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THE CAFFER BUFFALO AND ITS HABITAT IN SOMALIA

Abstract — The Author reports his research on the Caffer Buffalo and its environment in Somalia.

Some observations on the fauna, flora and plant communities are given.

The habits of this animal, the plants on which it feeds and its adaptation to the arid climate of Southern Somalia are the objects of particular attention.

A distribution map on a scale of 1:8,000,000 is compiled referring to the year 1975.

Riassunto — *Il Bufalo Cafro ed il suo ambiente in Somalia.* L'A. presenta le indagini effettuate sul Bufalo Cafro e sul suo ambiente, in Somalia.

Vengono riportate alcune osservazioni su fauna, flora, vegetazione e sul comportamento di questo selvatico nell'arido ambiente somalo.

Viene compilata una cartina, a scala 1:8.000.000, sulla distribuzione del Bufalo in Somalia, riferita al 1975.

Key words — Caffer Buffalo; Somali environment.

FOREWORD

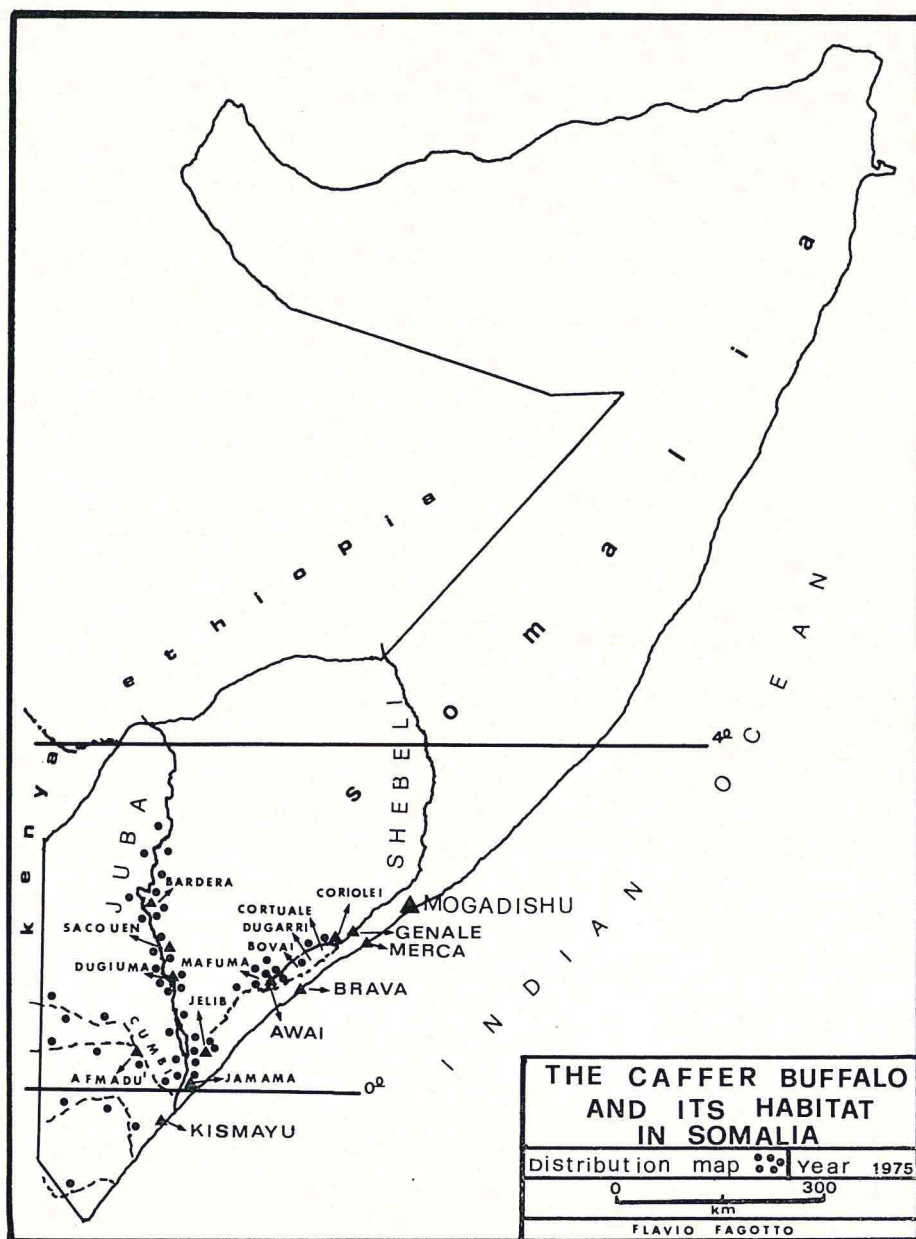
During the two periods of time spent in Somalia, first from 1968 to 1971 and then from 1974 to 1975, I had the opportunity to observe the habitat, the habits and the distribution of the Caffer Buffalo.

A first work came out in 1971; this is a second contribution in the light of new knowledge concerning this animal and its ecology.

The general aridity of the Somali climate has greatly limited the diffusion of the Buffalo. It lives only along the lower Jiuba and the lower Shebeli rivers.

Even here I did not find it easily and I undertook many excursions to approach it.

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The Buffalo's environment is particularly reported in this work through plant community and flora.

The latter was studied with the help of Mr. RENATO BAVAZZANO with whom I had the honour to make some excursions in 1975.

Later, in 1976, Mr. RENATO BAVAZZANO cooperate with me at the University of Florence to classify the collected species of this region.

I remember with deepest sympathy this generous, humble and valid Botanist, now passed away, who has taught me so many things.

THE SOMALI BUFFALO

It is known that the systematics of the African Buffalo is different according to some Authors (BREHM, LYDEKKER, CHRISTY, MALBRANT, GRZIMEK), owing to the great variety of this animal.

Following GRZIMEK (1969) we can consider it as monospecific, with three subspecies: *Syncerus caffer nanus* (BODDAERT, 1875); *S. c. brachyceros* (GRAY, 1837); *S. c. caffer* (SPARRMANN, 1779).

The Somali Buffalo falls within the subspecies *caffer* though there are many variable forms. This is particularly emphasized by its size and the shape of its horns.

We can consider, for practical reasons, two principal types. The first is lightly built, with horns which never curve downwards below the level of the skull base; it resembles the *brachyceros* subspecies. The second is heavily built, with massive horns which curve downwards considerably below the skull base, just like the Cape Buffalo.

Between these two principal types there are some intermediate forms.

I especially found the lighter one north of Away village as far as its northern diffusion limit along the Shebeli River (see chapter on the diffusion), while the heavier one was found at Away and south of this village as far as the Kenya border.

No difference can be appreciated in the general body colour of both extreme forms; the ears appear to be richer with hair in the heavier individuals.

THE ENVIRONMENT

The climate is a remarkable environmental factor for the Buffalo ecology in Somalia.

The general aridity of this region is well represented in the pluviothermic diagram of fig. 1, showing the situation at Genale (data from FAO), which can be considered as representative of all the Buffalo territory in southern Somalia.

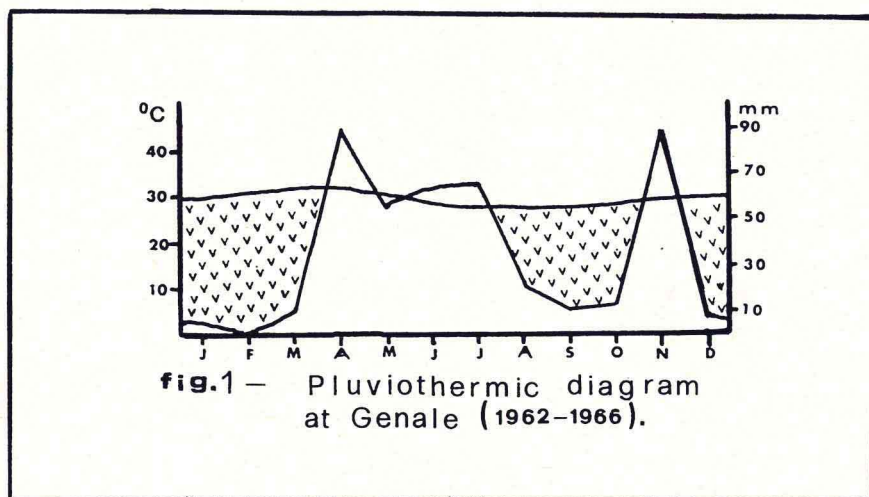


fig.1 — Pluviothermic diagram at Genale (1962-1966).

The temperature is of great uniformity throughout the year, with small diurnal variations of a few degrees centigrade; rainfall averages between 500 and 600 mm per year, the principal rainy months being April, May, June and July.

Nevertheless we must consider that monsoon winds are chiefly responsible for the Somali seasons, which can be roughly distinguished in the four following periods.

From the middle of June to the middle of October the season (locally called « Hagai ») is characterized by the south-west monsoon, which causes some rainfall particularly along the coast.

Then the wind stops blowing until about the middle of December; in this second season (locally called « Der »), there may be some rainfall.

From this month until the middle of April a strong north-east monsoon blows; it characterizes the hottest and driest period (locally called « Gilal »).

Finally, together with the other windless period, there is the principal rainy season (locally called « Gu ») which lasts until the middle of June.

The latter can be considered the starting period of the annual cycle: because of rainfall, in fact, life seems to revive after the long general stasis due to dryness.

Much of the yearly rain is concentrated in this period; it falls in brief bursts during violent storms without thunder, running-off, though slopes are uncommon, contributing considerably to erosion.

The poor rain distribution and the high evapo-transpiration due to temperature and winds affect the soil water needed for plant growth: most of the yearly months in the Buffalo range not influenced by Juba or Shebeli floods show conditions of aridity with leafless vegetation.

Daytime is about 12 hours throughout the year, with a great many hours of sunshine.

Most of the Buffalo territory is a low-lying and very flat or gently undulating area, lying between 10 and 150 metres above the sea level, covered with Pleistocene and Olocene alluvial sediments.

Soils vary from sandy to clay-loams or clays in the flooded areas near the lower Juba and the lower Shebeli.

These are the only two rivers of this territory, whose waters particularly depend on the Ethiopian plateau where they originate. Here, they receive the abundant rainfall of the spring-summer period which causes the annual floods in the southern Somali territory where they flow without receiving other appreciable hydric increments.

With the month of April the two rivers are flooded, reaching a flow of about 600 and 100 cubic metres respectively for the Juba and the Shebeli.

This latter, in particular, floods vast plains in its lower course; it ends near the Juba after breaking up in swamps and reviving numerous residual river beds locally called « Farta ».

These can consist of long channel-like depressions one or two metres deep.

They are of great importance in conserving the precious water

far beyond October and November, when the Shebeli River runs dry, until February or March, when the new rainfall and floods are about to arrive.

Because of these depressions, year after year, the water's presence in this territory is assured, and this is an indispensable condition for a permanent presence of the Buffalo herds.

The Juba too, which in its lower course is a pensile river, can overflow causing flooded areas of lesser importance than in the case of the Shebeli River.

Besides, the Juba is a bigger river which very rarely runs dry during the « Gilal » season so that it maintains a greater number of big animals among which Buffaloes.

Near these two rivers there are some small streams. One is the Madagoy; it comes from Dinsor and heads for the lower Shebeli swamps. Others are situated in the area to the right of the lower Juba River; they are locally called « Descech » and « Lach » and in some cases are connected with the floods of this river.

Though generally they run dry in the « Gilal » season, they nevertheless enlarge the Buffalo territory.

The flora of this area was studied by CHIOVENDA (1929, 1932, 1936), CUFODONTIS (1953-1972), SENNI (1935); the vegetation by PICHISERMOLLI (1957) who described the vegetal formations of eastern Africa, giving the nomenclature partially followed in this work.

The general types of vegetation of the Buffalo range are: Broken xerophilous open woodland, Xerophilous woodland, Savanna (grass savanna on moist soil, shrub savanna), Riparian forest and Swamp formations.

They are the same formations mentioned for the Elephant range (FAGOTTO, 1976).

The Broken xerophilous open woodland occupies the most periferic and arid positions. It is a very diffused type of vegetation. The structure is dominated by wide interspersed shrubs, from two to five metres high, with arboreal forms which are common but of secondary importance in the general physiognomy, with a well distinct xeric aspect.

The more easily findable species are *Acacia nubica* BENTH., *A. horrida* (L.) WILLD. (*A. bussei* HARMS) subsp. *benadirensis* (CHIOV.) HILLIC. et BRENNAN, *Boscia somalensis* GILG., *Cadaba farinosa* FORSK., *Maerua sessiflora* GILG., *Grewia tenax* (FORSK.) FIORI, *Salvadora persica* L., *Sesamothamnus rivae* ENGLER, *Lawsonia inermis* L., *Dichrostachys cinerea* (L.) WIGHT, *Cordia somalensis* BAKER, *C. gharaf*

(FORSK.) EHRENB. ex ASCHERS., which may have a shrub or arbore-scent aspect.

The commonest succulents are *Sansevieria powellii* N.E. BR., *Adenia ballyi* VERD., *Euphorbia grandicornis* GOEBEL, *E. ruspoli* CHIOV., *Cissus quadrangula* L., *Sarcostemma viminale* (L.) R. BR.

Arboreal emergent species are represented by *Acacia tortilis* (FORSK.) HAYNE ssp. *spirocarpa* (HOCHST ex RICH.) BRENNAN, and *Dobera glabra* (FORSK.) JUSS. ex POIR.; beyond the lower Juba this latter is substituted by *Diospyros cornii* CHIOV., *Terminalia bispinosa* SCHWEINF. & VOLKENS and *Acacia seyal* DEL. var. *fistula* (SCHW.) OLIV.

Most of the year the soil is bare; only in the rainy season various therophytes appear.

Buffaloes occasionally inhabit the territory covered by this vegetation.

The most common large mammals are represented by the Warthog (*Phacochoerus aethiopicus* (PALLAS)), the Gerenuk (*Litocranius walleri* (BROKE)), and, beyond the Juba, even by the Giraffe (*Giraffa camelopardalis reticulata* DE WINTON) and the Grant's gazelle (*Gazella granti* BROOKE).

The Xerophilous woodland is characterized by a richer canopy of trees which covers in a discontinuous but dominant way the soil along with other bushy vegetation.

The commonest trees are *Balanites aegyptiaca* (L.) DEL., *Delonix elata* (L.) GAMBLE, *Acacia tortilis* ssp. *spirocarpa*, *A. nilotica* (L.) DEL. var. *adstringens* (SCHUM. & THONN.) CHIOV., *Albizzia amara* (ROXB.) BOIV., *Combretum hereroense* SCHINZ, *Terminalia orbicularis* ENGLER & DIELS.

The grasses and herbs in this woodland, last much longer than in the previously mentioned open woodland, because the soil is more humid; the most common species are *Tetrapogon cenchrifor-mis* (RICH.) CLAYTON, *Dactyloctenium scindicum* BOISS., *Cynodon dactylon* (L.) RICHARD IN PERS. and *Clitoria ternatea* L.

This woodland is more diffused on alluvial soils; the thickest formations are near water and make up a stable territory for Buffalo.

The Lesser Kudu (*Tragelaphus imberbis* BLYTH), the Bushbuck (*T. scriptus* (PALLAS)) and the Baboon (*Papio cynocephalus* (L.)) are the more easily seen large mammals.

The Savanna is dominated by tall grasses, often accompanied with scattered trees or shrubs.

Common grasses are *Digitaria somalensis* CHIOV., *Sorghum virgatum* (HACK.) STAPF., *Tetrapogon cenchrifolius* (RICH.) CLAYTON, *Dactyloctenium aegyptium* (L.) P. BEAUV., *Sporobolus robustus* KUNTH. Trees and shrubs do not differ from the ones of the woodlands previously mentioned.

In the lower Shebeli, near Cortuale, Dugarri, Bovai and Mafuma, there is a particular type of Savanna which some Authors call Hygrophilous savanna; it is located in the flooded areas of the Shebeli and it is better analyzed in another work (DE MARCO and FAGOTTO, 1978).

The Savanna is not much diffused in the Buffalo range; it occupies a small area beyond the lower Juba.

Both the Savanna and the Hygrophilous savanna are important feeding territories of Buffalo in the rainy season.

Among large mammals the more easily found are some grazers such as the Topi (*Damaliscus lunatus* (BURCHELL)) and the Waterbuck (*Kobus ellipsiprymnus* (OGILBY)).

The Riparian forest is limited to the river banks of the Shebeli and the Juba; along the latter, it is much wider, up to one kilometre or even more.

The dominant canopy is made up of a stand of trees, twenty to thirty metres in height; the common species are *Acacia hockii* DE WILD., *Azelia quanzensis* WELW., *Ficus sycomorus* L., *Garcinia ferrandii* CHIOV. and *Mimusops degan* CHIOV.

Patches of forest are findable near Bovai, Mafuma and in various localities beyond the lower Juba along the « Lach » and « Descech ».

The Riparian forest can be inhabited by the Blue monkey (*Cercopithecus mitis* WOLFF) and the Vervet (*C. aethiops* (L.)), two characteristic arboreal Monkeys.

Buffaloes often find shelter under this thick vegetation, which generally is not too far from the water, so that it forms an essential part of their territory.

The swamps can be seasonal or perennial. The former coincide with the vast flooded plains of the lower Shebeli and with some « Lach » and « Descech ».

Perennial swamps are very limited; they are situated at Mafuma and in other less important localities at the end of the Shebeli course.

Vegetal species are mainly represented by *Phragmites mauri-*



Fig. 2 - The typical aspect of the woodland in the dry season, at Mafuma.



Fig. 3 - The Mafuma swamp bordered with dense woodland.

tianus KUNTH, *Cyperus immensus* C.B. CLARKE, *Saccharum spontaneum* L. and *Typha domingensis* PERS., all of which may spread out in a monophytic formations.

Buffaloes frequently break cover to roam the swamps, which are also preferred by other big mammals like the Elephant (*Loxodonta africana africana* BLUM.) and the Hippos (*Hippopotamus amphibius* L.).

Savanna and seasonal grasslands are usually subject to periodic burning by local natives during the dry season; they do this to clear the ground for cultivation, to provide a flush of green grass for cattle or even for the pleasure of seeing the spectacle.

This, in the long run, restricts the spectrum of plants to some geophytes and to caespitose herbs which thrive on fire. The consequence is the establishment of monophytic formations.

WATER NEEDS

Buffaloes live almost exclusively in the woodland, because swamps and hygrophilous grasslands, though particularly diffused in the lower Shebeli, represent a small percentage of their areal.

In the rainy season, when the wide open plains remain the exclusive domain of big and medium animals owing to flooding, Buffaloes break cover making diurnal excursions among the high herbaceous vegetation where they can find tender pastures and water.

This is the best period for these animals, which, not having to fear man's presence, can even lie down to sleep on the open plain.

In November 1970, I saw two bull Buffaloes come out of the woodland, in the morning, near Dugarri, heading for the hygrophilous grassland; after feeding for two hours, at ten o'clock they lay down in the knee-deep water sleeping for about 50 minutes.

They never live too far from water preferring the most savage localities of dense woodlands and riparian forest near the Shebeli and the Juba. When these rivers are flooded they do not fear crossing them.

If there is a lack of water they can have a considerable resistance to thirst.

In March 1971, during the dry season, the Cumbi, a small swamp-like stream which depends on Juba floods, was completely dried up. Some Buffaloes, near Afmadu', normally living by the Cumbi, were obliged to wander in the bushland in search of water which was not to be found.

According to local people they could resist some days by feeding on some succulents.

In effect, I saw the remains of *Sansevieria powellii*, a succulent common plant which Elephant also eat.

These remains, in the form of fibrous masses, abounded on the ground. It is possible that this plant, along with others, might have been of some help to lessen the Buffalo's thirst.

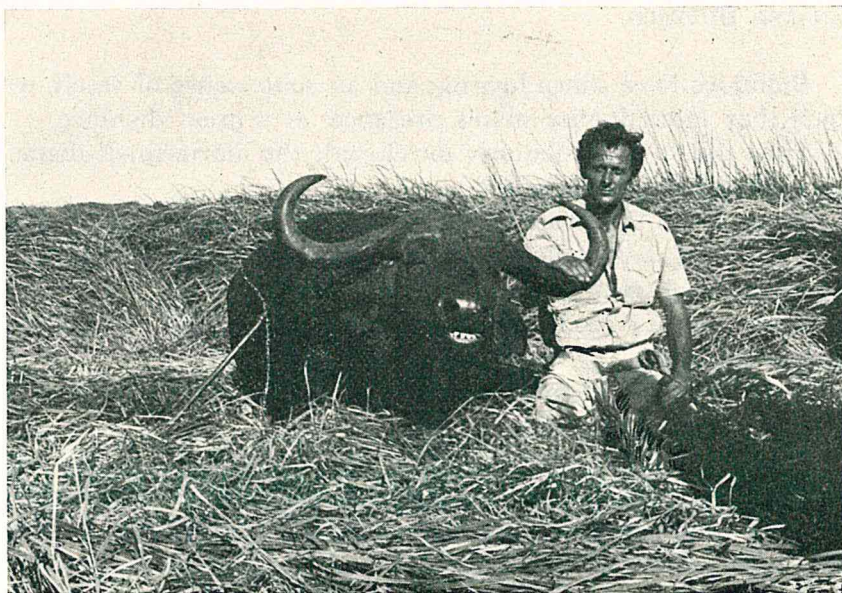


Fig. 1 - A big bull set up to show its trophy; notice the horns with scarcely any tendency to curve downwards.

Driven by thirst, Buffaloes can even get near the wells of villages to find water where cattle drink.

In such conditions, they become ill-tempered and rash.

Three big Buffaloes, in March 1971, approached Afmadu' village and seriously wounded two local people.

It is a customary rule in zoological literature to present these animals while wallowing in mud.

This is not a normal habit in Somalia, especially in the « Gilal » season.

During this season they retire to the river bank woodlands, thus avoiding even at night the open plains which are crossed by large cattle herds and men.

Certainly water remains the most serious problem for the Buffaloes living along the « Lach » and the « Descech », which may run dry from January to March.

The survival of these animals, which generally head for the Juba water, may be assured by the sparsely diffused pools dug for cattle to drink.

MAN AND BUFFALO

Buffaloes have sharp hearing and an acute sense of smell, with which they individualize man's presence, at a great distance.

Their smell is particularly developed; the alarm-smell distance varies according to the wind.

Down wind, in a strong monsoon, in January 1971, I could approach a big bull at less than 20 metres. If the wind falls, Buffaloes can smell man at about 50-100 metres.

Many times I heard them getting away alarmed by this very sensitive sense.

Up wind, it is possible for them to smell at a longer distance, up to 300 metres and even more.

Somali hunters of the woodland, locally called « Arganti », who are fully aware of this smelling power, are convinced that Buffaloes can smell man's presence through breeze-flies. According to them, these bothersome insects, which abound in the woodlands during the dry season, transport man's scent to the Buffaloes.

Hearing is well developed too. The soil of the woodlands where the Buffalo rests, during the hotter part of the day, is normally covered with dried leaves and twigs; a slight noise, when you trail them, can at once alarm these animals, making them run away.

Much less developed is their sight, even if it is better than the Elephant's.

Buffaloes do not certainly fear man but they carefully avoid him.

In Somalia, even at night, unlike the Elephant and Hippos, they do not come to feed on the « Sciambe », the small local farms.

When surprised in the woodland, they run away and stop a few kilometres further on; this can be repeated a few times but it renders them more and more dangerous, especially when they are irritated by thirst.

These movements cannot always be considered a flight; they are calculated shifts from one to another well known point of the woodland, as I could in many occasions ascertain.

Once, after a long trail, I ran into a small herd of about 15 individuals at Mafuma's woodlands; they got away, the young and the cows were in front, while a big bull was in the rear; this latter stopped some minutes, noisily sniffing the air, while the herd divided into two groups. One group silently turned closely behind me, and the other went ahead turning at a greater distance; then both reunited to head towards the dense vegetation at my back.

On another occasion, a herd of about eight head, surprised at close range, fled directly towards me and two tracers; they passed impetuously near us and ignoring our presence headed for the thicker woodland.

This seems to indicate that Buffaloes, when alarmed, shift towards determined places, from which they never wander too far.

These resting places are near water, far from man's tracks, in the most savage and humid woodlands, called « Buffalo home » by local hunters.

Here, the vegetation is thicker and the soil is covered with high grasses, so that it is very difficult to trail them.

Generally the Buffalo does not attack man, unless cornered.

Surprised at a close range, in the open grassland, it may move towards man, according to Somali hunters.

If wounded, it may lie in wait to attack man.

All Somali trailers agree with this, which, as is well known, is ascertained by some naturalists quoted by BREHM (1893-1907) such as Sparrmann and Selous, and by many hunters.

My direct observations of one animal, agree with those of HOHNEL, TELECHI and SELOUS (all of whom are quoted by BREHM (1893-1907)) in the fact that a wounded Buffalo, before lying in wait, turns at a right angle.

The Buffalo are kept in high consideration by local people of the woodland.

In the southern Somali villages you can find hunters who boast to have killed Elephants and Lions, with poisoned arrows, but it is more difficult to find someone who has killed Buffalo.

Venatorial literature abounds in hunting accidents caused by Buffalo.

In Somalia, I can record two accidents: one near Mafuma and another near Jelib village.

In the first, the Buffalo hurled a trailer upward, injuring the man's thigh, but went on running.

In the second, the animal, which had been previously wounded, after charging a Somali hunter, killed the man by crushing him.

These are the only two accidents I know of but it must be considered that Buffalo hunting (when it was permitted, before March 1971) was very little practiced, in Somalia.

BUFFALO AND OTHER MAMMALS

In the territories where they live Buffaloes are not friendly with other animals.

Their woodlands are frequently crossed by Elephants which they accurately avoid.

If you exclude these animals and the Rhino, which has become very rare in Somalia, they fear no other animal, not even Crocodiles or Hippos which are bigger than they are.

The Buffalo's environment, in Somalia, is frequently crossed by Leopard traces, as I could observe many times.

That must not certainly be connected with a predatory activity of this feline against the Buffalo, but it depends on the similarity of habitats.

The Lion merits a particular mention.

It is known that this animal, in other African regions, may turn its predatory attention to Buffalo, even if this is not an ordinary operation.

In Somalia I can state that the Lion does not attack Buffalo; all Somali trailers agree with this.

Somali lions are slightly smaller than others; thus, they wisely choose easier prey such as the Waterbuck, the Warthog, the Lesser Kudu, the Bushbuck, the Baboon, etc.

Often I saw the remains of these animals killed by Lions, on the ground, but I never found remains of Buffalo or even heard from the men of the woodlands about finding them either.

REPRODUCTION

Buffaloes are gregarious animals. They live in more or less numerous groups which include bulls, cows and the young.

Only the old bulls lead a solitary life.

In Somalia, the herds are rarely composed of more than 20-30 head.

Normally, I saw groups made up of 7-15 head; they were guided by a fully grown bull or by an old cow, which are generally the more experienced individuals.

They take care to guide the group to water or towards new territories.

In case of danger, they are the first to communicate it to others, sometimes remaining in the rear, while the herd shifts away, as I could personally ascertain.

When the mating season starts, the males fight each for the females.

The beaten males go away from their herd in search of other females. They may also join each other, making up small herds of 2-4 head, wandering through woodlands and grasslands, as I observed.

In such a case, they do not fear to get near villages, becoming more daring and unwary.

In November 1970, during the night, two bulls passed less than one hundred metres from my tent, in the open plain.

These wandering males can give a precious indication about the length of the mating season, in Somalia.

I could observe that these isolated males are found from October to December; according to local hunters, they become more and more numerous during the rainy months, from April to July.

It is very likely that the preferential mating activity, in Somalia, occurs during the months of the two periods above mentioned.

I never directly observed births. Local hunters state that Buffaloes, along with other large mammals (Elephants, Hippos, Waterbucks, etc.), give birth mostly during the rainy period, especially in April, May and June, when water and pasture are easily available.

At any rate, on February 19th 1970, I observed a calf, about two-three weeks old, which was born at the height of the dry season.

PASTURE

Buffaloes depend on grasses and herbs for feeding. Thus they need this type of vegetation which is especially available near water

and on the open plains of the periodically flooded areas of the lower Shebéli and Juba.

These environments are the most suitable for the Buffaloes' survival.

In the evening and at night they range on the grasslands, feeding until early in the morning; then, they get back to their resting places, in the dense woodlands, making numerous turns, which makes it difficult to trail them remaining downwind. Here, they rest for the hotter part of the day.

When they go drinking, they do not follow the same trails as Rhinos do.

The most common grasses on which Buffaloes feed are *Digitaria somalensis* CHIOV., *Dactyloctenium aegyptium* (L.) P. BEAUV., *Dignathia hirtella* STAPF., *Tetrapogon cenchrifomis* (RICH.) CLAYTON, *Saccharum spontaneum* L., *Sorghum virgatum* (HACK.) STAPF., *Sporobolus robustus* KUNTH, *Cynodon dactylon* (L.) RICHARD IN PERS., *Cyperus fenzelianus* STEUD., *C. immensus* C.B. CLARKE, and especially *Typha domingensis* PERS. and *Phragmites mauritianus* KUNTH which form an important part of their quantitative food intake.

Other species they utilize are some Fabaceae such as *Clitoria ternatea* L., *Zornia apiculata* MILNE-REDH., *Indigofera phillipsiae* BAKER, which are much less diffused.

Besides, Buffaloes can browse on bushy or arboreal species. This is of vital importance during the « Gilal », the Somali dry season, when the humid areas are very limited and when the arid woodlands offer few herbs and grasses on the soil.

Then, Buffaloes must rely on some evergreen species, such as *Salvadora persica* L., *Boscia somalensis* GILG., *Cadaba farinosa* FORSK., and even on *Dobera glabra* (FORSK.) JUSS. ex POR., and on some succulents among which *Sansevieria powellii* N.E. BR. and *Cissus quadrangula* L., which can form part of their daily diet.

This is an exceptional situation, which nevertheless confirms the remarkable adaptation of the Somali Buffalo to a particularly arid environment.

Buffalo grazing activity, being chiefly directed towards grasses and herbs, causes no damage to the woodlands, except for some very rare rub marks on stems.

Woodlands tend to increase at the expense of grasslands, if it were not for Elephants and fire; thus, these latter are precious

balancing factors for the distribution and the density of Buffalo, in Somalia.

DISTRIBUTION

Being particularly linked to grassland and water, the Buffalo has a less restricted areal than the Elephant, in Somalia.

Its permanent presence is assured only in the lower Shebeli, in the lower Juba and in the southern territories to the right of this latter river, along « Lach », « Descech » and other natural depressions, where its distribution may change according to water availability.

Along the Shebeli, the most northern point of Buffalo diffusion lies at 140 kilometres from Mogadishu, near Cortuale; this presence refers to 1975 and it seems that previously this animal did not reach these territories.

Here, there are only small groups, which become more numerous by degrees going towards Dugarri, Bovai, Solale and especially Mafuma, a well-known swampy environment.

Large Buffalo herds can be found at Jelib and Jamama, in the lower Juba; going up this river Buffaloes are present in many suitable localities until Dugiuma, Saco Uen, Bardera and further on, about 3 degrees north latitude, which represents the most northern point of the Buffalo's diffusion in Somalia, in 1975.

Beyond the lower Juba, Buffaloes can be found near Afmadu', along the Cumbi, the Lach Badana' and other minor depressions, sometimes as far as the Kenya border, even if these presences are not always steady because of drought.

From the above, it appears that the Buffalo's diffusion is very limited. I did not make a research on the overall number, in Somalia.

If I were to hazard a rough estimate, from my personal experience, having visited almost all the principal Buffalo environments and judging by the herds I saw, I might state that the total Buffalo population living in Somalia should average between three and five thousand head, referring to 1975.

The Buffalo population has not undergone any reduction because of sport hunting, permitted only up to March 1971; even poaching does not affect this animal very much.

A real danger for the Buffalo might derive from an incorrect land-use (agricultural expansion, water utilisation, etc.) of this area.

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