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# LIST OF ABBREVIATIONS

| | |
|---|---|
| **AGID** | Agar gel immunodiffusion test |
| **Bp** | Base pair |
| **CD** | Crohn's disease |
| **CFT** | Complement fixation test |
| **CFU** | Colony forming unit |
| **DNA** | Deoxyribonucleic acid |
| **ELISA** | Enzyme Linked Immunosorbent assay |
| **HEYM** | Herrold's egg yolk medium |
| **HPC** | Hexadecylpyridinium chloride |
| **HSe** | Herd sensitivity |
| **HSp** | Herd specificity |
| **IgG** | Immunoglobulin G |
| **IS900** | Insertion sequence 900 |
| **JD** | Johne's disease |
| **LJ** | Lowenstein –Jensen medium |
| **MAP** | *Mycobacterium avium* subsp.*paratuberculosis* |
| **MAC** | *Mycobacterium avium complex* |
| **NAHMS** | National Animal Health Monitoring System |
| **NVSL** | National Veterinary Services Laboratories |
| **OIE** | Office Internationale des Epizooties |
| **PCR** | Polymerase Chain Reaction |
| **PFGE** | Pulsed –field gel electrophoresis |
| **PTB** | Paratuberculosis |

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|---|---|
| **QRT-PCR** | Quantitative Real time Polymerase Chain Reaction |
| **RFLP** | Restriction fragment length polymorphism |
| **TB** | Tuberculosis |
| **TRT-PCR** | Triplex Real time Polymerase Chain Reaction |
| **USDA** | U.S.Department of Agriculture |
| **ZN** | Zeihl-Neelsen stain |

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Role of *Mycobacterium avium* subspecies *paratuberculosis* in persistant diarrhoea in Egyptian buffaloes

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## Abstract

Paratuberculosis or johne's disease (JD) is a chronic and incurable granulomatous enteric disease affecting cattle, buffaloes, sheep, goats and other ruminants caused by *M.avium* subspecies *paratuberculosis* (MAP) . In this study, A total of 300 buffaloes (240 clinically diseased animals and 60 apparently healthy animals) were examined for the presence of clinical signs of johne's disease including incurable chronic diarrhoea, interment firstly then intense and continuous which is not responding to treatment, emaciation and progressive weakness . Fecal and serum samples (each of 300) were collected from the examined buffaloes housed in three Egyptian Governorates (Al-Sharkia, Al-Kalyoubia and Damietta). Fecal samples were collected then examined according to the pooling procedure and decontaminated by Hexa decylpyridinium chloride solution (HPC 0.9%) prior to culturing on Herrold's Egg Yolk Medium ( HEYM). MAP was isolated from 34 of the 60 pooled fecal samples tested (57%). Fecal smears were examined using Ziehl – Neelsen stain (ZN) for the presence of acid fast bacilli revealing 29 fecal smears (48%) of 60 fecal smears were positive. ELISA was conducted on serum samples to detect antibodies against MAP, 212 (71%) of serum samples were positive for antibodies against MAP. Molecular confirmation by PCR IS900 assay was carried out using specific primers directly on fecal sample, Out of the 60 pooled fecal samples, 45 pools (75%) were positive. This study aimed to through a light on paratuberculosis in Egyptian buffaloes as there is lack of data about this disease in Egypt**.**

**Keywords:** Paratuberculosis - Johne's disease- buffaloes-Persistant diarrhoea.