

Review

## Equines in military operations in Sudan in the nineteenth and twentieth centuries

R. Trevor Wilson

Bartridge Partners, Bartridge House, Umberleigh, Devon EX37 9AS, UK.

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Equines (horses, mules and donkeys) have been used in warfare for thousands of years. In Sudan, they were used in the 18th and 19th centuries in inter-tribal fighting. Their principal use in the period under review, however, was in the Egyptian/British fight against the Mahdist forces between 1884 and 1898. At least seven regular British Army cavalry Regiments served in Sudan either as horse cavalry or as part of the Camel Corps. The Egyptian Army cavalry was also present. Elements of many other regiments also served, often as individual officers on secondment or as officer seeking “adventure” away from home postings. Horses were used in the classic cavalry roles of scouting, protection of communication lines and of infantry troops as well as in direct combat. Cavalry horses were supported by other equines to provide them with feed and other supplies. Horses were used in Horse Artillery (in Sudan these were all Egyptian Army, for towing guns and in heavier artillery (as were mules) for trailing or for carrying the parts if guns were disassembled. Equines were used in general transport to supply the needs of all other fighting units. These animals were vital to the operations and success of the British and Egyptian campaigns in the Sudan and without them victory would not have been achieved.

**Key words:** Animals in warfare, cavalry, horse artillery, mounted infantry, Mahdist wars.

### INTRODUCTION

Sudan is located in Northeast Africa, Egypt is to the north, Libya to the northwest, Chad to the west, the Central African Republic to the southwest, the new Republic of South Sudan to the south, Ethiopia to the southeast, Eritrea to the east and the Red Sea to the northeast east (Figure 1). Horses were probably introduced to what is now Sudan almost 3500 years ago by the Nubian civilization, a short time (in historical terms) after they had been introduced to Egypt by the Hittites

from Mesopotamia (Bryce, 1999). The Sudanese have venerated horses since their arrival.

The historical and current status (use, numbers and distribution) of equines in Sudan is not well documented in the literature. There are, however, many records of their use in warfare in regimental and other records including anecdotal accounts by cavalry officers and others. This paper aims to contribute to the knowledge of horses used in military operations in Sudan

E-mail: [trevorbart@aol.com](mailto:trevorbart@aol.com).

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**Figure 1.** Map of Sudan showing places mentioned in the text (the names of the Autonomous States (e.g North Kordofan) are those existing in 2014).

during the nineteenth and twentieth centuries by providing a summary of the published documents.

It is often considered that the main role of horses in relatively recent warfare has been in a Regiment of heavy (Dragoons in the British Army) or light (Hussars and Lancers) cavalry. A cavalry Regiment (equivalent in strength to an infantry Battalion) comprised three Squadrons (occasionally four) numbered alphabetically, each having four Troops. Horses in other roles, if not actually the tip of the iceberg, heavily outnumbered cavalry horses. A cavalry regiment itself needed additional horses (or mules or donkeys) for its baggage train. Transport and supply units used vast numbers of equines to carry feed for other equines and to serve the fighting lines with food and ammunition.

Artillery regiments needed horses or mules to pull their guns or, if dismantled, to carry the various pieces. Messengers had horses to deliver communications and officers in all army branches usually had their own personal riding horses. In British parlance, "Horse Artillery" was a Regiment of light guns in which the troops

rode on the horses or on the gun carriages and was part of the cavalry contingent: Horse Artillery in Sudan was Egyptian and not British although led by British officers. "Artillery" used heavier guns with troops marching alongside and behind them or led the horses when used to pack guns and was usually its own command. The lighter guns of the Horse Artillery were pulled by a team of six horses. Heavier guns (9-pound and upwards) usually had a team of eight but up to 12 horses. Together with officers' and other staff riding horses and those pulling the supply wagons, an Artillery Battery of six guns could require 160 to 200 horses (Holmes, 2001). These facts need to be taken into account in the descriptions that follow.

### **Eighteenth and early nineteenth centuries**

There is evidence that "war" horses – capable of carrying a man in mail armour, were present in both the Dongola and Darfur areas in the eighteenth and early nineteenth

centuries (O'Fahey and Spaulding, 1974).

### **EGYPTIAN ARMY AND SUAKIN OPERATIONS, JANUARY 1883 to AUGUST 1889**

In the 1870s, Muhammad Ahmad bin Abd Allah proclaimed himself the "Mahdi" of Islam (the "Guided One"). The Sudanese in general were discontented with the lax religion of the Egyptian rulers and their appointment of Christians (such as General Gordon) to high office. The Mahdi preached renewal of the faith and liberation of the land, and began to attract followers. In open revolt against the Egyptians, Muhammad Ahmad proclaimed himself the Mahdi, the promised redeemer of the Islamic world. The Mahdi retreated to Kordofan and the Egyptians sent the ill-fated expedition of Colonel William Hicks to teach the Mahdi a lesson. Leaving Khartoum on 9 September 1883, the force (although numbers may not be accurate) comprised 7 000 Egyptian infantry, mainly released from prison for the campaign, 400 mounted Bashi Bazuks (though most fought on foot, some called 'akinci', were mounted), 500 cavalry, 100 Circassians, 10 mountain guns, 4 Krupps field guns and 6 Nordenfeldt machine guns. This unpaid, untrained and undisciplined rabble has been described as "perhaps the worst army that has ever marched to war" (Churchill, 1973). In addition to the cavalry, horses were used to trail the guns. Although the protection of El Obeid was the main objective, the city had fallen even before the expedition left Khartoum. At a battle, known variously as the Battle of El Obeid or the Battle of Kashgil, fought outside the city on 3 November, the attacking force was routed. Only 300 Egyptian troops and no senior British officers succeeded in returning to Khartoum (Gulla, 1925).

An Egyptian force of about 3 000 men under British officers and the overall command of General Valentine Baker was defeated by a Mahdist force of under 1 000 men under Osman Digna at El Teb just inland from Suakin on the Red Sea coast on 4 February 1884 (Johnson, 1984). This defeat incensed sections of the British establishment led by Lord Wolseley, who demanded intervention by British troops. The British government reluctantly conceded and several units returning from India were diverted to Suakin. In the so-called Second Battle of El Teb on 29 February 1884, a British force of about 4 500 men comprising 3 342 infantry, sappers and gunners and 864 cavalry with 28 guns commanded by Major General Sir Gerald Graham were determined to teach the Mahdists a lesson. Units with horses included the 10th Hussars (more correctly known after 1861 as the 10th (The Prince of Wales's Own) Royal Hussars), 19th Hussars, Mounted Infantry, Royal Artillery (six 7-pound guns, 10 mountain guns and four 9-cm Krupp guns) and a Naval Brigade of 162 men (two 9-pound guns and six Gardner and Gatling guns)

(Supplementary Material A)<sup>1</sup>. A charge by the 10th Hussars was largely instrumental in a British victory.

Horses were also used on the Mahdist side to trail several artillery pieces including Krupp guns captured from the Tokar garrison. Captain Arthur Wilson RN, of HMS Hecla, fighting with the Naval Brigade half-battery was awarded the Victoria Cross (VC) in this action, as was Quartermaster-Sergeant William Marshall of the 19th Hussars (Supplementary Material B). The British and Egyptians had 30 killed and 142 wounded, but overwhelming British firepower caused 2 000 Mahdist deaths.

Units of the 10th Hussars, 19th Hussars, Mounted Infantry, Royal Artillery and the Naval Brigade with six 7-pound guns, ten mountain guns and four 9-cm Krupp guns fought at the Battle of Tamai on 13 March 1884. The cavalry was used for scouting and fought mostly as mounted infantry in this battle. Two VCs awarded after this action went to a Lieutenant in the 3rd Battalion the King's Royal Rifle Corps attached to the Mounted Infantry to pick up a wounded soldier and lay him across his horse to carry him to safety and one to a private Black Watch attached to the Naval Brigade to vigorously defend the mules in his charge and help to bring his team's gun into action (Beckett, 2003).

The "Suakin Field Force" was reconstituted, after disbanding at the end of 1884, early in 1885 consequent on continuing raids by Osman Digna's Mahdists in the east of the country. The cavalry contingent comprised units of the 19th Hussars (withdrawn in early March), two Squadrons of the 5th Lancers (10 officers, 249 other ranks and 200 horses) and two Squadrons of 20th Hussars (nicknamed "Nobody's Own" as no royalty or dukes had let their names be used in the regimental title!) and the 9th Bengal Cavalry. This last had no experience with lances on arrival in Sudan but was given lessons by the British 5th Lancers. The Bengal Cavalry was unusual as it was a "Mixed Class" unit with several (Indian) ethnic groups serving in the one Regiment (Figure 2). Its strength on arrival was 10 British officers, 13 Indian officers and 475 other ranks (Anon, 1916). The Suakin Mounted Infantry Battalion, a veteran formation of men from 35 different units (including the Royal Marines), complemented the cavalry mostly with previous mounted experience. There were also a baggage train of 1 500 animals (mainly camels and mules), a Horse Artillery Battery, a mule Battery and Gardner guns. Most horses

<sup>1</sup> Supplementary Material A provides brief notes on some of the cavalry regiments most involved in Sudan and examples of badges and uniforms of the cavalry and other units employing horses that fought in Sudan between 1884 and 1898. (Supplementary Material can be obtained on request as a pdf file from the Author through his e-mail address). The Mounted Infantry company consisted of detachments of 1 Officer, 1 Sergeant, 1 Corporal, 1 bugler and 27 Men from each of the Royal Sussex Regiment, the Black Watch, the Gordon Highlanders and the King's Royal Rifle Corps. The MI was originally mounted on Australian Waler horses (from India) but had to cede these to the Egyptian cavalry in exchange for inferior ponies with old and rotten harness (Featherstone, 2013).



**Figure 2.** Indian Officers of the 9th Bengal Cavalry with the Suakin Field Force 1885 (Copyright - National Army Museum, London: < <http://www.nam.ac.uk/online-collection/detail.php?acc=1972-11-91-23>>.

came from England and generally succumbed to the rigours of the Sudanese climate. Egyptian cavalry mounts already at Suakin replaced them: the Mounted Infantry had Arab horses better adapted to local conditions. In addition to the climate, hunger and thirst, the horses suffered from cutaneous habronemiasis, a severe hypersensitive skin problem that was difficult to treat at that time. This was caused by heavy infestations of the larvae of the nematode genera *Habronema* and *Draschia*.

The 9th Bengal Cavalry were the first horse-borne troops into battle in this mini-campaign, at Hashin on 20 March 1885. One Squadron dismounted to return enemy fire. In frantic hand-to-hand fighting 12 men were killed, including a 'risalder' (equivalent to a middle rank infantry officer), the CO was wounded in the leg while saving a 'sowar' (trooper, but possibly an officer's orderly, for which the term is sometimes more specifically used) and the Adjutant was speared twice but escaped serious injury. Two Squadrons each of the 5th Lancers and the Bengal Cavalry charged and routed other enemy contingents. The Battle of Tofrek was fought on 22 March. The centre of the British army "was a vast and unwieldy column of transport, consisting of 580 camels with 11 500 gallons of water, 500 camels with supplies

and about 400 pack-mules, draught-horses and baggage camels with commissariat, water tanks, ammunition and ambulance: a total of 1 500 baggage animals" (Willcox, 1908 ). The British won after losing four officers and 66 men killed and eight officers and 128 men wounded in some of the hardest fighting in the Sudan up to that time: more than 1 000 enemy were killed. It was later charges and dismounted fire could both be effective and that mounted infantry could be valuable if picked troops were used. It was also concluded that, with adequate training, cavalry and mounted infantry could cooperate tactically and that the key value of mounted forces was properly fit and properly fed acclimatized horses (Parry, 1885; Cardew, 1928; Churchill, 1973; De Cosson, 1990; Badsey, 2008).

Following Tofrek, some cavalry returned to Hashin to bury the dead. During April, the 9th Bengals were mainly out scouting and all the cavalry were used to protect the construction of the Suakin-Berber railway. The Field Force encountered a large enemy contingent at T'Hakul, 10 miles west of Hashin, on 7 May. A 2-pronged attack with infantry on one side and the Bengal Cavalry and two Mounted Infantry Companies on the other caused confusion in the Mahdist camp. During the ensuing retreat, the Arabs abandoned all their sheep, goats,





**Figure 3.** Headstones of four 20th Hussars cavalry men killed at El Gemaizah in 1888 whose remains were re-interred in the Khartoum cemetery of the Commonwealth War Graves Commission (the stones in place are more widely spaced but have been combined here for convenient viewing) (Photo: Author)

donkeys and camels plus large supplies of grain which proved to be of great use to the British and Indians (Churchill, 1973; Anon, 2016a).

At the end of the Suakin Campaign, the 9th Bengal Cavalry had proved to be a very effective regiment and had even become proficient with lances. Total casualties were two dead (one of disease) Indian officers, 12 dead men and two wounded British officers and 22 wounded other ranks. Regimental HQ and two Squadrons were embarked on for India on 9 and 10 June 1885. The third Squadron remained in Suakin until 20 November. The Regiment returned to India with 52 fewer horses than had arrived in spite of having received fresh Egyptian mounts. For service in Sudan, the 9th Bengal Cavalry was awarded the Battle Honour "Suakin 1885" (Anon, 2016a).

British troops were still fighting on the Red Sea coast in 1888. Private Ferguson of the 20th Hussars wrote, of the Battle of Gemaizah (also known, confusingly, as the Battle of Suakin) on 11 December 1888, of the "awful crash" of the opposing cavalry units as they charged over "terribly rough ground". Three 20th Hussar troopers and a trumpeter were killed (Figure 3) of a total 12 British losses and 1000 of the enemy killed, but Ferguson considered his unit had "emptied 30 saddles". This was in spite of poor equipment as at least, three British sabres broke on contact with opposition spears, resulting in a question being asked of the Secretary of State for War in the British Parliament on 21 December (Hansard, 1888). Ferguson himself "cut one man full on the head, but it

had no effect on him" (NAM, 1888). Mutilation of the Hussars' bodies prompted rage among the troops but also (as is often the case in war) resulted in some poetry by a Trooper Wedlake (Spiers, 2013):

*It was, indeed a glorious charge, though married with  
grief and pain,  
For Newton, Thomas, Jordan, Howes, were numbered  
with the slain,  
We bore them from the field of strife with tenderness and  
love,  
And trusted that their souls had found a resting-place  
above,  
Then our thoughts returned to Cairo's camp, with its  
mottoes and its flowers,  
With saddened recollections of its gay and festive  
bowers,  
We wept for our gallant comrades, as still in death they  
lay,  
And in the camp of our beaten foes we spent our  
Christmas Day.*

British and Egyptians were not the only enemies of the Mahdists. Skirmishes with the Ethiopians (Abyssinians) on Sudan's eastern boundary had occurred for many years, especially around Gallabat in Sudan and Metema in Ethiopia. In a major battle at Kufit on 23 September 1885, the Ethiopians defeated the Mahdists but in 1888, having despatched Egyptians and British beyond his



**Figure 4.** 19th Hussars capturing enemy supplies at the Battle of Abu Klea (illustration by Richard Caton Woodville for the Illustrated London News)

borders, the Khalifa (the Mahdi's successor) determined to end the "Abyssinian Problem". An avast army won several small fights in Ethiopia and sacked its capital at Gondar. In revenge, the Ethiopians attacked Gallabat on 10 March 1889 with an army of 130 000 foot and 20 000 cavalry. After initial success they were driven off and, after up to 15 000 deaths on each side, the body of the Ethiopian king, minus its head, was displayed in Omdurman as a trophy (Wingate, 1964; Churchill, 1973; Erlich, 1996; Bahru, 2001). Having succeeded against Ethiopia, the Khalifa determined to impose his religion on Egypt. The Battle of Toski, about 75 km inside Egypt near Abu Simbel fought on 3 August 1889, which is the result. The Mahdists were soundly beaten by the Egyptians under British officers, including Major Horatio Herbert Kitchener (later Field Marshal Earl Kitchener of Khartoum), who led their cavalry. The only British military unit involved was a Squadron of 20th Hussars who lost one man killed with four others injured. In addition, British officers commanding the Egyptian and Sudanese infantry had their own horses. Egyptian cavalry and Horse Artillery were instrumental in the victory but there were apparently no horses on the Mahdist side (The Spectator, 1889).

#### **GORDON RELIEF EXPEDITION AND SUDAN FRONTIER FIELD FORCE, 1884-1887**

The "Gordon Relief Expedition" left Korti on the Nile on 30 December 1884. The force comprised almost 1 600 British troops. There were four Regiments (Guards, Heavy, Light and Mounted Infantry) of camel-mounted

troops and 2 228 camels in all including transports (Wilson, 2016).<sup>3</sup> The camel riders belonged to 15 British horse cavalry Regiments. These included 1 Captain, 1 Lieutenant, 2 Sergeants, 2 Corporals, 1 Trumpeter and 38 Privates of the 2nd Dragoon Guards (Queen's Bays). Three Troops of the 19th Hussars were also present (9 officers and 121 men). No 1 Battery Southern Division Royal Artillery had four 2.5-inch RML (Rifled Muzzle Loader) Mountain Guns or "screw guns" (the unit is extant as the 176 (Abu Klea) Field Battery, 39th Regiment Royal Artillery). A Naval Brigade under Lord Beresford who rode a white donkey (Monick, 1985) manned a Gardner machine gun. The force fought Mahdist forces numbering about 12 000 in a battle that lasted for 15 minutes at Abu Klea on 17 January 1885. Elements of six Regiments fought as Mounted Infantry, mostly on camels. A total of 153 horses (5 staff, 2 officers of the Royal Sussex Regiment and 146 of the 19th Hussars) were at the battle (Stewart, 1885). The Mahdists fielded at least 250 horses. The Queen's Bays lost 5 men and 1 seriously wounded. They gained the Battle Honours "Abu Klea" as did the 19th Hussars (Figure 4). Nine British officers were casualties including Colonel Frederick Gustavus Burnaby of the Royal Horse Guards who was on unofficial leave and celebrated in a song of his name:

<sup>3</sup> There are very few mentions of donkeys in the literature but in addition to some use by the army they were very important to the camel drivers and camp followers: "Donkeys, too, were there in great numbers, each overburdened with his owner's goods. No sort of order was observed -- negroes, Egyptians, women, camels, and donkeys all going their own pace, soldiers and slaves intermingled in wonderful confusion" (Gleichen, 1888).

"Weep not my boys, for those who fell, they did not flinch nor fear

They stood their ground like Englishmen, and died at Abu Klea<sup>4</sup>"

Casualties among other ranks at Abu Klea were 65 killed and over 100 wounded. The Mahdist lost included 1100 (Anon, 1885a; Curran, 1996a; Craig, 2001). Captain "Bloody-minded" Piggott, 21st Hussars, fought with a shot gun. One Royal Artillery soldier was awarded the VC, two others the Distinguished Conduct Medal and two officers received brevet promotions. Cavalry scouts contacted the enemy at Abu Kru on 19 January. During the skirmishing that followed two officers, eight men and two "followers" were killed and General Stewart, commanding, was mortally wounded. The column reached the Nile after the men had not had a proper meal for three days, the camels had no water for eight days and 19th Hussars' horses had none for 56 h (Anon, 1885b; Butler, 1887; Curran, 1996b).

Following Gordon's death, the relief expedition retreated north down the Nile. A detachment of Cameron Highlanders and some Egyptian-Sudanese troops held one fort close to Kosha and Ginnis. Mahdist troops made sporadic out raids in the area over two months before besieging the fort with captured artillery. Two infantry Brigades and a cavalry Brigade were sent to relieve the fort. The First Brigade included an Egyptian Artillery Battery escorted by 60 Egyptian troops, a Royal Artillery mule Battery and detachments from the British and Egyptian Camel Corps. The Second Brigade had a mule Battery of three Gardner guns. The cavalry Brigade comprised another Egyptian Camel Corps detachment, a British Mounted Infantry Company, the 20th Hussars and 57 Egyptian cavalry. The siege was quickly broken on 30 December 1885; effectively the last action of the Relief Expedition. The battle is also notable as the last in which British troops fought in their traditional scarlet coats and white sun helmets (Wingate, 1891).

## THE RECONQUEST, 1896-1899

Kitchener became *Sirdar* (Commander in Chief) of the Egyptian Army in 1892 and immediately set about convincing the British Government that Sudan should be "recovered" (Ali, 1973). Eventually successful, a large mixed force started to move south on 18 March 1896. The (Egyptian) cavalry and the Camel Corps scouted ahead each day and occasionally confronted the Dervish cavalry. On one occasion, the Egyptians lost 16 men (and horses) killed but 38 fought dismounted under the direction of a British infantry officer. Another 32 abandoned their comrades and returned to camp to report the others as lost or had perhaps "returned to

Suakin" (where one Egyptian cavalry Squadron was still based). The Suakin garrison from May 1896 to September 1897 was reinforced by an Indian Army Brigade comprising elements of the 26th Bengal Infantry, 35th Sikhs, 1st Bombay Lancers, 5th Bombay Mountain Battery, two Maxim guns and one section Queen's Own (Madras) Sappers and Miners, in total about 4 000 men (Churchill, 1973).

The *Sirdar* arrived at Akasha, south of Wadi Halfa, on 1 May 1896 escorted by a Squadron of Egyptian cavalry to complement the two Squadrons already there. A skirmish ensued with an enemy column of about 1500 foot soldiers and 250 mounted men. The Egyptian cavalry did not acquit itself well but was persuaded by its British officers to charge the enemy and also to fight dismounted before returning to camp with six captured horses. Kitchener returned to Wadi Halfa and started south on 1st June with his main body of troops, including an Egyptian Horse Battery and the Egyptian cavalry (Churchill, 1973).

The first static action in the "River War" was at Firket (sometimes written Ferkeh) on 7 June 1896. The Egyptian contingent in this battle included ten infantry Battalions (seven being Sudanese) or about 9 000 men. The only British troops were a single Maxim Battery (and attendant horses) of the Connaught Rangers plus the North Staffordshire Regiment (Lamothe, 2011). The Egyptians fielded seven cavalry Squadrons a Battery of Horse Artillery (Figure 5), two batteries of field artillery and eight Squadrons of the Camel Corps. For service at this battle, the Khedive (the Turkish Viceroy of Egypt) instituted a new medal, the Khedive's Sudan Medal, to supercede the earlier Khedive Star. Both medals were always awarded in conjunction with the Queen's Sudan Medal (latterly) or the Egypt Medal (formerly). "Firket" was the first bar awarded with the Khedive's Sudan Medal but by this time, the British had stopped providing bars and henceforward British combatants received only the Queen's Sudan Medal.

Following the decisive defeat of the Mahdists at Firket, a "general action" (British military speak) took place at Hafir, north of the river town of Dongola, between 19 and 26 September 1896. There was little active fighting and only one in one thousand of British troops were killed (2) or wounded (12). The cavalry and artillery in this operation were to assure a safe passage across the river. In spite of the inaction, a bar for the Khedive's Sudan Medal was issued to all present. The Mahdist troops including 800 mounted Baggara Arabs, 650 "cavalry", six small brass cannon and one machine gun, were collected at Dongola. The Dervishes were forced to retreat before the advancing Egyptians who made slow progress because of continual forays by the Baggara horsemen who attempted several charges to cover the retreat of their infantry. In one collision, a Squadron of Egyptian cavalry killed six of the enemy at a cost to themselves of eight wounded. One Egyptian Squadron was led by Captain W. H. Persse, 2<sup>nd</sup> Dragoon Guards (Queen's

<sup>4</sup> Burnaby is also the colonel referred to in the line "The Gatling's jammed and the Colonel's dead...." in the poem "Vital Lampada" by Sir Henry John Newbolt, written in 1892.





**Figure 5.** Horse Artillery going into action (this painting is of the Battle of Tel-el-Kebir near Alexandria in Egypt in 1882).

Bays) with the local rank of Major (Bimbashi) who was active commanding a Squadron in all actions from Dongola in 1896 to the capture of Khartoum in 1898. The occupation of Dongola on 23 September 1896, followed by harrying of the Mahdist troops by the Camel Corps and cavalry, ended that year's Campaign (Anon, 1896; Churchill, 1973). The successful operations caused great satisfaction in England and a generous gazette of honours was published. Progress south continued sporadically until the Egyptians arrived at Atbara at the confluence of the Atbara and Nile Rivers.

Following continuing minor actions, the Battle of Atbara was fought on 8 April 1898. The Egyptians, now reinforced by several British regiments, were part of an Anglo-Egyptian army of about 10 000 men including 500 Egyptian cavalry led by British officers and some artillery. The Dervish army of about 15000 included 5000 Baggara on horses. The Egyptian cavalry was busy throughout the battle, including fighting dismounted against the Baggara. It fought well and played a sound part in the decisive defeat of the Mahdists but had "severe" losses of 20 men killed and 30 wounded and 20 horses killed and many wounded (Moir, 1898; Haig, 1910a, b; Pollock, 1999)<sup>5</sup>.

<sup>5</sup> The Haig references are unattributed in the journal but there is strong belief that Haig was indeed the author. A full account of the battle can also be found at BritishBattles.Com, Egypt and Sudan Wars. Available at <<http://www.britishbattles.com/egypt-1882/battle-atbara>> Accessed 17 July 2016.

After the battle the Staff, British infantry, one horse Squadron, guns and stores moved south in steamers and barges to Wad Hamed only 58 miles (93 km) from Khartoum. The Battery horses, about 1 400 transport animals of the British Division and the chargers of the officers travelled overland along the left (western) bank of the river escorted by two Squadrons of 21st Lancers and two Maxim guns (Churchill, 1973).

The Battle of Omdurman, the culmination of the preceding campaigns, was fought on 2 September 1898. It is the most celebrated action in the River War and the Reconquest due mainly to Winston Churchill and the popular film "Omdurman". At this very large engagement, "British" forces comprised one British and one Egyptian Division, the latter mainly commanded by British officers. A total of 8200 British and 17600 Egyptian and Sudanese men were on the field. The animal contingent of cavalry and its supporting services comprised 2 469 horses, 896 mules, 229 donkeys, 3 524 camels and an unknown number of "follower" and private animals (London Gazette, 1898; Churchill, 1973). The British Division had ten Maxims, six manned by 16 Company, Royal Garrison Artillery and four by the Royal Irish Fusiliers. By far, the most horses were in the Egyptian Division with four Squadrons of the recently arrived 21st Lancers (21st Hussars until earlier in the year) and nine Squadrons of Egyptian cavalry. The Lancers had never been in battle, and had only received their light and small Syrian horses





**Figure 6.** The charge of the 21st Lancers at Omdurman (painting by Richard Caton Woodville).

in Cairo on the way south and were understaffed, so many officers were seconded from other cavalry units. These included Winston Churchill from the 4th Hussars, who was also the War Correspondent for the *Morning Post* newspaper. The artillery was managed as a separate force and comprised the 1st Egyptian Horse Battery with six 6-cm Krupps guns and two Maxims, the 32nd Field Battery Royal Artillery with eight guns, the 37th Field Battery Royal Artillery with six 6-cm Krupp guns, a Royal Artillery unit of two 40-pound guns and the 2nd, 3rd, 4th and 5th Egyptian Field Batteries each with six Maxim-Nordenfeldt guns and two Maxims (Zeigler, 1973; Featherstone, 1993). On the Sudanese side, a minimum of 5494 horses were at Omdurman distributed unevenly among the “Flags” (= Divisions) of the Khalifa’s army, most coming from the Baggara tribes of western Sudan (Churchill, 1973; Anglesey, 1982; Pollock, 1999; Badsey, 2008).

Prior to and during much of the battle, the British and Egyptian cavalry units were used mostly as scouts. This was followed, however, by the iconic charge of the 21st Lancers (Figure 6)<sup>6</sup>. One officer was killed and four were

wounded during the charge and 20 non-commissioned officers and men were killed and 46 wounded (Supplementary Material C)<sup>7</sup>. There is no accurate record of horse losses but it is considered they were in excess of 25%.

The charge by the 21st Lancers provided no military benefit in the battle (Brighton, 1998). The futility of such actions is perhaps underlined by the award of VCs to two officers of the Lancers, one to an attached officer and one to a Lancers’ private. The officers’ VCs went to Lieutenant Montmorency and Captain Kenna to rescue the body of Second Lieutenant Grenfell (see Supplementary Material B for citations) but Corporal Swarbrick who actively assisted in this action was awarded only the Distinguished Conduct Medal (DCM) “for reasons no doubt apparent to the dignitaries of the War Office” (Zeigler, 1973). A liberal sprinkling of other honours and decorations was awarded. There were several DSOs for officers and 13 DCMs to other ranks of the 21st Lancers and 24 officers (15 attached from other cavalry Regiments) and four other ranks were Mentioned in Dispatches (and there were more than 120 Mentions in Dispatches in the battle as a whole mostly of officers except for those with the Maxim guns which were mostly other ranks). The charge did, however, produce a sensation in late Victorian Britain similar to the one of the

<sup>6</sup>Lieutenant Wormald, from the author’s own town in West Yorkshire, gave an account of the charge to the local newspaper under the heading “The Gallant Twenty-First: he describes the charge and the bent sword incident”. Wormald reported he “saw a Dervish making off [who was] mounted on an Arab horse, which, however, was in a bad condition, and, riding on a sturdy English pony [...] when he got up to him, he delivered point at his back with his sword, but, to his dismay, the sword bent and was almost useless [...] Lieutenant Wormald aimed at his head with the doubled weapon, and, then being a leader of his troop, returned to his men.” “The young officer spoke with contempt about the

untrustworthy blade. The blade has been brought home to England; it will be a trophy, possibly a heirloom” (Wormald, 1898).

<sup>7</sup>Supplementary Material C provides a detailed list of Cavalry Casualties suffered at the Battle of Omdurman, 2 September 1898.

justly famous Charge of the Light Brigade at Sebastopol during the Crimean War in 1854. Following Omdurman, the 21st was awarded the title "Empress of India's Own" (Brighton, 1998).

The defeated Mahdist forces were estimated at 25 000. Many of these were mounted Baggara tribesmen— 500 made a seldom recorded counter charge against a Sudanese Brigade at Omdurman in which all perished. In October 1899, Kitchener dispatched 8 000 Sudanese and Egyptian soldiers commanded by General Wingate to complete the rout of the Mahdists who were now camped in the mountains of southern Kordofan. Wingate engaged the Mahdists at Umm Diwaykarat on 25 November 1899, using his Maxim guns to devastating effect. The British losses (three killed and 23 wounded) bore no relation to the Mahdist losses of 1 000 killed and wounded with most of the remainder being captured.<sup>8</sup> The only horses in this engagement on the British side were those serving the Maxim guns and the individual mounts of the officers. Throughout the campaign, victory by the British and Egyptians would not have been possible without the extensive use of equines and camels as pack and transport animals.

#### **AFTER THE WAR WAS OVER, FROM 1900 ONWARDS**

Having, at least in part, conquered northern Sudan, the administration turned its attention to the south. It set up numerous administrative, police and military posts to exert its control. Expeditions were mounted to try and reconcile the warring tribes and "punitive expeditions" were sent to punish them when this failed. One of such occurred in February 1904 when a patrol that attempted to open negotiations with the Nyam-Nyam in Bahr-el-Ghazal Province was ambushed and attacked by an enemy party. Permission was then obtained to dispatch an expeditionary force to establish the authority of the Anglo-Sudan Government in this area. The force comprised two columns. The Western Column consisted of Artillery (1 European Officer, 5 Egyptian officers, 74 rank and file, 72 mules, 1 Maxim-Nordenfelt and 4 Maxim machine guns); Mounted Infantry (1 European and 1 Egyptian officer, 72 rank and file and 93 mules); two Sudanese Infantry Battalions (6 European and 20 Egyptian and Sudanese officers and 600 rank and file); 25 staff of the Medical Corps; and a Transport Unit (1 European and 2 Egyptian and Sudanese Officers, 38

rank and file, and 149 mules). The much smaller Eastern Column was made up of a Sudanese Infantry Battalion (3 European and 8 Egyptian and Sudanese officers and 143 rank and file); four staff of the Medical Corps; and a Transport Section of 1 Egyptian Officer and 53 mules whose drivers were drawn from the infantry. The operation was a success but the presence of the tsetse fly, the vector of trypanosomiasis (known as "surra" in equines) caused heavy mortality amongst the transport animals and necessitated only the absolute necessities of life being carried with the columns (Wingate, 1906).

The Abu Rufas Uprising in the Nuba Mountains in South Kordofan took place from 25 May to 17 June 1906 at Talodi. A force under a British officer comprising 150 men of the XIth Sudanese Infantry Battalion and 350 Camel Corps quickly quelled the rebellion, killing at least 350 of the rebels in the process and taking many prisoners. The eight British officers with this force, including one of the 18th Hussars, received the Talodi Bar to the Khedive's Sudan Medal. In another small rebellious act at Katfia on 1-2 May 1908, a Section of Maxim Guns of the Xth Sudanese Regiment, a Mounted Infantry unit and a half Squadron of Sudanese cavalry took part in suppressing the revolt and the Mounted Infantry and artillery kept order at the hanging of one of the defeated leaders. A half Squadron of cavalry, one Section of mountain guns and one Section of Maxim guns together with four Companies of Camel Corps, seven Companies of Infantry and 500 "friendlies" delivered a salutary lesson at Nyima, between 1 and 21 November 1908, to Nuba tribesmen who had stolen slaves from tribes friendly to the government (Wingate, 1910; Comin, 1911; Cudsi, 1969).

The Beir Patrol left Khartoum on 15 May 1908 and comprised one Company XIth Sudanese, a Section of Mounted Infantry and two Rexer guns. Several excursions against the Beir tribe ensued in the Bor area in June and July 1908 with many of these being considered unsuccessful (Collins, 1961). Major William Horsley Persse of the 2nd Dragoon Guards and Commander of the Egyptian cavalry took part in the operations in Southern Sennar, in southeastern Sudan, in January-March 1904 against the slave trader Ibrahim Wad Mahmud. He commanded the cavalry of the force in the attack on Jebel Jerok on 11th February which was captured after three days of fighting when large numbers of slaves were released and the greater part of Mahmud's followers annihilated (Victorian Wars Forum, 2016).

In an action against the Atwot tribe in Bahr-el-Ghazal between 9 February and 4 April 1910, eight British personnel were awarded the new Khedive's Sudan Medal 1910 with the clasp "Atwot": among these was Major AJR Lamb of the 2nd Dragoon Guards (Queen's Bays). There were two actions in South Kordofan towards the end of 1910: the Rahad Patrol (10-19 November 1910) and the Dilling Patrol (27 November-19 December 1910). A force of 46 officers and 1 047 NCOs and men made up of a

<sup>8</sup>Durham University Library, Archives and Special Collections: Sudan Archive. SAD.867/6/1-27 1899 Nov 25. Photocopy of a despatch from F.R. Wingate to Lord Kitchener reporting on the actions of a flying column under his command, sent towards Gedid in pursuit of the Amir Ahmad Fadl and the Khalifah `Abd Allahi, which culminated in the deaths of the two Dervish leaders. Attached: SAD.867/6/21-23 1900 Jan 14 List of recommendations for promotions and awards; SAD.867/6/24-25 1899 Nov 24 Note of composition of the force employed in the operations; SAD.867/6/26 1899 Nov 24 Casualty return; SAD.867/6/27 [c. 1900] List of principal chiefs and Amirs killed, wounded and taken prisoner.

half Squadron each of cavalry and Mounted Infantry, two field guns and a Maxim section, three Camel Corps Companies and detachments of Xth and XIIth Sudanese dealt with these problems. In March 1912, a force including Mounted Infantry commanded by Major CH Leveson of the 18th (Queen Mary's Own) Hussars, and in which Captain Lichtenberg of the same Regiment (who was killed in action) also served, included a Section of Mountain Artillery, one Company Sudanese Mounted Infantry and Transport, Supply and Veterinary Detachments. One officer, 2nd Dragoons (Queen's Bays), was part of the expedition as were two Army Veterinary Department captains. This command routed an enemy of six hundred riflemen and two thousand spearmen of the Anuak tribe at Akobo Post on 15 March 1912 (London Gazette, 1912). In December 1913, a patrol under the command of Captain DA Fairbairn (West Riding Regiment) was sent by steamer to the Zeraf Valley to restore order. The party comprised a section of No. 1 (Mule) Company Mounted Infantry under Captain HC Maydon (12th Lancers) and 200 men of the XIIth Sudanese. Following sporadic fighting, more Mounted Infantry were sent for and the force then continued by steamer to Khor Bakbiel where the Mounted Infantry chased the rebel chief for 40 miles but he managed to escape.

The Mounted Infantry then swept the swamps and finished off the job on 31 January 1914. In March 1915, the Mek of the Miri Nuba, Nuba Mountains Province planned an attack on the government post at Kadugli with a force of some 500 riflemen. Only 50 mixed Nuba Territorials and their slaves held the Kadugli post.

A patrol of three Companies of the Camel Corps, one Squadron of cavalry and four Companies of infantry, altogether some 13 British and 33 Egyptian officers with 1 007 rank and file, was sent to Kadugli which was reached on 13 April. Faced by this powerful force, the Mek offered to surrender but then slipped away with about 40 armed followers. On 20 April, Tuluk was occupied and the next day the Nuba tribe in general capitulated but there were still further operations in the area in 1917-1918 (National Archives, 1915).<sup>9</sup>

In April 1915, the Sultan of quasi-independent Darfur, who had been unwillingly loyal heretofore, declared his allegiance to the Turks, who were now the enemy of Britain. In December 1915, the situation became so threatening that a small force of Camel Corps was hastily despatched to Nahud in the west of Kordofan. This action, inevitably led to a greater reaction by the Sultan who brought a large force to the front. The Sirdar then ordered the concentration at Nahud of a force totalling more than 2000 of all arms under the command of Lieutenant-Colonel PV Kelly of the 3<sup>rd</sup> Hussars and

attached to the Egyptian Army. Other officers of the British cavalry from the 9th Lancers and 12th Lancers were part of the establishment. This force comprised two Companies Mounted Infantry, two batteries artillery (six 12½ pounder Mountain Guns and two maxims), one Maxim Battery and (mule) section, five companies Camel Corps, several infantry Battalions and supporting medical and departmental units and details. During several skirmishes, various animals were captured from the opposing forces, including 70 horses, 300 camels and 6000 head of cattle at Kulme on 5 November 1916; some of the captured horses were used to attack their erstwhile owners on the day of their seizure by the Anglo-Sudanese troops (Stack, 1916, 1917). In follow-up operations in Kordofan and Darfur during the early 1920s, Number 3 Company of the Camel Corps was reconstituted as a Mounted Infantry unit and converted to mules. The company served with distinction in this role for several years (Keays, 1939).

## BREEDING HORSES FOR THE MILITARY

A scheme for breeding horses centred on Nyala, the provincial administrative centre, was instituted in Southern Darfur in 1925. It was then estimated that about 80% of national horse numbers were located there and in nearby Southern Kordofan (Wilson, 1977, 1978). Current estimates of numbers assign a similar percentage of 82 to these areas (MARFR, 2011). Imported Arab and English thoroughbred stallions were crossed on local Kordofani horse, also known as the Western Sudan pony, in an attempt to up-grade them to meet the needs of the military and the administrative personnel of the country (Bennett et al., 1948; Mason and Maule 1960). It was in operation with some gaps and more policy changes for over 50 years. At least during the latter part of this period the scheme had little effect on the horse in general but was used to some extent to maintain police horses at an acceptable standard.

The scheme was, however, successful in another totally unexpected direction. It satisfied the needs of a small urban elite who could afford the time and effort, and the required outlay for grain to get horses into racing condition. These horses were raced in Nyala and merchants and others bought many from Khartoum. This was a major problem for the scheme as these people were prepared to pay better prices than the administration and they were effectively operating a "reverse culling" system that inhibited and negated the efforts of the government.<sup>10</sup>

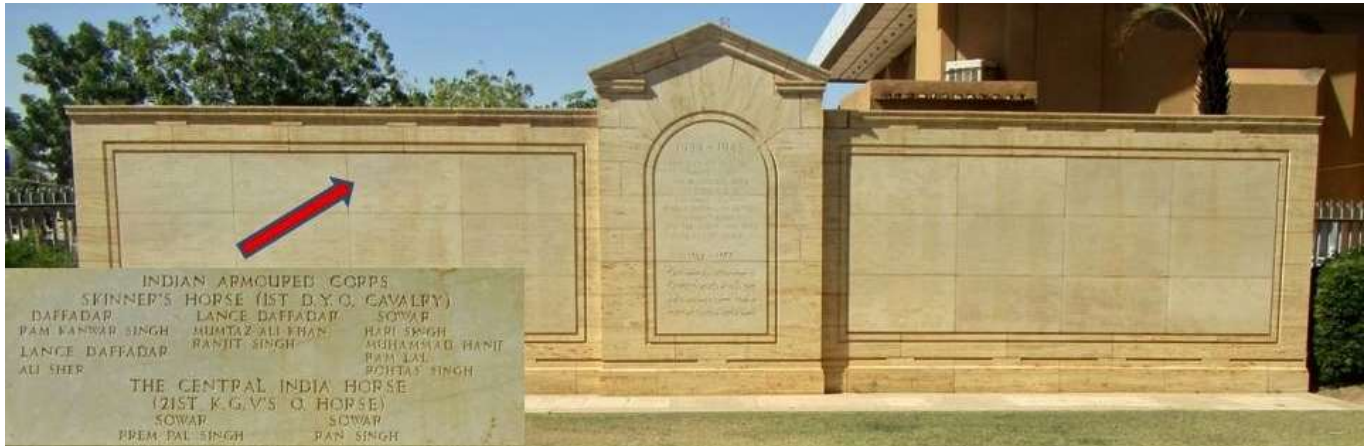
## POSTSCRIPT

Cavalry units continued to fight in Sudan during the

<sup>9</sup>See also: Durham University Library, Archives and Special Collections: Sudan Archive "Patrol No 32: Operations in the Nyima Hills, the Nuba Mountains Province 1917-1918" SAD 643/13/7, 1918. University of Durham, Durham.

<sup>10</sup> Author's own knowledge and experience.





**Figure 7.** The Memorial Wall in the Khartoum Cemetery of the Imperial War Graves Commission commemorating the fallen of World War II whose bodies were never found (photo: Author).

Second World War. The 1st Duke of York's Own Skinner's Horse had evolved to that name in 1921 from several earlier titles, including the 1st Bengal Lancers which had been at Suakin in 1896-1897. It was still mounted in 1939 but was quickly converted to a mechanized reconnaissance regiment using the Indian Pattern Carrier, a light armoured vehicle equipped with Bren and Anti-tank guns. It was attached to the 5th Indian Division of the Indian Armoured Corps and was sent to the Sudan for the East African Campaign. It fought with distinction, including as part of Gazelle Force and won Battle Honours for Agordat, Keren, Amba-Alagi and Abyssinia in Ethiopia and Eritrea (Anon, 2016b). Eight soldiers who were killed and whose bodies were never found are commemorated on the Memorial Wall at the northern perimeter of Khartoum War Cemetery (Figure 7).

The Central India Horse (21st King George V's Own Horse) was an Indian Cavalry Regiment. It was with the Indian Armoured Corps, 4th Indian Division and fought in Sudan, Eritrea and Ethiopia in the Second World War, equipped with light tanks and Indian Pattern Carriers. Two men killed in action and whose bodies were never found are commemorated on the Memorial Wall of the Khartoum War Graves Cemetery (Figure 7). Two Drivers of the Royal Regiment of Indian Artillery were also killed and are commemorated on the wall.

Horses are still being used in the twenty first century in "warfare" in Darfur in western Sudan. The Janjaweed militia (many say with government backing) attack many native villages, pillaging and raping the inhabitants, moving rapidly from place to place on horseback and driving the defenceless local people away from their crops and livelihoods (Lacey, 2004). Similarly, in May 2009, several thousand Rizeigat men on horseback accompanied by 35 vehicles attacked a group of Misseriya near a village in Southern Kordofan; killing scores of people including some armed forces and

policemen (Anon, 2009).

## CONCLUSION

In the Sudan campaigns cavalry were used mainly as a screening or scouting force and to protect artillery and supply convoys. More generally, they were attached to small mobile units. Classic cavalry tactics, such as the charge, were less effective against the Sudanese forces as these rarely charged as a shoulder-to-shoulder mass but operated in smaller more mobile groups. Cavalry Regiments armed with swords and carbines attempting to fight as mounted troops did not always achieve the desired results. In this respect, mounted infantry were more useful as they could ride quickly to the battle scene, dismount and then fight using standard infantry tactics.

The Series of campaigns by the British/Egyptians against the Mahdist forces in the period 1884-1899 could not have been successfully pursued without the use of equines. The common view of horses in battle being used only in charges against enemy forces is far from the truth. Horses and mules and to a lesser extent, donkeys were critical in many areas of conflict. In addition to the generally perceived role of cavalry "shock and awe" tactics, equines were used to draw artillery, pull supply waggons, as pack animals and to position infantry more rapidly than was possible by standard marches. Some of these seemingly mundane roles were as, or more, vital to success as were the more flamboyant activities of the classic cavalry.<sup>11</sup>

<sup>11</sup>Mules were the unsung heroes of many military operations in Sudan from the beginning of the campaigns against the Mahdi to (almost) full mechanization in the mid-1930s. The author was unable to find any source detailing the import or breeding of mules in Sudan but thousands of them were used in transport, by the artillery and as mounts for Mounted Infantry in all areas of Sudan. While horses, donkeys and camels are still used extensively by the private sector as riding and transport animals, there has been no hang over of mules. The author

## CONFLICT OF INTERESTS

The authors has not declared any conflict of interests.

## REFERENCES

- Ali AIM (1973). The British Military Officers and the Sudan, 1886-1896. Sudan Notes Rec. 54:17-31.
- Anglesey (1982). [The Marquess of Anglesey]. A History of the British Cavalry, 1816-1919: Volume III 1872-1898. Leo Cooper, Barnsley, UK.
- Anon (1885a). Full narrative of the Battle of Abu Klea. The Daily Telegraph, 4 March 1885. P 3.
- Anon (1885b). A Soldier's Letter. The Daily Telegraph, 12 March 1885. P 5.
- Anon (1896). The Occupation of Dongola". The Spectator, 26 September 1896. P 8.
- Anon (2009). 3,000 raiders on horseback unleash terror in Kordofan. Saturday Nation [Kenya], 15 August 2009. P 17.
- Anon (2016a). 9th Bengal Lancers". <<http://www.britishempire.co.uk/forces/armyunits/indiancavalry/9thbl.htm>> Accessed 13 July 2016.
- Anon (2016b). "1st Horse/Skinners' Horse" Available at <[www.globalsecurity.org/military/world/india/skinners-horse](http://www.globalsecurity.org/military/world/india/skinners-horse)> Accessed 21 July 2016.
- Badsey S (2008). Doctrine and Reform in the British Cavalry 1880-1918 (Birmingham Studies in First World War History). Ashgate Publishing Ltd., Aldershot, Hampshire, UK.
- Bahr Z (2001). A History of Modern Ethiopia (second ed.). James Currey, Oxford.
- Beckett IFW (2003). The Victorians at War. Hambledon, London.
- Bennett SCJ, John ER, Hewison JW (1948). Animal husbandry (Chapter 22). In: Tothill JD. Agriculture in the Sudan. Oxford University Press, London.
- Brighton T (1998). The last charge: the 21st Lancers and the Battle of Omdurman, 2 September 1898. Crowood Press, Marlborough, UK.
- Bryce T (1999). The Kingdom of the Hittites. Oxford University Press, New York.
- Butler WF (1887). The Campaign of the Cataracts: Being a Personal Narrative of the Great Nile Expedition of 1884-5. Sampson Low, Marston, Searle, & Rivington, London.
- Cardew FG (1928). Hodson's Horse, 1857-1922. W. Blackwood & Sons, Edinburgh and London.
- Churchill W (1973). The River War. New English Library, London. p.34. [The original is The River War (2 Volumes) (1899). Longmans, Green & Co., London, which is available at: <<http://www.gutenberg.org/files/4943/4943-h/4943-h.htm>> Accessed on 12 July 2016 (not paginated but searchable).
- Collins RO (1961). Patrols against the Beirs. Sudan Notes Rec. 41:36-58.
- Comin DCEff (1911). Service and Sport in the Sudan - A Record of Administration in the Anglo-Egyptian Sudan with some Intervals of Sport and Travel. John Lane, The Bodley Head, London.
- Craig S (2001). Breaking the square: Dervishes vs Brits at the 1885 Battle of Abu Klea. Milit. Herit. 3(3):78-84.
- Cudsi AS (1969). Sudanese Resistance to British Rule, 1900-1920". Thesis presented for Master of Science. Khartoum University.
- Curran G (1996a). The Desert Fight of Abu Klea, 17th January 1885. Savage Soldier 2(2):6-7, 9.
- Curran G (1996b). The Battle of Abu Kru. Savage Soldier 2(3):17-18.
- de Cosson EA (1990). Fighting the Fuzzy-Wuzzy: Days and Nights of Service with Sir Gerald Graham's Field Force at Suakin. Greenhill Books, London (originally published 1886).
- Erlich H (1996). Ras Alula and the Scramble for Africa. Red Sea Press, Lawrenceville GA.
- Featherstone D (1993). Omdurman 1898: Kitchener's victory in the Sudan. Osprey Publishing, Oxford.
- Featherstone D (2013). Khartoum 1885: General Gordon's Last Stand. Osprey Publishing, London. Not cited
- Gleichen AEW (1888). With the Camel Corps up the Nile. Chapman Hall, London.
- Gulla A (1925). The Defeat of Hicks Pasha. Sudan Notes Rec. 8:119-124.
- Haig D (1910a). A short account of the work of the Egyptian cavalry during the Atbara and Omdurman campaigns. Cavalry J. 5(17):55-90.
- Haig D (1910b). A short account of the work of the Egyptian cavalry during the Atbara and Omdurman campaigns (part 2). Cavalry J. 5(18):159-187.
- Hansard (1888). Army – the Battle at Suakin – the Broken Swords of the 20th Hussars. HC Deb 21 December 1888 vol 332 c974, 21 December 1888.
- Holmes R (2001). The Oxford Companion to Military History. Oxford University Press, Oxford.
- Johnson D (1984). The Wars in the Eastern Sudan, Part 2: Baker & El Teb". Savage and Soldier 19(2):2-10.
- Keays GAV (1939). Note on the History of the Camel Corps. Sudan Notes Rec. 22:103-123.
- Lacey M (2004). In Sudan, Militiamen on Horses Uproot a Million. The New York Times, 4 May 2004. P 1.
- Lamothe R (2011). Slaves of Fortune: Sudanese soldiers and the River War. 1896-1898. James Currey, Woodbridge, UK.
- London Gazette (1898). Despatch From Major-General Sir Herbert Kitchener, Sirdar, to Lieutenant-General Sir Francis Grenfell, G.C.M.G., K.C.B., Commanding in Egypt. Omdurman, September 5, 1898. The London Gazette No 23009, 30 September 1898. P 5726. Available at <https://www.thegazette.co.uk/London/issue/27009/page/5726/data.pdf>. Accessed 20 July 2016.
- London Gazette (1912). Operations in the South-eastern Sudan against the Beir and Anuak Tribes. <https://www.thegazette.co.uk/London/issue/28641/page/6530/data.pdf>. Accessed on 3 October 2016.
- Ministry of Animal Resources, Fisheries and Range (MARFR) (2011). Statistical Bulletin for Animal Resources No 20, 2010. Ministry of Animal Resources, Fisheries and Range, Khartoum.
- Mason IL, Maule JP (1960). The Indigenous Livestock of Eastern and Southern Africa (Commonwealth Bureau of Animal Breeding and Genetics, Edinburgh, Technical Communication No 14). Commonwealth Agricultural Bureaux, Farnham Royal, UK.
- Moir JP (1898). Account of the Battle of Atbara. Royal Engineers J. 28:123-125.
- Monick S (1985). The political martyr. General Gordon and the fall of Kartum. Milit. Hist. J. (S. Afr. 6(6). Available online at: <<http://samilitaryhistory.org/vol066sm.html>> Accessed on 15 July 2016.
- National Army Museum (NAM) (1888). Accession No 6807/269 Ferguson Manuscripts, Letter to his parents dated 11 December 1888. National Army Museum, London.
- National Archives (1915). Dispatch on Operation Round Miri Jebels, 1915 AIR5/828/1-35. National Archive Library, London.
- O'Fahey RS, Spaulding JL (1974). Kingdoms of the Sudan (Studies in African History 9). Methuen and Co. Ltd., London.
- Parry EG (1885). Suakin, 1885: Being a sketch of the campaign of this year. Kegan Paul, Trench & Co., London.
- Pollock J (1999). Kitchener: The Road to Omdurman. Constable, London..
- Spiers EM (2013). The Victorian soldier in Africa. Manchester University Press, Manchester.
- Stack LOF (1916). Military Operations in Darfur. The London Gazette No 29800 Third Supplement, 25 October 1916. pp. 6489-6493. Available at <https://www.thegazette.co.uk/London/issue/29800/supplement/6489/data.pdf>. Accessed 3 October 2016.
- Stack LOF (1917). Despatch from Acting Sirdar and Governor General of Sudan on operations in Darfur. The London Gazette No 30102Third Supplement, 29 May 1917 pp 5327-5330. Available at <https://www.thegazette.co.uk/London/issue/30102/supplement/5327>.

knows only four very aged mules in Western Darfur in the late 1970s and in 2014, identified only one mule that had been accidentally bred in a riding school in Khartoum.

- Accessed 3 October 2016.
- Stewart H (1885). The Battle of Abu Klea. London Gazette, No 25444. 20 February 1885. pp. 754-758. A full account is also at BritishBattles.Com, The Battle of Abu Klea. Available at <<http://www.britishbattles.com/egypt-1882/abu-klea.htm>> Accessed 15 July 2016
- The Spectator (1889). The Battle of Toski. The Delta has beaten the Desert. The Spectator, 10 August 1889. P 5.
- Victorian Wars Forum (2016). British Military Campaigns from 1837 to 1902. Lieut. Col. W.H. Persse late Egyptian Cavalry. Available at <<http://www.victorianwars.com/viewtopic.php?f=16&t=9193>> Accessed 25 July 2016.
- Willcox WT (1908). The Historical Records of the Fifth (Royal Irish) Lancers from their Foundation as Wynne's Dragoons (in 1689) to the Present Day. Arthur Doubleday and Company Limited, London. Available at: [https://archive.org/stream/historicalrecor00willgoog\\_djvu.txt](https://archive.org/stream/historicalrecor00willgoog/historicalrecor00willgoog_djvu.txt)> Accessed 12 July 2016.
- Wilson RT (1977). The horse improvement scheme in Darfur, Anglo-Egyptian Sudan: Policy and practice during the Condominium period 1916-1956. Sudan Notes Rec. 58:190-198.
- Wilson RT (1978). Temporal changes in livestock numbers and patterns of transhumance in Southern Darfur, Sudan. J. Dev. Areas 10:493-508.
- Wilson RT (2016). The one-humped camel in Anglo-Egyptian military campaigns in Sudan, 1885-1926 J. Camel Pract. Res. 23:193-205. doi: 10.5958/2277-8934.2016.00034.5.
- Wingate FR (1891). Mahdiism and the Egyptian Sudan: Being an Account of the Rise and Progress of Mahdiism and of Subsequent Events in the Sudan to the Present Time. Macmillan and Company, London.
- Wingate FR (1906). Report on the Operations against the Nyam Nyam Tribes in the Southern Bahr-el-Ghazal, January, February, and March, 1905. The London Gazette No 27914, 18 May 1906. pp. 3443-3446. Available at <https://www.thegazette.co.uk/London/issue/27914/page/3443/>. Accessed 3 October 2016.
- Wingate FR (1910). Jebel Nyima Patrol. The London Gazette No 28419, 27 September 1910 pp. 6837-6838. Available at <https://www.thegazette.co.uk/London/issue/28419/page/6837/>. Accessed 3 October 2016.
- Wormald F (1898). The Gallant Twenty-First". Dewsbury Reporter, 15 October 1898. P 5.
- Wingate R (1964). Two African Battles. II. The Battle of Galabat, 8th-11th March. 1889. J. RUSI. 109:149-154.
- Ziegler P (1973). Omdurman. Collins, London.