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# PREVALENCE OF GASTROINTESTINAL PARASITES IN DOMESTIC PIGS COLLECTED FROM CHEYYAR TALUK, THIRUVANNAMALAI DISTRICT

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**ABSTRACT**

A total of 50 gastrointestinal tract of domestic pigs were collected in and around Cheyyar taluk, Thiruvannamalai District. The work carried was out for six months from February 2016 to July 2016.Parasitological examination of intestinal tract revealed the presence of helminth parasites and protozoans. Out 50 domestic pigs, 48 (96%) pigs were infected with trematode, cestode, nematode and protozoans. Out 48 domestic pigs 20 were young pigs (below 1 year) and 28 were adult pigs (above 1 year old).Out 48 infected pigs 13 types of parasites were identified using standard procedure. Among identified 13 types of endoparasites, six species were nematodes such as *Ascaris suum* (6.25%), *Strongyloides* spp (8.33%), *Trichuris suis* (6.25%), *Oesophagostomum* spp (4.16%), *Ancylostoma* spp(8.33%) and *Hyostrongylus rubidus* (4.16%).Next to nematodes, 3 species of trematodes have been identified, they are *Fasciolopsis buski* (12.5%), *Dicrocoelium* spp (6.25%) and *Schistosoma suis* (10.41%).Three species of protozoan parasites have also been identified in the gastrointestinal tract of domestic pigs. They are *Eimeria* spp (2.08%), *Isospora suis* (2.08%) and *Balantidium coli* (2.08%).Only one species of cestode have been documented in the G I tract of domestic pigs that is *Monizia expansa* (4.16%).Five pigs showed (10.41%) mixed endoparasitic infection (Trematode + Cestode).Three pigs showed (6.25%) both trematode and nematode parasitic infection. Another 3 domestic pigs (6.25%) showed nematode and cestode infection. Only one domestic pig showed (2.08%) combination of three helminth parasites such as trematode, cestode and nematode infection. Three species of protozoans were identified in the gastrointestinal tract of domestic pigs. Only one pig showed the mixed infection of protozoan parasites.



## INTRODUCTION

Pigs also called hogs or swine are ungulates which have been domesticated as a source of food, leather and similar products since ancient times. More recently, they have been involved in biochemical research and treatment (Wikipedia, 2008). Pigs are collectively grouped under the genus *Suis* within the *Suidae* family. They are one of the domesticated animals found throughout the tropical and temperate regions of the world. Domesticated breed of pigs today are descendants of two prominent wild types i.e. *Suis vittatus* and *Suis scrota*. *Suis vittatus* is from South West of Asia, while the wild European pigs descended from *Suis scrota* from which much domesticated pigs (swine) evolved. Pigs are omnivore, which means that they consumed both plants and animals. Pigs scavenge and have been known to eat any kind of food, including dead insects, plants bark, rotting carcasses, garbage and even other pigs in the wild. They are foraging animals primarily eating leaves, grasses, roots, fruits flowers. Occasionally in captivity, pigs may eat their own young, often if they become very severely stressed. Despite reputation for gluttony and another reputation for dirtiness, a lesser known quality is their intelligence (Muller *et al.,* 1997). Domesticated pigs are commonly raised as livestock by farmers for meat (called pork), as well as leather. Their bristly hairs are used for brushes. Some breed of pigs, such as Asian pot-bellied pigs, are kept as pet (Wikipedia, 2008). The swine industry has witness an unprecedented increase in production and consumption over the past decade and this situation is likely to continue. This positive development means an increase in provision of animal protein for human consumption, employment generation, poverty reduction, contribution to the Nation gross domestic product (PGD) and general economic growth. According to Anon (1999), more pork is consumed than other meat in the world. Pork consumption varies widely among countries and regions with per capita intake in 1998

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ranging from 2 kg/year in many African countries to 60 kg/year in Germany (Anon, 1999). Swine industry in developing countries with particular reference to Nigeria is faced a number of constraints prominent among which is disease. Mostly in focus are diseases caused by bacteria and viruses. However, Haemo and gastro-intestinal parasites are equally important although often neglected. The rapid expansion of pig farming and pork consumption is raising concern in Nigeria, as it is bound to exacerbate the problems related to *T. solium* cysticercosis, not only in rural areas where most pigs are kept, but also in urban areas where infected pork can be consumed, and human carriers of the parasite can infect other people. Prevalence human taeniasis has been reported in Nigeria at 8.6% (Onah and Chiejina, 1995) with 3.7% associated with epilepsy (Zoli, *et al.,* 2003; Osuntokun and Schoenberg, 1982). Although the recognition of its states as a serious and emerging threat to public health is increasing, the incidence data in humans are very limited owing to a lack of adequate surveillance, monitoring and reporting systems; consequently, epidemiological information is not extensive.

Among the parasitic helminths, nematodes are considered as the most important world wild. Most of them are unable to multiply inside the host and consequently they must leave it before the next generation can reach sexual maturity. Eggs and larvae are passed out of the body usually in large numbers. It follows, therefore, that each adult parasite must enter the host while still young, either as a contamination of pasture, food or water (Soulsby, 1982). In pigs, however, susceptibility to reinfection has to our knowledge only been tested through abbrevation of early *A. suum* infections with anthelmintic drugs, followed by a single dose challenge infection (e.g. Stewart *et al*., 1985; Stankiewicz, Joans and Froe, 1992). Economic losses due to the condamination of infected animals are of particular importance in rurally reared pigs, which in Mexico may account for as much as 40% of the pig population (Aluja and Vargas 1988). The large roundworms remains the most prevalent while parasite such as kidney worms, lungworms, redworms and threadworms are only found in pigs raised on free range (Salifu, *et al.,* 1990; Tamboura, *et al.,* 2006 and Intervet, 2011). In view of the critical importance of reliable diagnosis to control cysticercoids, we have undertaken a comparative study, using experimentally infected, commercial pigs and lightly infected rurally reared animals. Sera were submitted to assays for the detection of antibody by ELISA using *T. solium* cyst fluid as antigen, by western blot using *T. solium* glycoprotein antigens and the H P10 antibody was used for the detection of parasite antigen (Sciutto *et al.,* 1990). This correlation is not conclusive, and rank correlation coefficients are typically less than 0.5 (Keymer and Pagel, 1990).

Parasitism's in pigs do not commonly represent the severe clinical diseases, but these parasitic infections hamper the production. In specific circumstances, different worm parasites can cause severe clinical illness and even death in pigs, such parasitism is also important economically as it can restrict growth, affect show productivity and increase the cost of growth. Gastrointestinal parasites are responsible for substantial loss of productivity in swine and other livestoke industry (Boes *et al*., 2000 and Joachim and Daugschies 2000). Helminthic disease are important but often neglected because clinical symptoms are rarely apparent, losses of production occur mainly from retarded growth and delayed fertility. They constitute a major impediment to efficient and profitable livestock production (FAO, 2000). Swine raised in intensive operations are less prone to gastrointestinal infection however; the large roundworm *(Ascaris s*pp), whipworm *(Trichuris* spp) and the nodular worms (O*esophagostom* spp) are often found in such operation (Sangeeta, *et al*., 2002; Eijck and Borgsteede, 2005). Eggs are commonly found in coprolites, intestinal contents of mummies, and in other kind of archaeological material (Goncalves *et al.,* 2003). Because of their remarkable similarity, several hypotheses have been proposed to explain their origin in their respective hosts. The first hypothesis would be: *Ascaris lumbricoides* (usually infecting humans) and *Ascaris suum* (recorded mostly from pigs) are both valid species. In this case, these two species would have originated via a speciation event from a common ancestor, probably sometime before the domestication of pigs by humans. Free range pig keeping is still common in the rural set-up of many developing countries inspite of its shortcomings such as poor feed conversion, high mortality rates and poor products and the risk of spreading zoonotic diseases such as cysticercosis (Githigia *et al.,* 2005; Kagira *et al.,* 2010). The worm and humid conditions of the tropics and the infrequent treatment of local pigs against parasitic diseases (Mashatise *et al.,* 2005) invariably cause them to carry heavy burdens of gastrointestinal (GI) nematodes (Holness, 1991). Pigs can harbor a range of parasites and diseases that can be transmitted to humans. These include trichuriosis, cysticercosis and fasciolosis.

Thirty nine percent (39%) of children have been found to be infected with *Fasciolosis buski* in India and Bangladesh. Pig rising is a historical agricultural industry in China, and the pig production here occupies 50% of the total international live pig production (Chen and Huang, 2007). Pigs are among the abundant livestock potential of Nigeria. Gastrointestinal parasites are among the most devastating diseases of livestoke. However the diseases are often over looked because clinical systems are rarely apparent, losses of production occur mainly from retarded growth, delayed fertility and productivity (Mutual *et al.,* 2007). Balantidiasis is considered a zoonotic disease and human clinical cases in developed countries were typically associated with close contact with pigs in the past (Schuster *et al.,* 2008). In addition to helminths, extensively managed pigs are also reported to harbor intestinal protozoans including *Cryptosporidium* spp., *Giardia lambelia, Balantidium coli* and *Eimeria* spp., in developing countries (Uysal *et al.,* 2009). Pigs rose under semi-intensive and extensive husbandry were found to be infected with *Ascaris suum* and *Oesophagostomum* spp. In Holeta, Ethiopia (Abdu and Gashaw, 2010). The sustainable development of the swine industry is faced with a number of constraints among which are the diseases caused by intestinal parasites (Aliaga-Leyton *et al*., 2011). Gastrointestinal parasites are one of the major constraints to efficient swine production of all ages (Intervet, 2011). The diseases are also associated with a lot of economic losses compounded by the fact that roundworm infection establishes in a conventional form, It's always very difficult to eliminate it (Intervet, 2011). The paramount economic effect is reduction in the quantity of pork production emanating from reduced fertility, reduced feeding efficiency, poor growth and anaemia (Amanda, 2012).

## MATERIALS AND METHODS

Pigs slaughtered at Cheyyar Taluk, Thiruvannamalai district were choosen for the present study. A total of 50

gastrointestinal tracts of non-descript pigs were collected in and around Cheyyar taluk, Thiruvannamalai district of Tamil Nadu. All the animals were maintained under extensive system. The pigs were penned at night and allowed to take food in the day from 9.30 am to 5.00 pm. The gastrointestinal tracts were collected from two age groups below 1 year (young) and above 1 year (adult) and in two seasons viz, summer (February - 2016 to April - 2016) and Moonsoon (May - 2016 to July - 2016). The gastrointestinal tracts were collected only from male pigs, since males only slaughtered for pork. A total of 50 fresh intestines were obtained from the non-descript pigs and individually labelled in polythene bags.

The samples collected were brought to PG & Research Department of Zoology, Arignar Anna Govt. Arts College, Cheyyar for identification of different types of eggs / oocystes and worms. For further conformation the samples were sent to the Department of Veterinary Parasitology, Madras Veterinary College, Chennai, Tamil Nadu and for identification of different types of eggs / oocysts and worms. Trematodes and cestodes were placed in a darso ventral position on a slide. Another slide was placed over the worm and pressed gently until desired flattening was reached. At this stage, the two ends of the slides were tied together with a thread and then the whole material was put in 10% formalin for fixation for 48 hours. Then it was removed from the formalin, thoroughly washed in water and it was put in the Acetic Alum Carmine stain (1:7) for 3 days. Then the worms were immediately washed in running tap water to remove acid alcohol (70%, 90% and absolute alcohol). Then the worms were cleared in carbolic acid and then the worms were mounted in Canada balsam and examined under low or high power. The nematode worms were washed well in water to remove the preservative. Then the worms were dehydrated in ascending grades of alcohol (70%, 90% and absolute alcohol). The nematodes were cleared in lacto phenol and then the worms were mounted in Canada balsam and examined under low or high power. Worms were identified with keys provided (Soulsby, 1982; Urquhart *et al*., 1987; Taylor *et al*., 2007).

## RESULTS

Studies on gastrointestinal parasites of pigs in and around Cheyyar Taluk, Thiruvannamalai District were carried out for six month from February 2016 to July 2016.

During the study period, about 50 pigs of gastrointestinal tract were collected, out 50 pigs 48 (96%) infected with one or more endoparasites. Out of 48 infected pigs 13 types of parasites were identified. Among identified parasites six species of nematodes such as *Ascaris suum* (6.25%), *Strongyloides spp* (8.33%), *Trichuris suis* (6.25%), *Oesophagestomum* spp (4.16%) *Ancylostoma* spp (8.33%) and *Hyostrongylus rubidus* (4.16%) that of 3 species of trematodes, such as *Fasciolopsis buski* (12.5%), *Dicrocoelium* spp (6.25%) and *Schistosoma suis* (10.41%) that of 3 species of protozoa such as *Eimeria* spp (2.08%), *Balantidium coli* (2.08%) and *Isospora suis* (2.08%) (Table-1) and one species of cestode such as *Monizia expansa* (4.16%). Five animal (10.41%) showed mixed parasitic infection (Trematode + Cestode), 3 pigs showed (6.25%) both Trematode and Nematode parasitic infection, another 3 pigs (6.25%) showed Nematode and Cestode infection and only one pig (2.08%) showed combination of three parasitic (Trematode + Cestode + Nematode) infection in their gastrointestinal tract. During the study period three species of protozoan were identified in two pigs *Eimeria* spp (2.08%) *Balantidium coli* (2.08%) and *Isopora suis* (2.08%) in the gastrointestinal tract collectively give 6.25% in the parasitic infection. The results are given in Table -1, Graph -1.

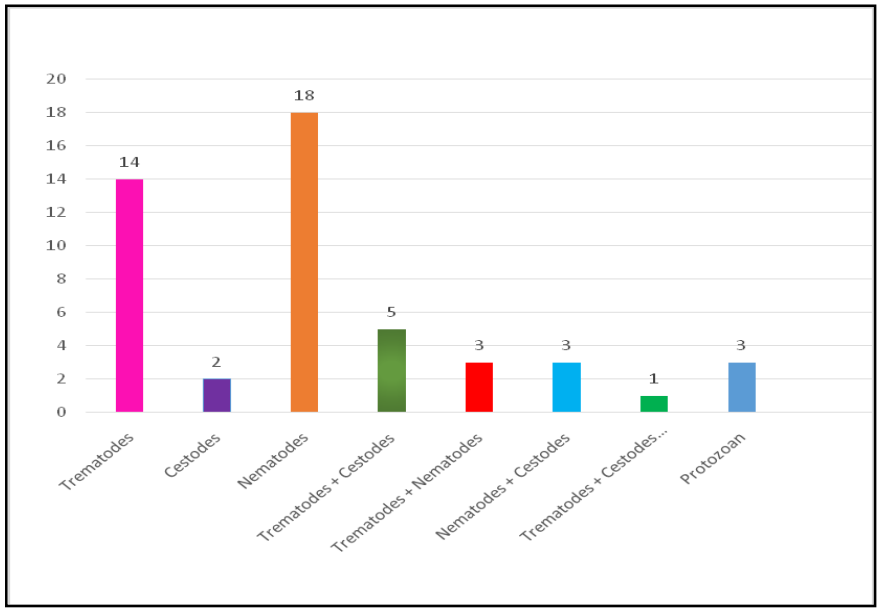
The results are in agreement with those of Waiswa *et al*., (2007), in South Eastern Uganda (94.8%), Nissen *et al*., (2011) in Uganda (91%) and Tamboura *et al*., (2006) in Burkina faso (91%). The present finds are nearly similar with the findings of Kagira *et al*., (2010) in Western Kenya (84.2%), Obonyo *et al*., (2012) in Kenya (83%), Jarvis *et al*., (2007) in Western Estonia 82% and Sowemimo *et al*., (2012) in South West Nigeria (80.4%). The present findings 96% is higher than Ismail *et al*., (2010) in Korea, Marufu *et al*., (2008) in Zimbabwe. The differences in the prevalence may be due to the differences in climatic condition, husbandry practices, breeds and inherent characteristics such as host immunity in the study region. The overall prevalence of trematode parasites in pigs in gastrointestinal tract showed 29.16% (14 pigs affected by trematodes). Among the trematode parasites *Fasiolopsis buski* present in 6 pigs (12.5%), *Dicorocoelium* spp present in 3 pigs (6.25%) and *Schistosoma suis* documented in 5 pigs (10.41%). The Table - 2 and Graph - 2 shows the age related prevalence of endoparasites of pig. From the Table - 2 and Graph - 2 it was found that the prevalence of

**Table** 1. **Shows the overall prevalence of intestinal parasitic worms in pigs collected in and around Cheyyar Taluk**

| Parasite | Species of the parasite | | No (%) of animals infected (N=50) | |
|---|---|---|---|---|
| | Overall | | 48 | (96%) |
| Trematodes | *Fasiolopsis buski* | 6 (12.5%) | 14 | (29.16%) |
| | *Dicrocoelium spp* | 3 (6.25%) | | |
| | *Schistosoma suis* | 5 (10.41%) | | |
| Cestodes | *Monizia expansa* | | 2 | (4.16%) |
| Nematodes | *Strongyle haemonchus* | 4 (8.33%) | 18 | (37.50%) |
| | *Ascaris suum* | 3 (6.25%) | | |
| | *Trichuris suis* | 3 (6.25%) | | |
| | *Oesophagos rubidus* | 2 (4.16%) | | |
| | *Ancylostoma spp* | 4 (8.33%) | | |
| | *Hyostrongylus rubidus* | 2 (4.16%) | | |
| Trematodes + Cestodes | Double infection | | 5 | (10.41%) |
| Trematodes + Nematodes | Double infection | | 3 | (6.25%) |
| Nematodes + Cestodes | Double infection | | 3 | (6.25%) |
| Trematodes + Cestodes+ Nematodes | Trible infection | | 1 | (2.08%) |
| Protozoan | *Eimeria spp* | 1 (2.08%) | 3 | (6.25%) |
| | *Balantidium coli* | 1 (2.08%) | | |
| | *Isospora suis* | 1 (2.08%) | | |

gastrointestinal parasites of pigs were higher in adult (above 1 year) 56% than in younger (below 1 year) 40%. Among 13 species of endoparasites adult were infected by highest 12 species and the younger pigs affected by 11 species of endoparasites.

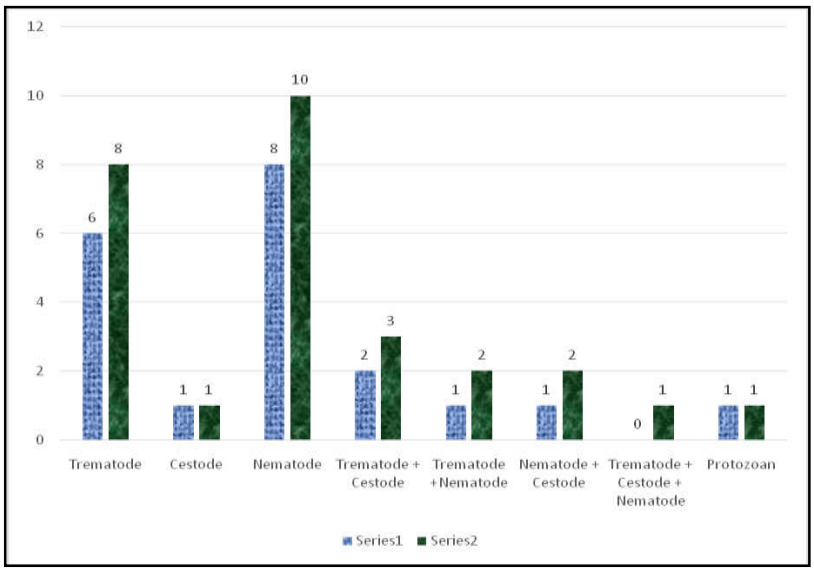
The worm burden was high in adult animal (58.33%) and it was low in younger pigs (41.66%). Among the endoparasites nematode showed highest parasitic prevalence (young 8 (40%) adult 10 (35.7%), 18 (37.50%).




**Graph 1. Shows the overall prevalence of intestinal parasitic worms in pigs collected in and around Cheyyar Taluk**

**Table 2. Shows the prevalence of gastrointestinal parasites in pigs collected from Cheyyar Taluk, Thiruvannamalai District by age**

| Sl. No | Parasites | Age group | | |
|---|---|---|---|---|
| | Infection 48 animals (96%) | Below 1 year 20 animals (40%) | Above 1 year 28 animals (56%) | Total |
| *1* | Trematode Positive sample (Prevalence) | 6 (30%) | 8 (28.57%) | 14 (29.16%) |
| 2 | Cestode Positive sample (Prevalence) | 1(5%) | 1 (3.57%) | 2 (4.16%) |
| *3* | Nematode Positive sample (Prevalence) | 8 (40%) | 10(35.7%) | 18 (37.50%) |
| *4* | Trematode +Cestode | 2 (10%) | 3 (10.71%) | 5 (10.41) |
| *5* | Trematode + Nematode | 1 (5%) | 2 (7.14%) | 3 (6.25%) |
| *6* | Nematode + Cestode | 1 (5%) | 2 (7.14%) | 3 (6.25%) |
| *7* | Trematode +Cestode + Nematode | 0 (0%) | 1 (3.57%) | 1 (2.08%) |
| 8 | Protozoan | 1 (5%) | 1(3.57%) | 2 (4.16%) |
| | Total | 20 (41.66%) | 28 (58.33%) | 48 (96%) |




**Graph 2. Shows the prevalence of gastrointestinal parasites in pigs collected from Cheyyar Taluk, Thiruvannamalai District by age**

Next to this trematode showed higher parasitic prevalence 14 (29.16%) young showed 6 (30%) and adult showed 8 (28.57%). The results are given in Table - 2 and Graph - 2. The results are supported by Nsoso *et al*., (2000) in Botswana, Dutta *et al*., (2005) in India, Roepstorff and Nansen (1988) in Nordic and Boes *et al*., (2000) in China. They were reported that the endo parasitic worm burden is higher in adult than grower pigs. During the study period the parasites of pigs were analyzed. The distribution of gastrointestinal parasites of pigs are given in Table - 3 and Graph - 3.

From the table there are about 10 types of helminthes were identified in 34 pigs of both young and adult (94.4%). Among 10 types of helminth worms, the *Fasiolopsis buski* found in 6 pigs (12.5%), *Dicrocoelium* spp found in 3 pigs giving the percentage of 6.25%, *Schistosoma suis* found in 5 pigs (10.41%), *Monizia expansa* found in 2 pigs (4.16%), *Strongyle haemonchus* were found in 4 pigs about 8.33%, *Ascaris suum* were found in 3 pigs about 6.25%, *Oesophagus rubidus* is an another helminth parasite found in the gastrointestinal tract of pigs about 2 pigs showed infection with *Oesophagus rubidus* with 4.16%, 4 pigs showed *Ancylostoma* spp infection with 8.33% and only 2 pigs showed *Hyostrongylus rubidus* infection with 4.16%. Overall prevalence of helminth parasites in pigs were high in adult animals when compare to young animals and other parasites.

Infected pigs showed inactive condition, not taking food properly and body week. On the other hand protozoan parasites showed moderate infection in pigs they are *Eimeria* spp was found only one in pig (2.08%), *Balantidium coli* was found in only one pig (2.08%) and *Isospora suis* was present in only one pig with (2.08%). Overall prevalence of protozoan showed in three animals with 6.24%. The results are given in Table - 3 and Graph - 3.

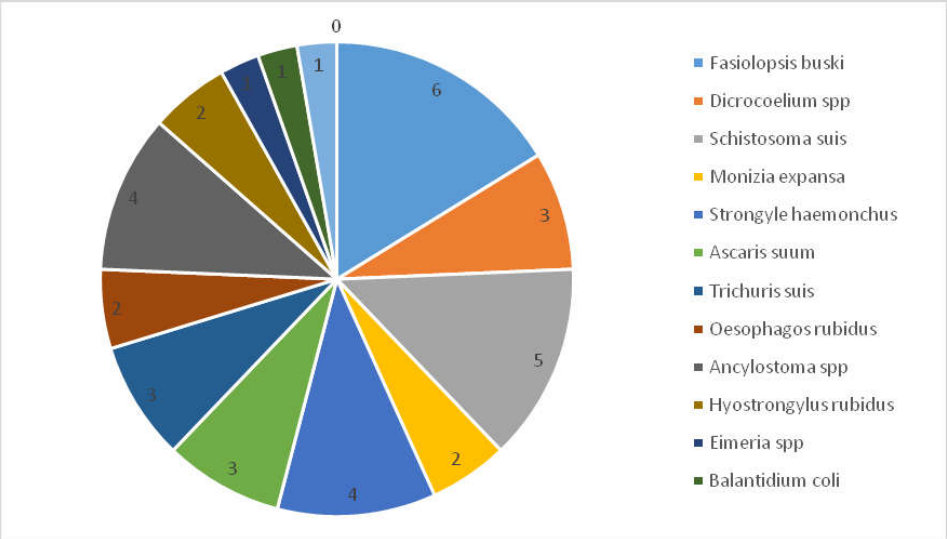
The results are in agreement with those by Pittman *et al*., (2010) and Nsoso *et al*., (2000). The high prevalence of *Isopora suis* could probably be due to the ability of the cysts/Oocysts to survive for long in the environment (Pittman *et al*., 2000). In this study the prevalence of intestinal parasites was found higher among adult than in young one. This is in agreement with the findings of Nsoso *et al*., (2000), Kumar *et al*., (2002) and Sowemimo *et al*., (2012). However Tamboura *et al*., (2006) reported that higher prevalence among young than in adult.

## DISCUSSION

Out of 50 pigs's investigated for gastrointestinal parasites, 48 were infected, giving an overall prevalence of 96%. Out of 48 pigs 20 pigs were younger age groups (below 1 year) and 28 pigs were adult age group (above 1 year).

**Table 3. Shows the distribution of gastrointestinal parasites of pigs Cheyyar Taluk, Thiruvannamalai District**

| Gastrointestinal parasites found | No (%) in Pigs |
|---|---|
| Helminthes | |
| *Fasiolopsis buski* | 6 (12.5%) |
| *Dicrocoelium spp* | 3 (6.25%) |
| *Schistosoma suis* | 5 (10.41%) |
| *Moniziaexpansa* | 2 (4.16%) |
| *Strongyle haemonchus* | 4 (8.35%) |
| *Ascaris suum* | 3 (6.25%) |
| *Trichuris suis* | 3 (6.25%) |
| *Oesophagos rubidus* | 2 (4.16%) |
| *Ancylistoma spp* | 4 (8.33%) |
| *Hyostrongylus rubidus* | 2 (4.16%) |
| Sub total | 34 (70.83%) |
| Protozoan | |
| *Eimeria spp* | 1 (2.08%) |
| *Balantidium coli* | 1 (2.08%) |
| *Isospora suis* | 1 (2.08%) |
| Sub total | 3 (6.24%) |
| Grand total | 37 (77.08%) |




**Graph 3. Shows the distribution of gastrointestinal parasites of pigs Collected from Cheyyar Taluk, Thiruvannamalai District**

Environmental conditions have a major impact on parasite populations, most importantly the free living. 13 types of species of gastrointestinal parasites have been identified in the present investigation. Out of 13 species, six species belongs to nematodes, three species were trematodes and one species belongs to cestode. Among protozoan parasites 3 species were identified they are *Eimeria* spp, *Isospora suis* and *Balantidium coli*. The results were supported by the work of Sowemimo *et al*. (2012). Among the trematode parasites *Fasciolopsis buski* (12.05%) showed more prevalence than other gastrointestinal parasites and *Ascaris suum* showed 6.25%. Sowemimo *et al*. (2012) found out *Ascaris suum* was the most prevalent parasite in pigs. The prevalence of *Isospora suis* (2.08%) was also lower than the 26.4% reported for *I. suis* in Ontario canda (Aliaga-Leyton *et al*., 2011). Several surveys have been conducted to determine the occurrence of intestinal parasites in pigs. The number of species present and prevalence rates are high when production system are traditional (Ajayi and Arabs, 1988), however, many recent studies have shown that superior housing and hygiene in combination with routine anthelminthic useage have lead to decreasing prevalence rates of many parasites (Pattison *et al*., 1980, Alfredsen, 1983, Moller 1983; Morris *et al*., 1984; Kennedy *et al*., 1988, Mercy *et al*., 1989, Roepstorff and Jorsal, 1989, 1990, Dangolla *et al*., 1997).

Nearly all of the most common intestinal parasites of pigs have been shown to be unevenly distributed among different age groups (Boch 1956; Boch and Neubrand 1962; Jacobs and Dunn 1969; Pattison *et al*., 1980; Morris *et al*., 1984; Mercy *et al*., 1989, Roepstorff and Jorsal (1989). *Isospora suis* and *Strongyloides ransomi* are most common in piglets. *Ascaris suum* and *Trichuris suis* in growing pigs and *Oesophagostomum* spp, *Hyostrongylus rubidus* and *Eimeria* spp are most common in adult pigs. These characteristic age dependent distributions are most probably caused by different host parasite relationship, especially the immunogenicity of the parasite (Pattison *et al*., 1980, Murrell 1986, Roepstorff and Nanson 1988). In the present study adult animals (above 1 year) showed more prevalent than younger animal (below 1 year). This is in agreement with the findings of Nsoso *et al*., (2000), Kumar *et al*., (2002) and Sowermimo *et al.* (2012). However Tamboura *et al*., (2006) reported that higher prevalence of gastrointestinal parasites of pigs showed among young animal than that in adult animal. They reported that of the 9 pig farms, nematode was the most common parasite including *A. suum* (10.23%), *Strongyloides* spp (6.49%), while Chongqing and Guangdong provinces the prevalence of *Balantidium* spp were prevalence of 22.79% and 47.2% respectively (Weng *et al*., 2005; Lai *et al.*, 2011). *Cryptosporidium* oocytes were found in 8 pig forms with infection rates of 4.63% which is much lower than that reported in Henan and other eastern provinces of China (Weng *et al.*, 2010, Chen and Huang 2007) *Eimeria* spp and *Isospora suis* were the most widespread intestinal coccidian, which are found in all pig farms with prevalence of 6.35% and 3.81% respectively.

The prevalence of gastrointestinal parasites of pigs in relation to age group. The adult pigs recorded the highest 10 out of 28 (35.7%) while the younger pigs recorded the lowest 8 out of 20 (40%). There is a controversial in the report of Hussani (2002) and Martin (1983). Who reported that young animals are more susceptible to infection and that enteritis is mainly a disease of young animals, the factor for high prevalence is also studied by Myer and Walker (2003) that these parasites can also multiply outside the animal host and can be transmitted through Colostrums, some are capable of penetrating unbroken skin. As a result mature thread worms (*Strongyloides*) have been detected in baby pigs as early as 4 days old animal. In the present experiment mainly the two important factors were taken into consideration. It is possible that considerable density (60 individuals) of fattening pigs in one pen maintained in litter system have favored quick infection with *Oesophagostomum*: its commonly accepted incubation period is 5-7 weeks, however it may be shortened even upto about 21 days (Nansen and Roepstorff, 1999). Moreover, the micoproscopic analysis does not differentiate the two species of *Oesophagostomum* that are characterized by various sensitivity on the preparation used in the experiment. According to Varady *et al*., (1996) invermectin is decidedly less effective on *O. quadrisprimulatum* invasion as compared to *O. dendatum*. It seems that the influence of parasites invasion on the growth condition and quality of meat in pigs may be analyzed without taking into consideration the keeping conditions. Pigs kept in an indoor system are endangered with an influence of numerous internal factors that can make difficult the interpretation of the results obtained such way. The closed keeping system limits the influence of external factors to considerably higher degree that makes those results much more reliable. The losses caused by parasites in pigs concern also that part of all carcasses that are not suitable for the consumption. The price obtained by the pig procedure increases with meatiness growth. Parasites control will play a major role in increasing the productivity of pigs reared in Cheyyar Taluk of Thiruvannamalai District. Through some of the pigs may be looking physically healthy without any clinical manifestation. Yet they harbor parasite which greatly affected their performance, thus their efficiency and productivity is greatly reduced.

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