could be confused with; I am glad to be able to confirm their reports by seeing and hearing one which landed on the beach on the morning of the 21st of October. However, it was soon disturbed; when I saw the bird it was rising from the beach and finally flew off in the direction of Ten Mile Point.

A. R. Davidson.

The Christmas bird count was conducted this year on December 17th, with a very good turn-out of members to assist. With the added assistance it was possible to extend the area covered which was as follows:- Whitty's Lagoon, Esquimalt west to Wiffin's Spit and then the whole shore line from Beacon Hill to 10 Mile Point. The local lakes, flood water areas and Sidney shore line were included but because of illness Miss Melbourne and some helpers intend to cover the Sidney area on Sunday December 23rd.

J. O. C.

8th ANNUAL FUNGUS FORAY

About 40 members gathered at the lovely woodland home of the President, Mrs. J. Hobson, on the occasion of the eighth annual fungus foray in the afternoon of the 28th October. With this as headquarters the party broke up into groups and then scattered through the adjoining Hudson Bay woods in search of the elusive fungi.

Specimens of the various species met with were brought back to the house where they were arranged for examination and discussion. This took place after a refreshing cup of tea provided by our genial hostess, and a friendly chat between members. Mild and calm weather greatly added to the enjoyment of the outing.

By noting the abundance or scarcity of the assembled species, it was possible to appraise the general mushroom picture of the day at a glance.

Approximately 30 - 35 species of the larger fungi which could be tentatively named on the spot, and a considerable number of the smaller forms,not named at the time, were found. Several species of slime fungi, Myscomycetes, with their curious beaded spore sacs, aroused considerable interest.

The following brief conspectus refers to the more conspicuous and larger fungi.

The most conspicuous species was the Showy Pholiota - Pholiota spectabilis which formed large groups at the base of dead Balsam firs, their bright rusty caps well deserving the popular - and scientific names, while among the smallest of the group were the tiny white caps of the Wheel mushroom, Marasmius rotula. In between every conceivable variety of

form and colour was met with. These included the bright red caps of Hygrophorus miniatus strongly contrasting with the brown and grey of the decayed vegetation, and the orange parasols of the Orange Chanterelle - Chanterellus aurantiacus growing in little groups on logs and other rotten wood.

The watery grey umbrellas of Mycena galericulata occurred in clusters on stumps and fallen trees. The oak stumps and dead branches supported myriads of little overlapping shelves of Stereum purpureum and other species of the genus, while the banded shelves of the Painted Polypore, Polyporus versicolor were plentiful everywhere in similar situations. Occasionally the large red brown clumps of the Velvet Polypore, Polyporus Schweinitzii gave indication of the nefarious work of the mycelium in nearby trees. In this respect also was the plentiful occurrence of the brown caps of the Honey-fungus, Armillaria mellea whose mycelium attacks healthy as well as dead wood, bridging barren areas with black shoelace-like strands of hypae, then spreading over the new food supply. Conspicuous on the dead or dying fir trunks were the brackets of the Pine Polypore, Fomes pinicola. Other wood infesting species included Flammula polychroa, Pleurotus sapidus, one of the Oyster Mushrooms, the Clustered Hypholoma, Hypholoma fasciculare, its greenish yellow caps formed noticable colour tones on the gray brown bark of decayed logs. On twigs and vegetable debris the Birds Nest Fungus, Crucibulum vulgare displayed its tiny cups, each, at first, covered with a spongy cap, which when disintegrated exposes the peridia that fancifully resemble tiny birds eggs.

On the ground, the brittle Russulas were occasionally noticed, though not in the numbers often seen in other seasons. Nearby the tall graceful Stropharia ambigua reared its smooth ochre-coloured cap, fringed with white irregular remains of the veil, the purple gills proclaiming its identity. Here also, the fat, pink-gilled Woodland Mushroom, Psalliota silvicola grew quite plentifully. The bun-like Boletus chrysenteron sported its plump sporophores among the grass in company with the Peg-top Gomphidius glutinoza and several species of Clitocybe and Collybia. A solitary specimen of the Saddle fungus Elvella sp.infula rewarded the diligence of one of the members. The dainty little Crested Lepiota, Lepiota cristata dotted the ground here and there with fragile little parasoles each centrally embossed with a brown spot surrounded by ever widening rings of smaller spots that become wider apart and fainter towards the periphery.

Thus with varying success each member contributed to the sum total of the species which if not in great numbers, were at least sufficiently evident to round out a most enjoyable and instructive afternoon.

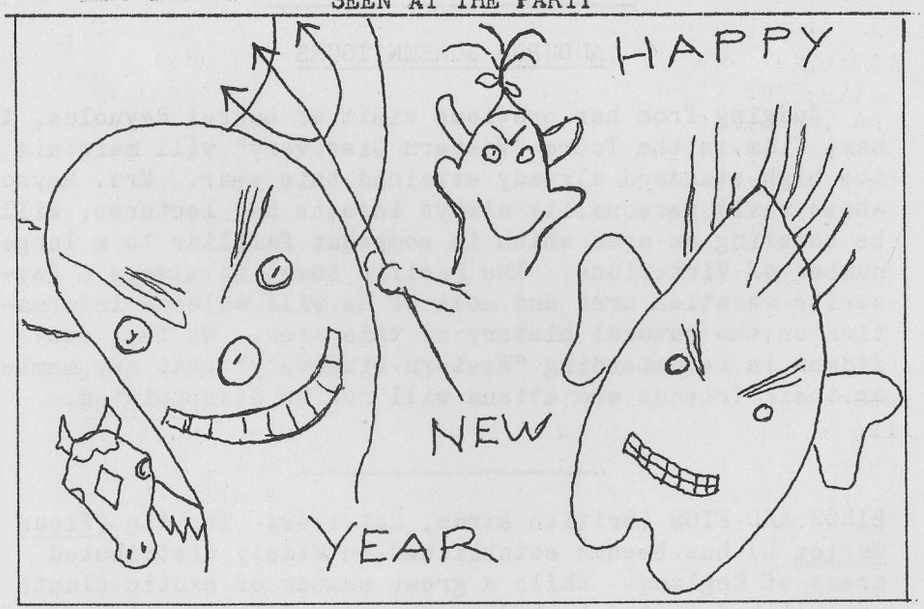
George A. Hardy.

JUNIOR PAGE

Editors: Marie Mitcham
and George Merrick

Saturday, December 15th was the last meeting for 1951. The next meeting will be Saturday, January 12, 1952. We had a Christmas party. Three contests were held; pinning the tail on the donkey, a quiz on the museum exhibits,and contributions for the Junior Page. The winners were Gerry Skinner, Peggy Carl and Sandra Plaunt (tie) and Joan Livesey. Time flew so fast that we did not have time to play bingo. Dr.Carl imitated bird calls and played them back on the recording machine.

SEEN AT THE PARTY



Junior Members' remarks: Joanne Guiguet, "I made a lino-cut Christmas card." Barry Summerfield, a visitor, "I like to draw." Sandra Plaunt, "I would like to learn where grizzly bears come from." Peggy Carl, "My favourite animals are horses." George Merrick, "My favourite bird is the owl. I would like to have one for a pet." Gerry Skinner, "A bear is very timid; even a grizzly." Also from Gerry,"Skinner went home for his dinner, but he is still getting thinner and thinner."

NOTICE OF MEETINGS

1952 Tuesday, January 8th:	GENERAL MEETING: 8 p.m., Provincial Museum, "Harmony of the Bees" - A most unusual and outstanding film depicting the life history of the honey bee. Mr.Chester Bacon,Apiarist.
Tuesday January 15th:	GEOLOGY GROUP: 8 p.m., Provincial Museum. Mr. J. R. Grant.
Wednesday, January 23rd:	AUDUBON SCREEN TOUR - "Western Discovery", Laurel Reynolds. S.J.Willis Junior High School Auditorium, Topaz Avenue, 8 p.m.
Tuesday, January 29th:	MARINE BIOLOGY: 8 p.m., Biology Laboratory, Victoria College. Prof. J.A. Cunningham.

AUDUBON SCREEN TOURS

Judging from her previous visit of Laurel Reynolds, the next film in the Tours "Western Discovery" will maintain the high standard already attained this year. Mrs. Reynolds, whose vivid personality always infects her lectures, will be covering an area which is somewhat familiar to a large number of Victorians. The Pacific coast is always a favourite vacation area and most of us will welcome information on the natural history of this area. We feel confident in recommending "Western Discovery" that any members or their friends who attend will not be disappointed.

BIRDS AND FIGS (British Birds, Oct.1949) The fig (Ficus Carica L) has become established in widely distributed areas of England. While a great number of exotic plants were established in the bombed areas where dried fruit and spice warehouses had stood, the site of a great number of fig trees have been established in walls and cliffs where birds, migrating from the Mediterranian, could be the only logical source of their introduction.

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