

Table 1. COMPOSITION OF LEAVES OF CLOVER AND RYEGRASS

	% Dry matter (fresh wt. basis)	% Chlorophyll (fresh wt. basis)		% Fibre (dry wt. basis)	% Mg in leaf (dry wt. basis)	% Mg in fibre (dry wt. basis)	Chlor. b / Chlor. a
White clover	19.4 ± 0.06	0.219 ± 0.001	1.13 ± 0.02	65.52 ± 1.03	0.2365 ± 0.0004	0.1478 ± 0.0019	1:2.88 ± 0.052
Perennial ryegrass	16.9 ± 0.22	0.199 ± 0.002	1.18 ± 0.02	70.63 ± 0.26	0.1803 ± 0.0035	0.0960 ± 0.0056	1:3.07 ± 0.039

Table 2. DISTRIBUTION OF LEAF MAGNESIUM AS PERCENTAGE OF TOTAL MAGNESIUM PRESENT

	In fibre	In chlorophyll	Residual magnesium (by subtraction)
White clover	62.47 ± 0.64	12.86 ± 0.03	24.67 ± 1.00
Perennial ryegrass	53.29 ± 2.71	17.75 ± 0.61	28.96 ± 2.94

These results indicate that both the maximum concentration of chlorophyll (0.20 per cent fresh weight basis) and the ratio of chlorophyll *a* to chlorophyll *b* (2.5 : 1) given by Hill and Whittingham for green leaves¹ may be exceeded in ryegrass and clover.

Also the fact that more than 50 per cent of the magnesium in these two types of leaf is located within the 'fibre' fraction may affect the availability of this element to animals feeding on these two pasture plants. This in turn may be of significance in the study of the incidence of hypomagnesaemia⁵ in the grazing animal.

Grateful acknowledgments are made to Drs. R. Hill and A. E. Flood for advice, and to the Central Research Fund of the University of London.

T. F. NEALES

Dept. of Biological Sciences,
Wye College (University of London),
Ashford, Kent.
Nov. 3.

It is remarkable that the *Trichobilharzia* of the nasal cavities are exclusively found in these organs, and never in the liver or in the intestinal veins.

The histopathological lesions consist in a thickening of the nasal lining together with an accumulation—often considerable—of lymphocytes and the presence of numerous and voluminous giant cells. Sometimes additional infection is noted together with necrosis.

The discovery of this schistosomiasis opens a new field of research to the parasitologist, and promises to be fruitful. It is also of considerable interest from the medical point of view. Indeed, we know that the cercaria of *Trichobilharzia* are capable of causing a dermatitis known as 'swimmer's itch'. Recently, B. de Meillon and N. Stoffberg² have reported the first case in Africa of 'swimmer's itch', and I described, at Astrida (Ruanda-Urundi), a new furcocercaria of the Ocellata group which produces experimentally the same skin affection³.

Up to now, no attention has been paid to the role that cercaria could take in the pathogeny of pruriginous skin diseases in Central Africa. I am reporting my observations in order to direct attention to this highly important matter.

A. FAIN

Medical Laboratory of Ruanda-Urundi,
Astrida.
Oct. 29.

¹ Fain, A., *Rev. Zool. Bot. Afr.*, 51, 373 (1955); and two papers in the press: *Ann. Parasitol.*, 30, 321 (1955); *Ann. Soc. Belge Méd. Trop.* (in the press).

² De Meillon, B., and Stoffberg, N., *South Afr. Med. J.*, 28, 1062 (1954).

³ Fain, A., *Ann. Soc. Belge Méd. Trop.* (in the press).

¹ Hill, R., and Whittingham, C. P., "Photosynthesis" (Methuen, 1955).

² MacKinney, G., *J. Biol. Chem.*, 140, 315 (1941).

³ Holt, A. S., and Jacobs, E. E., *Amer. J. Bot.*, 41, 710 (1954).

⁴ Mason, A. C., *Rep. E. Malling Res. Stat.*, 1951, 126 (1952).

⁵ Allcroft, R., *Vet. Rec.*, 66, 517 (1954).

Nasal Trichobilharziasis: a New Avian Schistosomiasis

In the course of research on the schistosomes of birds in the Belgian Congo and in the Ruanda-Urundi, I have discovered schistosomes in the nasal cavities of birds¹. Nasal schistosomiasis is known to affect cattle in India, but it does not seem to have been mentioned in birds.

All parasites that were discovered—there being five new species—belong to the genus *Trichobilharzia* Skr. and Zakh. (1920). Nasal schistosomiasis is very common in the Anatidae. At Astrida (Ruanda-Urundi) we have observed it in the yellow-bill duck (*Anas undulata undulata*), in the spurwing goose (*Plectropterus gambensis*), in the Egyptian goose (*Alopochen aegyptiacus*), in the white-faced duck (*Dendrocygna viduata*) and in the knob-billed duck (*Sarkidiornis melanota*). Further, we have also met it in the Hageda ibis (*Hagedashia hagedash* Ciconiiformes) and in the grebes (*Podiceps* and *Poliocephalus*).

The adult schistosomes are found in the small veins of the nasal cavities, and the eggs, often in great numbers, are met with in the nasal mucus.

Sulphate Deficiency of Lake Victoria

AN article by Beauchamp¹ suggests that a sulphur shortage in Lake Victoria is a factor limiting the growth-rate of fish. Owing to the fact that sulphates are removed from the water by biological precipitation in the form of plant and animal remains, Beauchamp suggests that the sulphate ultimately becomes anaerobically reduced to insoluble and unavailable sulphides which accumulate in the mud of the lake bed. Thus, although the water is deficient in sulphur, the element may well be present in large quantities at the bottom of the lake. In order to obtain facts as to the distribution of sulphur in the water, mud and vegetation of Lake Victoria, a preliminary investigation has been undertaken in the small, northern area around Jinja.

So far as the area examined is concerned, the results have confirmed Beauchamp's statement that the water of the lake is deficient in sulphur. The sulphate concentration was less than one part per million at all depths, and the total sulphur content was mainly one to two parts per million. The analyses of the muds have revealed several interesting facts. Sulphur was present in abundance (3,000–20,000 p.p.m. dry mud), not as expected in the reduced form of sulphide but practically wholly in the organic form. Only